



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
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ATLANTA, GEORGIA 30303-1257

July 21, 2017

Mr. Darin Myers  
Vice President  
Southern Nuclear Operating Company, Inc.  
Vogtle Electric Generating Plant  
7821 River Road  
Waynesboro, GA 30830

**SUBJECT: VOGTLE ELECTRIC GENERATING PLANT – NRC INTEGRATED INSPECTION  
REPORT 05000424/2017002 AND 05000425/2017002**

Dear Mr. Myers:

On June 30, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Vogtle Electric Generating Plant, Units 1 and 2. On July 5, 2017, the NRC inspectors discussed the results of this inspection with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented two findings of very low safety significance (Green) in this report. These findings involved violations of NRC requirements. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the Enforcement Policy. If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement; and the NRC resident inspector at the Vogtle Electric Generating Plant, Units 1 and 2.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II; and the NRC resident inspector at the Vogtle Electric Generating Plant, Units 1 and 2.

D. Myers

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

Sincerely,

*/RA/*

Shane Sandal, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Docket Nos.: 50-424 and 50-425  
License Nos.: NPF-68 and NPF-81

Enclosure:  
IR 05000424/2017002; 05000425/2017002  
w/Attachment: Supplemental Information

cc: Distribution via ListServ

D. Myers

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SUBJECT: VOGTLE ELECTRIC GENERATING PLANT – NRC INTEGRATED INSPECTION  
REPORT 05000424/2017002 AND 05000425/2017002 July 21, 2017

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION II**

Docket Nos.: 50-424, 50-425

License Nos.: NPF-68, NPF-81

Report No.: 05000424/2017002; and 05000425/2017002

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Vogtle Electric Generating Plant, Units 1 and 2

Location: Waynesboro, GA 30830

Dates: April 01, 2017 through June 30, 2017

Inspectors: M. Endress, Senior Resident Inspector  
A. Alen, Resident Inspector  
S. Sanchez, Senior Emergency Preparedness Inspector  
(1EP2, 1EP3, 1EP4, 1EP5, 4OA1)  
J. Hickman, Emergency Preparedness Inspector  
(1EP2, 1EP3, 1EP4, 1EP5, 4OA1)  
D. Lanyi, Senior Operations Engineer (1R11)  
M. Kennard, Operations Engineer (1R11)  
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Approved by: Shane Sandal, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Enclosure

## SUMMARY

IR 05000424/2017002; and 05000425/2017002, April 1, 2017 through June 30, 2017; Vogtle Electric Generating Plant, Units 1 and 2, Other Activities

The report covered a three-month period of inspection by resident inspectors and regional inspectors. There are two self-revealing violations documented in this report which were determined to be of very low safety significance. The significance of inspection findings are indicated by their color (i.e., greater than Green, Green, White, Yellow or Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," (SDP) dated April 29, 2015. The cross-cutting aspects are determined using IMC 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated November 1, 2016. The NRC's program for overseeing the safe operations of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6. Documents reviewed by the inspectors which are not identified in the Report Details are identified in the List of Documents Reviewed section of the Attachment.

### Cornerstone: Initiating Events

- (Green). A self-revealing, Green, non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action, was identified for the licensee's failure to identify and correct a condition adverse to quality (i.e., manufacturing deficiency), which led to a repetitive failure of main steam isolation valve (MSIV) 1HV-3006B. The failure to determine the cause of a significant condition adverse to quality and take corrective action to preclude repetition was a performance deficiency. Specifically, the licensee failed to identify the root cause of an MSIV actuator failure on April 12, 2014, that resulted in a reactor trip. As a result, appropriate corrective actions were not taken and a repeat failure of the valve actuator caused another reactor trip on February 3, 2017. The licensee has entered this issue into the corrective action program as condition report 10326456.

This performance deficiency was more than minor because it was associated with the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was of very low safety significance (Green) because the finding did not result in a loss of mitigation equipment used to transition the reactor to a stable shutdown condition. The finding was not assigned a cross cutting aspect since it was not indicative of current licensee performance due to the root cause evaluation in question being performed greater than three years ago (Section 4OA5).

### Cornerstone: Mitigating Systems

- (Green). A self-revealing, Green, non-cited violation of Technical Specifications 5.4.1.a, "Procedures," was identified for the licensee's failure to redline new wiring installation associated with an open phase protection system modification, as required by work instructions. As result, control circuit wires were not installed per wiring diagrams and caused a loss of the offsite power feed to the 'B' train 4160-volt emergency power bus. The licensee's failure to redline new wiring installation associated with an open phase protection system modification installation, as required by work instruction SNC804606 and

maintenance procedure NMP-MA-017 was a performance deficiency. The licensee entered this issue into their corrective action program under condition reports 10343972 and 10344136 and restored offsite power to the emergency bus by correcting the wiring configuration.

The performance deficiency was more than minor because it was associated with the Human 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. The finding was determined to be of very low safety significance (Green) because the in-service train of shutdown cooling (i.e., 'A' train of the residual heat removal system) was not affected. The finding was assigned a cross-cutting aspect of "Procedure Adherence," in the Human Performance area because individuals did not follow work instructions and redline procedures when installing new wiring for the open phase protection system [H.8] (Section 4OA5).

## REPORT DETAILS

### Summary of Plant Status

Unit 1 began the inspection period in planned refueling outage cycle 20 (1R20). The unit was restarted on April 3, 2017, and attained full reactor thermal power (RTP) on April 7, 2017. On May 30, 2017, operators reduced power to approximately 80-percent RTP in response to a steam generator sodium excursion and repaired a tube leak in the 'A' condenser water box. On June 9, 2017, the unit was returned to full RTP and remained at or near full RTP for the remainder of the inspection period.

Unit 2 operated at or near full RTP for the entire inspection period.

### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

#### 1R01 Adverse Weather Protection (71111.01)

##### a. Inspection Scope

Summer Readiness of Offsite and Alternate AC Power System: The inspectors reviewed the licensee's procedures for operation and continued availability of offsite and onsite alternate AC power systems. The inspectors also reviewed the communications protocols between the transmission system operator and the licensee to verify that the appropriate information is exchanged when issues arise that could affect the offsite power system.

The inspectors reviewed the material condition of offsite and onsite alternate AC power systems (including switchyard and transformers) by performing a walkdown of the switchyard. The inspectors reviewed outstanding work orders and assessed corrective actions for degraded conditions that impacted plant risk or required compensatory actions.

Impending Adverse Weather Conditions: The inspectors reviewed the licensee's preparations to protect risk-significant systems from an impending storm with high wind, hail, and lightning expected on April 5, 2017. The inspectors evaluated the licensee's implementation of adverse weather preparation procedures and compensatory measures, including operator staffing, before the onset of the adverse weather conditions. The inspectors reviewed the licensee's plans to address the ramifications of potentially lasting effects that may result from high wind, hail, and lightning. The inspectors verified that operator actions specified in the licensee's adverse weather procedure maintain readiness of essential systems. The inspectors verified that required surveillances were current, or were scheduled and completed, if practical, before the onset of anticipated adverse weather conditions. The inspectors also verified that the licensee implemented periodic equipment walkdowns or other measures to ensure that the condition of plant equipment met operability requirements.

##### b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)a. Inspection Scope

Partial Walkdown: The inspectors verified that critical portions of the following four systems were correctly aligned by performing partial walkdowns. The inspectors determined the correct system lineup by reviewing plant procedures and drawings.

- Unit 1, 'A' train emergency diesel generator (EDG) with the 'B' train EDG out of service (OOS) for monthly surveillance.
- Unit 2, 'A' train EDG with the 'B' train EDG OOS for an extended preventative maintenance (PM) outage.
- Unit 2, 'A' and 'B' motor-driven auxiliary feed water (MDAFW) trains standby readiness with the 'C' train turbine-driven auxiliary feed water (TDAFW) pump OOS due to an emergent issue.
- Unit 2, 'B' MDAFW and 'C' TDAFW trains standby readiness with 'A' MDAFW train OOS for PM outage.

Complete Walkdown: The inspectors verified the alignment of the Unit 2 'B' train EDG while the 'A' train EDG was OOS for an extended PM outage by reviewing plant procedures, drawings, the updated final safety analysis report, and other documents. The inspectors also reviewed records related to the system outstanding design issues, maintenance work requests, and deficiencies.

The inspectors reviewed corrective action documents, including condition reports and outstanding work orders, to verify the licensee was identifying and resolving equipment alignment discrepancies. The inspectors also reviewed periodic reports containing information on the status of risk-significant systems, including maintenance rule reports and system health reports.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05AQ)a. Inspection Scope

Quarterly Inspection: The inspectors evaluated the adequacy of fire plans by comparing the fire plans to the defined hazards and defense-in-depth features specified in the fire protection program for the following five fire areas.

- Unit 1 AFW pump house, fire zones 155, 156, 157A, and 157B
- Unit 1 Auxiliary Building level "C", pipe penetration area and centrifugal charging pump rooms for "A" and "B" trains , fire zones 14B, 19, 20, and 21
- Unit 2 Auxiliary Building level "C", pipe penetration area and centrifugal charging pump rooms for "A" and "B" trains , fire zones 14B, 19, 20, and 21
- Unit 2, Control Building level "B", 1E 'A' and 'B' train battery and switchgear rooms, fire zones 71, 76,77A, 77B, 78A, and 78B



- Unit 2, Control Building level “B”, 1E ‘C’ and ‘D’ train battery and switchgear rooms, fire zones 56A, 56B, 79A, 79B, 83, and 152

The inspectors assessed the following:

- control of transient combustibles and ignition sources
- fire detection systems
- water-based fire suppression systems
- gaseous fire suppression systems
- manual firefighting equipment and capability
- passive fire protection features
- compensatory measures and fire watches
- issues related to fire protection contained in the licensee’s corrective action program
- material condition and operational status of fire protection equipment

Fire Drill Observation: The inspectors observed the licensee’s fire brigade performance during a fire drill on May 30, 2017, and assessed the brigade’s capability to meet fire protection licensing basis requirements. The inspectors observed the following aspects of fire brigade performance:

- capability of fire brigade members
- leadership ability of the brigade leader
- proper use of turnout gear and fire-fighting equipment
- team effectiveness
- compliance with site procedures

The inspectors also assessed the ability of control room operators to combat potential fires including identifying the location of the fire, dispatching the fire brigade, and sounding alarms.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

Internal Flooding: The inspectors reviewed related flood analysis documents and walked down the area listed below containing risk-significant structures, systems, and components susceptible to flooding. The inspectors verified that plant design features and plant procedures for flood mitigation were consistent with design requirements and internal flooding analysis assumptions. The inspectors also assessed the condition of flood protection barriers and drain systems. In addition, the inspectors verified the licensee was identifying and properly addressing issues using the corrective action program.

- Unit 1, auxiliary component cooling water heat exchanger rooms (Auxiliary Building rooms R104 and R105)

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program and Licensed Operator Performance (71111.11)

a. Inspection Scope

Licensed Operator Regualification: The inspectors reviewed the facility operating history and associated documents in preparation for this inspection. During the week of June 26, 2017, the inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of operating tests associated with the licensee's operator regualification program. Each of the activities performed by the inspectors was done to assess the licensee's effectiveness in implementing regualification requirements identified in 10 CFR Part 55, "Operators' Licenses." The evaluations were also performed to determine if the licensee effectively implemented operator regualification guidelines established in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," and Inspection Procedure 71111.11, "Licensed Operator Regualification Program." The inspectors also evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations using ANSI/ANS-3.5-1985, "American National Standard for Nuclear Power Plant Simulators for use in Operator Training and Examination." The inspectors observed two shift crews during the performance of the operating tests. Documentation reviewed included written examinations, job performance measures (JPMs), simulator scenarios, licensee procedures, on-shift records, simulator modification request records, simulator performance test records, operator feedback records, licensed operator qualification records, remediation plans, watch-standing records, and medical records. The records were inspected using the criteria listed in Inspection Procedure 71111.11.

Resident Inspector Quarterly Review of Licensed Operator Regualification: On May 1, 2017, the inspectors observed evaluated simulator scenario, V-RQ-SE-17201, As-Found DEP Scenario, Ver. 1.1, administered to an operating crew conducted in accordance with the licensee's accredited regualification training program.

The inspectors assessed the following:

- licensed operator performance
- the ability of the licensee to administer the scenario and evaluate the operators
- the quality of the post-scenario critique
- simulator performance

Resident Inspector Quarterly Review of Licensed Operator Performance: The inspectors observed licensed operator performance in the main control room during a Unit 1 'B' train EDG monthly surveillance run on June 14, 2017 and again on June 27, 2017 during a Unit 2 control rod operability test.

The inspectors assessed the following:

- use of plant procedures

- control board manipulations
- communications between crew members
- use and interpretation of instruments, indications, and alarms
- use of human error prevention techniques
- documentation of activities
- management and supervision

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors assessed the licensee's treatment of the issue listed below to verify the licensee appropriately addressed equipment problems within the scope of the maintenance rule (10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants"). The inspectors reviewed procedures and records to evaluate the licensee's identification, assessment, and characterization of the problems as well as their corrective actions for returning the equipment to a satisfactory condition. The inspectors also interviewed system engineers and the maintenance rule coordinator to assess the accuracy of performance deficiencies and extent of condition.

- Unit 2, nuclear service water system pump no. 3 tripped due to inadvertent lockout relay actuation, CR10289575

Quality Control Maintenance Effectiveness: The inspectors reviewed the licensee's control of quality for the Unit 2 'A' train EDG direct current (DC) control power circuit. The inspectors assessed the control of parts installed that were purchased as commercial grade parts but were dedicated prior to installation in a quality grade application. The inspectors also assessed the control of quality parts during the maintenance and troubleshooting process for DC control power issues on the EDG.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed the six maintenance activities listed below to verify that the licensee assessed and managed plant risk as required by 10 CFR 50.65(a)(4) and licensee procedures. The inspectors assessed the adequacy of the licensee's risk assessments and implementation of risk management actions. The inspectors also verified that the licensee was identifying and resolving problems with assessing and managing maintenance-related risk using the corrective action program. Additionally, for maintenance resulting from unforeseen situations, the inspectors assessed the effectiveness of the licensee's planning and control of emergent work activities.

- Unit 1, April 24, 2017, GREEN risk profile and risk management actions (RMAs) associated with 'B' train EDG and 'B' train NSCW tower fan no. 3 being out of service (OOS) for maintenance.
- Unit 1, May 15, 2017, GREEN risk profile and RMAs associated with the NSCW 'B' fan no. 2 OOS for PMs.
- Unit 1, May 22, 2017, YELLOW risk profile and RMAs associated with NSCW 'B' train tower fan no. 4 and emergency containment coolers no. 7 and no. 8 being OOS for PMs.
- Unit 2, June 12, 2017 GREEN risk profile and RMAs associated with the TDAFW pump being OOS due to an emergent issue and the 'B' train EDG being OOS for an extended PM outage.
- Unit 2, May 18, 2017, 'A' train EDG governor troubleshooting and testing due to EDG load swings.
- Unit 2, May 2 thru May 3, 2017, YELLOW risk profile and RMAs associated with 'A' train 125VDC charger, 2AD1CA, and 'A' train EDG being OOS for PMs.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

Operability Determinations and Functionality Assessments Review: The inspectors selected the five operability determinations or functionality evaluations listed below for review based on the risk-significance of the associated components and systems. The inspectors reviewed the technical adequacy of the determinations to ensure that technical specification operability was properly justified and the components or systems remained capable of performing their design functions. To verify whether components or systems were operable, the inspectors compared the operability and design criteria in the appropriate sections of the technical specification and updated final safety analysis report to the licensee's evaluations. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. Additionally, the inspectors reviewed a sample of corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with operability evaluations.

- Unit 1, operational decision-making issue (ODMI) worksheet associated with repairs for ultrasonic indications identified on the inside diameter of loop no. 4 cold leg safety injection line nozzle connecting to the reactor coolant system piping, TE982923
- Unit 1, operability determination for 'A' train EDG due to building ventilation dampers not being open as expected during standby conditions, CR10357895
- Unit 1 and 2, operability determinations for the 1A and 2A train water pumps of the essential chilled water system due to excessive pump seal leakage, CRs 10378528 and 10378822
- Unit 2, operability determination for the 'B' train EDG speed indication showing incorrectly in the integrated plant computer, CR10351094

- Unit 1, operability determination of the 'B' train essential chilled water system chiller due to NSCW supply valve, TV11675, failure to open when demanded, CR10354953

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors reviewed SNC852818 for instrumentation installation on the Unit 1 loop no. 4 safety injection nozzle. The inspectors assessed the following:

- Verified that the modifications did not affect the safety functions of important safety systems.
- Confirmed the modifications did not degrade the design bases, licensing bases, and performance capability of risk significant structures, systems and components.
- Verified modifications performed during plant configurations involving increased risk did not place the plant in an unsafe condition.
- Evaluated whether system operability and availability, configuration control, post-installation test activities, and changes to documents, such as drawings, procedures, and operator training materials, complied with licensee standards and NRC requirements.
- Reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with modifications.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the five maintenance activities listed below to verify the work performed was completed correctly and the test activities were adequate to verify system operability and functional capability.

- SNC595390, Unit 1 'B' train NSCW tower fan no. 3 maintenance (torque fan blades, oil change, and inspection,) 4/24/17
- SNC857979, Unit 1 'B' train essential chiller NSCW supply valve motor replacement, 4/18/17
- SNC858819, Unit 1 'B' EDG functionality tests following logic board replacement, 4/25/17
- SNC868686, Unit 2 'A' train EDG electric governor replacement, 5/23/17
- SNC874430, Unit 2 TDAFW pump turbine speed control circuit tracking driver (NTD) card replacement, 6/12/17

The inspectors evaluated these activities for the following:

- Acceptance criteria were clear and demonstrated operational readiness.
- Effects of testing on the plant were adequately addressed.
- Test instrumentation was appropriate.
- Tests were performed in accordance with approved procedures.
- Equipment was returned to its operational status following testing.
- Test documentation was properly evaluated.

Additionally, the inspectors reviewed a sample of corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with post-maintenance testing.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

For the Unit 1 refueling outage (1R20), which ended on April 4, 2017, the inspectors evaluated the following outage activities:

- heatup and startup
- reactor coolant system instrumentation and electrical power configuration
- reactivity and inventory control
- decay heat removal and spent fuel pool cooling system operation
- containment closure

The inspectors verified that the licensee:

- controlled plant configuration in accordance with administrative risk reduction methodologies
- developed work schedules to manage fatigue
- developed mitigation strategies for loss of key safety functions
- adhered to operating license and technical specification requirements

Inspectors verified that safety-related and risk-significant structures, systems, and components not accessible during power operations were maintained in an operable condition. The inspectors also reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with outage activities.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)a. Inspection Scope

The inspectors reviewed the four surveillance tests listed below. The surveillance test was either observed directly or test results were reviewed to verify testing activities and results provide objective evidence that the affected equipment remain capable of performing their intended safety functions and maintain their operational readiness consistent with the facility's current licensing basis. The inspectors evaluated the test activities to assess for:

- preconditioning of equipment,
- appropriate acceptance criteria,
- calibration and appropriateness of measuring and test equipment,
- procedure adherence, and
- equipment alignment following completion of the surveillance.

Additionally, the inspectors reviewed a sample of significant surveillance testing problems documented in the licensee's corrective action program to verify the licensee was identifying and correcting any testing problems associated with surveillance testing.

Routine Surveillance Tests

- 14980B-1, Unit 1 'B' Train EDG Monthly Surveillance, Ver. 29

In-Service Tests (IST)

- 14807A-1, Unit 1 'A' Train Motor Driven Auxiliary Feedwater Pump and Check Valve In-service and Response Time Test, Ver. 7
- 14805A-2, Unit 2 'A' Train Residual Heat Removal IST, Ver. 4.1

Reactor Coolant System Leak Detection

- 14905-2, Unit 2 Reactor Coolant System Leakage Calculation, Ver. 57.1

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Evaluationa. Inspection Scope

The inspectors evaluated the adequacy of the licensee's methods for testing and maintaining the alert and notification system in accordance with NRC Inspection Procedure 71114, Attachment 02, Alert and Notification System Evaluation, dated July 21, 2016. The applicable planning standard, 10 CFR Part 50.47 (b) (5), and its related 10 CFR Part 50, Appendix E requirements were used as reference criteria. The criteria

contained in NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, Revision 1, were also used as a reference. The inspectors reviewed various documents, which are listed in the attachment to this report, and interviewed personnel responsible for system performance. This inspection activity satisfied one inspection sample for the alert and notification system on a biennial basis.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Staffing and Augmentation System

a. Inspection Scope

The inspectors reviewed the licensee's Emergency Response Organization (ERO) augmentation staffing requirements and process for notifying the ERO to ensure the readiness of key staff for responding to an event and timely facility activation. The qualification records of key position ERO personnel were reviewed to ensure all ERO qualifications were current. A sample of problems identified from augmentation drills or system tests performed since the last inspection was reviewed to assess the effectiveness of corrective actions. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 03, Emergency Response Organization Staffing and Augmentation System, dated July 21, 2016. The applicable planning standard, 10 CFR 50.47(b) (2), and its related 10 CFR 50, Appendix E requirements were used as reference criteria. The inspectors reviewed various documents that are listed in the attachment to this report. This inspection activity satisfied one inspection sample for the ERO staffing and augmentation system on a biennial basis.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

Since the last NRC inspection of this program area, one change was made to the Radiological Emergency Plan, five changes were made to the emergency action levels, and several changes were made to the implementing procedures. The licensee determined that, in accordance with 10 CFR 50.54(q), the Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The inspectors reviewed these changes to evaluate for potential reductions in the effectiveness of the Plan; however, this review was not documented in a Safety Evaluation Report and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 04, Emergency Action Level and Emergency Plan Changes, dated July 21, 2016. The applicable planning standards of 10 CFR 50.47(b), and its related requirements in 10 CFR 50, Appendix E were used as reference criteria. The inspectors



reviewed various documents that are listed in the attachment to this report. This inspection activity satisfied one inspection sample for the emergency action level and emergency plan changes on an annual basis.

b. Findings

No findings were identified.

1EP5 Maintenance of Emergency Preparedness

a. Inspection Scope

The inspectors reviewed the corrective actions identified through the Emergency Preparedness program to determine the significance of the issues, the completeness and effectiveness of corrective actions, and to determine if issues were recurring. The licensee's post-event after action reports, self-assessments, and audits were reviewed to assess the licensee's ability to be self-critical, thus avoiding complacency and degradation of their emergency preparedness program. Inspectors reviewed the licensee's 10 CFR 50.54(q) change process, personnel training, and selected screenings and evaluations to assess adequacy. The inspectors toured facilities and reviewed equipment and facility maintenance records to assess licensee's adequacy in maintaining them. The inspectors evaluated the capabilities of selected radiation monitoring instrumentation to adequately support Emergency Action Level (EAL) declarations.

The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 05, and Maintenance of Emergency Preparedness, dated July 21, 2016. The applicable planning standards, related 10 CFR 50, Appendix E requirements, and 10 CFR 50.54(q) and (t) were used as reference criteria. The inspectors reviewed various documents which are listed in the attachment to this report. This inspection activity satisfied one inspection sample for the maintenance of emergency preparedness on a biennial basis.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

Cornerstone: Barrier Integrity

- reactor coolant system leak rate (both units)
- reactor coolant system specific activity (both units)

The inspectors reviewed a sample of the performance indicator (PI) data, submitted by the licensee, for the Unit 1 and Unit 2 PIs listed above. The inspectors reviewed plant records compiled between April 2016 and March 2017 to verify the accuracy and completeness of the data reported for the station. The inspectors verified that the PI

data complied with guidance contained in Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," and licensee procedures. The inspectors verified the accuracy of reported data that were used to calculate the value of each PI. In addition, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with PI data.

Cornerstone: Emergency Preparedness

- drill/exercise performance (DEP)
- emergency response organization drill participation (ERO)
- alert and notification system reliability (ANS)

The inspectors examined data reported to the NRC, procedural guidance for reporting PI information, and records used by the licensee to identify potential PI occurrences. The inspectors verified the accuracy of the PI for ERO drill and exercise performance through review of a sample of drill and event records. The inspectors reviewed selected training records to verify the accuracy of the PI for ERO drill participation for personnel assigned to key positions in the ERO. The inspectors verified the accuracy of the PI for alert and notification system reliability through review of a sample of the licensee's records of periodic system tests. The inspectors also interviewed the licensee personnel who were responsible for collecting and evaluating the PI data. Licensee procedures, records, and other documents reviewed within this inspection area are listed in the Attachment. This inspection satisfied three inspection samples for PI verification on an annual basis.

b. Findings

No findings were identified.

40A2 Problem Identification and Resolution (71152)

.1 Routine Review

The inspectors screened items entered into the licensee's corrective action program in order to identify repetitive equipment failures or specific human performance issues for follow-up. The inspectors reviewed condition reports, attended screening meetings, or accessed the licensee's computerized corrective action database.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors reviewed Unit 2 'A' train EDG 125VDC control power and DC-DC power supply converter (125VDC to 24VDC) failures in detail to evaluate the effectiveness of the licensee's corrective actions for important safety issues. The review focused on the time period between the first control power failure on May 31, 2016 and most recent control power failure on March 8, 2017. The inspectors whether the issues were being properly:

- identified and accurately and completely documented,
- classified and prioritized,

- evaluated to identified root/apparent causes
- considered for extent of condition, generic implications, common cause, and previous occurrences; and
- corrected in a timely fashion.

Documents reviewed included engineering system health reports, condition reports, vendor failure analysis, work orders, and narrative logs.

b. Findings and Observations

No findings were identified. Several issues related to the control power circuits of the 2A EDG were noted during the trend review. There were three instances where the control power breaker for either the 'A' or 'B' control circuit tripped open. On May 31, 2016, the 'A' circuit breaker tripped, on January 19, 2017, the 'B' circuit breaker tripped, and on February 22, 2017, the 'A' circuit tripped (CRs 10229803, 10320302, 10334755). Three failed DC-DC power supplies were also identified during this period. On June 6, 2016, the 'A' control circuit DC-DC power supply was identified failed (CR10232634) during a test run; and on March 8, 2017, both 'A' and 'B' control circuits DC-DC power supplies were identified failed with burnt traces in their printed control boards during a test run, which rendered the EDG inoperable (CR10340120). Licensee troubleshooting for each breaker trip event was limited to circuit power light indication sockets and bulbs, which appeared to be the cause of the overcurrent conditions given successful power restoration (i.e. closure of the breaker) following corrective maintenance of the light socket/bulb.

The inspectors noted there was a correlation between the control circuit breaker trip events and DC-DC power supply failures, however, the two types of failures could not be conclusively tied together. The inspectors concluded that given the information available during each of the events, it was not reasonable for the licensee to have identified the two DC-DC power supplies that failed prior to being identified by the licensee on March 8, 2017. The inspectors also noted that the control power and DC-DC power supply failure issues were only seen on the 2A EDG and not on the 2B, 1A, nor 1B EDGs. The licensee continued to investigate the cause of the DC-DC power supply failures and implemented compensatory measures to ensure the standby readiness of the EDG control power circuits. The inspectors will continue to monitor licensee activities to address the cause of the control power and DC-DC power supply failures.

During the review, the inspectors noted that in each of the three control power breaker failures, the licensee did not perform an operability determination or enter Technical Specification (TS) Limiting Condition for Operation (LCO) 3.8.3.F for the EDG building ventilation system when emergency fans were rendered inoperable during the loss of control power events that disabled the fan's auto-start control circuitry. In each of the control power failures, control power was restored prior to exceeding the LCO Required Action Completion Time of 14 days, thus did not result in a TS violation. The inspectors discussed the issue with the licensee who initiated CR10376830 to document this issue in the corrective action program.

#### 4OA5 Other Activities

##### .1 (Closed) Licensee Event Report 05000424/2017-001-00, Unit 1 Manual Reactor Trip due to Main Steam Isolation Valve Closure

###### a. Inspection Scope

On February 3, 2017, at approximately 1545 EST, operators manually tripped Unit 1 when the loop no. 1 outboard main steam isolation valve (MSIV) 1HV3006B began drifting closed due to a hydraulic fluid leak. All control rods fully inserted, all equipment actuated as designed, and the unit was stabilized in Mode 3 with the heat sink being maintained by AFW and through the atmospheric relief valves. Investigation into the event found that the fluid leak was caused by an O-ring failure at the MSIV lower manifold pressure boundary. The O-ring failed from extrusion due to a radial misalignment between the cylinder boss and corresponding O-ring counter-bore in the manifold. The inspectors reviewed the LER, associated condition reports, and cause determination to understand the cause of the event and reviewed the corrective actions. This LER is closed.

###### b. Findings

Introduction: A self-revealing, Green, non-cited violation of 10 CFR 50 Appendix B, Criterion XVI, Corrective Action, was identified for the licensee's failure to identify and correct a condition adverse to quality (i.e., manufacturing deficiency), which led to a repetitive failure of MSIV 1HV-3006B. The failure to determine the cause of a significant condition adverse to quality and take corrective action to preclude repetition was a performance deficiency. Specifically, the licensee failed to identify the root cause of an MSIV actuator failure on April 12, 2014, that resulted in a reactor trip. As a result, appropriate corrective actions were not taken and a repeat failure of the valve actuator caused another reactor trip on February 3, 2017.

Description: On February 3, 2017, Unit 1 was manually tripped from 100% power when MSIV 1HV-3006B drifted closed. The licensee determined that the MSIV drifted closed due to a hydraulic fluid leak caused by a failed O-ring. Subsequent disassembly and troubleshooting revealed a slight radial misalignment between the valve actuator's cylinder port boss and corresponding O-ring counter-bore in the actuator's lower manifold. Visual and "blue" checks performed by the licensee and confirmed an unsymmetrical cylinder boss radius and mating surface alignment. The licensee initiated condition report (CR) 10326456 and performed a root cause evaluation for the event. The evaluation determined that the root cause of the actuator failure was insufficient support of the O-ring resulting from original design and manufacture. The insufficient support, and resulting misalignment, of the O-ring led to O-ring extrusion and failure under hydraulic pressure.

On April 12, 2014, Unit 1 was manually tripped from 28% power due to MSIV 1HV-3006B drifting closed (LER 2014-002-00). The licensee initiated CR 800018 following the reactor trip and performed a root cause evaluation that determined the cause for the failure was a hydraulic fluid leak due to the failure of the same O-ring that failed on February 3, 2017. The O-ring failure was determined to be most likely caused by the O-ring being pinched during installation. Prior to this event, a nearly identical failure

occurred on June 28, 1990, when Unit 2 was manually tripped due to MSIV 2HV-3026A drifting closed due to a hydraulic fluid leak (LER 90-008-00) at the same O-ring location. The failure in 1990 of this O-ring was determined to be due to a slight misalignment of the actuator's cylinder port boss and lower manifold assembly along with the valve manifold not being properly torqued.

The inspectors determined that during the causal evaluation for the 2014 event, the licensee failed to recognize the significance of the operating experience from the 1990 event where the same actuator pressure boundary O-ring failed causing a plant trip. The long term corrective action from the 1990 event was to machine a back-ring to place in the manifold port to create more seating area for the boss to insure metal to metal contact concentrically around the O-ring. This corrective action was not evaluated during the analysis of the 2014 event. The 2014 root cause evaluation focused almost exclusively on the failed O-ring and concluded that the O-ring was pinched during installation due to a weakness in maintenance practices.

Analysis: The inspectors concluded that the failure to determine the cause of a significant condition adverse to quality and take corrective action to preclude repetition was a performance deficiency. Specifically, the licensee's failure to determine the cause of the MSIV closure in 2014 using existing site operating experience and data from the 1990 event resulted in the significant condition adverse to quality (manufacturing deficiency) reoccurring in 2017 and causing a manual reactor trip. This performance deficiency is more than minor because it is associated with the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding was screened using IMC 0609, Appendix A, dated June 19, 2012, and was determined to be Green using Exhibit 1, Initiating Events, Transient Initiators, because the PD did not result in a loss of mitigation equipment used to transition the reactor to a stable shutdown condition. The finding was not assigned a cross cutting aspect since it was not indicative of current licensee performance due to the root cause evaluation in question being performed greater than three years ago.

Enforcement: 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," states, in part, in the case of significant conditions adverse to quality, that measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. Contrary to the above, the licensee failed to determine the cause of the MSIV actuator O-ring failure on April 12, 2014, such that corrective actions could be taken to preclude repetition. As a result, the MSIV O-ring failed again on February 3, 2017, resulting in a manual reactor trip. The licensee corrective action following the February 3, 2017, actuator failure was to install a carbon steel bushing in the manifold O-ring counter bore with a reduced O-ring to ensure proper alignment and metal to metal contact around the O-ring of the Lower Manifold and MSIV actuator interface. This violation is being treated as an NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy and was entered in the licensee's corrective action program as CR10326456. (NCV 05000424/2017002-001, Failure to Correct a Condition Adverse to Quality Involving an MSIV Manufacturing Deficiency.)

- .2 (Closed) Licensee Event Reports 05000424/2017-002-00 and 05000424/2017-002-01, Wiring Error Results in Automatic Actuation of a Safety System

a. Inspection Scope

On March 17, 2017, at approximately 1517 EDT, with Unit 1 shutdown for 1R20, power was being restored to an open phase protection system, which was being installed during the outage, for the Unit 1 'B' reserve auxiliary transformer (RAT). During restoration, the 'B' train 4160-volt emergency power bus lost its offsite power feed and resulted in an automatic actuation of the 'B' EDG to power the bus. The cause of the event was determined to be a wiring error of the open phase protection system alarm and trip circuitry to the 'B' RAT. The inspectors reviewed the LER, associated condition reports, and cause determination to understand the cause of the event and reviewed the corrective actions. This LER is closed.

b. Findings

Introduction: A Green, self-revealing, NCV of TS 5.4.1.a, "Procedures," was identified for the licensee's failure to redline new wiring installation associated with an open phase protection system modification installation. As result, control circuit wires were not installed per wiring diagrams and caused a loss of the offsite power feed to the 'B' train 4160-volt emergency power bus. The licensee's failure to redline new wiring installation associated with an open phase protection system modification installation, as required by work instruction SNC804606 and maintenance procedure NMP-MA-017 was a performance deficiency.

Description: As described in LER 05000424/2017-002-00, on March 17, 2017, while restoring control power to the Unit 1 'B' RAT alarm circuit, as part of the installation and testing of an open phase protection system modification, the unit lost offsite power to the 'B' train 4160-volt emergency power bus, 1BA03. The under voltage condition resulted in the automatic actuation of the 'B' train EDG, which started and powered the bus. At the time of the event, Unit 1 was in Mode 6 and in the process of being defueled. Shutdown cooling to the unit was not affected because it was being provided by the 'A' train residual heat removal system, powered from the 'A' train 4160-volt emergency power bus, 1AA02. Following the event, all open phase modification work was suspended. Licensee troubleshooting determined the alarm and trip actuation circuit wires from the open phase protection system were improperly labeled and transposed at the 'B' RAT control panel. When power was restored to the circuit, an invalid fault signal was generated within the 'B' RAT and caused the offsite power supply breaker to 1BA03 to open.

The licensee determined that the inadvertent transposition of the alarm and trip wire labels should have been caught by the electricians terminating the wires to the 'B' RAT control panel before restoring power. Specifically, the work instructions (SNC804606) for terminating the wires to the 'B' RAT control panel required the new wires to be redlined following termination at the panel, in accordance with procedure NMP-MA-017, "Red Line Drawings," Ver. 1.2. The redline procedure required wire continuity checks to confirm the wires were installed in accordance with the wiring diagrams, however; the technicians simply terminated the wires as labeled.

The licensee entered this issue into their corrective action program under condition reports 10343972 and 10344136 and took corrective actions to restore the wiring to the correct configuration, verified correct configuration on the 'A' RAT, and restored offsite

power to the emergency bus. Also, 'Just-in-Time' training was provided to all crews performing cable terminations and redlining.

Analysis: The licensee's failure to redline new wiring installation associated with an open phase protection system modification installation, as required by work instructions SNC804606 and maintenance procedure NMP-MA-017 was a performance deficiency. The performance deficiency was more than minor because it was associated with the human 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. This resulted in an incorrect wiring configuration that affected the electric power availability from the offsite power to the 'B' 4160-volt emergency power bus. The inspectors used Inspection Manual Chapter (IMC) 0609, Attachment 04, "Initial Characterization of Findings," dated October 7, 2016, to evaluate the significance of the finding. Since the plant was shut down, the inspectors were directed to IMC 0609, Appendix G, Attachment 1, "Shutdown Operations Significance Determination Process Phase 1 Initial Screening and Characterization of Findings," dated May 9, 2014. Using Appendix G, Attachment 1, Exhibit 3, "Mitigating Systems Screening Questions." The inspectors determined the finding was of very low safety significance (Green) because all exhibit questions were answered 'No' because shutdown cooling to the unit was not affected, as it was being provided by the 'A' train of the residual heat removal system at the time of the event. The inspectors determined the finding had a cross-cutting aspect of "Procedure Adherence" in the Human Performance area because individuals did not follow work instructions and redline procedures when installing new wiring for the open phase protection system [H.8].

Enforcement: Technical Specification 5.4.1.a, "Procedures," required, in part, that written procedures covering the applicable procedures recommended in Appendix A to Regulatory Guide 1.33, "Quality Assurance Program Requirements," of February 1978, shall be implemented. Appendix A, Item 9 required, in part, that maintenance activities that can affect the performance of safety-related equipment should be performed in accordance with written documented instructions appropriate to the circumstances. Contrary to the above, on March 17, 2017, the licensee failed to install open phase protection system wiring in accordance with documented instructions which resulted in a loss of offsite power to the safety-related 'B' train emergency power bus. The licensee took corrective actions to correct the wiring configuration and restored offsite power to the emergency bus. This violation is being treated as an NCV, consistent with Section 2.3.2.a of the Enforcement Policy. This violation was entered into the licensee's corrective action program as condition reports 10343972 and 10344136. (NCV 05000424/2017002-02, Failure to Follow Work Instructions for Implementation of Open Phase Protection System)

### .3 Institute of Nuclear Power Operations Report Review

In accordance with Executive Director of Operations Procedure 0220, "Coordination with the Institute of Nuclear Power Operations," the inspectors reviewed the most recent INPO evaluation and accreditation reports to determine if those reports identified safety or training issues not previously identified by NRC evaluations. The reports contained no safety issues that were not already known by the NRC.

.4 Operation of an Independent Spent Fuel Storage Installation (ISFSI) (60855.1)

a. Inspection Scope

The inspectors performed a walkdown of the onsite ISFSI on June 28, 2017. The inspectors observed each cask passive ventilation system to be free of any obstruction allowing natural draft convection decay heat removal through the air inlet and air outlet openings. The inspectors observed associated cask structures to be structurally intact and radiation protection access controls to the ISFSI area to be satisfactory. The inspectors also reviewed surveillance records to verify that daily surveillance requirements were performed as required by technical specifications.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On July 5, 2017, the resident inspectors presented the inspection results to Mr. Darin Myers and other members of the licensee's staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection period.

ATTACHMENT: SUPPLEMENTAL INFORMATION



## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee personnel:

A. Lowe, Nuclear Operations Plant Instructor  
D. Komm, Plant Manager  
D. Myers, Site Vice-President  
D. Sutton, Regulatory Affairs Manager  
E. Berry, Engineering Director  
G. Ohmstede, Fleet Training Manager  
I. White, Licensing Supervisor  
J. Deal, Emergency Preparedness Supervisor  
J. Dixon, Radiation Protection Manager  
K. Jenkins, Nuclear Operations Plant Instructor  
K. Walden, Licensing Engineer  
M. Henson, Operations Training Manager  
M. Norris, Shift Operations Manager  
M. Williams, RP Superintendent  
R. Kelly, Nuclear Operations Plant Instructor  
S. Fleshman, Asst Training Manager Operations  
T. Baker, Security Manager  
T. Fowler, Chemistry Manager  
T. Krienke, Operations Director  
W. Davenport, Training

#### NRC personnel:

Shane Sandal, Chief, Region II Reactor Projects Branch 2

### **LIST OF REPORT ITEMS**

#### Opened and Closed

05000424/2017002-01	NCV	Failure to Correct a Condition Adverse to Quality involving an MSIV Manufacturing Deficiency (4OA5)
05000424/2017002-02	NCV	Failure to Follow Work Instructions for Implementation of Open Phase Protection System (4OA5)

#### Closed

05000424/2017-001-00	LER	Manual Reactor Trip due to Main Steam Isolation Valve Closure (4OA5)
05000424/2017-002-00 and 2017-002-01	LER	Wiring Error Results in Automatic Actuation of a Safety System (4OA5)

## **LIST OF DOCUMENTS REVIEWED**

### **Section 1R01: Adverse Weather Protection**

#### Procedures

NMP-AD-014, Requirements for Compliance with NERC Standards, Ver 6.1  
NMP-AD-014-GL01, Guidelines for Compliance with NERC Standards, Ver 6.0  
14230-1/2, Offsite AC Circuit Verification and Capacity/Capability Evaluation, Ver. 26/25  
18017-C, Abnormal Grid Disturbances/Loss of Grid, Ver. 9.6  
10029-C, NERC/SERC Standards for Generator Operators, Ver. 3.0

#### Other

Site Certification Letter for Summer Readiness dated May 11, 2017

### **Section 1R04: Equipment Alignment**

#### Drawings

2X4DB161-1, Ver. 37.0, Unit 1 P&I Diagram – Auxiliary Feedwater System – Condensate Storage and Degasifier System – System No. 1302  
2X4DB161-2, Ver. 26.0, Unit 1 P&I Diagram – Auxiliary Feedwater System – System No. 1302  
2X4DB161-3, Ver. 38.0, Unit 1 P&I Diagram – Auxiliary Feedwater System (Aux Feedwater Pump Turbine Driver) – System No. 1302  
2X4DB170-2, Ver. 44.0, Unit 2 P&I Diagram – Diesel Generator System Train B  
2X4DB217, Ver. 15.0, Unit 2 P&I Diagram – Diesel Generator System Building HVAC System  
2X4DB107-1, Ver. 6.0, Unit 2 P&I Diagram – Control Logic Diagram Diesel Generator Fuel Oil Sys  
2X4DB107-2, Ver. 5.0, Unit 2 P&I Diagram – Control Logic Diagram Diesel Generator Unit Engine  
2X4DB107-3, Ver. 2.0, Unit 2 P&I Diagram – Control Logic Diagram Diesel Generator Excitation  
2X4DB107-4, Ver. 0.0, Unit 2 P&I Diagram – Control Logic Diagram Diesel Generator Engine Auxiliaries  
2X4DB107-5, Ver. 1.0, Unit 2 P&I Diagram – Control Logic Diagram Diesel Generator Engine Auxiliaries

#### Other

Tagout 2-DT-17-1302-00112, Unit 2 train A AFW Pump Motor  
Emergency Diesel Generator Systems 2403, 1<sup>st</sup> Quarter 2017

### **Section 1R05: Fire Protection Annual/Quarterly**

#### Procedures

92714B-1, Zone 14B – Aux. Building –Level C Fire Fighting Preplan, Rev. 2.2  
92714B-2, Zone 14B – Aux. Building –Level C, SGBD HX Room Fire Fighting Preplan, Rev. 1.1  
92719-1, Zone 19 – Auxiliary Building CVCS CCP Rooms Fire Fighting Preplan, Rev. 4.1  
92719-2, Zone 19 – Auxiliary Building CVCS CCP Rooms Fire Fighting Preplan, Rev. 1.1  
92720-1, Zone 20 – Auxiliary Building CVCS Pump Rm Train A Fire Fighting Preplan, Rev. 4.1  
92720-2, Zone 20 – Auxiliary Building CVCS Pump Rm Train A Fire Fighting Preplan, Rev. 2.1  
92721-1, Zone 21 – Auxiliary Building CVCS NCP Room Fire Fighting Preplan, Rev. 5.1  
92721-2, Zone 21 – Auxiliary Building CVCS NCP Room Fire Fighting Preplan, Rev. 1.1  
92756A-2, Zone 56A – Control Building – Level B Fire Fighting Preplan, Rev. 1.1  
92756B-2, Zone 56B – Control Building – Level B Fire Fighting Preplan, Rev. 0.2  
92771-2, Zone 71 – Control Building – Level B Fire Fighting Preplan, Rev. 2  
92776-2, Zone 76 – Control Building – Level B, Non Train 1-E MCC Fire Fighting Preplan, Rev. 1.1

92777A-2, Zone 77A – Control Building – Level B Fire Fighting Preplan, Rev. 1.1  
 92777B-2, Zone 77B – Control Building – Level B Fire Fighting Preplan, Rev. 1.2  
 92778A-2, Zone 78A – Control Building – Level B Fire Fighting Preplan, Rev. 0.2  
 92778B-2, Zone 78B - Control Building - Level B, Train A Battery Rm Fire Fighting Preplan, Rev. 1.2  
 92779A-2, Zone 79A – Control Building – Level B Fire Fighting Preplan, Rev. 0.2  
 92779B-2, Zone 79B – Control Building – Level B Fire Fighting Preplan, Rev. 1.2  
 92783-2, Zone 83 – Control Building – Level B, Electrical Chase Fire Fighting Preplan, Rev. 0.2  
 92852-2, Zone 152 - Control Building – Level B Fire Fighting Preplan, Rev. 1  
 92855-1, Zone 155 – Auxiliary Feedwater Pump house – Train B Fire Fighting Preplan, Rev. 2.2  
 92856-1, Zone 156 – Auxiliary Feedwater Pump house Fire Fighting Preplan, Rev. 3.1  
 92857A-1, Zone 157A – Aux. Feedwater Pump house – Train C Fire Fighting Preplan, Rev. 2.2  
 92857B-1, Zone 157B – Aux. Feedwater Pump house Fire Fighting Preplan, Rev. 1.2

Condition Reports generated during the inspection:

10363684, NRC identified liquid droplets on top of Batteries  
 10364283, Door Latch mechanism gets stuck inside the housing which prevents proper closure  
 10364285, Sprinkler head partially obstructed  
 10364287, Missing Insulation

**Section 1R06: Flood Protection Measures**

Procedures

17061-C, Annunciator Response Procedure for ALB 61 on Process Control Panel, Ver. 19.4  
 11219-1, Aux. and Containment Bldgs. and Miscellaneous Drain Systems Alignment, Rev. 33.1

Drawings

1X4DB147-2, P & I Diagram – Aux. Bldg. Flood Retaining Rooms Alarms and Drains – System No. 1218, Ver. 9.0

Corrective Action Program Records

Condition Reports (CRs)

10223481, Door No. 12108L1105 has two broken welds on locking mechanism  
 891927, Deficient watertight door  
 10379979, Unit 1 auxiliary building room 202 floor access hatch removed

Other

X6CXC-25, Unit 1 Flooding Analysis – Auxiliary Building, Level 2, Rev. 4  
 X6CXC-29, Unit 1 Flooding Analysis – Auxiliary Building, Level 1, Rev. 5

Maintenance Work Orders

SNC493189	SNC781065	SNC408319	SNC781062
SNC408286	SNC708719	SNC125593	SNC125591
SNC418750	SNC686181S	SNC667312	SNC535345

**Section 1R11: Licensed Operator Requalification Program and Licensed Operator**

**Performance**

Procedures

11877-1, Cold Weather Checklist, Rev 26.1  
 13724-1, Circulating Water System, Rev 39  
 14410-2, Control Rod Operability Test, Completed 6/27/17  
 18001-C Primary Systems Instrumentation Malfunction, 37.1  
 18009-C, Steam Generator Tube Leak, Ver. 31

18013-1, Rapid Power Reduction, Ver. 1  
 19000-1 E-0 Reactor Trip or Safety Injection, Ver. 2  
 19010-1, E - 1 Loss of Reactor or Secondary Coolant, Rev 1  
 19013-1, ES - 1.3 Transfer to Cold Leg Recirculation, Rev 1  
 19014-1, ES - 1.4 Transfer to Hot Leg Recirculation, Rev 1  
 19030-1, E-3 Steam Generator Tube Rupture, Ver. 2.1  
 19031-C, ES-3.1 POST SGTR Cool Down Using Backfill, Ver. 1.1  
 19101-1, ECA 0.1 Loss of All AC power Recovery without SI Required, Rev 1  
 19211-1, FR - S 1 Response to Nuclear Power Generation / ATWT, Rev 1  
 NMP-EP-110 Ver. 8.1, Emergency Classification Determination and Initial Action  
 NMP-EP-110-GL03 Ver. 9, VEGP EALs –ICS, Threshold Values and Basis  
 NMP-EP-111 Ver. 11.0, Emergency Notifications  
 NMP-TR-215, Systematic Approach to Training Implementation Phase, Version 7.1  
 NMP-TR-406, License Administration, Version 6.2  
 NMP-TR-406-F03, License Activation Documentation, Version 4.1  
 NMP-TR-416, LOCT Program Administration, Version 5.6  
 NMP-TR-416-003, Vogtle 1&2 LOCT Program Instruction, Version 4.2  
 NMP-TR-422, Simulator Configuration Control, Version 6.0  
 NMP-TR-422-001, Simulator Configuration & Performance Criteria, Version 3.0  
 NMP-TR-422-002, Scenario Based Testing Instruction, Version 1.0  
 NMP-TR-422-005, Vogtle 1&2 Simulator Testing Instruction, Version 2.0  
 NMP-TR-424, LOCT Exam Development, Version 3.1  
 NMP-TR-424-001, Operator License Regulatory Exam Security, Version 1.2  
 NPG-SPP-17.8.7 Simulator Scenario-Based Testing and Documentation, Rev. 1  
 OPDP-10, License Status Maintenance, Reactivation and Proficiency, Rev. 8

#### Written Examinations

2016 Biennial RO Exam-03, Rev. 0  
 2016 Biennial RO Exam-05, Rev. 0  
 2016 Biennial SRO Exam-03, Rev. 0  
 2016 Biennial SRO Exam-05, Rev. 0

#### Annual Examination Scenarios

DS-15, Rev. 1  
 DS-05, Rev. 0  
 DS-22, Rev. 0  
 DS-10, Rev. 0  
 V-RQ-SE-17201, As-Found DEP Scenario, Ver. 1.1

#### Job Performance Measures

V-RQ-JP-13008-001, Place Excess Letdown in Service to the Seal Return Header, Rev. 14.1  
 V-RQ-JP-13301-002, Manually Align Dampers and Fans for CRI with failure of Train A –  
 ALTERNATE PATH., Rev. 15.2  
 V-RQ-JP-13320-001, Respond to a Fuel Handling Event per 18006-C, Rev. 8.2  
 V-RQ-JP-13431-001, Energize 120 VAC Vital Bus from Alternate Power Supply – Unit 2, Rev.  
 19.0  
 V-RQ-JP-18034-001, Locally Remove Diesel Generator from Service, Rev.2.1  
 V-RQ-JP-19001-001, Establish Safety Grade Letdown, Rev. 15.1  
 V-RQ-JP-19014-002, Transfer ECCS Pumps to Hot Leg Recirculation, Rev. 9.1  
 V-RQ-JP-19030-005, Isolate a Ruptured Steam Generator with Failure of TDAFW Steam and  
 MSIVs to Close – ALTERNATE PATH, Rev. 4

V-RQ-JP-19100-005, Locally Isolate RCP seals and ACCW supply isolation valve(s), Rev. 4.0  
 V-RQ-JP-19100-006. Locally Operate Steam Generator ARV, Rev.1.3

Corrective Action Program Records

Condition Reports (CRs)

10381043, TS Condition A, 3.3 Section 1, 2, 3 not entered

Corrective Action Reports (CAR)

260749, VCT Auto Swapover

262123, Operator Failure to Follow Medical Change Reporting Requirement

264165, Missed Surveillance

264116, Steam Dump Transient

Other

DR 0009164, Unacceptable Power Range NI Response

DR 0009135, On Loss of Instrument Air, LPD Isolates too Fast

DR 0009128, Loss of AA02/BA03 does not Extinguish Lights in Control Room

DR 0008673, While Changing Mas in VCT Using RF TK01, Level Continues to Drop

DR 0015857, Recorder 1TR413A has no Display

DR 0014767, Steam Lines Isolate Inconsistently and Without Rate Alarms on Max C/D

Simulator Testing Records (as required by ANSI/ANS 3.5-1985):

Test 05-01 Steam Generator Tube Rupture, 1/14/2016

Test 05-17c Loss of Component Cooling, 12/1/2016

Test 05-025a Main SLB Outside Containment, 5/22/2017

Test 06-07 Core Performance Tests, 5/22/2017

Test 06-06 Reactor Trip with Recovery to Rated Power, 4/20/2016

Test 08-02 Simulated Limits Exceeded Test, 4/20/2016

Test 06-10 Steady State Performance Test at 75% Power, 4/20/2016

Test 05-02 LOCA Inside Containment, 1/18/2017

Test 05-32c Passive failure in ESF, 1/19/2017

Test 05-46a MFW, MFP, Condensate, and Shared System Malfunctions, 1/19/2017

Test 05-58b Source and Intermediate Range Detector Malfunctions, 1/19/2017

Test 05-86 AFW Pumps Auto Start Malfunction, 1/19/2017

LPPT-GAE/G3E-01, Low Power Physics Test Program with Dynamic Rod Worth Measurements,  
 4/5/2017

Vogtle Reference Simulator Mark VIe Functional Test, 4/26/2017

Other

LOR Training Attendance records (12 records reviewed)

Active License Maintenance records (12 records reviewed)

License Reactivation package (14 record reviewed)

Remedial Training Records (4 records reviewed)

Medical Files (7 records reviewed)

Condition Reports from last two years related to operator on-shift performance (various)

Condition Reports related to the plant-reference simulator

ANSI/ANS-3.5-1985, Nuclear Power Plant Simulators for Use In Operator Training and  
 Examination

ANSI/ANS-3.4-1983, Medical Certification and Monitoring of Personnel Requiring Operator  
 Licenses for Nuclear Power Plants

**Section 1R12: Maintenance Effectiveness**Procedures:

NMP-ES-027-001, Maintenance Rule Implementation, Ver. 8

Drawings

2X3D-AA-H01A, One Line Diag., 125 VDC Class 1E Distribution Train A, Rev 14.0

2X3D-AA-H01B, One Line Diag. 125 VDC Class 1E Distribution Panels 2AD11 & 2AD12, Rev 8

2X3D-BA-D02D, One Line Diag., Electrical System 4160V Incoming Breaker 152-2AA0219 from  
Emergency Diesel Generator 2A, Rev.8

2X3D-BD-K04C, Element. Diag., Nuclear Service Water System Pump 2-1202-P4-003-M01,  
Ver. 20.0

2X3D-BH-G03C, Element. Diag., Diesel Engine Control, Diesel Eng. - Generator DG2A, Rev 7

2X3D-BH-G03D, Element. Diag., Diesel Engine Control, Diesel Eng. - Generator DG2A, Rev 8

2X3D-BH-G03E, Element. Diag., Diesel Engine Control, Diesel Eng. - Generator DG2A, Rev 5

2X4AK01-000362, Engine Control Panel Schematic

2X4AK01-000363, Engine Control Panel Schematic

2X4AK01-000364, Engine Control Panel Schematic

2X4AK01-000365-10, Engine Control Panel Schematic

Corrective Action Program RecordsCondition Reports (CRs)

10290113, Electro switch Series 24 lockout relay maintenance

10303082, Evaluate the protective relay template for lockout relays

Corrective Action Reports (CAR)

267699, ERC for 2A NSCW pump no. 3 tripping on the 186M lockout relay

Maintenance Work Order

SNC833419, Investigate possibility of cable rubs within 2A NSCW pump 3 circuitry (planned)

Other

Airpax 300 Series Control Tachometer 990-600-0006 Instruction Manual, Rev. H.

Airpax DC-DC Converter Instruction Manual, Rev. B.

ATC Equipment Equivalency Evaluation and Repair Report No. EERR1700596-02-01, Rev. 0,  
AIRPAX DC-DC Converter P/N: 080-105-5321, OEM S/N: 1D458

ATC Equipment Equivalency Evaluation and Repair Report No. EERR1700596-01-01, Rev. 1,  
AIRPAX DC-DC Converter P/N: 080-105-5321, OEM S/N: 30118

ATC Failure Analysis No. FA1700596-01-01, Rev. 2, AIRPAX DC-DC Converter P/N: 080-105-  
5321, S/Ns: 1D458 and 30118

ATC Failure Analysis No. FA1700596-03-01, Rev. 0, SIEMENS Pilot Light P/N:52PL4EN, S/N:  
SNG50546-0003-03-01

Electro switch Technical Manual, Switches and Relays for the Power Industry, 2012

Equivalency Determination No. SNC5513070, Light, Pilot; Evaluate Siemens Catalog No.  
52PL4EN for use as Item Master 1280423, Ver. 1.0

MPR Report No. 1380-0019-RPT-001, Rev. 0, Vogtle Electric Generating Plant Emergency  
Diesel Generator 2A – Control Circuit Speed Switch Assembly DC Converter Failure  
Evaluation

Preliminary SOU92534, Exelon Generation - Failure Analysis for a Lockout Relay, Dec 2016

Purchase Order Package No. SNG10138756 for DC-DC Converter Serial No. 10138756-01-01  
(includes: Certificate of Conformance No. 16N1630-01-01, Equivalency Evaluation and Repair  
Report No. EERR16N1630-01-01, and Non-Conformance Report No. 16N1630-1)

**Section 1R13: Maintenance Risk Assessments and Emergent Work Control**Procedures

NMP-GM-031-001, Online Maintenance Rule (a)(4) Risk Calculations, Ver. 3.0  
10032-C, Outage Risk Assessment Monitoring, Ver. 11

Other

Unit 1, EOOS Integrated Risk Report for April 24, 2017  
Unit 1, EOOS Importance Calculator Results April 24, 2017  
Unit 1, EOOS Integrated Risk Report for May 22, 2017  
Unit 1, EOOS Importance Calculator Results May 22, 2017  
Unit 1, Narrative Control Room Logs for May 22, 2017  
Unit 2, EOOS Integrated Risk Report for May 2-3, 2017  
Unit 2, EOOS Importance Calculator Results May 2-3, 2017  
Unit 2, Narrative Control Room Logs for May 2-3, 2017

Corrective Action Program RecordsCondition Reports (CRs)

CR10365395, EOOS mapping issue

**Section 1R15: Operability Determinations and Functionality Assessments**Procedures

NMP-AD-012, Operability Determinations and Functionality Assessments, Ver. 13.1  
13744A-1, Train A Essential Chilled Water System, Ver. 13.0

Drawings

1X4DB217, P I & Diagram – Diesel Generator Building, HVAC System No. 1566, Ver. 18.0  
1X3D-BG-F01H, Elementary Diagram – Diesel Generator Building HVAC System, 1TY-12086 & 12096, Rev. 6.0  
1X4AH04-00063, Essential Chilled Water System Expansion Tank, Ver. 7.0  
1X3D-BD-L05A, Elementary Diagram – Reactor Makeup Water Storage Tank and Degasifier, 1-1228-P4-001-M01, Ver. 5  
1X3D-AA-F28A, One Line Diag. – 480V Motor Control Center 1NBS, 1-1805-S3-NBS, Ver. 29  
1X5DT0047, Level Setting Diagram – ESF Chilled Water Expansion Tank, Rev. 5

Corrective Action Program RecordsTechnical Evaluation (TEs)

982923, ODMI for ultrasonic indications identified on the inside diameter of Loop 4 cold leg safety injection line nozzle connecting to the reactor coolant system piping

Condition Reports (CRs)

10345327, ISI weld 11204-246-36 (3" reducer to branch connection), UT exam resulted in rejected indications  
10378822, Increased leak rate on 2A ESF chilled water pump  
10378528, Packing leak on 1A ESF chilled water pump

Other

Design Change Package (DCP) SNC853163, Loop #4 Cold Leg SI Nozzle Weld Overlay, Rev. 1  
American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Code Case N-504-4, Alternative Rules for Repair of Class 1, 2, and 3 Austenitic Stainless Steel Piping, Section XI, Division 1

**Section 1R19: Post Maintenance Testing**Procedures

24395-2, AFW Pump Turbine-Speed Control 2P-5180 Channel Calibration, Rev. 8.3  
 28212-C, IST Program Valve Set Pressure Testing, Ver. 15.0  
 26854-C, Main Steam Isolation Valve Actuator Maintenance, Ver. 44.0

Completed Procedures

14545-2, Turbine Driven Auxiliary Feedwater Pump Operability Test, completed 6/12/17

Drawings

2X5DV103, Inst. Loop Diagram – Auxiliary Feed Water Pump Turbine Speed Control, Ver. 3

Corrective Action Program RecordsCondition Reports (CRs)

10375733, Unexpected control room alarm and BOP card failure  
 10375847, 2PDCY-5180, 2QPP3-0345 with board type NTD (G01); model no. 2838A45G01;  
 serial no. C0322-022  
 10366917, Fluctuations in 2A EDG load output

Other

Tagout 1-DT-17-1202-00048, 1B NSCW Fan no. maintenance  
 Unit 1 Main Control Room Ops Logs for 4/24/17

Work Orders

SNC874430, Unexpected control room alarm and BOP card failure  
 SNC595391, Unit 1 'B' train NSCW tower fan no. 3 motor/shielded bearings maintenance torque  
 fan blades, oil change, and inspection  
 SNC788915, 1PSV11749 NSCW, CCP Pump B Pressure Relief Valve inspection, 3/20/17  
 SNC842603, 1HV3006B (Main Steam SG1 Downstream Isolation Valve) Actuator Leak Repair  
 SNC868686, Unit 2 2A EDG electric governor replacement

**Section 1R20: Refueling Outage and Other Activities**Procedures

NMP-RE-007, Core Verification, Ver. 39.0  
 LPPT-GAE/GBE-01, Low Power Physics Test Program with Dynamic Worth Measurement, Rev. 15

Other

Core Map Certification for Unit 1 Cycle 21, 3/25/17  
 Schedule Hours Report for Maintenance Echo Team, dates 3/2017 thru 4/2017  
 Schedule Hours Report for Maintenance Fire Team, dates 3/2017 thru 4/2017  
 Schedule Hours Report for Maintenance Delta Team, dates 3/2017 thru 4/2017  
 Schedule Hours Report for Maintenance Alpha Team, dates 3/2017 thru 4/2017  
 Schedule Hours Report for Maintenance Electrical – 8hr Shift, dates 3/2017 thru 4/2017  
 1R20 (3/4/17 – 4/7/17) Operations Shift Schedule for N. Pickard, A. Poteet, D. Parker, H. Miller,  
 and M. Tucker

**Section 1R22: Surveillance Testing**Completed Procedures

14545A-1, Motor Driven Auxiliary Feedwater Pump A Operability Test, completed 4/10/17  
 14807A-1, Train A Motor Driven Auxiliary Feedwater Pump and Check Valve In-service and  
 Response Time Test, Completed 4/10/17



Drawings

2X5DV103, Instrument Loop Diagram – Auxiliary Feed Water Pump Turb. Speed Control, Ver. 3  
 1X4DB161-1, P & I Diagram, Auxiliary Feedwater System No. 1302, Ver. 46.0  
 1X4DB161-2, P & I Diagram, Auxiliary Feedwater System No. 1302, Ver. 29.0  
 1X5AF01-81-3, Drawing for Flow Gauge 1FI-15102, 2/3/86

Corrective Action Program Records*Technical Evaluation (TEs)*

35052, Acquire data results to justify re-baseline of 1A MDAFW pump at current levels

Other

ASME OM Code-2001, Code for Operation and Maintenance of Nuclear Power Plants

**Section 1EP2: Alert and Notification System Evaluation**Procedures, Guidance Documents, and Manuals

25722-C, Emergency Alert Siren Performance Test, Version (Ver.) 17.4  
 91706-C, Alert Notification System, Ver. 18  
 NMP-GM-002, Corrective Action Program, Ver. 14.1  
 NMP-GM-002-001, Corrective Action Program Instructions, Ver. 35.3  
 Public Alert and Notification Systems for the Vogtle Electric Generating Plant (FEMA REP-10)  
 Report, dated August 2016  
 Vogtle Electric Generating Plant Unit 1 and Unit 2 Emergency Plan, Revision (Rev.) 67

Records and Data

Vogtle Electric Generating Plant, 2016 Emergency Information Calendar  
 Vogtle Electric Generating Plant, Annual Tone Alert Radio/Siren Test, dated 10/26/16  
 Emergency Notification Sirens Maintenance and Operational Checks, Attachment 2, Weekly  
 Operational Test (Section 4.1), Quarterly Radio & Encoder Operability (Section 4.2), Annual  
 Inspection/Maintenance (Section 4.3 & 4.4), and Quarterly Inspection/Maintenance (Section  
 4.4), 25722-C, Emergency Alert Siren Performance Test, Ver. 17.3, dated May 2015 –  
 January 2017  
 Plant Vogtle Emergency Information for Visitors to the Area brochure  
 Vogtle Electric Generating Plant, 2015 and 2016 Siren Tests  
 Vogtle Electric Generating Plant, Checks for Monitoring Program, Monthly Checks, 91706-C,  
 Alert Notification System, Page 13 of 17, Ver. 18, dated January 2015 – December 2016

Corrective Action Program Records*Condition Reports (CRs)*

10012936, 2014 quarterly siren tests were not entered into documentum  
 10083154, Emergency Notification Sirens not responding to test  
 10251969, NOAA Alert Weather Radio OOS  
 10279716, Emergency Siren B14 indicated a partial failure  
 10283668, 12 Public alert sirens out of service  
 10302885, Emergency Alert Siren B43 found inoperable during weekly performance test  
 10324312, Emergency Alert Siren weekly performance test indicated siren failures

**Section 1EP3: Emergency Response Organization Staffing and Augmentation System**Procedures, Guidance Documents, and Manuals

91101-C, Emergency Response Organization, Ver. 33  
 91201-C, Activation and Operation of the Technical Support Center, Ver. 20  
 91202-C, Activation and Operation of the Operations Support Center, Ver. 26

91601-C, Emergency Preparedness Training, Ver. 25  
 NMP-EP-101, Emergency Operations Facility (EOF) Activation, Ver. 34.1  
 NMP-EP-305-GL04, Offsite Equipment Important to the EP Function, Ver. 2.0  
 NMP-GM-002, Corrective Action Program, Ver. 14.1  
 NMP-GM-002-001, Corrective Action Program Instructions, Ver. 35.3  
 NMP-TR-112, Quality Training Records and Documentation, Ver. 5.4  
 Vogtle Electric Generating Plant, Unit 1 and Unit 2 Emergency Plan, Rev. 67

#### Records and Data

1<sup>st</sup> Quarter Recall Communications Drill Report, NOEP-0247, dated 06/02/16  
 2<sup>nd</sup> Quarter Recall Communications Drill Report, NOEP-0248, dated 06/20/16  
 3<sup>rd</sup> Quarter Recall Communications Drill Report, NOEP-0223, dated 9/19/16  
 4<sup>th</sup> Quarter Recall Communications Drill Report, NOEP-0255, dated 01/11/17  
 Emergency Response Organization List, dated 05/11/17  
 Training and Qualification Records for Selected ERO Members Completed

#### Corrective Action Program Records

##### *Condition Reports (CRs)*

10017112, ERO Monday Muster, 1 did not confirm duty in a timely manner  
 10048584, Failure of an on duty ERO member to respond to respond to a recall  
 10065258, New Shift Manning Requirements for shift schedules for Chemistry and Ops  
 10066752, ERO Pager Activation  
 10072695, ERO response time, 1 individual exceeded required time  
 10103213, NRC IN 2014-15, Missing respirator spectacle kits  
 10126412, ERO personnel unable to enter PA through PESB turnstiles  
 10210214, RP Supervisor was needed to fill a technician position  
 10243575, Missed annual physical  
 10322213, NOS identification of continuing ERO muster issues

#### **Section 1EP4: Emergency Action Level and Emergency Plan Changes**

##### Procedures, Guidance Documents, and Manuals

Vogtle Electric Generating Plant (VEGP), Unit 1 and Unit 2 Emergency Plan, Rev. 66 and 67  
 NMP-EP-110-GL03, VEGP EALs - ICs, Threshold Values, and Basis, Ver. 6, 7, 8, 9, and 10  
 NMP-EP-310, Maintaining the Emergency Plan, Ver. 4.1  
 NMP-EP-312, Development of Emergency Preparedness Technical Products, Rev. 1.0

##### Change Packages

VEGP-16-013-01, E-Plan Version 67 & EALs Version 6.0, Screening/Evaluation, dated 6/15/16  
 NMP-AP-001, NMP Approval Form for NMP-EP-110-GL03, VEGP EALs, Version 7.0, dated 6/30/16  
 VEGP-16-013-02, NMP-EP-110-GL03, VEGP EALs, Version 8.0, Screening/Evaluation, dated 7/25/16  
 VEGP-16-017-03, NMP-EP-110-GL03, VEGP EALs, Version 9.0, Screening, dated 10/7/16  
 VEGP-17-020-01, NMP-EP-110-GL03, VEGP EALs, Version 10.0, Screening, dated 3/10/17

#### Corrective Action Program Records

##### *Condition Reports (CRs)*

10222569, 50.54(q) Evaluation not completed for planned work that makes OSC non-functional  
 10251396, Emergency Plan and NMP difference for HA1 EAL #5  
 10283357, Clarification is needed for potential loss of containment  
 10372367, NRC identified minor violation 10CFR50.54 (q)

Technical Evaluations (TEs)  
653298, NMP-EP-110-GL03 revision request

### **Section 1EP5: Maintenance of Emergency Preparedness**

#### Procedures

00303-C, Containment Entry, Version 31  
NMP-EP-110-GL03, VEGP EALs – ICs, Threshold Values, and Basis, Version 10.0  
NMP-EP-310, Maintaining the Emergency Plan, Version 4.1  
NMP-GM-002, Corrective Action Plan, Version 14.1  
NMP-GM-002-001, Corrective Action Program Instructions, Version 35.3  
NM-GM-003, Self-Assessment and Benchmark Procedure, Version 23.1  
Vogtle Electric Generating Plant (VEGP), Unit 1 and Unit 2 Emergency Plan, Version 67

#### Records and Data

Critique of July 9, 2015, NOUE, dated 8/21/15  
Fleet-EP-2015, NOS Audit of Emergency Preparedness, dated 3/23/15  
Fleet-EP-2016, NOS Audit of Emergency Preparedness, dated 2/18/16  
Fleet-EP-2017, NOS Audit of Emergency Preparedness, dated 2/9/17

#### Corrective Action Program Records

##### *Corrective Action Reports (CARs)*

258688, NOUE declared for Unit 1  
258855, Barnwell & Allendale counties notification of NOUE

#### Condition Reports (CRs)

10072101, Expired equipment & instrumentation calibration due dates discovered in a FMT kit  
10072693, 2 procedures were found to be contradictory in governance of instrumentation in the  
E-kits not going out of calibration  
10094216, NOUE declared for Unit 1  
10094217, Barnwell & Allendale counties notification of NOUE  
10184446, EP staff training documents are not being assigned or completed IAW NM-EP-301  
10310156, Based on the EAL transposition error  
10311290, NM-EP-100-GL03 EAL HA1.6 issue identified  
10311292, NM-EP-100-GL03 fission product barrier matrix issue identified  
10311293, NM-EP-100-GL03 EAL minor issues identified  
10311296, NM-EP-100-GL03 EAL minor issues identified  
10362989, Documentation Issues, response to RFI  
10363722, NRC identified that Field Monitoring Kits contained two radiation monitors with  
expired calibration  
10363729, NRC identified one OSC phone not working  
10363743, NRC identified the Security Supervisor phone in the TSC not working  
10363854, NRC identified the OSC had the incorrect version of a controlled procedure

### **Section 40A1: Performance Indicator (PI) Verification**

#### Procedures, Guidance Documents, and Manuals

00163-C, NRC Performance Indicator & Monthly Operating Report Preparation & Submittal,  
Rev. 14.6  
00163-C, NRC Performance Indicator & Monthly Operating Report Preparation & Submittal,  
Rev. 14.6  
25722-C, Emergency Alert Siren Performance Test, Ver. 17.4  
NMP-EP-311, SNC Emergency Preparedness Tier 4 Performance Indicators, Ver. 1.0

Records and Data

OpenCDM - Dose Equivalent Iodine report for Units 1 and 2, from April 2016 thru March 2017  
 DEP opportunities documentation for 2Q16 through 1Q17  
 Siren performance data for 2Q16 through 1Q17  
 ERO records for 2Q16 through 1Q17

Corrective Action Program RecordsCondition Reports (CRs)

10192122, ANS reported data for November 2015 needs to be re-validated and corrected  
 10192126, DEP reported data does not match the submitted PI documentation  
 10231134, DEP opportunity changed due to evaluator cues  
 10231200, Students exam grades changed  
 10336344, Drill issue- ENN follow-up notification  
 10373664  
 10192122  
 10192126  
 10231134  
 10231200  
 10336344

**Section 40A2: Problem Identification and Resolution**Procedures

NMP-GM-002-001, Corrective Action Program Instructions, Ver. 34.0  
 NMP-AD-002, Problem Solving and Troubleshooting Guidelines, Ver. 12.0

Corrective Action Program RecordsCondition Reports (CRs)

10232634, 2A EDG tachometer not working  
 10229803, 2A EDG control power A failure  
 762069, 2A EDG emergency light socket minor damage  
 338236, Unexpected LCO entry due to 2A EDG control power failure  
 10320302, 2A EDG control power B failure  
 10340120, 2A EDG failed to start while performing during fast start surveillance  
 10376830, Training needs analysis for entering LCO 3.8.3 when loosing EDG control power

Other

Standing Order No. C-2017-3, Diesel Generator control power 'B' verification, 4/12/17

Maintenance Work Orders

SNC793331, 2A EDG Control A Power light socket replacement, 6/1/16  
 SNC794842, Investigate/inspect 2S119186, diesel generator tachometer, 6/9/16  
 SNC839624, Repair 2A EDG Control B Power failure

**Section 40A5: Other Activities**Procedures

NMP-MA-017, Red Line Drawings, Ver. 1.2  
 NMP-GM-002, Root Cause Determination Report, Ver. 14.2

Corrective Action Program Records

Condition Reports (CRs)

10374290, LER submitted to NRC prior to completion of HU checklist  
10344136, Field conditions do not match design documents  
872411, Failure of MSIV 2HV3026A  
1990019369, 2HV3026A Failure

Corrective Action Report (CAR)

CAR268640, Unit 1 Reactor Trip

Technical Evaluations (TEs)

TE984734, Human performance checklist for wiring error resulting in loss of offsite power to 1B  
4160Vac 1E bus  
TE982748, MSIV O-Ring failure, RCD268649 enhancement action 3

Root Cause Determination Report (RCD)

RCD268640, Unit 1 MSIV O-Ring Failure and Reactor Trip

Maintenance Work Orders

SNC804603, Non-Outage installation and termination of open phase protection cabinet, 3/28/17  
SNC804606, Outage installation and termination of open phase protection cabinet, 3/16/17