



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

August 4, 2015

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

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION
REPORT 05000424/2015002 AND 05000425/2015002

Dear Mr. Taber:

On June 30, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Vogtle Electric Generating Plant, Units 1 and 2. The enclosed integrated inspection report documents the inspection findings, which were discussed with you and other members of your staff on July 20, 2015.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. The NRC is treating this violation as non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy. If you contest the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Vogtle Electric Generating Plant. If you disagree with the 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.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document

K. Taber

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Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

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

Docket Nos.: 05000424, 05000425

License Nos.: NPF-68 and NPF-81

Enclosure:

IR 05000424/2015002 and 05000425/2015002

w/Attachment: Supplementary Information

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K. Taber

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Letter to Keith Taber from Shane Sandal dated August 4, 2015

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION
REPORT 05000424/2015002 AND 05000425/2015002

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.: 50-424, 50-425

License Nos.: NPF-68, NPF-81

Report Nos.: 05000424/2015002 and 05000425/2015002

Licensee: Southern Nuclear Operating Company, Inc. (SNC)

Facility: Vogtle Electric Generating Plant, Units 1 and 2

Location: Waynesboro, GA 30830

Dates: April 1, 2015, through June 30, 2015

Inspectors: M. Cain, Senior Resident Inspector
A. Alen, Resident Inspector
S. Sanchez, Sr. Emergency Preparedness Inspector
W. Loo, Sr. Health Physicist Inspector

Approved by: Shane Sandal, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000424/2015002, 05000425/2015002; 04/01/2015 – 06/30/2015; Vogtle Electric Generating Plant, Units 1 and 2; Maintenance Effectiveness

The report covered a 3-month period of inspection by resident and regional inspectors. There was one NRC-identified violation and one minor violation documented in this report. The significance of inspection findings are indicated by their color (i.e., Green, White, Yellow, and 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 January 28, 2013, and revised February 4, 2015. The NRC's program for overseeing the safe operations of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Cornerstone: Mitigating Systems

- **Green:** An NRC-identified, non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the licensee's failure to identify and correct conditions adverse to quality associated with the cover plates for the nuclear service cooling water (NSCW) system pumps' shaft well access openings. Specifically, the licensee failed to identify degraded conditions on the NSCW pump well cover plates (e.g. openings from uncovered holes and degraded periphery) that could result in foreign material (FM) entering the pumps' well and impact cooling water flow to safety related heat exchangers. The licensee entered the issue into their corrective action program (CAP) under CR10033287, CR10085803 and CR10091171, installed temporary FM exclusion covers, and removed debris near the pump cover wells.

The finding was more than minor because, if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, the openings in the degraded pump well covers could allow FM to enter the NSCW system and adversely affect cooling water flow to essential component coolers. The finding was evaluated using the mitigating systems cornerstone column of Attachment 4 and Exhibit 2 of Appendix A to Inspection Manual Chapter 0609, "Significance Determination Process," (SDP) dated April 29, 2015. The finding was of very low safety significance (i.e. Green) because the inspectors answered "No" to all of the screening questions in the exhibit. The inspectors determined the finding had a cross-cutting aspect of "Evaluation" in the Problem Identification and Resolution (PI&R) area because the organization did not thoroughly evaluate the NSCW debris-blocking event of the 1B safety injection (SI) lube oil (LO) cooler, in February 27, 2015, to ensure that resolutions addressed causes and extent of conditions commensurate with their safety significance (P.2). (Section 1R12)

REPORT DETAILS

Summary of Plant Status

Unit 1 remained at or near full rated thermal power (RTP) for the duration of the inspection period.

Unit 2 began the inspection period at or near full RTP. On May 28, 2015, the unit reduced reactor power to 35 percent RTP due to lowering main condenser vacuum caused by a failed main turbine slop drain vent pipe located within the main condenser. The unit was returned to 100 percent RTP on May 30, 2015, and operated at or near full RTP for the remainder of 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. Documents reviewed are listed in the Attachment.

Seasonal Extreme Weather Conditions: The inspectors conducted a detailed review of the station's adverse weather procedures written for extreme high temperatures. The inspectors verified that weather related equipment deficiencies identified during the previous year had been placed into the work control process and/or corrected prior to the onset of seasonal extremes. The inspectors evaluated the licensee's implementation of adverse weather preparation procedures and compensatory measures before the onset of seasonal extreme weather conditions. The inspectors evaluated the following risk-significant systems. Documents reviewed are listed in the Attachment.

- Unit 1 turbine driven auxiliary feedwater (TDAFW) system
- Unit 2 TDAFW system

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 or trains were correctly aligned by performing partial walkdowns. The inspectors selected systems for assessment because they were a redundant or backup system or train, were important for mitigating risk for the current plant conditions, had been recently realigned, or were a single-train system. The inspectors determined the correct system lineup by reviewing plant procedures and drawings. Documents reviewed are listed in the Attachment.

- Unit 1, train 'B' centrifugal charging pump (CCP) while the normal charging pump (NCP) was out of service (OOS) for planned maintenance.
- Unit 2, train 'B' containment spray (CS) while the train 'A' was OOS for planned maintenance.
- Unit 2, trains 'A' and 'B' of the high head safety injection system while the NCP was OOS for planned maintenance.
- Unit 2, trains 'A' and 'B' of the auxiliary feedwater (AFW) while the turbine-driven AFW pump was OOS for testing.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05AQ)

a. Inspection Scope

Quarterly Inspection: The inspectors evaluated the adequacy of selected fire plans by comparing the fire plans to the defined hazards and defense-in-depth features specified in the fire protection program. In evaluating the fire plans, the inspectors assessed the following items:

- 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

The inspectors toured the following five fire areas to assess material condition and operational status of fire protection equipment. Documents reviewed are listed in the Attachment.

- Unit 1 control building levels “A”, “1”, and “2”, cable spreading rooms, fire zones 94, 95, 107, 108, 120, 121, 173, and 174.
- Unit 1 fuel handling building (FHB) levels “C”, “B”, and “A”, penetration area, fire zones 15, 27, 29 and 132
- Unit 2 FHB levels “C”, “B”, and “A”, penetration area, fire zones 15, 27, 29 and 132
- Unit 2 auxiliary feedwater (AFW) pump house, fire zones 155, 156, and 157A
- Unit 2 auxiliary building (AB) level “C”, trains “A” and “B” CCP rooms, fire zones 19, 20, and 21

Annual Inspection: The inspectors evaluated the licensee’s fire brigade performance during a drill on April 20, 2015, 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
- 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. Documents reviewed are listed in the attachment.

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 areas 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. Documents reviewed are listed in the Attachment.

- Unit 2, Auxiliary Component Cooling Water trains ‘A’ and ‘B’ pump rooms

b. Findings

No findings were identified.

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

a. Inspection Scope

Resident Inspector Quarterly Review of Licensed Operator Requalification: The inspectors observed an evaluated simulator scenario administered to an operating crew conducted in accordance with the licensee's accredited requalification training program. The inspectors assessed the following attributes. Documents reviewed are listed in the Attachment.

- 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 on May 28, 2015, while an unplanned reactor power de-rate to 35 percent was being performed on Unit 2 due to main condenser air in-leakage. The inspectors assessed the following attributes. Documents reviewed are listed in the Attachment.

- 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 two issues listed below in order 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 in order 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. Documents reviewed are listed in the Attachment.

- Unit 1, nuclear service cooling water (NSCW) system , train “A” pump no. 1 maintenance rule functional failure (MRFF)
- Unit 1, NSCW system, maintenance rule evaluation for loss of cooling flow to the 1B safety injection (SI) lube oil cooler

b. Findings

Introduction: An NRC-identified, non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” was identified when the licensee failed to promptly identify degraded conditions on the NSCW pump well cover plates that could result in foreign material (FM) entering the pumps’ well and impact cooling water flow to safety related heat exchangers.

Description: On February 27, 2015, the licensee identified that NSCW flow through the Unit 1 train “B” safety injection (SI) pump lube oil (LO) cooler was 0.5 gallons per minute (gpm), which was normally at 20 gpm, and below the operability limit of 3 gpm. Licensee troubleshooting identified debris was blocking flow through a flow limiting orifice. The licensee entered the issue into their corrective action program (CAP) under CR 10033287 and performed an apparent cause determination (ACD), as required by their CAP procedure NMP-GM-002-001, “Corrective Action Program Instructions,” version 33.1. The licensee determined, in their ACD (CAR 255666), the apparent cause to be inadequate FM exclusion control. Corrective actions included actions to clean the tower basin floors, tower surfaces, pump rooms, and roofs (TE 917255). The inspectors independently examined the debris and noted that it consisted of concrete and stone material.

On June 18, the inspectors conducted a walkdown of the NSCW tower pump rooms and noted that the pump well covers were degraded. There were several examples of openings in the cover plates which led directly into the pump wells. These openings were associated with eroded periphery at the interface between the cover plate and concrete (which uncovered penetrating holes up to 1.25 inches) and degraded caulking on the majority of the remaining pump cover plates. The openings would allow FM larger than the bore diameter of NSCW flow orifices to enter the pump wells. The licensee entered these conditions in the CAP (CRs 10085803 and 10091171) and installed temporary FM exclusion covers on the larger openings. Additionally, the licensee removed small debris consisting of concrete and stone material near the pump well covers. Given the poor housekeeping conditions of the pump rooms and the fact that the rooms were routinely accessed by plant personnel (for routing walkdowns, maintenance, and testing), the inspectors determined that the degraded cover plates could result in FM intrusion into the NSCW tower basin and have the potential to impact NSCW flow orifices. Furthermore, these plates were installed in the mid-1990s as a corrective action for repeated blockage of NSCW flow orifices. The inspectors determined that it was reasonable for the licensee to have identified the degraded condition of the pump well covers following the 1B SI LO cooler orifice blockage event on February 27, 2015.

Analysis: The failure to promptly identify conditions adverse to quality associated with degraded NSCW pumps’ well cover plates was a performance deficiency. The

performance deficiency was more than minor because, if left uncorrected, it would have the potential to lead to a more significant safety concern. The openings in the degraded pump well covers could allow FM to enter the NSCW system and adversely affect cooling water flow to essential component coolers. The finding was evaluated using of Exhibit 2, "Mitigating Systems Screening Questions," of IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," issued April 29, 2015. The finding was of very low safety significance (i.e. Green) because the inspectors answered "No" to all of the screening questions in the exhibit. The inspectors determined the finding had a cross-cutting aspect of "Evaluation" in the Problem Identification and Resolution (PI&R) area because the organization did not thoroughly evaluate the NSCW debris blocking the 1B SI LO cooler, on February 27, 2015, to ensure that corrective actions addressed causes and extent of conditions commensurate with their safety significance (P.2).

Enforcement: Title 10 of the CFR, Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures be established to assure that conditions adverse to quality such as deficiencies are identified and corrected. Contrary to this requirement, since the 1B SI LO cooler orifice blockage event on February 27, 2015, the licensee failed to identify and correct conditions adverse to quality associated with deficient and degraded NSCW pump well cover plates. The degraded conditions represented openings that led directly into the NSCW pump wells and would allow FM to enter the system and block flow through small-sized orifices that control cooling water to essential component coolers. The licensee installed temporary covers on the larger cover plate openings and removed small sized debris near the cover plates. Because the violation was of very low safety significance and was entered into the licensee's CAP as CRs 10085803 and 10091171, this finding was treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy and is identified as NCV 05000424-425/2015002-01, Failure to Identify and Correct Degraded Foreign Material Cover Plates for the NSCW Pump Wells.

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

a. Inspection Scope

The inspectors reviewed the six maintenance activities listed below to verify 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. Documents reviewed are listed in the Attachment.

- Unit 2, May 7, 2015, 'GREEN' equipment out of service (EOOS) risk profile due to planned maintenance on the normal charging pump
- Unit 2, week of May 11, 'GREEN' EOOS risk profile due to taking the train "A" NSCW pump no. 3 OOS for pump motor replacement

- Unit 1, June 4, 2015, 'GREEN' EOOS risk profile due to planned maintenance on the train 'A' motor driven auxiliary feedwater (MDAFW) pump
- Unit 1, June 7, 2015, 'GREEN' EOOS risk profile due to planned maintenance on the train 'A' nuclear service cooling water (NSCW) pump #1 motor feeder breaker timer relay calibrations
- Unit 2, week of June 15, 'YELLOW' EOOS risk profile due to taking the train "B" NSCW tower fan no. 2 OOS for fan motor power cables refurbishment
- Unit 1, week of June 15, 'YELLOW' EOOS risk profile due to taking the train "B" emergency diesel generator (EDG) OOS for an extended maintenance outage

b. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors selected the seven 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. Documents reviewed are listed in the Attachment.

- Unit 1, Immediate determination of operability (IDO) for an oil sample on the lower bearing of the 1B residual heat removal (RHR) pump, CR 10061807
- Unit 2, IDO for the train "B" NSCW tower basin water level due to a failure of level transmitter 2LT1607, CR 10082321
- Unit 1, Functionality assessment for ultrasonic leading edge flowmeter (LEFM) trouble alarm, CR 10052337
- Unit 2, IDO for a steam leak on the turbine-driven AFW pump trip and throttle valve (2-PC-15129) balance chamber throttle screw, CAR 257261
- Unit 1, IDO for the train "A" NSCW system with tower spray return valve (1-HV-1668A) failing to close during testing, CAR 257913
- Unit 2, IDO for the train "A" CS and NSCW systems due to a NSCW leak on the CS motor cooler vent valve, CAR 257248
- Unit 1, IDO for the train "B" EDG due to a 1-inch weld crack on the left-bank intercooler outlet adaptor, CAR 258270

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors verified that the three plant modifications listed below did not affect the safety functions of important safety systems. The inspectors confirmed the modifications did not degrade the design bases, licensing bases, and performance capability of risk significant structures, systems, and components. The inspectors also verified modifications performed during plant configurations involving increased risk did not place the plant in an unsafe condition. Additionally, the inspectors 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. In addition, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with modifications. Documents reviewed are listed in the Attachment.

- SNC 473105, Unit 1 FLEX Alternate Power, Ver. 1
- SNC 475965, Unit 2 FLEX Alternate Power, Ver. 4
- SNC 475966, Unit 2 FLEX Boron Injection and RCS Feed, Ver. 3.0

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 six 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.

- Maintenance work order (MWO) SNC 429234, Unit 1, functional test for 1HV1669A, 4/27/15
- MWO SNC 672506, Unit 1 AX3 relay replacement for 1HV1668A, 6/9/15
- MWO SNC 622290, Unit 1 pressure switch 2 replacement for 1PV3010
- MWO SNC 594043, 'A' train NSCW Pump 3 Motor Feeder Breaker Timer Relay Calibration, 4/16/15
- MWO SNC 592924, 12-Month Diesel Fire Pump #2 Engine Inspection, 5/14/15
- MWO SNC 424630, Unit 1, B-Train EDG Post Maintenance Functional Test. 6/23/15

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. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the six surveillance tests listed below and either observed the test or reviewed test results to verify testing adequately demonstrated equipment operability and met technical specification and licensee procedural requirements. The inspectors evaluated the test activities to assess for preconditioning of equipment, procedure adherence, and equipment alignment following completion of the surveillance. Additionally, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with surveillance testing. Documents reviewed are listed in the Attachment.

Routine Surveillance Tests

- 14805B-2 Ver. 5, Train B Residual Heat Removal Pump In-service and Response Time Test
- 14810-2 Ver. 43.1, TDAFW Pump Operability Response Time and Check Valve IST
- 14980A-2 Ver. 25.2, Diesel Generator 2A Operability Test
- 14807B-1 Ver. 2, Train B Motor Driven Auxiliary Feedwater Pump and Check Valve In-service and Response Time Test

Reactor Coolant System Leak Detection

- 14905-2 Ver. 69, RCS Leakage Calculation (Inventory Balance)

In-Service Tests (IST)

- 14805A-1 Ver. 4, Train A Residual Heat Removal Pump In-service and Response Time Test

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Evaluation (71114.02)

a. Inspection Scope

The inspectors evaluated the adequacy of the licensee's methods for testing the alert and notification system. The inspectors interviewed personnel responsible for siren maintenance and verified placement of several sirens. The applicable planning standard, 10 CFR Part 50.47(b)(5) and its related 10 CFR Part 50, Appendix E, Section IV.D 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 (Rev.) 1, were also used as a reference. Documents reviewed are listed in the Attachment. This inspection activity satisfied one inspection sample.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Staffing and Augmentation System (71114.03)

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 were reviewed to assess the effectiveness of corrective actions. The applicable planning standard, 10 CFR 50.47(b)(2), and its related 10 CFR 50, Appendix E requirements were used as reference criteria. Documents reviewed are listed in the Attachment. This inspection activity satisfied one inspection.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

Since the last NRC inspection of this program area, several changes were made to the Radiological Emergency Plan and Emergency Action Levels (EALs). 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 applicable planning standards of 10 CFR 50.47(b), and its related requirements in 10 CFR 50, Appendix E, were used as reference criteria. Documents reviewed are listed in the Attachment. This inspection activity satisfied one inspection sample.

b. Findings

No findings were identified.

1EP5 Maintenance of Emergency Preparedness (71114.05)

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 drill and exercise critique 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. The licensee's 10 CFR 50.54(q) change process and selected evaluations of Emergency Preparedness document revisions were reviewed to assess adequacy. The inspectors toured facilities and reviewed equipment and facility maintenance records to assess licensee's adequacy in maintaining them. During tours of the main control rooms, the inspectors observed licensee staff demonstrate the capabilities of selected radiation monitoring instrumentation used to detect dose rates of selected areas of the plant to adequately support declaration of the effected EALs. In addition, the inspectors reviewed licensee procedures and training for the evaluation of changes to the emergency plans. The applicable 10 CFR 50.47(b) planning standards and related 10 CFR 50, Appendix E requirements were used as reference criteria. Documents reviewed are listed in the Attachment. This inspection activity satisfied one inspection sample.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed and evaluated the hostile action based emergency preparedness drill conducted on May 6, 2015. The inspectors observed licensee activities in the technical support center (TSC), and the simulator control room. The evaluated exercise included several local and state agencies from both Georgia and South Carolina. The inspectors evaluated implementation of the emergency plan,

including event classification, notification, and protective action recommendations. The inspectors evaluated the licensee's performance against criteria established in the licensee's procedures. Additionally, the inspectors attended the post-exercise critique to assess the licensee's effectiveness in identifying emergency preparedness weaknesses and verified the identified weaknesses were entered in the corrective action program.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed a sample of the performance indicator (PI) data, submitted by the licensee, for the Unit 1 and Unit 2 PIs listed below. The inspectors reviewed plant records compiled between April 2014 and March 2015 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. Documents reviewed are listed in the Attachment.

Cornerstone: Barrier Integrity

- reactor coolant system leak rate
- reactor coolant system specific activity

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.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (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 issues entered in the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on equipment issues, but also considered the results of inspector daily condition report screenings, licensee trending efforts, and licensee human performance results. The review nominally considered the 6-month period of January 2015 through June 2015 although some examples extended beyond those dates when the scope of the trend warranted. The inspectors compared their results with the licensee's analysis of trends. Additionally, the inspectors reviewed the adequacy of corrective actions associated with a sample of the issues identified in the licensee's trend reports. The inspectors also reviewed corrective action documents that were processed by the licensee to identify potential adverse trends in the condition of structures, systems, and/or components as evidenced by acceptance of long-standing non-conforming or degraded conditions. Documents reviewed are listed in the attachment.

b. Findings and Observations

No findings were identified.

4OA3 Event Follow-up (71153)

Using Inspection Procedure (IP) 71153, inspectors followed up on the following licensee event reports (LERs) to evaluate licensee performance related to the events, the accuracy of the LERs, and the appropriateness of corrective actions. Inspectors conducted walk-downs of affected equipment, in-office reviews of corrective action, modification, and design documents, and interviewed personnel from the licensee's operations, design, and licensing departments. The inspectors evaluated the licensee's compliance with its operating license and applicable regulations.

.1 (Closed) Licensee Event Report (LER) 05000425/2015-001-00: Vogtle Unit 2 Reactor Trip and Safety Injection due to Main Steam Isolation Valve Closure

a. Inspection Scope

On March 14, 2015, at approximately 04:29 AM Eastern Daylight Time (EDT), with Unit 2 in Mode 1 at 100 percent power, the Loop 3 outboard main steam isolation valve (MSIV) spuriously closed. The spurious valve closure caused an increase in steam flow in the remaining three steam generators, which continued to supply steam to the main turbine. The increased steam flow produced a rapid pressure reduction (i.e. a negative rate of change in steam line pressure) that was sufficient to actuate the, 'rate-compensated', low steam line pressure setpoint and satisfied the actuation logic for a steam line isolation (SLI) and safety injection (SI) of the emergency safety features actuation system (ESFAS). The SI resulted in an automatic reactor trip. Operators responded immediately using emergency operating procedures to diagnose the event. All safety related equipment responded as expected and the unit was stabilized in Mode 3. The licensee subsequently assembled an issue response team (IRT) and a root cause team to investigate the cause of the MSIV closure. The licensee determined that the spurious valve closure was due to a failure of a hydraulic dump solenoid valve (SOV) on the MSIV actuator. The SOV failure resulted in a loss of the actuator hydraulic control pressure required to maintain the MSIV opened. The licensee replaced the SOV and satisfactorily tested the valve. The inspectors reviewed the LER, the associated condition reports, root cause determination, and subsequent action items. No findings or violations of NRC requirements were identified. This LER is closed.

b. Findings and Observations

No findings were identified.

.2 (Closed) Licensee Event Report (LER) 05000425/2015-002-00: Vogtle Unit 2 Inadvertent Auxiliary Feedwater Actuation

a. Inspection Scope

On March 14, 2015, at 12:07 PM EDT, with Unit 2 in Mode 3 following an unplanned reactor trip and safety injection, a valid auxiliary feedwater (AFW) system actuation signal was received on the B-train of AFW. Both AFW trains, A and B, were in service at the time of the actuation. Upon receipt of the AFW actuation signal the B-train discharge valves stroked to the full open position, as designed. Operators recognized the condition and took manual action to restore the AFW discharge valves and maintain steam generator (SG) water levels on program. The inspectors reviewed the LER, associated condition reports, cause determination, and subsequent action items. This was determined to be a minor violation of NRC requirements and is not subject to enforcement action in accordance with the NRC's Enforcement Policy. This LER is closed.

b. Findings and Observations

Technical Specification 5.4.1.a, "Procedures," requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Appendix A to Regulatory Guide 1.33, "Quality Assurance Program Requirements," of February 1978. Appendix A, Item 2.d, required general plant

operating procedures for operating in hot standby. Procedure 12006-C, "Unit Cooldown and Cold Shutdown," revision 96.5, provided steps to operate the reactor in hot standby.

Contrary to the above, on March 14, 2015, operators failed to correctly implement general plant operating procedure 12006-C for operating in hot standby. Specifically, the licensee conducted section 5.3 of 14236-2, "SGFPTA and B Trip," version 13, as directed by step A4.3.13 of 12006-C, without verifying that at least one steam generator feed pump (SGFP) trip signal was reset, which was one of the "Prerequisite or Initial Conditions" in 14236-2 required to be established prior to performing the procedure. As a result, both SGFP trip signals were still present from the initial reactor trip and SI signal, and caused an inadvertent actuation of train "B" of AFW. The AFW actuation repositioned the AFW discharge valves to the full open position. Operators recognized the condition and took manual action to restore the AFW discharge valves and maintain SG water levels on program and without affecting RCS temperatures. The failure to establish prerequisites and initial conditions prior to performing procedure 14236-2, "SGFPTA and B Trip," revision 13 was a minor performance deficiency. The inspectors concluded this performance deficiency was minor because the AFW actuation transient had minimal impact to the plant and did not challenge a cornerstone objective.

4OA5 Other Activities

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

a. Inspection Scope

The inspectors performed a walkdown of the onsite ISFSI and monitored the activities associated with the dry fuel storage campaign, which completed in May 15, 2015. The inspectors reviewed changes made to the ISFSI programs and procedures, including associated 10 CFR 72.48, "Changes, Tests, and Experiments," screens and evaluations to verify that changes made were consistent with the license or certificate of compliance. The inspectors reviewed records and observed the loading activities to verify that the licensee recorded and maintained the location of each fuel assembly placed in the ISFSI. The inspectors also reviewed surveillance records to verify that daily surveillance requirements were performed as required by technical specifications. Documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

.1 Exit Meeting

On July 20, 2015, the resident inspectors presented the inspection results to Mr. Keith Taber and other members of the licensee's staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:

T. Baker Security Manager
T. Fowler, Chemistry Manager
G. Gunn, Regulatory Affairs Manager
C. Nesbitt, Training Manager
M. Johnson, Health Physics Manager
F. Pournia, Engineering Director
J. Robinson, Outage Manager
D. Meyers, Plant Manager
J. Thomas, Work Management Director
T. Thompson, Systems Engineering Manager
K. Taber, Site Vice-President
K. Walden, Licensing Engineer
D. Byrny, EHS Manager
M. Brett, Emergency Preparedness Specialist
B. Frey, Maintenance Director (acting)
J. Hall, Emergency Preparedness Supervisor (Units 3 and 4)
M. Hayden, Emergency Preparedness Supervisor
L. Mansfield, Fleet Emergency Preparedness Manager
K. Morrow, Licensing Engineer
S. Odom, Corporate Emergency Preparedness Coordinator
T. Petrak, Site Projects Manager
M. Redden, Emergency Preparedness Specialist
M. Skinner, Nuclear Oversight Manager
D. Sutton, Site Recovery Manager
J. Todd, EP/Security Project Manager (Units 3 and 4)
J. Williams, Site Integration Director

NRC personnel:

S. Sandal, Chief, Reactor Projects Branch 2, Region II

LIST OF REPORT ITEMS

Open and Closed

NCV 05000424-425/2015002-01 Failure to Identify and Correct Degraded Foreign Material Cover Plates for the NSCW Pump Wells (Section 1R12)

Closed

LER 05000425/2015-001 Vogtle Unit 2 Reactor Trip and Safety Injection due to Main Steam Isolation Valve Closure (Section 4OA3)

LER 05000425/2015-002 Vogtle Unit 2 Inadvertent Auxiliary Feedwater Actuation (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

11610-1 Rev. 20.2, Auxiliary Feedwater System Alignment
11610-2 Rev. 22, Auxiliary Feedwater System Alignment
18017-C Rev. 9.5, Abnormal Grid Disturbances/Loss of Grid

Drawings

2X4DB161-3, Rev. 38.0 P&I Diagram, Auxiliary Feedwater Pump System, (Aux Feedwater Pump Turbine Driver) System No. 1302
1X4DB161-3, Rev. 42.0 P&I Diagram, Auxiliary Feedwater Pump System, (Aux Feedwater Pump Turbine Driver) System No. 1302

Other

Vogtle Unit 1 and 2 Site Certification for Summer Readiness, May 15, 2015

Section 1R04: Equipment Alignment

Procedures

13006-1 Rev. 105, Chemical and Volume Control System
11006-1 Ver. 38.3, Chemical and Volume Control System Alignment
11006-2 Ver. 30.1, Chemical and Volume Control System Alignment

Drawings

2X4DB131 Ver. 32.0, P&I Diagram, Containment Spray System, System No. 1305
2X4DB116-1 Ver. 49, P&I Diagram Chemical & Volume Control System, System No. 1208
2X4DB116-2 Ver. 32.0, P&I Diagram Chemical & Volume Control System, System No. 1208
1X4DB116-1 Ver. 53, P&I Diagram Chemical & Volume Control System, System No. 1208
1X4DB116-2 Ver. 37.0, P&I Diagram Chemical & Volume Control System, System No. 1208

Section 1R05: Fire Protection

Procedures

92005-C Rev. 32.3, Fire Response Procedure
92015-C Ver. 35.1, Use, Control, and Storage of Flammable/Combustible Materials
92715-1 Rev. 3.1, Zone 15 – Fuel Handling Building Pipe Penetration Room Fire Fighting Preplan
92715-2 Rev. 1.1, Zone 15 – Fuel Handling Building Pipe Penetration Room Fire Fighting Preplan
92719-2 Rev. 1.1, Zone 19 - Auxiliary Building - CVCS Centrifugal Charging Pump Rooms Fire Fighting Preplan
92720-2 Rev. 2.1, Zone 20-Auxiliary Building - CVCS Pump Room Train A Fire Fighting Preplan
92721-2 Rev. 1.1, Zone 21 - Auxiliary Building - CVCS NCP Room Fire Fighting Preplan
92727-1 Rev. 1.2, Zone 27 – Fuel Handling Building – Level B Fire Fighting Preplan
92727-2 Rev. 1, Zone 27 – Fuel Handling Building – Level B, Access Tunnel Corridor Fire Fighting Preplan
92729-1 Rev. 3.1, Zone 29 – Fuel Handling Building – Levels B, A, and 1 Electrical Chase – Train B Fire Fighting Preplan
92729-1 Rev. 3.1, Zone 29 – Fuel Handling Building – Levels B, A, and 1 Electrical Chase – Train B Fire Fighting Preplan

92729-2 Rev. 1.0, Zone 29 – Fuel Handling Building Electrical Chase, Train B Fire Fighting Preplan

92729-2 Rev. 1.0, Zone 29 – Fuel Handling Building Electrical Chase, Train B Fire Fighting Preplan

92794-1 Ver. 3, Zone 94 – Control Building – Level A Fire Fighting Preplan

92795-1 Ver. 4, Zone 95 – Control Building – Level A Fire Fighting Preplan

92807-1 Ver. 5.1, Zone 107 – Control Building – Levels 1 and 2 Fire Fighting Preplan

92808-1 Ver. 5.1, Zone 107 – Control Building – Levels 1 and 2 Fire Fighting Preplan

92820-1 Ver. 7, Zone 120 – Control Building – Level 2 Fire Fighting Preplan

92821-1 Ver. 5, Zone 121 – Control Building – Level 2 Fire Fighting Preplan

92832-1 Rev. 6.1, Zone 132 – Fuel Handling Building – Level A Fire Fighting Preplan

92832-1 Rev. 6.1, Zone 132 – Fuel Handling Building – Level A Fire Fighting Preplan

92832-2 Rev. 2.1, Zone 132 – Fuel Handling Building – Level A, SFPHX & Pipe Pen. Fire Fighting Preplan

92832-2 Rev. 2.1, Zone 132 – Fuel Handling Building – Level A, SFPHX & Pipe Pen. Fire Fighting Preplan

92855-2 Rev. 0.2, Zone 155 - Auxiliary Feedwater Pumphouse - Train B Fire Fighting Preplan

92856-2 Rev. 0.2, Zone 156 - Auxiliary Feedwater Pumphouse - Train A Fire Fighting Preplan

92857A-2 Rev. 0.2, Zone 157A - Auxiliary Feedwater Pumphouse - Train C Fire Fighting Preplan

92873-1 Ver. 2.2, Zone 173 – Control Building – Level A Fire Fighting Preplan

92874-1 Ver. 2.2, Zone 174 – Control Building – Level A Fire Fighting Preplan

92916-2 Rev. 1.1, Zone 516 – Low Voltage Switchyard Fire Fighting Pre-plan

Other

Fire Drill Approval Sheet for Drill No. 2015-Q2-02, April 20, 15

Section 1R06: Internal Flooding

Procedures

17061-1 Ver. 19.1, Annunciator Response Procedure for ALB 61 on Process Control Panel

Other

X6CXC-30 Rev. 5, Flooding Analysis – Auxiliary Building Level B

X6CYC-30 Rev. 10, Flooding Analysis – Auxiliary Building Level B

Drawings

AX1D08A04-4 Ver. 6.0, Auxiliary Building – Floor Plan El. 170'-6" – Level B

2X4DB146-1 Ver. 15.0, P&I Diagram – Auxiliary Building and Miscellaneous Drains Non-Radioactive System No. 1215

Section 1R11: Licensed Operator Regualification Program and Licensed Operator Performance

Procedures

Procedure 12004-C Rev.114.1, Power Operation Mode 1

Procedure 18040-C Ver. 3.0, Partial Loss of Condenser Vacuum

Other

V-RQ-SE-15301 Rev. 1.0, Simulator Exercise Guide: Pressurizer Safety Valve Failure

Section 1R12: Maintenance Rule Effectiveness**Corrective Action Program Documents**

CAR 255666, Apparent Cause Determination Report for Unplanned LCO entry due to NSCW flow blockage to the 1B SI lube oil cooler, 4/5/2015
 TE 783161, MRFF documented for Unit 1, System 1202, 1202P4001
 CR 10033287, SIP 1B lube oil cooler measured flow low, 2/27/15
 TE 913636, Maintenance Rule Evaluation for SIP 1B lube oil cooler measured flow, 3/26/15

Other Records

NRC Safety Evaluation Report Related to the License Renewal of Vogtle Electric Generating Plant, Units 1 and 2, November 2008
 NRC Inspection Report Nos. 50-424/95-21 and 50-425/95-21, Vogtle1 an 2, August 20 thru September 16, 1995
 NRC Inspection Report Nos. 50-424/95-27 and 50-425/95-27, Vogtle1 an 2, October 22 thru November 18, 1995

Drawings

1X2D05A022 Rev. 21, NSCW Cooling Tower 1A Forming Plan at Splash Ring El. 218'6"
 1X2D056002, Rev. 10, NSCW Cooling Tower 1A Miscellaneous Steel Sections and Details Sheet 2
 1X2D05G021, Rev.12, NSCW Cooling Tower 1B Miscellaneous Steel Sections and Details Sheet 1
 1X2D05A021 Rev. 21, NSCW Cooling Tower 1A Forming Plan El. 137'0"
 1X2D05A026 Rev. 12, NSCW Cooling Tower 1A Forming Plan Sections and Details Dwg. No. 4020

Section 1R15: Operability Evaluations**Corrective Action Program Documents**

CAR 257248, IDO Unit 2 containment spray "A" motor cooler vent valve leak
 CAR 257261, Turbine Driven AFW steam leaks
 CAR 257913, IDO 1A NSCW operability determination with 1-HV-1668A failing to close
 CAR 258270, 1B EDG 1-inch weld crack on the left-bank intercooler outlet adaptor
 CR 10052337, Unit 1 main feedwater LEFM trouble alarm comes in and clears
 CR 10061807, Unit 1 IDO for oil sample on the lower bearing of the 1B residual heat removal (RHR) pump with visible water
 CR 10066088, Unit 2 containment spray "A" motor cooler vent valve leak
 CR 10080286, 1-HV-1668A failed to close when A NSCW train secured
 CR 10082321, Unit 2 IDO for the train "B" NSCW tower basin water level due to a failure of level transmitter 2LT1607
 CR 10087098, Air leakage from 1B EDG
 CR 417753, 1B EDG Left-Bank intercooler stiffer plate weld crack
 CR10087091, Sparks observed near generator pedestal bearing
 CR10087097, Elevated Cylinder exhaust temperatures at 110% loading

Other Records

CALDON Ultrasonic, Manual 0106, Rev 8 "LEFM CheckPlus Training Manual for Vogtle Nuclear Power Plant," October 2007
 Manual 2X4AF03-00229, Terry Turbine Maintenance Manual

X4C1202V56 Rev 1, Vogtle NSCW System Water-Hammer Analysis
TRM 3.3.7, Ultrasonic Mode Calorimetric, Rev 35

Procedures

14030-1, Ver. 46.1, Nuclear Instrument Calorimetric Calibration
14802A-1 Ver. 6.1, Train A NSCW Pump/Check Valve IST and Response Time Test
27568-C Ver. 6, Terry Turbine Trip Throttle Valve Maintenance
NMP-AD-012, Ver. 12.4, Operability Determination and Functionality Assessment
NMP-AD-012-GL01, Ver. 5.0, Prompt Determination of Operability Guideline

Section 1R18: Plant Modifications

Other

NEI 96-07 Rev. 1, Guidelines for 10CFR50.59 Implementation
LDCR 2014005 Ver. 1.0, Unit 2 FLEX Boron Injection and Reactor Coolant System Feed
SNC 475966, Unit 2 FLEX Boron Injection and RCS Feed, Ver. 3.0
SNC475966M004
SNC475966M003

Drawings

2X4DB122 Ver. 54.0, P&I Diagram – Residual Heat Removal System No. 1205

Condition Reports

CR10081911, determination of FLEX cable splices within the Unit 1 & 2 1E battery chargers,
6/10/15

Other Records

DOEJ-VDSNC473105-E001 Ver. 1.0, Evaluation for Permanent 480V FLEX Cables
DOEJ-VDSNC473105-E002 Ver. 1.0, Evaluation for Main Control Room Lighting
DOEJ-VDSNC473105-E003 Ver. 1.0, EMI/RFI Evaluation for 480V Switchboard and ANB1401
DOEJ-VDSNC473105-E004 Ver. 1.0, Evaluation for Electrical Coordination, Short Circuit
Current and ARC Flash Hazard for 480V Switchboard 1NB30
ABN-V03974 Ver. 1, Raychem Splice Cable OD Shim

Section 1R19: Post Maintenance Testing

Procedures

25071-C Ver. 12, control and protective relay removal reinstallation
23277-C, NTS Timing Relay Maintenance, Ver. 2.1

Work Orders

MWO SNC 429234, Unit 1 functional test for 1HV1669A
MWO SNC 672506, Unit 1 AX3 relay replacement for 1HV1668A
MWO SNC 622290, Unit 1 pressure switch 2 replacement for 1PV3010
MWO SNC 594043, 'A' train NSCW Pump 3 Motor Feeder Breaker Timer Relay Calibration
MWO SNC592924, 12-Month Diesel Fire Pump #2 Engine Inspection
MWO SNC613319, 12-Month Diesel Fire Pump #2 Engine Maintenance
MWO SNC424630, Unit 1, B-Train EDG Post Maintenance Functional Test

Other Records

1X3D-BD-KO5W Ver. 14, elementary diagram NSCW system 1HV1669A
 1X3D-BD-KO5X Ver. 11, elementary diagram NSCW system 1HV1669B
 27581-C, Ver. 22, Diesel Engine Driven Fire Pump Inspection, conducted 5/15/15
 Unit 1 Operator Logs for 5/14/15
 Unit 1 Operator Logs for 6/20-23/15

Condition Reports

CR 10070297, Diesel Fire Pump #2 72-Month PM incorrectly planned, PM work not performed
 CR 10069894, Work week critique
 CR 10069569, Conflicting work instruction SNC489371

Section 1R22: Surveillance TestingProcedures

14805A-1 Ver. 4, Train A Residual Heat Removal Pump In-service and Response Time Test
 14805B-2 Ver. 5, Train B Residual Heat Removal Pump In-service and Response Time Test
 14905-2 Rev. 54, RCS Leakage Calculation (Inventory Balance), Completed 6/11/15
 14810-2, TDAFW Pump Operability Response Time and Check Valve IST, Completed 5/6/15
 14980A-2 Ver. 25.2, Diesel Generator 2A Operability Test, Completed on 6/9/15
 11885A-2 Ver. 5.3, Diesel Generator 2A Operating Log, Completed on 6/9/15
 14807B-1 Ver. 2, Train B Motor Driven Auxiliary Feedwater Pump and Check Valve Inservice and Response Time Test, Completed on 4/2/15
 14545B-1, Ver. 1.1, Motor Driven Auxiliary Feedwater Pump Operability Test, Completed on 4/2/15

Work Orders

SNC599063, Unit 1, Train A Residual Heat Removal Pump In-service and Response Time Test
 SNC602205, Unit 1, Train B Residual Heat Removal Pump In-service and Response Time Test

Condition Reports

CR10081490, Small JW leak on turbocharger

Drawings

1X4DB161-2, Ver. 42.0 P&I Diagram Auxiliary Feedwater System, System No. 1302

Section 1EP2: Alert and Notification System EvaluationProcedures, Guidance Documents, and Manuals

25722-C, Emergency Alert Siren Performance Test, Version (Ver.) 17.3
 91706-C, Alert Notification System, Ver. 17
 NMP-GM-002, Corrective Action Program, Ver. 13.1
 NMP-GM-002-001, Corrective Action Program Instructions, Ver. 33.1
 Vogtle Electric Generating Plant Unit 1 and Unit 2 Emergency Plan, Revision (Rev.) 64

Records and Data

Vogtle Electric Generating Plant, 2015 Emergency Information Calendar
 Vogtle Electric Generating Plant, Annual Tone Alert Radio/Siren Test, dated 11/06/14
 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 January 2013 – May 2015

Plant Vogtle Emergency Information for Visitors to the Area brochure

Siren Discrepancy Report, Attachment 1, Page 1 of 1, Daily and Weekly Checks, 25722-C, Emergency Alert Siren Performance Test, Page 30 of 32, Ver. 17.3, dated January 2013 – May 2015

Vogtle Electric Generating Plant, 2013 and 2014 Siren Tests

Vogtle Electric Generating Plant, Checks for Monitoring Program, Monthly Checks, 91706-C, Alert Notification System, Page 13 of 17, Ver. 16, dated January 2013 – December 2014

Corrective Action Program (CAP) documents

Condition Report (CR) 650426, Siren B21 failed daily siren check due to power failure

CR 764678, During performance of daily check, Burke County EMA reported that 8 of the 48 sirens indicated no response

CR 10005590, Siren B1 failed weekly performance test due to a rotor failure

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

91101-C, Emergency Response Organization, Ver. 30

91201-C, Activation and Operation of the Technical Support Center, Ver. 19

91202-C, Activation and Operation of the Operations Support Center, Ver. 24

91601-C, Emergency Preparedness Training, Ver. 24.1

NMP-EP-101, Emergency Operations Facility (EOF) Activation, Ver. 3.0

NMP-EP-305-GL04, Offsite Equipment Important to the EP Function, Ver. 1.0

NMP-GM-002, Corrective Action Program, Ver. 13.1

NMP-GM-002-001, Corrective Action Program Instructions, Ver. 33.1

Vogtle Electric Generating Plant, Unit 1 and Unit 2 Emergency Plan, Rev. 64

Records and Data

2nd Quarter Recall Communications Drill Report, NOEP-0221, dated 09/18/14

3rd Quarter Recall Communications Drill Report, NOEP-0223, dated 11/19/14

Critique Reports – Testing of Emergency Recall System, NOEP-0205, dated 03/19/13; NOEP-0214, dated 11/22/13; NOEP-0216, dated 06/23/14; and NOEP-0225, dated 11/22/14

Emergency Response Organization List, dated 04/30/15

Training and Qualification Records for Selected ERO Members Completed

CAP documents

CR 779984, The 2013 second quarter recall drill was discovered to not have been performed by site EP personnel

CR 867168, Augmentation Staffing Analysis was performed to determine whether critical functions can be adequately performed by on-shift resources until relieved by the augmented ERO

CR 10072695, The ERO response time random survey on at least one individual slightly exceeded the response time

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. 64
 NMP-AD-008, Applicability Determinations, Ver. 18.0
 NMP-EP-110-GL03, VEGP EALs - ICs, Threshold Values, and Basis, Ver. 5.2
 NMP-EP-310, Maintaining the Emergency Plan, Ver. 3.0
 NMP-EP-312, Development of Emergency Preparedness Technical Products, Rev. 1.0

Change Packages

Licensing Document Change Request (LDCR) 2014023 for VEGP E-Plan Rev. 61, dated 6/13/14
 Applicability Determination for LDCR 2014023, dated 6/12/14
 10CFR50.54(q) Screening/Evaluation for VEGP E-Plan Rev. 61, dated 6/12/14
 LDCR 2014039 for VEGP E-Plan Rev. 62, dated 10/23/14
 Applicability Determination for LDCR 2014039, dated 10/17/14
 10CFR50.54(q) Screening/Evaluation for VEGP 1-4 EP & Security Integration, dated 10/28/14
 10CFR50.54(q) Screening/Evaluation for VEGP E-Plan Section L Change for Medical Reference, dated 8/12/14
 10CFR50.54(q) Screening/Evaluation for VEGP Interim Guidance for Evaluating ICs, dated 10/16/14
 10CFR50.54(q) Screening/Evaluation for VEGP E-Plan Rev. 62, dated 10/21/14
 LDCR 2014053 for VEGP E-Plan Rev. 63, dated 11/12/14
 Applicability Determination for LDCR 2014053, dated 11/5/14
 10CFR50.54(q) Screening/Evaluation for VEGP E-Plan Rev. 63, dated 11/7/14
 LDCR 2015007 for VEGP E-Plan Rev. 64, dated 3/16/15
 Applicability Determination for LDCR 2015007, dated 3/19/15
 10CFR50.54(q) Screening/Evaluation for VEGP E-Plan Rev. 64, dated 3/19/15

CAP Documents

TE 653298, NMP-EP-110-GL03 revision request

Section 1EP5: Maintenance of Emergency Preparedness

Procedures, Guidance Documents, and Manuals

Vogtle Electric Generating Plant (VEGP), Units 1 and 2 Emergency Plan, Rev. 64
 NMP-EP-110, Emergency Classification Determination & Initial Action, Ver. 7.1 & 7.2
 NMP-EP-110-GL03, VEGP EALs-ICs, Threshold Values and Basis, Ver. 5.2
 NMP-EP-111, Emergency Notifications, Ver. 10.0
 NMP-EP-310, Maintaining the Emergency Plan, Ver. 2.0 & 3.0
 NMP-EP-311-003, Emergency Notification Communicator Instructions – Vogtle, Ver. 6.1
 NMP-GM-002, Corrective Action Program, Ver. 13.1
 NMP-GM-002-001, Corrective Action Program Instructions, Ver. 33.2
 NMP-GM-003, Self-Assessment Procedure, Ver. 19.0
 NMP-GM-003-001, Self-Assessment Instructions for Focused Area Self-Assessment, Ver. 3.0
 NMP-GM-003-002, Self-Assessment Instructions for Check-In Self-Assessment, Ver. 2.0
 NMP-TR-416-F02, EP Classification & Notification Performance, Ver. 1.0
 91303-C, Field Sampling and Surveys, Ver. 30.0
 91702-C, Emergency Equipment and Supplies, Ver. 34.0

Records and Data

2014 through 2015 Agreement Letters for various offsite agencies
 Check-In Self-Assessment Report for May 2015 NRC EP Baseline Inspection, dated 5/13/15
 Focused Area Self-Assessment for NRC Biennial Evaluation Exercise, dated 3/13/14
 50.54(t) Offsite Interview Results Vogtle 2014 Attachment 4, dated 1/14
 50.54(t) Offsite Interview Results Corporate 2014 Attachment 1, dated 1/14
 50.54(t) Report for Southern Nuclear Fleet EP Audit, dated 1/13
 EP Drill Report – 11/5/14 Facility Activation Drill, dated 2/2/15
 EP Drill Report – HAB Pre-Exercise Drill, dated 7/8/14
 EP Drill Report – HAB Exercise, dated 7/8/14
 Critique of 3Q13 Facility Activation Drill, dated 10/4/13
 Critique of 4Q13 Facility Activation Drill, dated 1/22/14
 Critique Report – Testing of Emergency Recall System, dated 12/2/13
 2Q14 Recall Communications Drill Report, dated 9/19/14
 3Q14 Recall Communications Drill Report, dated 12/4/14

CAP documents

CR 684919, DEP opportunity was failed relating to the classification of the GE
 CR 692687, 8/6/13 drill critique item
 CR 753270, Failure of objective on tumor control during 11/20/13 activation drill
 CR 818737, HAB graded exercise critique
 CR 10072101, Expired equipment & instrumentation calibration due dates discovered in a field monitoring team kit
 CR 10072693, Two procedures were found to be contradictory in governance of emergency kit instrumentation not going out of calibration
 CR 10072694, EP calendar enhancement opportunity in design of the special needs card
 TE 676910, EP reviews not being performed in a timely manner
 TE 754086, Failure of objective on tumor control during 11/20/13 activation drill
 TE 819240, HAB graded exercise critique
 TE 908860, Critique item – November 2014 facility activation drill

Section 40A1: Performance Indicator (PI) VerificationProcedures, Guidance Documents, and Manuals

00163-C, NRC Performance Indicator & Monthly Operating Report Preparation & Submittal, Rev. 14.6
 25722-C, Emergency Alert Siren Performance Test, Ver. 17.3
 NMP-EP-311, SNC Emergency Preparedness Tier 4 Performance Indicators, Ver. 1.0

Records and Data

DEP opportunities documentation for 2Q14 through 1Q15
 Siren performance data for 2Q14 through 1Q15
 ERO records for 2Q14 through 1Q15
 OpenCDM - Dose Equivalent Iodine report for Units 1 and 2, from April 2014 thru April 2015

CAP Documents

CR 10081366
 CAR 207883, Failed DEP opportunity

Section 40A3: Event Follow-up

Procedures/Calculations/Engineering Documents

14326-2 Ver. 13, SGFPT A and B TADOT

12006-C Ver. 96.5, Unit Cooldown to Cold Shutdown

CAP Documents

CR 10040665, Inadvertent AFW actuation

CAR 255926, Apparent Cause Determination for Inadvertent AFW actuation