



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

July 29, 2013

Mr. Tom E. Tynan
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 05000424/2013003 AND 05000425/2013003

Dear Mr. Tynan:

On June 30, 2013, 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 results which were discussed on July 23, 2013, with Mr. J. Thomas and other members of your staff.

The inspection(s) examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

No findings were identified during this inspection.

In accordance with the 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, 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 the NRC's Agencywide Document 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/

Frank Ehrhardt, Chief
Reactor Projects Branch 2
Division of Reactor Projects

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

Enclosures: Inspection Report 05000424/2013003 and 05000425/2013003
w/Attachment: Supplemental Information

cc w/encl: (See page 2)

Mr. Tom E. Tynan
 Vice President
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DATE	07/25/2013	07/24/2013	07/26/2013	07/25/2013	07/29/2013	07/29/2013	
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

T. Tynan

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T. Tynan

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Letter to Tom E. Tynan from Frank Ehrhardt dated July 29, 2013

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION
REPORT 05000424/2013003 AND 05000425/2013003

Distribution w/encl:

C. Evans, RII

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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.: 05000424/2013003 and 05000425/2013003

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

Facility: Vogtle Electric Generating Plant, Units 1 and 2

Location: Waynesboro, GA 30830

Dates: April 01, 2013 through June 30, 2013

Inspectors: M. Cain, Senior Resident Inspector
T. Chandler, Resident Inspector
M. Speck, Sr. Emergency Preparedness Inspector
(Sections 1EP2, 1EP3, 1EP5, 4OA1, 4OA6)
D. Berkshire, Emergency Preparedness Inspector
(Sections 1EP2, 1EP3, 1EP5, 4OA1, 4OA6)

Approved by: Frank Ehrhardt, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000424/2013-003, 05000425/2013-003; 04/01/2013 - 06/30/2013; Vogtle Electric Generating Plant, Units 1 and 2; Integrated Inspection Report

The report covered a three-month period of inspection by two resident inspectors, two emergency preparedness inspectors, and one senior project engineer. No findings were identified during this inspection period. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" revision 4.

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REPORT DETAILS

Summary of Plant Status

Unit 1 operated at or near full rated thermal power (RTP) for the entire inspection period.

Unit 2 began the inspection period in Mode 3, coming out of refueling outage 2R16. The Unit 2 startup was performed on April 2, and the plant attained full RTP on April 5. The unit was shut down on June 1 to replace degrading shaft seals on reactor coolant pumps 3 & 4. The unit was restarted on June 8, and attained full RTP on June 9. Unit 2 operated at or near full RTP for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

.1 Summer Readiness of Offsite and Alternate AC Power System

The inspectors reviewed the material condition of offsite and onsite alternate AC power systems (including switchyard and transformers) by performing a walk down of the switchyard, reviewing outstanding work orders, and assessing corrective actions for any degraded conditions. Documents reviewed are listed in the Attachment.

.2 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 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. Documents reviewed are listed in the Attachment. The inspectors evaluated the following risk-significant systems:

- Unit 2 solid state reactor protection system (SSPS)
- Unit 1 main generator excitation system

b. Findings

No findings were identified.

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1R04 Equipment Alignment (71111.04)

a. Inspection Scope

.1 Partial Walkdown

The inspectors verified that critical portions of selected risk-significant systems were correctly aligned. The inspectors selected systems for assessment because they were a redundant or backup system/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. The inspectors verified that critical portions of the selected systems were correctly aligned by performing partial walkdowns. Documents reviewed are listed in the Attachment. The inspectors selected the following four systems/trains to inspect:

- Unit 2 train "A" & "B" motor-driven auxiliary feedwater (AFW) systems while the train "C" turbine-driven AFW pump was out of service due to a planned maintenance outage
- Unit 1 train "A" emergency diesel generator (EDG) while the Unit 1 train "B" EDG was out of service due to a planned maintenance outage
- Unit 2 train "A" & "C" AFW systems while the Train "B" motor-driven AFW system was out of service due to a planned maintenance outage
- Unit 1 train "B" spent fuel pool cooling and purification system while the train "A" system was out of service due to a planned maintenance outage

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05AQ)

a. Inspection Scope

.1 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: (1) control of transient combustibles and ignition sources, (2) fire detection systems, (3) water-based fire suppression systems, (4) gaseous fire suppression systems, (5) manual firefighting equipment and capability (6) passive fire protection features, (7) compensatory measures and fire watches, and (8) 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 2 EDG fuel oil storage tank building, fire zones 165 and 166
- Unit 1 and 2 rod control switchgear rooms, fire zones 59, 68, 69, and 75
- Unit 1 residual heat removal (RHR) and containment spray (CS) pump rooms, fire zones 4, 5, 9, and 10
- Unit 2 containment building, fire zones 140A, 140B, 140C, and 140E
- Unit 2 safety injection (SI) and auxiliary component cooling water (ACCW) pump rooms, fire zones 26B, 30, 31, 32, and 33

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

.1 Internal Flooding

The inspectors reviewed related flood analysis documents and walked down the areas listed below that contain risk significant structures, systems, and components susceptible to flooding. The inspectors verified 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 their corrective action program. Document reviewed are listed in the Attachment.

- Unit 1 ACCW and component cooling water (CCW) pump rooms

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11)

a. Inspection Scope

.1 Resident Inspector Quarterly Review of Licensed Operator Regualification:

The inspectors observed an evaluated simulator scenario administered to an operating crew conducted in accordance with the licensee's accredited regualification training program.

The inspectors assessed licensed operator performance, the ability of the licensee to administer the scenario and evaluate the operators, the quality of any post-scenario critique, any follow-up actions taken by the facility licensee, and the performance of the simulator. Documents reviewed are listed in the Attachment.

.2 Resident Inspector Quarterly Review (Licensed Operator Performance):

The inspectors observed licensed operator performance in the main control room on April 2, during the reactor startup following the 2R16 refueling outage. Inspectors observed licensed operator performance to assess 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

Documents reviewed are listed in the Attachment.

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 (MR) (10 CFR 50.65). 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. Documents reviewed are listed in the Attachment. The inspectors also interviewed system engineers and the maintenance rule coordinator to assess the accuracy of performance deficiencies and extent of condition.

- CR 351658, Unplanned LCO: Intermediate Range NI 2N-36 failure
- CR 530916, Unit 1 SG loops 2 and 3 do not indicate steam flow

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the 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

Enclosure

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.

- Week of April 22: maintenance outage on the "1B" EDG concurrent with maintenance activities on the supply breakers for the "B" train NSCW cooling tower fans
- Week of April 29: unplanned inoperability of the "2B" EDG after it failed its monthly surveillance test
- Week of May 27: maintenance outage on the "2B" motor-driven AFW system concurrent with high-risk work being performed in the high-voltage switchyard.
- Week of June 3: Unit 2 maintenance outage to replace the seals on reactor coolant pumps 3&4
- Week of June 10: unplanned inoperability of the "1B" SI pump due to troubleshooting accumulator leakage

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors selected the six 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.

- CR 627516, Void identified during the performance of 50085-C and 14460-2 at 21208X4052
- CR 632670, 14802B-2 NSCW Pump #2 Response Time Test Failure
- CR 615437, Unit 2 reactor coolant pump number 3 seal injection flow pegged high
- CR 618139, Unit 2, 2BD1 125 VDC ground
- CR 648248, Calculational error impacts EAL set point values for RS1 and RG1
- CR 654111, Line upstream of AFW check valve 2-1302-U4-113 is hot to the touch

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b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors verified that the 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.

- Temporary modification SNC493725 – installation of roller supports to the Unit 2, loop 3 main feedwater regulating valve positioned feedback bracket to mitigate vibration
- Temporary modification SNC376986 – installation of accelerometers on the RHR bypass lines in order to gather vibration data to aid in the determination of stress conditions on the RCS piping

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 seven 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. 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; and 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.

- Maintenance Work Order (MWO) SNC367324 – 2C TDAFW 2PD15180A AFW TURB STM IN channel calibration
- MWOs SNC376951 – repair fuel oil pump reducer leak, repair/torque bolt at intercooler, prime fuel oil header, SNC350823 – replace load sensor, and SNC124891 – replace K10, VR1, & VR2 relays
- MWOs SNC134996 – 2B ESF chilled water – complete motor PM, change oil, and SNC137702 – 2B ESF chilled water – calibrate/replace 162 Agastat relay
- MWOs SNC459186 – change inboard bearing oil, and SNC493526 – swap pump breaker
- MWOs SNC 128306 – 1A control building (CB) ESF chiller transmitter replacement and SNC 125851, 1A CB ESF chiller channel calibration T-4170
- MWO SNC 620857, troubleshooting results for 2HV-9001A
- MWO SNC493676 – 2FV-5154 failed stroke time

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors performed the inspection activities described below for the Unit 2 refueling outage (2R16) that ended on April 7, 2013. The inspectors verified that the licensee: 1) considered risk in developing the outage schedule 2) controlled plant configuration in accordance with administrative risk reduction methodologies, 3) developed work schedules to manage fatigue, 4) developed mitigation strategies for loss of key safety functions, and 5) adhered to operating license and technical specification requirements. Additionally, inspectors verified that safety-related and risk significant structures, systems, and components not accessible during power operations were maintained in an operable condition.

- Observed heat up and startup activities to verify that TS, license conditions, and other requirements, commitments, and administrative procedure prerequisites for mode changes were met prior to changing modes or plant conditions. Reactor coolant system (RCS) integrity was verified by reviewing RCS leakage calculations and containment integrity was verified by reviewing the status of containment penetrations and containment isolation valves

Additionally, the inspectors reviewed a sample of related corrective action documents to verify the licensee was identifying and correcting any deficiencies associated with outage activities. 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 seven 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

- 24751-1 Rev. 23, Steam Generator Level (Narrow Range) Protection Channel I 1L-529 Channel Operational Test and Channel Calibration
- 14980B-1 Rev. 24.1, Diesel Generator "1B" Operability Test
- 14609-2 Rev. 21, SSPS Slave Relay K601 Train "B" Test Safety Injection
- 24802-1 Rev. 18, Steam Pressure Loop 1 (Protection IV) 1P-516 Channel Operational Test and Channel Calibration

In-Service Tests (IST)

- 14825-2 Rev. 93, Quarterly Inservice Valve Test, 2HV-9001A

Reactor Coolant System Leak Detection

- 14905-1 Rev. 67.6, RCS Leakage Calculation (Inventory Balance)
- 14905-2 Rev. 51.6, RCS Leakage Calculation (Inventory Balance)

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. 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 1, were also used as a reference.

The inspectors interviewed personnel responsible for system performance. Documents reviewed are listed in the Attachment. 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. The applicable planning standard, 10 CFR 50.47(b)(2), and its related 10 CFR 50, Appendix E requirements were used as reference criteria.

Document reviewed are listed in the Attachment. This inspection activity satisfied one inspection sample for the ERO staffing and augmentation system on a biennial 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 evaluations of Emergency Preparedness document revisions to assess adequacy. The inspectors toured facilities and reviewed equipment and facility maintenance records to assess licensee's adequacy in maintaining them. The inspectors observed licensee staff demonstrate the capabilities of selected radiation monitoring instrumentation to adequately support Emergency Action Level (EAL) declarations.

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The inspection was conducted in accordance with NRC Inspection Procedure 71114.05, Maintenance of Emergency Preparedness. The applicable planning standards, related 10 CFR 50, Appendix E requirements, and 10 CFR 50.54(q) and (t) were used as reference criteria.

Documents reviewed are listed in the Attachment. This inspection activity satisfied one inspection sample for the maintenance of emergency preparedness on a biennial basis.

b. Findings

Introduction: The inspectors identified an unresolved item (URI) concerning the capabilities of the main steam line radiation monitors to provide threshold values used to declare a General Emergency under RG1 "Abnormal Rad Levels/Radiological Effluent," as described in the licensee's NRC-approved EAL scheme.

Description: The inspectors reviewed licensee corrective action item CR 564168. In December, 2012, the licensee determined that main steam line radiation monitor (RE-13119 through 13122) may not be able to provide indications of $3.1E+5$ uCi/cc which is the threshold value specified for declaring a general emergency. It is not a current safety concern as alternate means of declaring a general emergency exists and additional compensatory measures were put in place however the licensee had not completed their evaluation of the instruments' capabilities. Inspectors concluded that a review of the licensee's completed evaluation is necessary to determine if the issue constitutes a violation of regulatory requirements. Having accurate EAL threshold values are part of the Risk-Significant Planning Standards (RSPS) under 10 CFR 50.47(b)(4). This issue is identified as URI 05000424 and 05000425/2013003-01, "Ability of Main Steam Line Radiation Monitors to Provide Threshold Values for EAL RG1."

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed the emergency preparedness drill conducted on May 15, 2013. The inspectors observed licensee activities in the simulator and/or technical support center to evaluate implementation of the emergency plan, including event classification, notification, and protective action recommendations. The inspectors evaluated the licensee's performance against inspection 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. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

.1 Barrier Integrity Cornerstone

The inspectors reviewed a sample of the performance indicator (PI) data, submitted by the licensee, for the PIs listed below. To verify the accuracy and completeness of the data reported for the station, the inspectors reviewed plant records compiled between April 1, 2012, and March 31, 2013, for both Unit 1 and Unit 2. The inspections verified that the PI data complied with guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," and licensee procedures. The inspectors also confirmed the PIs were calculated correctly. 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.

- Reactor Coolant System Specific Activity
- Reactor Coolant System Leakage

.2 Emergency Preparedness Cornerstone

The inspectors sampled licensee submittals relative to the PIs listed below for the period January 1, 2012, through December 31, 2012. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used to confirm the reporting basis for each data element.

- Drill/Exercise Performance (DEP)
- Emergency Response Organization Drill Participation (ERO)
- Alert and Notification System Reliability (ANS)

For the specified review period, the inspector 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. Documents reviewed are listed in the Attachment. This inspection satisfied three inspection samples for PI verification on an annual basis.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review

The inspectors performed a daily screening of 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 daily 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 the licensee's corrective action program and associated documents to identify trends which could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive 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 six month period of October 2012 to March 2013 although some examples extended beyond those dates when the scope of the trend warranted. The inspectors compared their results with the results contained in the licensee's trend documents. 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 which were processed by the licensee to identify potential adverse trends in 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

No findings were identified.

.3 Operator Work-Around Annual Review

a. Inspection Scope

The inspectors performed a detailed review of the licensee's operator work-around, operator burden, and control room deficiency lists for the station in effect on May 31, 2013 to verify that the licensee identified operator workarounds at an appropriate threshold and entered them in the corrective action program. The inspectors verified that the licensee identified the full extent of issues, performed appropriate evaluations,

and planned appropriate corrective actions. The inspectors also reviewed compensatory actions and their cumulative effects on plant operation. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153)

a. Inspection Scope

.1 Unit 1 Notice of Unusual Event (NOUE) April 4, 2013 (Event Notification 48880)

On April 4, 2013, at 0632 the Unit 1 control room received a fire alarm from the Unit 1 control building. A non-licensed operator was dispatched to investigate. Approximately six minutes later the system operator reported to the Unit 1 control room that a small flame was visible inside computer inverter 1ND3I1 located in control building room A33. The control room dispatched the Vogtle fire brigade in accordance with fire response procedures. At 0647 a NOUE was declared due to a fire in the control building for greater than 15 minutes. At 0651 the Vogtle fire brigade captain reported that the fire had been extinguished. At 0745 the Vogtle emergency director terminated the NOUE. The inspectors reviewed the licensee's classification and notifications to the NRC and state/county governments. The inspectors verified the licensee classified the event in accordance with site emergency action level procedures. The inspectors also verified the event was reported as required by 10 CFR Part 50.72.

.2 Unit 2 Forced Outage June 1, 2013

On June 1, 2013, at 0441, Unit 2 conducted a normal shutdown and cool down to replace the shaft seals for RCPs 3&4. RCPs 3&4 were shutdown soon after the reactor was tripped, which forced the operators to depressurize the plant using auxiliary pressurizer sprays and by cycling backup heaters. The inspectors observed the Unit shutdown and cooldown. The inspectors verified that the licensee: 1) considered risk in developing the outage schedule 2) controlled plant configuration in accordance with administrative risk reduction methodologies, 3) developed work schedules to manage fatigue, 4) developed mitigation strategies for loss of key safety functions, and 5) adhered to operating license and technical specification requirements. Additionally, 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 observed the unit heat up and reactor startup conducted on June 8.

b. Findings

No findings were identified.

4OA5 Other Activities

a. Inspection Scope

Quarterly Resident Inspector Observations of Security Personnel and Activities

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

b. Findings and Observations

No findings were identified.

4OA6 Meetings, Including Exit

a. Exit Meeting

On July 23, the resident inspectors presented the inspection results to Mr. J. Thomas and other members of plant staff. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:

R. Brown, Training Manager
R. Collins, Chemistry Manager
G. Saxon, Plant Manager
K. Dyar, Security Manager
G. Gunn, Licensing
M. Johnson, Health Physics Manager
J. Thomas, Operations Director
J. Robinson, Engineering Programs Manager
S. Swanson, Site Support Manager
T. Tynan, Site Vice-President
T. Thompson, Systems Engineering Manager
F. Pournia, Engineering Director

NRC personnel:

M. Cain, Senior Resident Inspector
T. Chandler, Resident Inspector
F. Ehrhardt, Chief, Region II Reactor Projects Branch 2

LIST OF ITEMS OPENED AND CLOSED

OPEN AND CLOSED

None

OPENED

005000424, 425/2013003-01	URI	Ability of Main Steam Line Radiation Monitors to Provide Threshold Values for EAL RG1 (Section 1EP5)
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CLOSED

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

14230-1, Rev. 22.1, Offsite AC Circuit Verification and Capacity/Capability Evaluation
14230-2, Rev. 21.1, Offsite AC Circuit Verification and Capacity/Capability Evaluation
18017-C, Rev. 9.5, Abnormal Grid Disturbances/Loss of Grid
13830-1, Rev. 67.0, Main Generator Operation
13830-2, Rev. 53.0, Main Generator Operation
11889-C Rev. 20, Severe Weather Checklist
VNP-EHS-4-7 Rev. 0, Severe Weather (Units 3&4)
NMP-GM-025 Rev. 2.0, Seasonal Readiness Process

Other

Seasonal Readiness Crash Cart Checklists

Section 1R04: Equipment Alignment

Procedures

11610-2 Rev. 21.3, Auxiliary Feedwater System Alignment
11145-1 Rev. 15.1, Diesel Generator Alignment
11146-1 Rev. 7.1, Diesel Generator Fuel Oil Transfer System Alignment
11719-1, Rev. 16.2, Spent Fuel Pool Cooling and Purification System Alignment

Drawings

2X4DB161-1, P&I Diagram Rev. 35.0, Auxiliary Feedwater System Condensate Storage & Degasifier System, System No. 1302
2X4DB161-2, P&I Diagram Rev. 24.0, Auxiliary Feedwater System, System No. 1302
2X4DB161-3, P&I Diagram Rev. 38.0, Auxiliary Feedwater Pump System, (Aux Feedwater Pump Turbine Driver) System No. 1302
2X4DB168-3, P&I Diagram Rev. 37.0, Condensate and Feedwater System, System No. 1305
1X4DB170-1 Rev. 46.0, P&I Diagram Diesel Generator System Train A – System No. 2403
1X4DB170-2 Rev. 46.0, P&I Diagram Diesel Generator System Train B – System No. 2403
2X4DB161-1, P&I Diagram Rev. 36.0, Auxiliary Feedwater System Condensate Storage & Degasifier System, System No. 1302
1X4DB130, Rev. 49.0, P&I Diagram Spent Fuel Cooling and Purification System, System No. 1213

Section 1R05: Fire Protection Annual/Quarterly

Procedures

92865-2 Rev. 0.2, Zone 165 – Diesel Generator Tanks and Pumphouse Fire Fighting Preplan
92866-2 Rev. 0.2, Zone 166 – Diesel Generator Tanks and Pumphouse Fire Fighting Preplan
92759-1 Rev. 1.2, Zone 59 – Control Building – Level B Fire Fighting Preplan
92759-2 Rev. 0.2, Zone 59 – Control Building – Level B Fire Fighting Preplan
92768-1 Rev. 1.2, Zone 68 – Control Building – Level B Fire Fighting Preplan
92768-2 Rev. 0.2, Zone 68 – Control Building – Level B Fire Fighting Preplan
92769-1 Rev. 1.2, Zone 69 – Control Building – Level B Fire Fighting Preplan
92769-2 Rev. 0.2, Zone 69 – Control Building – Level B Fire Fighting Preplan
92775-1 Rev. 4.1, Zone 75 – Control Building – Level B Fire Fighting Preplan

92775-2 Rev. 0.2, Zone 75 – Control Building – Level B Fire Fighting Preplan
 92704-1, Rev. 2.2, Zone 4 – Auxiliary Building Wing Area Fire Fighting Preplan
 92705-1, Rev. 4.2, Zone 5 – Auxiliary Building – Level D Fire Fighting Preplan
 92709-1, Rev. 3.2, Zone 9 – Auxiliary Building – Level D Fire Fighting Preplan
 92710-1, Rev. 4.2, Zone 10 – Auxiliary Building – Level D Fire Fighting Preplan
 92840A-2 Rev. 3.0, Zone 140A – Containment Building – Levels A, B, 1, 2, and 3 Fire Fighting Preplan
 92840B-2 Rev. 4.0, Zone 140B – Containment Building – Levels A, B, 1, 2, and 3 Fire Fighting Preplan
 92840C-2 Rev. 2.0, Zone 140C – Containment Building – Levels A, B, 1, 2, and 3 Fire Fighting Preplan
 92840E-2 Rev. 1.0, Zone 140E – Containment Building – Levels A, B, 1, 2, and 3 Fire Fighting Preplan
 92726B-2 Rev. 3.0, Zone 26B – Auxiliary Building – Levels A&B, Fire Fighting Preplan
 92730-2 Rev.1.0, Zone 30 – Auxiliary Building – Level B, ACCW Pump, Train A Fire Fighting Preplan
 92731-2 Rev.1.0, Zone 31 – Auxiliary Building – Level B, Fire Fighting Preplan
 92732-2 Rev.1.0, Zone 32 – Auxiliary Building – Level B, SI Pump, Train A Fire Fighting Preplan
 92733-2 Rev.1.0, Zone 33 – Auxiliary Building – Level B, Fire Fighting Preplan

Section 1R06: Flood Protection Measures

Design Basis and Calculations

X6CXC-28 Rev.11, Flooding Analysis Auxiliary Building Level A
 X6CXC-30 Rev.9, Flooding Analysis Auxiliary Building Level B

Drawings

1X4DB146-1 Rev. 22.0, P&I Diagram Auxiliary Bldg. & Misc Drains Sys No. 1215
 1X4DB147-2 Rev. 9.0, P&I Diagram Auxiliary Bldg. Flood Retaining Rooms Alarms & Drains System No. 1218

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

Other

V-RQ-SE-13303 Rev. 1.0, Simulator Exercise Guide: Failed PZR Code Safety

Section 1R12: Maintenance Effectiveness

Condition Reports/Technical Evaluations

CR 351658, Unplanned LCO: Intermediate Range NI 2N-36 failure
 CR 637701, Unit 2 system 1602 (nuclear instrumentation) taken to A(1) status during 04/26/13 MREP
 CR 352493, 2N-32 not responding as expected
 CR 461828, MR unavailability time exceeded for system 1602
 TE 414464, MR unavailability time exceeded for system 1602
 TE 298047, 2R15 outage lessons learned – NI ILRT
 TE 628760, PMCRs to generate PMs for purging source/intermediate range J-boxes following ILRT
 TE 628771, PMCR to add performance of source/intermediate range J-box purging PM to ILRT PMs

TE 638797, Unit 2 system 1602 taken to A(1) status during 04/26/13 MREP
 CR 530916, Unit 1 SG loops 2 and 3 do not indicate steam flow
 CR 530931, Activation of an issue response team to address no flow from SGs 2&3 during 1R17 restart
 CR 637137, Unit 1 system 1301 (main steam) taken to A(1) status during 04/30/13 MREP
 TE 550201, Replace the stems on the Unit 1 and Unit 2 MSIVs with alternate material

Other Records

CAR 196113, Unit 1 SG loops 2 and 3 do not indicate steam flow

Section 1R15: Operability Determinations and Functionality Assessments

Condition Reports

632670, 14802B-2 NSCW Pump #2 Response Time Test Failure
 632663, U2 NSCW Pump #2 requires Response Time Test
 615437, Unit 2 reactor coolant pump number 3 seal injection flow pegged high
 617564, LCO 3.5.5 and SR 3.5.5.1 conflict
 618139, Request IDO for DC ground on 2BD1
 614876, Unexpected annunciator, ALB34B01, 125 VDC SWGR 2BD1 Trouble
 648248, Computational error impacts EAL set point values for RS1 and RG1
 654111, Line upstream of AFW check valve 2-1302-U4-113 is hot to the touch

Technical Evaluations

633090, IDO for U2 NSCW Pump #2
 TE 654089, IDO for CR 654111

Other

Vogtle Generating Plant Unit 1 and Unit 2 Technical Specifications Volume 1 Specifications
 Vogtle Generating Plant Unit 1 and Unit 2 Technical Specifications Volume 2 Bases
 DOEJ-VXSNC648248-M001, Corrected Emergency Action Level Set Points for RS1 and RG1 for Plant Vogtle
 VEGP-13-022-01, 10 CFR 50.54(q) screening/evaluation of new EAL RG1 Threshold Value 1 and RS1 Threshold Value 1 performed per DOEJ-VXSNC648248-M001
 Standing Order C-2012-20 version 4.0, Compensatory measures for radiation monitor EAL thresholds not being bounded by the FSAR, approved 6/1/13

Section 1R18: Plant Modifications

Work Orders:

SNC493725 – installation of roller supports to the Unit 2, loop 3 main feedwater regulating valve positioned feedback bracket to mitigate vibration. Package approved on 6/4/13
 SNC376986 – installation of accelerometers on the RHR bypass lines in order to gather vibration data to aid in the determination of stress conditions on the RCS piping

Procedures

NMP-ES-054-001 Rev. 1.2, Temporary Modification Processing

Other Records

DOEJ-VXSNC493725 – support to temporary modification SNC SNC493725
 DOEJ-VD1061091101-S001 – Vogtle RHR Bypass Pipe Monitoring (Loop 1)

Section 1R19: Post-Maintenance TestingProcedures

14810-2 Rev. 41.2, TDAFW Pump Operability, Response Time, and Check Valve IST
 14980B-1 Rev. 24.1, Diesel Generator 1B Operability Test
 13744B-2 Rev. 11.1, Train B Essential Chilled Water System
 14807B-2 Rev. 1.5, Train B Motor-Driven Auxiliary Feedwater Pump IST and Response Time Test
 14545B-2 Rev. 1.1, Motor-Driven Auxiliary Feedwater Pump B Operability Test
 23830-C Rev. 21.1, Process Loop Channel Calibration
 22402-C Rev. 28, Rosemount Transmitter Removal and Reinstallation
 23805-C Rev. 5.1, Action Instruments Model AP1400 and AP1401 Limit Alarm Module Calibration
 14825-2 Rev. 93, Quarterly Inservice Valve Test

Work Orders

SNC367324 – 2C TDAFW 2PD15180A AFW TURB STM IN channel calibration
 SNC376951 – Repair Fuel Oil Pump Reducer Leak, Repair/Torque Bolt at Intercooler, Prime Fuel Oil Header
 SNC350823 – Replace Load Sensor
 SNC124891 – Replace K10, VR1, & VR2 Relays
 SNC134996 – 2B ESF Chilled Water – Complete Motor PM, Change Oil
 SNC137702 – 2B ESF Chilled Water – Calibrate/Replace 162 Agastat Relay
 SNC459186 – change inboard bearing oil
 SNC493526 – swap pump breaker
 SNC128306 – 1A Control Building (CB) ESF Chiller transmitter replacement
 SNC125851- 1A CB ESF Chiller channel calibration T-4170
 SNC620857, troubleshooting results for 2HV-9001A
 SNC493676 – 2FV-5154 failed stroke time

Other Records

Unit 2 operator logs for 4/17/13
 Unit 1 B train EDG outage fragnet
 Unit 1 operator logs for 4/25/13
 Unit 2 operator logs for 5/1/13
 SCL01784, channel calibration T-4170
 SCL01087, channel calibration 1T-22450A

Section 1R22: Surveillance TestingProcedures

24751-1 Rev. 23, Steam Generator Level (Narrow Range) Protection Channel I 1L-529 Channel Operational Test and Channel Calibration
 14905-1 Rev. 67.6, RCS Leakage Calculation (Inventory Balance)
 14905-2 Rev. 51.6, RCS Leakage Calculation (Inventory Balance)
 14980B-1 Rev. 24.1, Diesel Generator 1B Operability Test
 14609-2 Rev. 21, SSPS Slave Relay K601 Train B Test Safety Injection
 14825-2 Rev. 93, Quarterly Inservice Valve Test
 24802-1 Rev. 18, Steam Pressure Loop 1 (Protection IV) 1P-516 Channel Operational Test and Channel Calibration

Work Orders

SNC418226, Steam Pressure Loop1, Protection CH #4

Section 1EP2: Alert and Notification System Evaluation

Procedures and Reports

91706-C, Alert Notification System, Rev. 15
25722-C, Emergency Alert Siren Performance Test, Rev. 16.1
2012 and 2013 Vogtle Emergency Information Calendar
Plant Vogtle Emergency Information for Visitors to the Area brochure

Records and Data

2012 Annual Tone Alert Radio/Siren Survey Report
Records of daily, weekly, quarterly and annual maintenance and testing 2011 - 2012
Documentation of ANS repair and annual preventative maintenance 2011 – 2012
Vogtle Electric Generating Plant, Unit 1 and Unit 2 Emergency Plan, Rev. 59

Corrective Action documents

TE 487003, Emergency Sirens Unresponsive 7/28/2012
TE 521196, Information Provided to Public Regarding False Activation of Sirens May be Inadequate

Section 1EP3: Emergency Response Organization Staffing and Augmentation System

Procedures

Vogtle Electric Generating Plant, Unit 1 and Unit 2 Emergency Plan, Rev. 59
00012-C, Shift Manning Requirements, Ver 17.1
91101-C, Emergency Response Organization, Ver 27
91201-C, Activation and Operation of the Technical Support Center, Ver 18
91202-C, Activation and Operation of the Operations Support Center, Ver 23
91601-C, Emergency Preparedness Training, Ver. 23
NMP-EP-101, Emergency Operations Facility (EOF) Activation, Ver. 3.0
NMP-EP-303, Drill and Exercise Standards, Ver. 11.1
ND-AD-VNP-013-F01, Nuclear Development Duty Officer Actions for a Vogtle 1 & 2 Declared Emergency, Ver. 6.0
ND-AD-VNP-013, Vogtle Units 3 & 4 Emergency Preparedness Plan-Site Assembly and Dismissal, Ver. 9.0

Records and Data

Emergency Response Organization List
Training and Qualification Records for Selected ERO Members
Completed Documentation of Shift Manning Requirements for March 2013
Results of Emergency After-hours Recall System Testing: June and September, 2012
ERO Augmentation Condition Report/Action Item listing for 2011 - 2012
Critique report of December 10, 2012 Unannounced After-Hours Facility Activation Drill

Corrective Action documents

CAR 196696, System Recall Issues Encountered during 12/10/2012 Callout Drill

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

Vogtle Electric Generating Plant, Units 1 and 2, Emergency Plan, Ver. 59
 NMP-AD-008, Applicability Determinations, Ver. 15.2
 NMP-EP-110-GL03, VEGP EALs – ICs, Threshold Values and Basis, Ver. 3.0
 NMP-EP-111, Emergency Notifications, Ver. 7.4
 NMP-EP-301, Maintaining the Emergency Plan, Ver. 2.0
 NMP-EP-305-GL03, VEGP Equipment Important to the EP Function, Ver. 2.0
 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
 91304-C, Estimating Offsite Dose, Ver. 27.1

Records and Data

NOEP-0197, Critique of November 16, 2012 NOUE
 Self-Assessment, Emergency Notification Forms, dated August 13, 2012
 Self-Assessment, State and County EOC Support Equipment Availability, Feb. 3, 2012
 Nuclear Oversight Audits, Fleet-EP-2012 and 2013
 Self-assessment – Biennial NRC Exercise Preparation, dated January 4, 2012
 Self-assessment – Biennial NRC Baseline Inspection Preparation, dated January 30, 2013
 Emergency Preparedness drill critique reports for 2011 and 2012
 10 CFR 50.54(q) Screening/Evaluation for Particulate, Iodine and Gas Digital Radiation Monitor
 Replacement, Group #1 dated 3/18/2103
 10 CFR 50.54(q) Screening/Evaluation for TSC Liquid Chiller PM dated 11/08/2012

Corrective Action documents

CR 549499, NOUE of November 16, 2012
 CR 549516, Fire response table needs revision
 CR 498320, DEP Classification failures
 CR 498317, RVLIS threshold question for EAL fission product barrier
 CR 321116, Evaluate aggregate impact of multiple rad monitors out of service
 CR 564168, Evaluate EAL threshold values not bounded by values specified in FSAR
 CR 616502, 2013 Emergency Information calendar comments
 CR 617640, TSC HVAC room housekeeping
 CR 617686, NOS audit findings discussion in quarterly meeting with offsite organizations

Section 4OA1: Performance Indicator Verification**Procedures**

00163-C, NRC Performance Indicator and Monthly Operating Report preparation and Submittal,
 Rev. 14.3
 25722-C, Emergency Alert Siren Performance Test, Revision 16.1

Records and Data

Documentation of Performance Indicator data from January 1, 2012 through December 31,
 2012 for DEP, ANS, and ERO

Corrective Action documents

CR 543005, Evaluate notification for accuracy under DEP

Section 40A2: Identification and Resolution of Problems

Procedures/Calculations/Engineering Documents

10025-C Rev. 3.0, Work Around Program

10030-C, Rev. 1, Aggregate Operator Impact Review Guideline

Other Records

AI 2007205091, Operations Superintendent OWA Review Logs

Operations Monitoring for Work-Arounds, Burdens and Distractions

Vogtle Quarterly Integrated Performance Assessment April 11, 2013 and May 5, 2013

40A3: Event Follow-up

Procedures

NMP-EP-110-GL03, VEGP EAL – ICs, Threshold Values and Basis, Ver. 3.0

18032-1, Loss of 120V AC Instrument Power, Ver. 31.0

Other Records

Event Notification 48880