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

April 19, 2022

EA-21-109

Ms. Jamie Coleman
Regulatory Affairs Director
Southern Nuclear Operating Company
7825 River Road, BIN 63031
Waynesboro, GA 30830

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNIT 3 – SUPPLEMENTAL INSPECTION REPORT 05200025/2022010 AND ASSESSMENT FOLLOW-UP LETTER

Dear Ms. Coleman:

On March 25, 2022, the U.S. Nuclear Regulatory Commission (NRC) completed a supplemental inspection at the Vogtle Electric Generating Plant (VEGP) Unit 3, in accordance with Inspection Procedure (IP) 90001, "Construction Regulatory Response Column Inspections," dated October 27, 2010. The NRC discussed the results of this inspection and the implementation of your corrective actions with Mr. Glen Chick, VEGP Units 3 and 4 Executive Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

The NRC performed this inspection to evaluate VEGP's actions in response to two White findings documented and finalized in NRC Inspection Report 05200025/2021011 (ADAMS Accession Number ML21312A412). On February 15, 2022, your staff informed the NRC that your site was ready for the supplemental inspection.

The NRC determined that your staff's evaluation identified the causes of the White findings, including one root cause and one contributing cause. The root cause was that project leadership failed to fully implement Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B quality requirements related to installation of Class 1E commodities. The contributing cause identified that project leadership has not provided adequate control and oversight of work activities.

After evaluating aspects of VEGP Unit 3 performance in addressing the White findings using IP 90001, the NRC determined the completed or planned corrective actions were sufficient to address and preclude repetition of the performance issues that led to the White findings, and concluded your actions met the inspection objectives. Therefore, in accordance with the guidance in Inspection Manual Chapter (IMC) 2505, "Periodic Assessment of Construction Inspection Program Results," dated February 18, 2022, the NRC determined the White findings at VEGP Unit 3 are closed and will not be considered as Construction Action Matrix (CAM) inputs after the end of the first quarter of 2022 in which the supplemental inspection exit meeting was conducted. Based on the results of this inspection and the CAM assessment, the NRC has determined that VEGP Unit 3 transitioned to the Licensee Response Column (Column 1) of the Construction Reactor Oversight Process (cROP) CAM on April 1, 2022.

No findings or violations were identified during this inspection. The NRC inspectors documented three observations in this report. Observations were provided in the area of corrective action program awareness, metrics procedure and infancy of the tracking program, and metrics reporting. The NRC is treating these observations consistent with the guidance of Appendix C to IMC 0613, "Power Reactor Construction Inspection Reports," dated November 4, 2020.

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

Sincerely,

Signed by Coovert, Nicole
on 04/19/22

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

Docket No.: 5200025
License No: NPF-91

Enclosure:
NRC Inspection Report 05200025/2022010
w/attachment: Supplemental Information

cc w/ encl: Distribution via LISTSERV

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNIT 3 – 90001 SUPPLEMENTAL INSPECTION REPORT 05200025/2022010 AND ASSESSMENT FOLLOW-UP LETTER- DATED APRIL 19, 2022

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DATE	04/18/2022	04/18/2022	04/18/2022	04/19/2022	

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers:	5200025
License Numbers:	NPF-91
Report Numbers:	05200025/2022010
Licensee:	Southern Nuclear Operating Company, Inc.
Facility:	Vogtle Unit 3
Location:	Waynesboro, GA
Inspection Dates:	March 21, 2022, through March 25, 2022
Inspectors:	T. Fredette, Reactor Operations Engineer G. Khouri, Construction Project Manager R. Mathis, Senior Construction Inspector (Team Leader)
Approved by:	Nicole Coovert, Chief Construction Inspection Branch 1 Division of Construction Oversight

Enclosure

SUMMARY OF FINDINGS

Vogtle Unit 3 Supplemental Inspection Report 05200025/2022010; 3/21/2022 through 3/25/2022.

This report covers a one-week period of inspection by regional and headquarters inspectors. No findings or violations were identified during this inspection.

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a supplemental inspection at Vogtle Electric Generating Plant (VEGP), Unit 3, in accordance with Inspection Procedure 90001, "Construction Regulatory Response Column Inspections," dated October 27, 2010, and the Construction Reactor Oversight Process (cROP). The cROP is the NRC's program for overseeing the safe construction of commercial nuclear power reactors, and is described in IMC 2506, "Construction Reactor Oversight Process General Guidance and Basis Document," dated November 25, 2020.

The inspectors determined that the licensee's problem identification, causal analysis, and corrective actions adequately addressed the performance issues that led to the two White findings and, as a result, the NRC has determined that the two White findings are closed.

A. NRC-Identified and Self Revealed Findings

None.

B. Licensee-Identified Violations

None.

SUPPLEMENTAL INSPECTION SCOPE

This inspection evaluated Southern Nuclear Operating Company's (SNC's) actions in response to the two White findings for Vogtle Electric Generating Plant (VEGP) Unit 3, documented in NRC Inspection Report 05200025/2021011 (ADAMS Accession Number ML21312A412). As a result of the White findings, the NRC determined the performance at Vogtle Unit 3 warranted the licensee being in the Regulatory Response Column of the Construction Reactor Oversight Process (cROP) Construction Action Matrix (CAM), effective at the beginning of the third quarter of 2021 (July 1, 2021).

The NRC planned to conduct a Supplemental Inspection in accordance with Inspection Procedure 90001, "Construction Regulatory Response Column Inspections," dated October 27, 2010. On February 15, 2022, the licensee notified the NRC of their readiness for the supplemental inspection.

The inspection purpose was to verify and evaluate aspects of VEGP Unit 3 problem identification, causal analysis, and corrective actions in response to the White findings. Specifically, the inspection verified the two White findings were fully documented and that the documentation included details of prior opportunities for the licensee to have identified the findings; that the root causes and contributing causes of the findings are understood; that the extent of condition (EOC) and extent of cause (EOCa) of the findings are identified; and, finally, that licensee corrective actions are sufficient to address the root causes and contributing causes, and to preclude repetition. Additionally, the inspection was informed by previously completed and ongoing inspections for cable separation Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) completion and the licensee's plans to conduct final raceway separation walkdowns for all rooms in the nuclear island, which includes the containment and auxiliary buildings. Future NRC inspections will continue to review the licensee's implementation of corrective actions associated with the White findings and cable separation ITAACs. ITAAC inspections are documented in publicly available integrated inspection reports, which currently are issued on a quarterly basis.

INSPECTION RESULTS

A. Problem Identification

1. Scope

   The inspectors assessed aspects of the licensee's evaluation of the circumstances related to the White findings and associated violations, including how the findings were identified; how long the violations existed and whether there were prior opportunities for identification; and whether plant-specific consequences (including ITAAC impacts) were considered.

2. Assessment

   The inspectors evaluated how the significant conditions adverse to quality that resulted in the two White findings were identified. The evaluation centered around detailed reviews of the licensee's root cause determinations (RCDs) as documented in corrective action records (CARs) 80006298 and CAR 80004436.

   The inspectors noted the following issues related to electrical commodity construction and installation activities from mid-2020:

- RCD was initiated and completed in December 2020 for structural and related issues affecting the Unit 3 24-hour, 72-hour, and spare Class 1E direct current and uninterruptible power supply system battery racks. The root cause was identified as insufficient work planning.

- RCD (CAR 80004436) was initiated and completed in April 2021 stemming from numerous condition reports (CRs) and nonconformances related to electrical cable installation in November and December 2020, including electrical separation in accordance with Institute of Electrical and Electronic Engineers (IEEE) Standard 384-1981, as well as seismic installation requirements. The root cause determined in part that the construction organization culture (leadership, standards, and enforcement) for electrical commodity installation was not geared toward identification and resolution of quality issues.

On June 1, 2021, a special inspection (SI) was authorized to assess the circumstances surrounding the electrical cable separation nonconformances related to IEEE 384-1981 and the EOC of seismic/structural issues which were first identified by the licensee in December 2020. The SI was a programmatic and fact-finding inspection focused on understanding how the licensee's construction and quality control practices resulted in the nonconformances; the actions taken by the licensee to understand and correct the nonconformances using their corrective action program (CAP); and the short-term corrective actions in place to prevent potential additional nonconformances while construction work was ongoing in Units 3 and 4.

During the inspection exit, held on July 12, 2021, the inspection team discussed two NRC identified Unit 3 apparent violations: a preliminary White finding of low to moderate safety significance associated with the failure to promptly identify and correct conditions adverse to quality for the installation of Class 1E cables and associated raceways; and a preliminary Greater than Green finding of greater than very low safety significance associated with the failure to accomplish separation for Class 1E system field installations in accordance with applicable instructions, procedures, and drawings (Refer to SI reports 05200025/2021010, 05200026/2021010 (ML21236A057). NRC Inspection Report 05200025/2021011 (ML21312A412) documented the final significance determination for both findings as White, issues of low to moderate safety significance.

In response, SNC initiated an RCD (CR 50105410/CAR 80006298) to identify the causes of the findings. The RCD documented that the findings were identified during the NRC Special Inspection and that the findings were not identified by the licensee due to project leadership failing to fully implement Title 10 of the Code of Federal Regulations (10 CFR) 50, Appendix B quality requirements related to installation of Class 1E commodities. The RCD also documented that many of the deficiencies existed for several years as part of original installation and that there were several opportunities for identification but were hindered by weaknesses in oversight and implementation of the CAP for previous issues.

The RCD documented the priority, responsibility, and schedule for each corrective action to restore compliance and that cable separation issues impacting ITAAC must be resolved prior to the 10 CFR 52.103(g) finding that all ITAAC are complete.

B. Root Cause, Extent of Condition, and Extent of Cause Evaluation

1. Scope

The inspectors evaluated the licensee's methodology, evaluation, and RCD resulting from the previously identified White findings and associated violations. Specifically, the inspectors assessed key aspects of the evaluation, including use of a systematic methodology to identify the root cause, and contributing cause(s); appropriate level of detail commensurate with findings significance; consideration of prior occurrences of the finding(s) and construction experience; that EOC and EOCa are addressed; and that the evaluation considered safety culture components and aspects described in IMC 2505.

2. Assessment

Causal Analysis Methodology. To gather data, identify the problem(s), and determine the root and contributing causes of the White findings, the licensee employed systematic, evidence-based methodologies including Management Oversight and Risk Tree (MORT) analysis, Barrier Analysis, and Why Staircase analysis techniques. MORT analysis ultimately resulted in multiple barriers identified as less than adequate. These barriers were further analyzed and refined resulting using the Barrier Analysis methodology. The Why Staircase was used to validate the results of the MORT and Barrier Analyses.

The SNC RCD report identified the root cause and contributing cause as:

- Root Cause: Project Leadership failed to fully implement 10 CFR 50; Appendix B quality requirements related to installation of Class 1E commodities.

- Contributing Cause: Project Leadership has not provided adequate control and oversight of work activities.

Level of Detail. The inspectors determined the root cause evaluation contained an adequate level of detail to identify the root and contributing cause. The inspectors determined the evaluation was commensurate with the safety significance and complexity of the two White performance issues and was of sufficient detail to identify the root and contributing cause, EOC and EOCa. The root cause evaluation investigation team utilized a formal cause analysis process to identify the problems and determine corrective actions. The root cause evaluation was performed by the licensee's staff with varying levels of experience and background, as well as external consultants.

Operating Experience. The inspectors determined that the licensee appropriately considered internal and external construction experience (CE) and operating experience (OE), dating back to 1975, to determine if the issues under review were a repeat occurrence of a same or similar significant finding at Vogtle 3 and 4 or other facilities that were/are under construction. The inspectors noted that SNC searched NRC generic communications, industry databases for domestic and international plants using key words and codes, used internal construction and operating experience, and reviewed the corrective action program for similar instances. The results of the OE/CE review performed for this RCD were factored into the development of the root and

contributing causes for this RCD. The inspectors also noted that the search in this instance was far improved to the limited search conducted under CAR 80004436.

Extent of Condition and Extent of Cause. The inspectors determined that the root cause evaluation addressed the EOC and EOCa for the two White findings. The inspectors reviewed EOC and EOCa conducted in accordance with ND-AD-006-001, "Cause Analysis and Corrective Action Guideline," Revision 8. The inspectors noted that the use of the Same/Similar analysis for the EOC determined that the action plan and repair work strategy for both seismic/structural and the IEEE-384 cable separation issues should be expanded to include inspection inside panels/cabinets and is applicable to both Vogtle Units 3 and 4. The inspectors reviewed the analysis for the EOCa which used the Same/Similar method and noted that the root cause and corrective actions to prevent recurrence (CAPR) associated with the RCD for CAR 80006298 will be extended to the installation of all safety-related commodities at Vogtle Units 3 and 4.

Safety Culture. The inspectors reviewed the safety culture analysis performed to identify if a weakness in any of the safety culture components was a root cause or significant contributing cause of the findings. The analysis identified weaknesses in six of ten safety culture components related to the root and contributing causes identified in the RCD for CAR 80006298. No individual safety culture component was identified as a root or contributing cause for the findings. The identified weaknesses will be addressed as part of the CAPR.

In addition to the safety culture inspection activities performed during the supplemental inspection, the NRC plans to conduct an inspection in 2022 to verify all remaining safety culture actions have been completed for the Confirmatory Order (CO) for EA-18-130 and EA-18-171, issued in November 2019 (ML19249B612). Per the Vogtle 3 and 4 annual assessment letter (ML22054A323), the NRC issued the CO and then conducted a follow-up CO inspection in December 2020, which was documented in "Vogtle Electric Generating Plant, Units 3 and 4 – NRC Confirmatory Follow-up and Safety Conscious Work Environment Inspection Reports 05200025/2020012,05200026/2020012," (ML21025A145). The NRC continues to maintain oversight of the safety conscious work environment (SCWE) at VEGP Units 3 and 4 through normal and CO follow-up inspection activities.

C. Corrective Actions

1. Scope

The inspectors assessed the licensee's corrective action plan and activities to address the White findings and associated violations. Specifically, the inspectors verified that the corrective action plan included: appropriate corrective actions to address the root cause and contributing cause; prioritization of corrective actions with consideration of significance and regulatory compliance; a corrective action schedule established with consideration to reasonable timeliness goals and significance of the findings; and metrics developed to determine corrective action effectiveness to preclude repetition.

2. Assessment

The inspectors independently assessed the licensee's corrective actions for completeness, priority level, and adequacy in addressing the causes; verified corrective

actions were completed as scheduled or extended per the CAP procedure; and verified applicable preventive measures were being implemented for ongoing work. The inspectors also reviewed the CAPR to verify it met the definition and provisions as stated in the licensee's procedures. The inspectors reviewed procedure ND-AD-002, "Nuclear Development (ND) Corrective Action Program," Version 31.0, which defined a CAPR as "Implement a change management plan," which included many changes to leadership behavior, such as formalizing an observation program, benchmarking other sites, CAP training, changes to the CAP process, and updating the guidance for EOC and EOCa based on results from the change management and benchmarking. While the CAPR was not completed at the time of this inspection, the inspectors did review the proposed CAPR actions to prevent recurrence of the same issue in the future and did not identify a performance deficiency with the proposed actions.

The inspectors determined that quantitative and qualitative measures of success have been developed for determining the effectiveness of the corrective actions to preclude repetition associated with the RCD for CAR 80006298. Specifically, the inspectors reviewed the proposed measures of success to be assessed during an interim and final effectiveness review, both of which will be conducted 3-months and 6-months after completion of all CAPR-related corrective actions, respectively. The measures of success included no CAP closure weaknesses identified for CAPR-related corrective actions; quality work metrics show an improving trend for both construction and Quality Control (QC) and shows a measurable positive change in behaviors; observation metrics show an improving trend for each department and shows a measurable positive change in behaviors; and incorporating required training for project leaders on lessons learned associated with the RCD for CAR 80006298.

Observation 1:

The inspection team observed an elevated and markedly improved tempo toward CAP awareness, attention to detail, and rigor. Examples included the conduct and engagement observed in the Executive Vice-President, Bechtel Corrective Action Review Board, and Management Review Committee meetings. Other examples included the importance of corrective action highlighted at the outset of AP1000 Electrical Installation Specification (APP-G1-V8-001) training, feedback from impromptu interviews with craft and gaging their understanding of CAP, and increased use of performance metrics.

Additionally, the inspectors were able to validate some enhancements implemented over the past year stemming from the RCD in CAR 80004436, including QC utilization of the MOBI application to enhance field engineer-to-quality control inspector engagement and coordination, the electronic Foremen's Book, and the automated engineering service request-to-CR feature.

The inspectors noted that current QC management has championed the development and ownership of initiatives such as the MOBI application and detailed metric analysis of QC results. The NRC inspectors noted that sustainability of these types of initiatives are vulnerable if not institutionalized and/or expanded to other personnel and disciplines. This observation was captured in CR 50131898.

Observation 2:

One of the corrective actions for the CAPR was to develop and implement a formal

observation program. The program requires senior managers and supervisors to periodically observe work in progress and provide real time coaching for gaps observed. To provide feedback and monitor effectiveness, the observations are required to be formally documented and trended; with results required to be presented to the executive vice president and the Management Review Committee. The Bechtel management observation procedure was approved at the end of 2021. The trending procedure, for the observations, was approved at the end of February 2022. Recognizing that observations and trending were started prior to formalizing the procedures, the program is still in its infancy stage. From what the NRC inspectors saw through records review, observed by attending meetings and heard during interviews; it is reasonable to believe that this effort will yield positive results. The NRC inspectors noted that institutionalizing the program and continued field observations, feedback, trending, and management involvement will be essential for continued success and sustainability of this program. This observation was captured in CR 50131900.

Observation 3:

During a review of the "Management Quality Observations February 2022" (26139-000-GPP-GAQ-00004 Revision 000) metrics, which is part of the CAPR for RCD 80006298, the NRC inspectors questioned the input and results of the metrics. Each month, the metrics reported the total number of observations, and for a 3-month period, there were between approximately 450 and 525, with each Observation Checklist having 16 attributes that could be observed. The inspectors noted from interviews that all observations (positive, negative, and not observed) were reported in the totals and by using "not observed" counts could potentially skew results and potentially mask underlining trends due to the high total number it is being compared to. The inspectors also noted that the observation metrics reported the results of specific attributes like was work authorized before work occurred, was the worker signing the procedure as they completed steps, etc. Each graph reported the total of the negative responses in that area and compared them to the total number of observations for the month and not to the total number of that specific attribute performed. For example, if there were three negative observations in the area of Sign-as-You-Go for a month, it was not clear if only three observations were made in this area, and all were negative, or it was a just a fraction. The inspectors also noted that trending month-to-month in a specific area may not be representative if only the negative observation numbers were tracked and how they changed over time. This observation was captured in CR 50131854.

D. Conclusion

The inspectors concluded that SNC performed actions to ensure regulatory compliance and safety significant performance issues were adequately addressed. The inspectors determined that the root cause evaluation produced corrective action plans which appear to address and preclude repetition of the significant performance issues. The inspectors also determined that the corrective actions have been prioritized commensurate with significance and regulatory compliance, corrective actions taken were prompt and effective, and that the Notice of Violations related to the supplemental inspection are sufficiently addressed. The site took prompt action to address the inspectors' observations. The inspectors determined that the objectives of the supplemental inspection were met in accordance with IP 90001, "Construction Regulatory Response Column Inspections."

EXIT MEETING

On March 25, 2022, the NRC inspectors discussed the results of this inspection with Mr. G. Chick, VEGP Units 3 and 4 Executive Vice President, and other members of your staff. 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

M. Brummitt, SNC PI/CAP Project Director
C. Castell, WEC Licensing Engineer
V. Floyd, SNC/Bechtel QC Manager
D. Leeth, Bechtel Construction Director
S. Leighty, SNC Regulatory Affairs Manager
T. Rezk, Bechtel Quality Assurance Manager
K. Roberts, SNC ITAAC Manager
G. Scott, SNC Licensing Engineer
T. Staton, Bechtel Performance Improvement Coordinator
R. Stough, SNC Operations Support Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Type	Status	Description
05200025/2020010-01	NOV	Closed	Failure to Promptly Identify and Correct IEEE 384 Cable Separation and Seismic/Structural Nonconformances
05200025/2020010-02	NOV	Closed	Failure to Install Electrical Raceways and Connections in Accordance with Applicable Instructions, Procedures, and Drawings

LIST OF DOCUMENTS REVIEWED

CAP procedures:
ND-AD-002, “Nuclear Development Corrective Action Program,” Revision 31

ND-AD-002-023, “Nuclear Development Non-CAP Maximo Products,” Revision 3

ND-AD-002-025, “Issue Identification and Condition Report Screening,” Revision 6

ND-AD-006-001, “Cause Analysis and Corrective Action Guideline,” Revision 8

ND-AD-VNP-028, “VEGP Units 3&4 Site Corrective Action Interface Protocol,” Revision 2

Bechtel Procedures:
26139-000-GPP-GAQ-00007, “Management Quality Observations,” Revision 0

26139-000-GPP-GAQ-00004, “Performance Improvement Metrics and Trending,” Revision 5

26139-000-4MP-T81C-N3301, “Electrical Equipment Installation,” Revision 8

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

26139-000-G94-GAQG-Q0043, “Q4 2021 Trend Report,” Revision 0

26139-000-GM0-GAQM-00002, “Work Quality Metric – February 2022

CARs:
80006298; Root Cause Determination Report for Two White Findings Associated with Electrical Commodity Installation; Dated 10/21/21

80004436; Root Cause Determination Report Associated with Adverse Trend in Electrical Commodity Installation; Dated 4/28/21

80007021; Issues with Unit 3 Reactor Trip System Cabinets – Roxtec EMC connectors, grounding, and heat shrink; Dated 1/3/2022

80003772; Class 1E Battery Racks Root Cause Determination – Final; Dated 12/11/20

80006300; Track and Evaluate Resolution of WEC IR 2021-8606 & WEC IR 2021-8614; Dated 8/30/2021

TEs:
60031251; CA1 - Conduct a Case Study with Project Leaders (Director Level or Equivalent and Above for SNC and Bechtel) on Lessons Learned; Dated 1/20/2022

60035821; CISA TE 60035788 identified issue for CAPR Assignment from RCD CAR 80006298; Dated 1/20/2022

60031257; CA2 - Develop and implement a formal observation program for senior Bechtel managers and supervisors; Dated 8/27/2021

60031262; CA5 - Update NMP-TR-472 to include annual training on the lessons learned from this root cause; Dated 8/27/2021

60031263; CA6 – Develop training on lessons learned from this event for all personnel, supervisor and above, new to the site (new hire, transfer, outage support, etc.) that will be given as part of in-processing/indoctrination. CA7 - Create a quality work metric to trend construction and Quality Control performance; Dated 8/27/2021

60031264; CA8 - Create an observation metric focusing on quality of observations, trends identified, and actions taken to address trends; Dated 8/27/2021

60031269; CA11– Develop and conduct CAP training for the Performance Improvement team members, CR screening team, and MRC team emphasizing requirements and excellence standards in the key areas of performance improvement (INPO 14-004); Dated 8/27/2021

60025893; CA15 – Bechtel shall conduct Department and Site Corrective Action Review Boards (DCARB and SCARB) for CAP products. DCARB and SCARB charter is to review effectiveness reviews and closure of CAP items with objective evidence supporting closure; Dated 3/12/2021

60031278; TE3 – Review root cause report following receipt of NRC inspection report to validate analysis aligns with final wording of violation(s); Dated 8/27/2021

60023877; CA20 - Conduct training on APP-G1-V8-001 focused on installation requirements and inspection of Class 1E and Seismic Class I/II electrical commodities to applicable craft, foreman, general foreman, superintendents, field engineers, quality control engineers, and work planners. Training to include a knowledge check; Dated 1/25/2021

60023882; Formalize the APP-G1-V8-001 training into the initial training for required personnel; Dated 12/15/2021

60031280; CA21 - Establish a corrective action to fully analyze and document EOC gaps for Vogtle 3&4 electrical commodities that do not conform with IEEE 384 separation requirements; Dated 8/27/2021

60031287; CA22 - Develop and implement a method to effectively utilize the Foreman's Notebook to ensure installation/construction of commodities is performed to applicable design specifications; Dated 8/27/2021

60031290; CA23 - Revise ND-CS-VNP-007, Work Package Planning and Development, to require: Planners to provide supplemental details for installation sequence and configuration requirements; field engineer review work package for level of detail; Dated 8/27/2021

60031292; CA24 – Develop and implement a plan to enhance controls and personnel awareness in instances where non-safety-related work installations following safety related work completion which could potentially impact safety-related functions; Dated 8/27/2021

60031294; TE5 – Conduct EOC analysis for: Conduit Bend Radius, Labeling, Cables and Raceways, Fiber Optic Linear Heat Detection, Roxtec Frames/Glands/Modules, Cable Entry and Exit from Raceways, Low Voltage Power Cable (X-X) Separation, Seismic Mounting of Cabinets and Panels; Dated 8/27/2021

60031296; CA25 - Conduct EOC analysis for other technical disciplines performing quality work to ensure proficiency requirements of ASME NQA-1-1994 have been met. Create additional actions as necessary; Dated 8/27/2021

60031295; TE6 – Conduct a trend analysis for non-conformances during installation of non-electrical safety-related commodities over the past 6 months; Dated 8/27/2021

60031942; Formally document observation program and metrics developed and implemented as Corrective Action from RCD CAR 80006298 TE 60031257; Dated 11/4/2021

60033897; Bechtel to verify proper documentation closure of CA15 of RCD 80006298; Dated 12/15/2021

60030701; Bechtel QA Deficiency Level 3 – Potential Adverse Trend for FE Escapes; Dated 9/29/2021

60023894; CA for EOC: Document Unit 3 EOC results; Dated 1/25/2021

60023896; CA for EOC: Perform and document Unit 4 EOC walkdown; Dated 1/25/2021

60038150; Fourth Quarter 2021 Revise Effectiveness Review for 4th Quarter 2021; Dated 3/8/2022

60033587; No Documentation for SR cable pull back. MRC Reject HPC for CAR #80006483; Dated 11/12/2021

60031285; RCD CAR 80006298 Corrective Action - CC CA TE4; Review Corrective Actions from RCDs 80003773 and 80004436 for effectiveness and sustainability; Dated 8/27/2021

60035788; IP 90001 Inspection Readiness Review CISA; Dated 1/14/2022

60034626; RCD CAR 80004436 Quarterly EFFR for 1Q2022; Dated 12/17/2021

60028353; Per ND-AD-006 Nuclear Development Cause Analysis Procedure Attachment A requirements, perform an Effectiveness Review due to QA-Related findings from NDQA-2021-S031 Surveillance; Dated 6/9/2021

60028604; Perform a review of 20% of M&TE conditions (as defined in N7102 section 6.11.a) identified from September 1, 2021, through November 1, 2021, that rendered the previously completed installation suspect or indeterminate. Ensure an Out-of-Calibration Report was generated and submitted to FE or QCE for evaluation. Any OCRs not processed, without self-identification of being out of process, will render the CAPR unsatisfactory; Dated 6/8/2021

60035825; Formalize work quality metric and consider including CAP information to develop an all-encompassing metric; Dated 1/20/2022

60035980; During IP 90001 Inspection external readiness assessment, the following observation: Review the need to train more qualified individuals to conduct SNC oversight inspections for electrical installation; ensure findings from the inspections are shared to provide feedback to FE/QC; Dated 1/20/2022

60035984; During IP 90001 Inspection external readiness assessment, the following observation: consider providing additional information in work packages to assist personnel in completing work with quality; Dated 1/20/2022

60034312; Interim Effectiveness Review Technical Evaluation – IP 90001 Inspection Readiness Team Chartered by the SNC Vogtle 3 Plant Manager; Dated 12/17/2021

60023859; Revise ND-CS-VNP-008 to require field walkdown verification of separation requirements as defined in SV3-G1-V8-001 - and segregation requirements are met to ensure there is no impact to safety-related installation commodities; Dated 5/7/2021

60023863; Implement a Bechtel change management plan for documenting work as you go; Dated 5/25/2021

60023873; Develop and implement a plan to ensure FE and QC in progress monitoring and surveilling adherence; Dated 5/25/2021

60023864; Develop and implement a focused communications campaign on quality installation expectations (e.g., do-it-right the first time every time); Dated 5/25/2021

60023887; Develop a plan and implement the execution of SNC oversight of construction activities; Incorporate Construction Experience and INPO 08-005 *"Historical Construction Experience to Apply to New Plant Deployment"* and INPO IER L4-13-35 "*Lessons Learned from New Construction Projects That Involve Lapses in Oversight"* for support in development; Dated 5/25/2021

60023880; Ensure standards for electrical pre-job briefs are being met as identified in 26139-000-4MP-T81C-N1204 (Bechtel Implementation and Closure of Work Packages); Dated 5/19/2021

60037876; Inadequate closure of TE 60033878 prior to Electrical Raceway Cable Entry/Exit issues EOC assessment completion; Dated 3/18/2022

Condition Reports:
50131898; NRC Observation Regarding Sustainability of QC Improvements; Dated 3/24/2022

50131900; NRC Observation Regarding Sustainability of Bechtel Management Observation Program; Dated 3/24/2022

50131854; Enhancement of Bechtel Management Quality Observation Report; Dated 3/24/2022

50121374; SV3-1232-ER-AXC06 Commingled hardware, Dated 01/12/2022
50121389; Commingled hardware in SV3-1232-ER-AXC07 & AXC08 Straps; 01/12/2022

50115382; Quality Control Inspector's accepted non-ASME III SRR/MIR as traceability documentation for ASME III; Dated 11/18/21

50105410; NRC Apparent Violations, NCV, and Minor Violations identified in NRC Special Inspection Report Letter EA-21-109 dated August 26, 2021; Dated 08/27/21

50124343; Documentation of Extent of Condition for Panels and Components IEEE 384; Dated 02/03/22

50104630; IEEE384 Internal spacing distances not met in IDS and other 1E electrical cabinets; Dated 8/20/2021

50118630; Enhancement of RCD 80006298 CA 60023877 for sustainability; Dated 12/15/2021

50118615; MRC rejects quality closure of CAR 80006298 CA TE 60031294 Closure –Identified by 90001 Readiness Team; Dated 12/15/2021

Miscellaneous:

ND-CS-VNP-007; Work Package Planning and Development; Version 11.0

Check-In Self-Assessment (CISA), “90001 Readiness Review CISA;” Dated 1/28/2022

RCD Action Oversight Report; RCD CAR 80006298: NRC Apparent Violations

Safety-Related Electrical Commodities,” Rev 0

Corrective Action Program – KPIs, Dated February 2022

CAP Health Scorecard (RCD CAR 80006298 CA TE 60031275), Dated February 2022

ND Management Review Committee Weekly Package, Dated 3/24/2022

Vogtle 3 & 4 Project - Management Quality Observation – Updated Checklist

NMP-GM-005-GL05, “Human Performance Observation & Coaching Program,” Revision 7

NMP-GM-046, “Observation and Coaching Program,” Revision 6.1

RCD CAR 80006298 Corrective Action Oversight Report, Dated 2/15/2022

MOBI Application User’s Guide, Revision 4

LIST OF ACRONYMS

CAM	Construction Action Matrix
CAP	Corrective Action Program
CAPR	Corrective Actions to Prevent Recurrence
CAR	Corrective Action Record
CFR	Code of Federal Regulations
CE	Construction Experience
CO	Confirmatory Order
CR	Condition Report
cROP	Construction Reactor Oversight Process
DCO	Division of Construction Oversight
EOC	Extent of Condition
EOCa	Extent of Cause
IEEE	Institute of Electrical and Electronic Engineers
IMC	Inspection Manual Chapter
IP	Inspection Procedure
ITAAC	Inspections, Tests, Analysis, and Inspection Criteria
MORT	Management Oversight and Risk Tree
ND	Nuclear Development
NRC	Nuclear Regulatory Commission
OE	Operating Experience
QC	Quality Control
RCD	Root Cause Determination
SCWE	Safety Conscious Work Environment
SI	Special Inspection
SNC	Southern Nuclear Company
TE	Technical Evaluation
VEGP	Vogtle Electric Generating Plant