



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

February 10, 2021

Ms. Cheryl A. Gayheart
Regulatory Affairs Director
Southern Nuclear Operating Co., Inc.
3535 Colonnade Parkway
Birmingham, AL 35243

**SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 & 2 – INTEGRATED
INSPECTION REPORT 05000424/2020004 AND 05000425/2020004 AND
INDEPENDENT SPENT FUEL STORAGE INSTALLATION REPORT
07201039/2020002**

Dear Ms. Gayheart:

On December 31, 2020, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Vogtle Electric Generating Plant, Units 1 & 2. On January 25, 2021, the NRC inspectors discussed the results of this inspection with Ms. Cheryl Gayheart and other members of your staff. The results of this inspection are documented in the enclosed report.

Two findings of very low safety significance (Green) are documented in this report. One of these findings involved a violation of NRC requirements. We are treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violation or the significance or severity of the violation documented in this inspection report, 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 Vogtle Electric Generating Plant, Units 1 & 2.

If you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement 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 Vogtle Electric Generating Plant, Units 1 & 2.

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,

/RA/

Alan J. Blamey, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Docket Nos. 05000424, 05000425, and 07201039
License Nos. NPF-68 and NPF-81

Enclosure:
As stated

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SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 & 2 – INTEGRATED INSPECTION REPORT 05000424/2020004 AND 05000425/2020004 AND 05000425/2020004 AND INDEPENDENT SPENT FUEL STORAGE INSTALLATION REPORT 07201039/2020002 DATED: February 10, 2021

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DATE	2/9/2021	2/10/2021			

**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Numbers: 05000424 and 05000425 and 07201039

License Numbers: NPF-68 and NPF-81

Report Numbers: 05000424/2020004, 05000425/2020004, 07201039/2020002

Enterprise Identifier: I-2020-004-0044 and I-2020-002-0102

Licensee: Southern Nuclear Operating Co., Inc.

Facility: Vogtle Electric Generating Plant, Units 1 & 2

Location: Waynesboro, GA

Inspection Dates: October 01, 2020 to December 31, 2020

Inspectors: A. Beasten, Resident Inspector
B. Caballero, Senior Operations Engineer
J. Diaz-Velez, Senior Health Physicist
M. Endress, Senior Resident Inspector
T. Fanelli, Senior Construction Inspector
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A. Nielsen, Senior Health Physicist
W. Pursley, Health Physicist
A. Rosebrook, Senior Reactor Analyst
C. Safouri, Resident Inspector
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N. Staples, Senior Project Engineer
J. Walker, Emergency Response Inspector

Approved By: Alan J. Blamey, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee’s performance by conducting an integrated inspection at Vogtle Electric Generating Plant, Units 1 & 2, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC’s program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

List of Findings and Violations

Failure to Initiate Actions to Repair or Replace Degraded Cables associated with the Standby Auxiliary Transformer			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05000424,05000425/2020004-01 Open/Closed	[H.13] - Consistent Process	71111.15
The inspectors identified a Green finding when the licensee failed to initiate actions per procedural requirements in NMP-ES-051-002, “Tan Delta Testing,” Version 10.2, for degraded cabling associated with the Standby Auxiliary Transformer (SAT). Specifically, following Tan Delta testing on September 2020, the licensee failed to initiate corrective actions per NMP-ES-051-002 for cabling conditions that met the Action Required criteria per the Tan Delta Assessment Criteria, which stated “Repair or replacement of the cable SHALL occur at the first preventative maintenance activity or outage.”			

Inadequate Procedure to Maintain Secured Emergency Diesel Ready for Restart			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000424,05000425/2020004-02 Open/Closed	[P.1] - Identification	71111.21M
The team identified a Green finding and associated Non-cited Violation (NCV) of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the licensee’s failure to have appropriate procedures to maintain an intentionally secured Emergency Diesel Generator (EDG) ready for restart in response to a single failure in the remaining operating train as described in the Updated Final Safety Analysis Report (UFSAR).			

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
URI	05000424,05000425/2019010-02	Corrective Actions for Single Failure Vulnerabilities Identified in Condition Report, CR10606308	71111.21M	Closed

PLANT STATUS

Unit 1 began the inspection period at Rated Thermal Power (RTP). On December 4, 2020, the unit was down powered to 92 percent to resolve level control issues associated with the 1A Heater Drain Tank. The unit was returned to RTP on December 8, 2020, and remained at or near RTP for the remainder of the inspection period.

Unit 2 began the inspection period at RTP. On November 12, 2020, the unit automatically tripped due to an unexpected failure of the 'B' Generator Step-up (GSU) Transformer. The licensee placed the spare GSU in-service and the unit was returned to RTP on November 20, 2020, and remained at or near RTP for the remainder of the inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the Coronavirus Disease 2019 (COVID-19), resident inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time, the resident inspectors performed periodic site visits each week; conducted plant status activities as described in IMC 2515, Appendix D, "Plant Status"; observed risk-significant activities; and completed on-site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or portions of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on-site. The inspections documented below met the objectives and requirements for completion of the IP.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal cold temperatures for the following systems:

Chemical and Volume Control System.
Nuclear Service Cooling Water System (NSCW).

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (1 Sample)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Unit 2 Loops 2, 3, and 4 Main Steam Atmospheric Relief Valves (ARVs), on October 14, 2020.

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (1 Sample)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Fire Zone 39A/45/99/104, Unit 1 North and South Main Steam Valve House, on October 5, 2020.

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Unit 1 Train A/B NSCW Pumphouse, on November 17, 2020.

71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

Requalification Examination Results (IP Section 03.03) (1 Sample)

The licensee completed the annual requalification operating test and biennial written examination required to be administered to all licensed operators in accordance with Title 10 of the *Code of Federal Regulations* 55.59(a)(2), "Requalification Requirements," of the NRC's "Operator's Licenses." During the week of December 14, 2020, the inspector performed an in-office review of the overall pass/fail results of the individual operating examinations, the crew simulator operating examinations, and the biennial written examinations in accordance with Inspection Procedure (IP) 71111.11, "Licensed Operator Requalification Program." These results were compared to the thresholds established in Section 3.02, "Requalification Examination Results," of IP 71111.11.

- (1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification annual operating exam and biennial written examination completed on December 3, 2020.

71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the Control Room on Unit 2 during reactor startup from Mode 3 to Mode 1 following an unplanned

forced outage, on November 17, 2020. The inspectors also observed and evaluated licensed operator performance in the Control Room on Unit 2 during power ascension and main generator synchronization to the grid, on November 19, 2020.

Licensed Operator Requalification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated a Steam Generator Tube Rupture with multiple malfunctions (i.e. Reactor Trip hand switch inoperable following dropped Control Rods), on October 13, 2020.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (2 Samples)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) Unit 2 Anticipated Transients Without Scram (ATWS) Mitigation System Actuation Circuitry (AMSAC) Repeat Maintenance Preventable Functional Failure, on January 27, 2020.
- (2) Unit 2 Turbine Driven Auxiliary Feedwater (AFW) pump nearing (a)(1) for unavailability, on May 4, 2020.

Quality Control (IP Section 03.02) (1 Sample)

The inspectors evaluated the effectiveness of maintenance and quality control activities to ensure the following SSC remains capable of performing its intended function:

- (1) Replacement of the Unit 2 Reactor Coolant Pump #1, on November 18, 2020.

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (3 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) CR 10744552, Unit 1 Loop 3 Main Feedwater Isolation Valve steam leak, on October 8, 2020.
- (2) CR 10752654, Unit 1 Train A Sequencer Trouble Alarm, on November 9, 2020.
- (3) CR 10739386, Standby Auxiliary Transformer (SAT) Tan Delta results requiring safety evaluation, on November 25, 2020.

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) SAT maintenance outage, on September 23, 2020.
- (2) Unit 2 Train A Centrifugal Charging Pump (CCP) system outage, on September 23, 2020.
- (3) Unit 2 Loop 1 ARV system outage, on October 14, 2020.
- (4) Unit 2 Train A Emergency Diesel Generator jacket water leak repair, on October 20, 2020.
- (5) Unit 2 Train A Motor Driven AFW Pump system outage, on November 11, 2020.

71111.21M - Design Bases Assurance Inspection (Teams)

The inspectors evaluated the following components and listed applicable attributes, permanent modifications, and operating experience:

Design Review - Risk-Significant/Low Design Margin Components (IP Section 02.02) (1 Sample)

- (1) Emergency Diesel Generator 2A (Electrical)
 - Consistency between station documentation (e.g. procedures) and vendor specifications

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (2 Samples)

- (1) 24991-2, Protection Group II Solid State Protection System Input Relay Test, on October 1, 2020.
- (2) 14722-2, Emergency Core Cooling System to Reactor Water Storage Tank Back Leakage In-service Test, on October 8, 2020.

FLEX Testing (IP Section 03.02) (1 Sample)

- (1) Steam Generator FLEX Pump Testing, on October 1, 2020.

71114.01 - Exercise Evaluation

Inspection Review (IP Section 02.01-02.11) (1 Sample)

- (1) The inspectors evaluated the biennial emergency plan exercise during the week of December 7, 2020. The simulated scenario began with increased sampling by Chemistry due to a rising trend with dose equivalent iodine in the reactor coolant system. A loose parts alarm and subsequent increased radiation readings on multiple radiation monitors eventually caused the control room simulator crew to manually trip the reactor. Once the letdown radiation monitor reached the threshold for classification, an Unusual Event was declared. Subsequently, a steam generator tube ruptured occurred, and along with fuel clad damage from the loose part, the conditions were met for declaring a Site Area Emergency. When a main steam code safety valve lifted and would not reseal, conditions for a General Emergency were met, and the Offsite Response Organizations were able to demonstrate their ability to implement emergency actions.

71114.04 - Emergency Action Level and Emergency Plan Changes

Inspection Review (IP Section 02.01-02.03) (1 Sample)

- (1) The inspectors evaluated submitted Emergency Action Level, Emergency Plan, and Emergency Plan Implementing Procedure changes during the week of December 7, 2020. This evaluation does not constitute NRC approval.

71114.06 - Drill Evaluation

Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

The inspectors evaluated:

- (1) Licensed operator annual requalification exam scenario involving a feedwater piping break and Loss of Coolant Accident, on October 19, 2020.

71114.08 - Exercise Evaluation Scenario Review

Inspection Review (IP Section 02.01 - 02.04) (1 Sample)

- (1) The inspectors reviewed and evaluated in-office, the proposed scenario for the biennial emergency plan exercise at least 30 days prior to the day of the exercise.

RADIATION SAFETY

71124.03 - In-Plant Airborne Radioactivity Control and Mitigation

Permanent Ventilation Systems (IP Section 03.01) (1 Sample)

The inspectors evaluated the configuration of the following permanently installed ventilation systems:

- (1) Control Room Emergency Ventilation System (CREVS)

Temporary Ventilation Systems (IP Section 03.02) (1 Sample)

The inspectors evaluated the configuration of the following temporary ventilation systems:

- (1) Portable HEPA systems used during the 2R20 refueling outage.

Use of Respiratory Protection Devices (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated the licensee's use of respiratory protection devices.

Self-Contained Breathing Apparatus for Emergency Use (IP Section 03.04) (1 Sample)

- (1) The inspectors evaluated the licensee's use and maintenance of self-contained breathing apparatuses.

71124.04 - Occupational Dose Assessment

Source Term Characterization (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated licensee performance as it pertains to radioactive source term characterization.

External Dosimetry (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated licensee performance as it pertains to external dosimetry that is used to assign occupational dose.

Internal Dosimetry (IP Section 03.03) (1 Sample)

The inspectors evaluated the following internal dose assessments for actual internal exposures:

- (1) In accordance with IMC 306, this sample is considered complete based on no internal dosimetry (CEDE) instances that exceeded 10 millirem since October 2018.

Special Dosimetric Situations (IP Section 03.04) (1 Sample)

The inspectors evaluated the following special dosimetric situations:

- (1) Dose assessments for 7 declared pregnant workers.

71124.05 - Radiation Monitoring Instrumentation

Walkdowns and Observations (IP Section 03.01) (10 Samples)

The inspectors evaluated the following radiation detection instrumentation during plant walkdowns:

- (1) Area Radiation Monitors in the Unit 1&2 spent fuel pools.
- (2) Area Radiation Monitors in the main control room.
- (3) Portable Air Samplers in use in the auxiliary building.
- (4) Portal Monitors in use at the protected area exit.
- (5) Personnel Contamination Monitors at the radiologically controlled area exit.
- (6) Portable friskers used at the exit to the U2 radiologically controlled area exit.
- (7) Area Radiation Monitors at the radioactive processing building.
- (8) Telepoles ready for issue at the radiation protection (RP) control point.
- (9) Ludlum Model 3s ready for issue at the RP control point.
- (10) Tool Monitors in service at the RP control point.

Calibration and Testing Program (IP Section 03.02) (11 Samples)

The inspectors evaluated the calibration and testing of the following radiation detection instruments:

- (1) Ludlum Model 300-16, Area Radiation Monitor, SN VEGP-RP 0684.
- (2) Ludlum Model L-30, Neutron Survey Instrument, SN VEGP-RP-1813.
- (3) C-812 Magnehehalic Flow Calibrator, VEGP-RP 0089.
- (4) Mirion Telepole Model BAK-2611, SN VEGP-RP-1731.
- (5) Canberra ARGO 5AB Personnel Contamination Monitor, SN VEGP-HP-1491.
- (6) Thermo Scientific SAM 11, SN VEGP-RP-1152.
- (7) F&J Specialty Products Econoair Plus, Breathing Zone Air Sampler SN VEGP-HP-1688.
- (8) Ludlum Model 3 Survey Meter SN VEGP-HP-1777.
- (9) Canberra GEM 5 SN VEGP-HP-1494.
- (10) RASP Air Sample Pump SN VEGP -RP-1568.
- (11) Thermo Scientific AMS-4 Continuous Air Monitor SN VEGP-RP1446.

Effluent Monitoring Calibration and Testing Program Sample (IP Sample 03.03) (2 Samples)

The inspectors evaluated the calibration and maintenance of the following radioactive effluent monitoring and measurement instrumentation:

- (1) Unit 2, Isotopic Calibration of 2RE-0018 Waste Liquid Effluent Monitor (dated 02/20/2019).
- (2) Unit 2, Isotopic Calibration of 2RE12444C Plant Vent Post Accident Gas Detector (dated 05/05/2020).

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

EP01: Drill/Exercise Performance (IP Section 02.12) (1 Sample)

- (1) Unit 1 (April 1, 2019, through September 30, 2020).
Unit 2 (April 1, 2019, through September 30, 2020).

EP02: ERO Drill Participation (IP Section 02.13) (1 Sample)

- (1) Unit 1 (April 1, 2019, through September 30, 2020).
Unit 2 (April 1, 2019, through September 30, 2020).

EP03: Alert & Notification System Reliability (IP Section 02.14) (1 Sample)

- (1) Unit 1 (April 1, 2019, through September 30, 2020).
Unit 2 (April 1, 2019, through September 30, 2020).

MS05: Safety System Functional Failures (SSFFs) Sample (IP Section 02.04) (2 Samples)

- (1) Unit 1 (October 1, 2019 – September 30, 2020).
- (2) Unit 2 (October 1, 2019 – September 30, 2020).

MS06: Emergency AC Power Systems (IP Section 02.05) (2 Samples)

- (1) Unit 1 (October 1, 2019 – September 30, 2020).
- (2) Unit 2 (October 1, 2019 – September 30, 2020).

MS10: Cooling Water Support Systems (IP Section 02.09) (2 Samples)

- (1) Unit 1 (October 1, 2019 – September 30, 2020).
- (2) Unit 2 (October 1, 2019 – September 30, 2020).

PR01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual
Radiological Effluent Occurrences (RETS/ODCM) Radiological Effluent Occurrences Sample
(IP Section 02.16) (1 Sample)

- (1) (April 02, 2019 – July 31, 2020).

71152 - Problem Identification and Resolution

Semiannual Trend Review (IP Section 02.02) (1 Sample)

- (1) The inspectors reviewed the licensee's corrective action program for potential adverse trends in Unit 2 Train A CCP low oil level that might be indicative of a more significant safety issue.

OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS (TI), INFREQUENT AND ABNORMAL

2515/194 - Inspection of the Licensee's Implementation of Industry Initiative Associated with the Open Phase Condition (OPC) Design Vulnerabilities In Electric Power Systems (NRC Bulletin 2012-01)

Inspection of the Licensee's Implementation of Industry Initiative Associated with the Open Phase Condition Design Vulnerabilities In Electric Power Systems (NRC Bulletin 2012-01) (1 Sample)

- (1) 2515/194 - Inspection of the Licensee's Implementation of Industry Initiative Associated with the Open Phase Condition Design Vulnerabilities In Electric Power Systems (NRC Bulletin 2012-01) Revision 0 of this Temporary Instruction (TI) was previously inspected, and closed, in Inspection Report 2019012 (ML19268A063). However, a subsequent revision to the Nuclear Energy Institute (NEI) Voluntary Initiative (Revision 3), provided licensees the option to leave the open phase protection (OPP) system in monitoring mode only in lieu of activating the automatic trip circuitry, provided it was supported by a risk evaluation. Revision 1 (and later Revision 2) of this TI was issued to provide inspection guidance for the new option.

The inspectors remotely reviewed licensee analyses and procedures that demonstrated operator manual actions would successfully mitigate the impact of an OPC. The inspectors completed Section 03.01c of TI 2515/194, Revision 2.

The inspectors verified that modeling used for the OPC reflected the as-designed and as-built plant, assumptions made by the licensee were reasonable, and licensee procedures were adequate to respond to an OPC. The inspectors also verified that human reliability analysis and recovery evaluations were done in accordance with NEI and voluntary initiative guidance.

60855.1 - Operation of an Independent Spent Fuel Storage Installation (ISFSI) at Operating Plants

Operation of an Independent Spent Fuel Storage Installation at Operating Plants (1 Sample)

- (1) The inspectors evaluated the licensee's activities related to long-term operation and monitoring of their independent spent fuel storage installation on November 3, 2020.

92702 - Follow-Up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, and Orders

Follow-Up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, and Orders (1 Sample)

- (1) On November 20, 2019, as a result of Alternative Dispute Resolution the NRC issued Confirmatory Order (CO) EA-18-130 and EA-18-171 (ML19249B552). The CO was the result of an apparent violation of 10 CFR 53.5, "Employee Protection" at Vogtle Units 3 & 4, which contained actions for the Farley, Hatch and Vogtle Units 1 & 2 nuclear plants. During the week of November 30, 2020, the inspectors reviewed corrective actions for this CO. Because the CO was fleet wide for the Southern Nuclear Company, the corrective actions reviewed by the inspectors-included a review of corrective actions for the Hatch, Farley, and Vogtle Units 1 through 4 nuclear plants. The details can be found in inspection report 0500025/20200012, 0500026/2020012; 11/30/2020 through 12/11/2020; Vogtle Unit 3 Combined License, Vogtle Unit 4 Combined License, CO Follow-Up and Safety Conscious Work Environment inspection report.

INSPECTION RESULTS

Failure to Initiate Actions to Repair or Replace Degraded Cables associated with the Standby Auxiliary Transformer			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Initiating Events	Green FIN 05000424,05000425/2020004-01 Open/Closed	[H.13] - Consistent Process	71111.15
<p>The inspectors identified a Green finding when the licensee failed to initiate actions per procedural requirements in NMP-ES-051-002, "Tan Delta Testing," Version 10.2, for degraded cabling associated with the Standby Auxiliary Transformer (SAT). Specifically, following Tan Delta testing on September 2020, the licensee failed to initiate corrective actions per NMP-ES-051-002 for cabling conditions that met the Action Required criteria per the Tan Delta Assessment Criteria, which stated "Repair or replacement of the cable SHALL occur at the first preventative maintenance activity or outage."</p>			
<p><u>Description:</u> The SAT serves as an additional "swing" preferred offsite power source which is available to supply a safety-related bus for either unit in response to emergency conditions or for use during Reserve Auxiliary Transformer maintenance. The SAT is capable of being placed in service to fulfill Technical Specification 3.8.1, AC Sources – Operating, which requires two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System. The SAT is supplied power through direct buried cables from the Plant Wilson switchyard 13.8 kV system which can be powered from either the Southern Company 230 kV grid or Plant Wilson's onsite combustion turbine electrical generators.</p>			
<p>From September 14, 2020, to September 23, 2020, the SAT was taken out of service for planned maintenance and testing evolutions. During the system outage, the licensee performed procedure NMP-ES-051-002, "Tan Delta Testing," Version 10.2, in order to assess the global condition of the insulation. Tan Delta testing is performed to ascertain the current</p>			

health of cables in order to detect degradation and initiate repairs prior to failure. Procedure NMP-ES-051-002, Attachment 4, "Evaluation of TD Test Results," Version 10.2, provides Tan Delta assessment criteria for cables, which classifies the condition into Good, Further Study Required, or Action Required. The SAT cable ANAA02 has two parallel sets of shielded cables for all 3 phases and 4 test criteria for the Tan Delta testing. Cables ANAA02AA ("A" Phase) and ANAA02AF ("C" Phase) met the criteria for Action Required for exceeding Tan Delta and Delta-Tan Delta assessment criteria. As a result, Procedure NMP-ES-051-002, Attachment 4, states the following for Required Actions: "Immediate repair or replacement should be performed. IF it is desired to return the cable to service prior to repair or replacement, perform a Withstand Test (see Note). IF the cable passes the Withstand Test, the cable can be returned to service for a limited period. Safety and operational effects of the cable failing during continued operation (i.e., an in-service failure) SHALL be evaluated prior to returning the cable to service. Repair or replacement of the cable SHALL occur at the first preventative maintenance activity or outage."

The licensee deferred the immediate repair or replacement, performed the Withstand Test, and performed a safety and operational effects assessment. The degraded condition and associated evaluation was captured in the Corrective Action Program (CAP) under Condition Report (CR) 10739386. However, the licensee failed to initiate any corrective actions or other formal tracking items to perform a repair or replacement of Cables ANAA02AA ("A" Phase) and ANAA02AF ("C" Phase) in accordance with the procedure.

Additionally, the inspectors performed a historical review of the Tan Delta testing results associated with the SAT. The only other Tan Delta data set was the first time performance in September 2013 per work order SNC141477, utilizing Procedure NMP-ES-051-002, "Tan Delta Testing," Version 5.1. The inspectors compared the September 2013 Tan Delta results against the effective procedural requirements and assessment criteria at the time and determined Cable ANAA02AA ("A" Phase) exceeded the acceptable limits and met the criteria for replacement of the cable. However, the licensee did not replace the cable and the inspectors could not locate a condition report documenting the unsatisfactory results, an evaluation of the data, or a basis for deviating from the procedure. The inspectors communicated this concern to the licensee, and the licensee was unable to produce any condition report, technical justification, or assessment conducted at the time that would explain the deviation from the procedural requirement to replace the cable.

Corrective Actions: The licensee captured the inspector's findings in the CAP and created an action to repair or replace Cables ANAA02AA ("A" Phase) and ANAA02AF ("C" Phase) during the next preventative maintenance activity or outage, scheduled for September 2022.

Corrective Action References: 10751488, 10762502

Performance Assessment:

Performance Deficiency: Procedure NMP-ES-051-002, "Tan Delta Testing," Version 5.1, required the licensee to replace the cable if it exceeds the assessment criteria. Additionally, Procedure NMP-ES-051-002, "Tan Delta Testing," Version 10.2, required that if testing determined the cabling condition met the Action Required criteria, "Repair or replacement of the cable SHALL occur at the first preventative maintenance activity or outage." Following Tan Delta testing in September 2013 and 2020, the licensee failed to perform or initiate a corrective action to repair or replace the

degraded cabling that met the criteria for repair or replacement in accordance with procedural requirements.

Screening: The inspectors determined the performance deficiency was more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, continuing to operate the SAT without performing the appropriate repairs or replacement of the degraded cabling could lead to an unexpected failure of the SAT and/or a potential partial loss of offsite power if aligned to a safety related bus.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Utilizing IMC 0609, Appendix A, the performance deficiency was screened as Green because the performance deficiency did not result in a complete or partial loss of a support system.

Cross-Cutting Aspect: H.13 - Consistent Process: Individuals use a consistent, systematic approach to make decisions. Risk insights are incorporated as appropriate.

Enforcement: Inspectors did not identify a violation of regulatory requirements associated with this finding.

Inadequate Procedure to Maintain Secured Emergency Diesel Ready for Restart			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000424, 05000425/2020004-02 Open/Closed	[P.1] - Identification	71111.21M
<p>The team identified a Green finding and associated Non-cited Violation (NCV) of Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to have appropriate procedures to maintain an intentionally secured Emergency Diesel Generator (EDG) ready for restart in response to a single failure in the remaining operating train as described in the Updated Final Safety Analysis Report (UFSAR).</p>			
<p><u>Description:</u> The team reviewed unresolved item (URI) 05000424, 425/2019010-02 and additional information provided by the licensee. The team determined that a violation of NRC requirements existed. The URI concerned CR 10606308 that identified "the EDGs do not meet a 7-day mission time due to the inability to start a previously secured EDG." When addressing the issue identified in the CR, the licensee asserted that the "CR is identifying scenarios that are beyond the current license basis or represent departures from recommended accident response (as stated in the FSAR)."</p> <p>The current licensing basis described in the UFSAR and accepted by the NRC established that a single failure may occur at any time for the entire accident period. Consequently, it was determined that the licensee did not have appropriate procedures to maintain the EDGs in an operationally ready state for the entire accident period after one EDG is secured to preserve Nuclear Service Cooling Water (NSCW) mission time capabilities without offsite power available.</p> <p>The following procedures were modified to include steps to correct the issue:</p>			

- 1910-1, "E - 1 Loss of Reactor or Secondary Coolant," version 3
- 1910-2, "E - 1 Loss of Reactor or Secondary Coolant," version 3
- 19010-C-BD, "E-1 Loss of Reactor or Secondary Coolant, Background Document," version 2
- NMP-OS-019-002-GL03, "Vogtle Technical Support Center (TSC) Options Guideline," version 1

Corrective Actions: The licensee modified CR10606308 to document the deficiency in having appropriate procedures and to identify the procedures that need to be updated.

Corrective Action References: CR 10606308

Performance Assessment:

Performance Deficiency: The team determined that the licensee's failure to have appropriate procedures to maintain an intentionally secured EDG ready for restart in response to a single failure in the remaining operating train as described in the UFSAR was a performance deficiency and reasonably within the licensee's ability to foresee and prevent.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to have appropriate procedures affected the availability of ESF equipment required to mitigate a design basis accident.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors assessed the significance of the finding using Inspection Manual Chapter (IMC) 0609, Att. 4, "Initial Characterization of Findings," issued October 7, 2016, for the Mitigating Systems cornerstone, and IMC 0609, App. A, "The Significance Determination Process (SDP) for Findings At-Power," issued June 19, 2012, and determined the finding was of very low safety significance (Green) because the finding was a deficiency affecting the design or qualification of a mitigating SSC that maintained its operability or PRA functionality.

Cross-Cutting Aspect: P.1 - Identification: The organization implements a corrective action program with a low threshold for identifying issues. Individuals identify issues completely, accurately, and in a timely manner in accordance with the program. Specifically, the licensee failed to identify that appropriate procedures were necessary to maintain the design basis of the plant accurately and in a timely manner in accordance with the program (PI.1).

Enforcement:

Violation: Title 10 of the Code of Federal Regulations (10 CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," required, in part, that "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

Contrary to the above, prior to April 30, 2019, the licensee failed to prescribe instructions,

procedures, or drawings, of a type appropriate to the circumstances. Specifically, the licensee failed to prescribe procedures to maintain an intentionally secured EDG ready for restart in response to a single failure in the remaining operating train to mitigate a design basis accident.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

URI	Corrective Actions for Single Failure Vulnerabilities Identified in Condition Report, CR 10606308 URI 05000424,05000425/2019010-02	71111.21M
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Description: The team identified an unresolved item (URI) for the licensee’s corrective actions associated with a single-failure vulnerability that is revealed when implementing emergency operating procedures (EOPs).

The EOP 19010-1, “E - 1 Loss of Reactor or Secondary Coolant,” version 2, Step 17, directs the operators to shut down a train of engineered safety features (ESF) to preserve their long-term Nuclear Service Cooling Water (NSCW) inventory. The licensee identified a single failure hazard when implementing this procedure, and documented it in condition report, CR 10606308. The hazard resulted from previously unidentified design flaws in the EDGs starting system. The procedure stopped one of the operating EDGs during an accident. A short time after this manual stop of the EDG, the EDG becomes incapacitated because the starting air receiver and batteries drain. The EDGs are part of the ESF. The NSCW is the site ultimate heat sink. Neither the procedures nor the UFSAR discussed the ESF train becoming incapacitated from these design flaws during an accident. The licensee’s immediate determination of operability (IDO) for the condition report stated, “This CR is identifying scenarios that are beyond the current license basis or represent departures from recommended accident response (as stated in the FSAR).” In summary of the licensee’s position, the scenarios were judged, “beyond the current license basis,” because the UFSAR Section 9.2.5, “Ultimate Heat Sink,” specified, in part, that the two tower basins of the NSCW meet the combined storage capacity requirements without makeup if operated in conformance with NRC Regulatory Guide 1.27. Section 9.2.5.1, “Design Bases,” stated, in part, the design basis meets RG 1.27.

The UFSAR specified several accidents that required the NSCW. The design requirements postulated an accident along with a loss of offsite power, and an electrical or piping system single failure. The requirements for postulating the Single Failure Criterion for electrical and piping system cases were discussed in multiple chapters of the UFSAR. The two cases were postulated differently. For electrical single failures, any single failure within the protection system shall not prevent proper protective action at the system level when required, and there were no differences for active and passive failures. However, for piping systems there were differences between active and passive failures. Only active failures are postulated in the short-term period of an accident, while active or passive failures could be postulated in the long-term period of an accident. The UFSAR acknowledged the Single Failure Criterion in chapters one, two, three, four, five, six, seven, eight, nine, ten, eleven, fifteen, and eighteen and did not specify any exceptions to it. Some of these instances are as stated below.

The UFSAR for electrical systems:

The UFSAR Section 3.1.2, “Protection by Multiple Fission Product Barriers,” for electrical power systems, stated, in part, “a failure of a single component will not prevent the safety-

related systems from performing their function...The diesel generators are arranged so that a failure of a single component will not prevent the safe shutdown of the reactor.”

The UFSAR Section 3.1.3, “Protection and Reactivity Control Systems,” stated, in part, “...the design basis for all protection systems is in accordance with the guidelines of Institute of Electrical and Electronic Engineers (IEEE) Standards 279-1971 and 379-1972.”

- The IEEE 279-1971 standard specified two relevant criteria described by the NRC positions for electrical single failures described in the SECY paper; “4.2, any single failure within the protection system shall not prevent proper protective action at the system level when required,” and that “4.16, the protection system shall be so designed that, once initiated, a protective action at the system level shall go to completion. Return to operation shall require subsequent deliberate operator action.”
- The relevant criteria from the IEEE 379-1972 standard was, "The system shall be capable of performing the protective actions required to accomplish a protective function in the presence of any single detectable failure within the system (this is the "single failure") concurrent with all identifiable, but non-detectable failures, all failures occurring as a result of the single failure, and all failures which would be caused by the design basis event requiring the protective function."

The UFSAR for fluid systems:

The UFSAR Section 6.3.2.5, “System Reliability,” for the emergency core cooling system (ECCS), stated, in part,

- 6.3.2.5.1, “Active Failure Criteria, an active failure is the failure of a powered component such as a piece of mechanical equipment, a component of the electrical supply system, or instrumentation and control equipment to act on command to perform its design function. Examples include the failure of a motor-operated valve to move to its correct position, the failure of an electrical breaker or relay to respond, the failure of a pump, fan, or diesel generator to start, etc. ...the ECCS can sustain an active failure in either the short or long term and still meet the required level of performance for core cooling.”
- 6.3.2.5.2, “Passive Failure Criteria, a passive failure is the structural failure of a static component which limits the component's effectiveness in carrying out its design function. Examples include cracks in pipes, sprung flanges, valve packing leaks, or pump seal failures. ...the ECCS can sustain a single passive failure during the long-term phase and still retain an intact flow path to the core to supply sufficient flow to keep the core covered and to effect the removal of decay heat.”

In 1977, the staff submitted a commission paper (SECY) to describe how the staff used the Single Failure Criterion as a tool in the review of the design of nuclear power plants (SECY 77-439). The SECY discussed the acceptable interpretations of IEEE 279-1972, IEEE 379-1972, and the Single Failure Criterion as applied to piping systems. A summary of the NRC positions from SECY 77-439 were as follows: The General Design Criteria make it clear that for electrical, instrumentation and control systems, application of the Single Failure Criterion to systems evaluation depends not only on the initiating event that invokes safety action of these systems, together with consequential failures, but also on active or passive electrical failures which can occur independent of the event. Thus, evaluation proceeds on the

proposition that single failures can occur at any time. In contrast, for various fluid systems, the most limiting single active failure is considered in evaluating systems performance capability within the first 24 hours. Twenty-four hours or greater after the event, a single passive failure equal to the leakage that would occur from a valve or pump seal failure, is assumed.

In addition, the UFSAR chapter 8 identified that the standard for the power systems was IEEE 308-1974, "IEEE Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations." Section 4.8 of the standard stated, in part, "an analysis of the failure modes of Class 1E power systems and the effect of these failures on the electric power available to Class 1E loads shall be performed to demonstrate that a single component failure does not prevent satisfactory performance of the minimum Class 1E loads required for safe shutdown and maintenance of post-shutdown or post-accident station security."

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On January 25, 2021, the inspectors presented the integrated inspection results to Ms. Cheryl Gayheart and other members of the licensee staff.
- On October 1, 2020, the inspectors presented the RP Inspection Exit Meeting inspection results to Mr. Drayton Pitts and other members of the licensee staff.
- On November 6, 2020, the inspectors presented the TI 194 Revision 2 inspection results to Mr. Drayton Pitts and other members of the licensee staff.
- On December 11, 2020, the inspectors presented the Emergency Preparedness exercise inspection results to Mr. Drayton Pitts and other members of the licensee staff.
- On December 18, 2020, the inspectors presented the Re-exit for RP inspection results to Mr. Mathew Horn and other members of the licensee staff.
- On December 28, 2020, the inspectors presented the results of the closure of Unresolved Item (URI) 05000424, 425/2019010-02 inspection results to Mr. Jeffrey Deal and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
2515/194	Calculations	PRA-BC-V-19-003 Revision 2	Vogtle 1&2 Open Phase Condition Evaluation	08/11/2020
60855.1	Miscellaneous	20-53-VC-CASK	Move Sheet - Pre UFLO 6 Cask Shuffle	1.0
	Procedures	93711-C	HI-STORM System Site Transport	16.0
	Work Orders	SNC1072857		
71111.04	Corrective Action Documents	10467290		
	Drawings	2X4DB159-2	P&I Diagram - Main Steam System - System No. 1301	33.0
	Work Orders	SNC623970		
71111.05	Corrective Action Documents	275991, 10596066		
	Corrective Action Documents Resulting from Inspection	10747955		
	Procedures	92739A-1	Zone 39A - Auxiliary Building - Level A Fire Fighting Preplan	4.0
		92745-1	Zone 45 - Auxiliary Building - Level 1 Fire Fighting Preplan	2.2
		92799-1	Zone 99 - Control Building Level A Fire Fighting Preplan	3.2
92804-1		Zone 104 - MSIV Room North Level 1 Fire Fighting Preplan	4.2	
71111.06	Engineering Evaluations	X6CXC17	Flooding Areas - Outside Areas	5
		X6CXC19	Flooding NSCW Pump House and Outside Areas	11/03/1982
	Miscellaneous	DC-1003	Flooding - Interdiscipline	06/20/2020
	Procedures	17062-1	Annunciator Response Procedures for ALB 62 on Process Control Panel	23.0
71111.11Q	Procedures	12004-2	Power Operation (Mode 1)	4.1
		13830-2	Main Generator Operation	62.4
71111.12	Corrective Action Documents	277356, 277358, 1062429, 10309062, 10414037, 10593862, 10665121,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
		10672757, 10681809, 10691420, 10691471, 10734575, 10756069, 10706799			
	Corrective Action Documents Resulting from Inspection	10763288			
	Miscellaneous			Maintenance Rule Expert Panel Meeting #2019-09	06/19/2019
		EVAL-V-1626-05107		AMSAC (a)(1) Review, Evaluation, and Action Plan	03/25/2020
		MREP Meeting #2019-05		Maintenance Rule Expert Panel Meeting #2019-05	05/22/2019
		V-RIE-MR-U00		Vogtle 1&2 Maintenance Rule Risk Ranking and Performance Criteria Assessment	2
	Procedures	27145-C		Reactor Coolant Pump Maintenance	9.2
		DC-1626		ATWS Mitigation System Actuation Circuitry (AMSAC)	2
		GAE/GBE-PMS-P1.25		Vogtle Reactor Coolant Pump Replacement	5
		NMP-ES-027		Maintenance Rule Program	10.2
		NMP-ES-027		Maintenance Rule Program	10.2
	Work Orders	SNC1070414, SNC1114832, SNC1086462			
	71111.15	Corrective Action Documents	10566429, 10739386, 10739387		
		Corrective Action Documents Resulting from Inspection	10751488, 10762502		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
	Drawings	AX3D-AA-A03A	Vogle - Wilson Master One Line Diagram	20.0	
	Miscellaneous		SAT Tan Delta Report Summary - September 2013		
			SAT Tan Delta Report Summary - September 2020		
	Procedures	NMP-ES-051-002	Tan Delta Testing	10.2	
		NMP-ES-051-002	Tan Delta Testing	5.1	
Work Orders	SNC141477, SNC475153, SNC1118254, SNC1118573				
71111.19	Corrective Action Documents	10739386, 10739387, 10739387, 10739982, 10740107, 10740207, 10740467, 10741071, 10746256, 10748479			
		10751488			
		Miscellaneous		Plan of the Day	09/23/2020
		Procedures	13006-2	Chemical and Volume Control System	100
			13415A-2	Diesel Generator Train A	14.1
			13418A-1	Standby Auxiliary Transformer Unit One Train A Operations	5.4
			14980A-2	Diesel Generator 2A Operability Test	31.2
			NMP-DP-001	Operational Risk Awareness	19.0
			NMP-ES-051-002	Tan Delta Testing	10.2
			NMP-MA-007	SNC Rigging and Lifting Program	9.0
	NMP-MA-014	Post Maintenance Testing/Post Modification Testing	2.2		
Work Orders	SNC1101773, SNC1067180,				

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		SNC1119645, SNC475153, SNC1118254, SNC1118573, SNC929677, SNC1000621, SNC1012070		
71111.22	Corrective Action Documents	1001754, 10745406		
	Drawings	2X4DB111	P&I Diagram - Reactor Coolant System - System No. 1201	30.0
		2X4DB115	P&I Diagram - Chemical & Volume Control System - System No. 1208	35.0
		2X4DB116-1	P&I Diagram - Chemical & Volume Control System - System No. 1208	49.0
		2X4DB116-2	P&I Diagram - Chemical & Volume Control System - System No. 1208	32.0
		2X4DB119	P&I Diagram - Safety Injection System - System No. 1204	28.0
		2X4DB121	P&I Diagram - Safety Injection System - System No. 1204	50.0
		2X4DB122	P&I Diagram - Residual Heat Removal - System No. 1205	54.0
		2X4DB130	P&I Diagram - Spent Fuel Cooling & Purification System - System No. 1213	42.0
	Engineering Evaluations	SNC918782	RWST Back Leakage Pathway Technical Justification with Respect to CR/IDO 10448420 and IN 91-56 "Potential Radioactive Leakage to Tank Vented to Atmosphere"	06/29/2018
		SNC949800	Dose Impact of Increased Post-LOCA RWST Backleakage	08/21/2018
	Miscellaneous	AX4DT005	Flex Portable System Phase 2 Core Cooling Subsystem Modes 1-5 with Steam Generators Available	1.0
		AX4DT108	Sizing Criteria for the Steam Generator Flex Pump	1.0
	Procedures	13011-2	Residual Heat Removal System	71
		14722-2	ECCS to RWST Backleakage In-service Test	1.4
		24991-2	Protection Group II SSPS Input Relay Test	13.1
		NMP-OS-019-013-GL03	Vogtle Flex Equipment Unavailability Tracking Guideline	3.0
	Work Orders	SNC1017276,		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		SNC1017322, SNC1017333, SNC962865		
71124.03	Calibration Records	Filter Particle Test Results, HEPA unit 3360	Filter Particle Test Results, HEPA unit 3360	02/19/2020
	Corrective Action Documents Resulting from Inspection	CR 10761657		
	Engineering Evaluations	TEDE-ALARA evaluations for the 2R20 refueling outage	Selective TEDE-ALARA evaluations for the 2R20 refueling outage	Various
	Miscellaneous	Breathing Air Reports	Breathing Air Reports	Various
		MSA Training Certificates	MSA Training Certificates	Various
	Procedures	43635-C	Operation and Calibration of the AMS-4 Continuous Air Monitor	Rev. 18.2
		43639-C	Operation and Calibration of the F&J Econoair Plus L15P Air Sampler	Rev. 2.0
		43658-C	Air Sampler Calibration	Rev. 18.3
		NMP-HP-301	Airborne Radioactivity Sampling and Evaluation	Rev. 4.2
		NMP-HP-501-003	Inspection, Repair, and Storage of Non-SCBA Respiratory Protection Equipment	Rev. 1.1
		NMP-HP-501-004	Inspection, Repair and Storage of Self-Contained Breathing Apparatus	Rev. 1.6
		NMP-HP-501-005	Inspection, Repair and Storage of the MSA G1 SCBA	Rev. 2.0
		NMP-HP-513 NMP-HP-515	Operation and Use of the Delta Air Supplied Suit 3M Versaflo Powered Air Purifying Respirator (PAPR) Use and Control	Rev. 3.2 Rev. 1.4
	Self-Assessments	TE 1060956	NRC Radiation Protection Occupational Routine Baseline Inspection	06/22/2020

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71124.04	Corrective Action Documents	CR 10618674	CR 10618674	
		CRs: 10541535, 10594779, 10654307, 10696255, 10731405, 10733930, 10733931, 10734293, 10739309, and 10739313	CRs: 10541535, 10594779, 10654307, 10696255, 10731405, 10733930, 10733931, 10734293, 10739309, and 10739313	Various
	Miscellaneous	(NMP-HP-408) 2018, 2020 Dry Active Waste 10 CFR Part 61 Scaling Factors Determinations Reports	(NMP-HP-408) 2018, 2020 Dry Active Waste 10 CFR Part 61 Scaling Factors Determinations Reports	Various
		2020 OSLD Update Data	DLR vs. ED Correlations Report	09/15/2020
		Alpha Characterization (update) Reports 2018 and 2019	Alpha Characterization (update) Reports	Various
		NAVLAP Certificates	NAVLAP Certificates of Accreditation	Various
		Site Boundary Reports	Evaluations of neutron spectra for the ISFSI and containment at power for yrs. 2018, 2019 and 2020	Various
	Procedures	NMP-HP-100	Bioassay Program	Rev. 1.2
		NMP-HP-101	In-Vivo Bioassay and Internal Dose Assessment	Rev. 3.1
		NMP-HP-102	In-Vitro Bioassay	Rev. 1.2
		NMP-HP-103	Skin Dose Assessment	Rev. 3.2
		NMP-HP-104	Use and Calibration of Whole Body Counters	Rev. 4.1
NMP-HP-104-008		Resolving Unidentified Peaks and Assignment of Dose	Rev. 1.0	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		NMP-HP-104-009	Whole Body Counter Computer Startup, Logon and Shutdown With Apex-InVivo	Rev. 3.2
		NMP-HP-104-010	Whole Body Counter Daily Quality Control Checks With Apex-InVivo	Rev. 2.0
		NMP-HP-104-011	Performing Whole Body Counts Using Apex-InVivo	Rev. 3.2
		NMP-HP-105	Comparison of OSLD and Ed Dosimetry Results	Rev. 1.4
		NMP-HP-106	Investigation of Exposures Exceeding Fleet Administrative Limits	Rev. 2.1
		NMP-HP-107	Individual Radiation Exposure Records and Reports	Rev. 3.11
		NMP-HP-108	Printed 09/16/2020at 11:52:00SNCUnit SCategory 2NMP-HP-108Issuance, Use, and Collection of Personnel Dosimetry	Rev. 2.10
		NMP-HP-108-002	Use of EDE (Effective Dose Equivalent) Methodologies	Rev. 3.2
		NMP-HP-109	Investigation, Evaluation and Management of Damaged, Lost, Malfunctioning or Alarming Dosimetry	Rev. 2.6
		NMP-HP-201	Personnel Dosimetry Program	Rev. 2.6
		NMP-HP-302-004	Control of Discrete Radioactive Particles	Rev. 1.3
		NMP-HP-303	Personnel Decontamination	Rev. 4.3
	Radiation Surveys	Area TLD Reports	TLD surveys for the spent fuel storage area and general plant areas	Various
	Self-Assessments	SNC QA ID: 208 (Log: C NOS-19-062-01)	GPC Environmental Laboratory Audit Report	05/20/2019
71124.05	Procedures	43637-C	Calibration of the Eberline MS-2 & MS-3 Mini Scalers with the HP-210 Probe and the SH-4A Sample Holder	Rev. 11.5
		43638-C	Calibration of the Eberline SAC-4 Scintillation Alpha Counter	Rev. 11.2
		NMP-HP-700	Radiation Protection Instrumentation Program	Rev. 1.1
		NMP-HP-701	Daily Instrumentation Source Checks	Rev. 2.2
		NMP-HP-703	Printed at 10:04SNCUnit SNMP-HP-703RO-2, RO-2A and RO-20 Operation and Calibration	Rev. 2.3
		NMP-HP-708	Operation and Calibration of the MGPI Telepole Instrument	Rev. 4.0
		NMP-HP-726	Calibration Of Gamma Standards Using the Radcal Accu-Dose+ Digitizer Module	Rev. 2.0
71151	Miscellaneous		Unit 1/2 Emergency AC Power System MSPI Derivation	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Report Unavailability Index October 2019 - September 2020	
			Unit 1/2 Emergency AC Power System MSPI Derivation Report Unreliability Index October 2019 - September 2020	
			Unit 1/2 Cooling Water System MSPI Derivation Report Unreliability Index October 2019 - September 2020	
			Unit 1/2 Cooling Water System MSPI Derivation Report Unavailability Index October 2019 - September 2020	
		MSPI-Vogtle	NRC Mitigating System Performance Index (MSPI)	10
		NEI 99-02	Regulatory Assessment Performance Indicator Guideline	7