



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

July 27, 2006

Southern Nuclear Operating Company, Inc.
ATTN: D. E. Grissette, Jr.
Vice President - Vogtle Project
P. O. Box 1295
Birmingham, AL 35201-1295

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION
REPORT 05000424/2006003 AND 05000425/2006003

Dear Mr. Grissette:

On June 30, 2006, 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 6, 2006, with Mr. Tom Tynan and other members of your staff.

The inspection 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. Based on the results of this inspection, no findings of significance were identified.

In accordance with 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 document 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/

Scott M. Shaeffer, Chief
Reactor Projects Branch 2
Division of Reactor Projects

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

Enclosure: Inspection Report 05000424/2006003
and 05000425/2006003
w/Attachment: Supplemental Information

cc w/encl: (See page 2)

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NAME	C. Rapp		G. McCoy	P. O'Bryan	B. Anderson	J. Rivera-Ortiz	B. Crowley
DATE	07/18/2006		07/25/2006	07/20/2006	07/20/2006	07/19/2006	07/27/2006
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cc w/encls

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Letter to D. E. Grissette from Scott M. Shaeffer dated July 27, 2006.

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION
REPORT 05000424/2006003 AND 05000425/2006003

Distribution w/encl:

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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.: 05000424/2006003 and 05000425/2006003

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Vogtle Electric Generating Plant, Units 1 and 2

Location: Waynesboro, GA 30830

Dates: April 1, 2006 through June 30, 2006

Inspectors: G. McCoy, Senior Resident Inspector
P. O'Bryan, Acting Senior Resident Inspector
B. Anderson, Resident Inspector
J. Rivera-Ortiz, Reactor Inspector (Section 40A2.2)
B. Crowley, Senior Reactor Inspector (Section 40A2.2)

Approved by: Scott M. Shaeffer, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000424/2006-003, 05000425/2006-003; 04/01/2006 - 06/30/2006; Vogtle Electric Generating Plant, Units 1 and 2; Routine Resident Inspection.

The report covered a three-month period of inspection by three resident inspectors and two reactor inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Unit 1 started the inspection period at full rated thermal power (RTP). On April 16, the unit was shutdown for repairs on the loop 3 Main Feed Regulating Valve (MFRV). The unit was restarted on April 23 and reached full RTP on April 26. The unit remained at full RTP for the remainder of the inspection period.

Unit 2 was shutdown at the beginning of the inspection period. The unit was restarted on April 1 and reached full RTP on April 2. The unit remained at full RTP for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

Partial Walkdowns. The inspectors performed partial walkdowns of the following three systems to verify correct system alignment. The inspectors checked for correct valve and electrical power alignments by comparing positions of valves, switches, and breakers to the procedures and drawings listed in the Attachment. Additionally, the inspectors reviewed the condition report (CR) database to verify that equipment alignment problems were being identified and appropriately resolved.

C Unit 1 train A centrifugal charging system during train B centrifugal charging system maintenance

C Unit 1 train B component cooling water (CCW) system during train A CCW maintenance

C Unit 1 auxiliary feedwater (AFW) system during condensate storage tank #2 outage

Complete Walkdown. The inspectors performed a complete walkdown of the Unit 2 train A residual heat removal (RHR) system. The inspectors performed a detailed check of valve positions, electrical breaker positions, and operating switch positions to evaluate the operability of the redundant trains or components by comparing the required position in the system operating procedure to the actual position. The inspectors also interviewed personnel, reviewed control room logs, and CRs to verify that alignment and equipment discrepancies were being identified and appropriately resolved. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

Enclosure

1R05 Fire Protection

a. Inspection Scope

Fire Area Tours. The inspectors walked down the following eight plant areas to verify the licensee was controlling combustible materials and ignition sources as required by procedures 92015-C, Use, Control, and Storage of Flammable/Combustible Materials, and 92020-C, Control of Ignition Sources. The inspectors assessed the observable condition of fire detection, suppression, and protection systems and reviewed the licensee's fire protection Limiting Condition for Operation log and CR database to verify that the corrective actions for degraded equipment were identified and appropriately prioritized. The inspectors also reviewed the licensee's fire protection program to verify the requirements of Updated Final Safety Analysis Report (UFSAR) Section 9.5.1, Fire Protection Program, and Appendix 9A, Fire Hazards Analysis, were met. Documents reviewed are listed in the Attachment.

C Unit 2 south main steam valve house
C Unit 2 control building, level A, west penetration rooms
C Unit 1 control building, level B, east penetration rooms
C Unit 2 auxiliary component cooling water pump rooms
C Unit 2 emergency diesel generator (EDG) fuel oil tank room
C Unit 2 control building, level B, rod control and safety related switchgear rooms
C Spent Fuel Pool building floor
C Unit 1 trains A and B CCW heat exchanger rooms

Fire Drill Observation. On April 26, the inspectors observed a fire drill conducted in the turbine building, level A, miscellaneous lube oil storage room. The inspectors assessed the adequacy of the fire drill and fire brigade response using licensee procedures 92000-C, Fire Protection Program; 92005-C, Fire Response Procedure; 92030-C, Fire Drill Program; 92918-1, Zone 518 - Miscellaneous Lube Oil Storage - Turbine Building Level A Fire Fighting Preplan; and 17103A-C, Annunciator Response Procedures for the Fire Alarm Computer. The inspectors evaluated the fire brigade performance to verify that they responded to the fire in a timely manner, donned proper protective clothing, used self-contained breathing apparatus, and had the equipment necessary to control and extinguish the fire. The inspectors assessed the adequacy of the fire brigade's fire fighting strategy including entry into the fire area, communications, search and rescue, and fire equipment usage.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

Internal Flooding Review. The inspectors reviewed the UFSAR and Individual Plant Examination and walked down the following areas which contained risk-significant structures, systems, or components below flood level to verify flood barriers were in place. Motor controllers and terminal boxes that could become potentially submerged were inspected to ensure that the sealing gasket material was intact and undamaged. The inspectors reviewed selected licensee alarm response procedures to verify alarm setpoints and setpoints for sump pump operation were consistent with the UFSAR, the setpoint index, and Technical Specifications (TSs). Documents reviewed are listed in the Attachment.

- Unit 1 centrifugal charging pump (CCP) rooms, normal charging pump room, and associated charging pump valve galleries

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

Resident Annual Review. The inspectors observed the licensee perform inspections and eddy current testing of the Unit 1 auxiliary component cooling water (ACCW) heat exchanger No. 2. The inspectors observed the as-found condition of the heat exchanger to determine if deficiencies existed that could mask degraded heat exchanger problems. The inspectors reviewed the eddy current test results, tube plugging criteria, heat exchanger monitoring schedule and historical performance. Additionally, the inspectors reviewed the licensee's corrective action program (CAP) for heat exchanger performance issues to ensure that discrepancies were being identified and appropriately resolved. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

Resident Quarterly Observation. The inspectors evaluated operator performance during licensed operator simulator training associated with Requalification Segment 20063 and described in simulator exercise guide V-RQ-SE-06301. The simulator scenario covered operator actions resulting from a feed water line break with a simultaneous failure of the

reactor trip breakers to trip open. Documents reviewed are listed in the Attachment. The inspectors specifically assessed the following areas:

- C Correct use of the abnormal and emergency operating procedures
- C Ability to identify and implement appropriate actions in accordance with the requirements of the Technical Specifications
- C Clarity and formality of communications in accordance with procedure 10000-C, Conduct of Operations
- C Proper control board manipulations including critical operator actions
- C Quality of supervisory command and control
- C Effectiveness of post-evaluation critique

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed one equipment problem and one system oriented sample to evaluate the effectiveness of the licensee's handling of equipment performance problems and to verify the licensee's maintenance efforts met the requirements of 10 CFR 50.65 (the Maintenance Rule) and licensee procedure 50028-C, Engineering Maintenance Rule Implementation. The reviews included adequacy of the licensee's failure characterization, establishment of performance criteria or 50.65 (a)(1) performance goals, and adequacy of corrective actions. Other documents reviewed during this inspection included control room logs, system health reports, the maintenance rule database, and maintenance work orders (MWOs). Also, the inspectors interviewed system engineers and the maintenance rule coordinator to assess the accuracy of identified performance deficiencies and extent of condition. Documents reviewed are listed in the Attachment.

- C 125-volt direct current battery charger system
- C CR 2006102035, Turbine-driven Auxiliary Feed Water (TDAFW) governor valve steam leak

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the following five risk significant and emergent MWOs to verify plant risk was properly assessed by the licensee prior to conducting the activities. The

inspectors reviewed risk assessments and risk management controls implemented for these activities to verify they were completed in accordance with procedure 00354-C, Maintenance Scheduling, and 10 CFR 50.65(a)(4). The inspectors also reviewed the CR database to verify that maintenance risk assessment problems were being identified at the appropriate level, entered into the CAP, and appropriately resolved.

C Unit 1 train A high head safety injection outage during 1FV0121 repairs
 C Unit 1 train A CCP outage
 C Unit 1 train B EDG out of service for planned maintenance
 C Unit 1 train B Engineered Safety Features (ESF) chilled water system outage
 C Unit 2 AB15 electrical switchgear room cooling unit out of service for emergent repairs

b. Findings

No findings of significance were identified.

1R14 Operator Performance During Non-Routine Plant Evolutions

a. Inspection Scope

For the two non-routine plant evolutions described below, the inspectors reviewed the operating crew's performance, operator logs, control board indications, and plant computer data to verify that operator response was in accordance with the associated plant procedures. Documents reviewed are listed in the Attachment.

C Unit 1 shutdown due to failure of loop 3 MFRV
 C Unit 1 reactor coolant system (RCS) filling following reactor vessel head penetration
 76 conoseal replacement

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following six evaluations to verify they met the requirements of NMP-GM-002, Corrective Action Program, and NMP-002-GL02, Corrective Action Program Details and Expectations Guideline. This scope included a review of the technical adequacy of the evaluations, the adequacy of compensatory measures, and the impact on continued plant operation.

C CR 2006105086, erratic steam inlet valve indication on Unit 1 TDAFW pump
 C CR 2006105424, packing leak on 1-FV-0121, charging flow control valve
 C CR 2006105675, incorrect sequencer digital input contact wetting voltage

C CR 2006103013, TDAFW speed control driver output voltage outside of expected range.

C CR 2006105427, Unit 2 A train ESF chiller sump oil temperature reading 210 degrees F.

C CR 2006104845, Reactivity effects of unit 1 reactor trip not effectively managed.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the following six maintenance activities to verify that the testing met the requirements of procedure 29401-C, Work Order Functional Tests, for ensuring equipment operability and functional capability was restored. The inspectors also reviewed the test procedures to verify the acceptance criteria was sufficient to meet the TS operability requirements.

C MWO 10542199, Unit 1 train B centrifugal charging system maintenance

C MWO 10606894, Unit 1 train B diesel generator engine driven fuel oil pump leak repair

C MWO 20603388, Unit 2 main steam loop 4 atmospheric relief valve handpump leak repair

C MWO 20604924, Unit 2 AFW turbine speed controller replacement

C MWO 10609285, Unit 1 normal charging flow control valve (1FV-0121) repair

C MWO 20537434, Unit 2 train B Nuclear Service Cooling Water pump maintenance outage

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors performed the inspection activities described below for the Unit 1 forced outage to repair the loop 3 MFRV. Documents reviewed are listed in the Attachment.

- Reviewed the outage risk plan to verify that activities, systems, and/or components, which could cause unexpected reactivity changes, were identified in the outage risk plan and were controlled.
- Reviewed the licensee's plans for changing plant configurations to verify that technical specifications, license conditions, and other requirements, commitments, and

administrative procedure prerequisites were met prior to changing plant configurations.

- Reviewed selected control room operations to verify that the licensee was controlling reactivity in accordance with the technical specifications.
- Reviewed the status and configuration of electrical systems to verify that those systems met TS requirements and the licensee's outage risk control plan.
- Observed decay heat removal parameters to verify that the system was properly functioning and providing cooling to the core.
- Reviewed RCS pressure, level, and temperature instruments to verify that the instruments provided accurate indication and that allowances were made for instrumentation errors.
- Examined containment prior to reactor startup to verify that debris had not been left which could affect performance of the containment sumps.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the following five surveillance test procedures and either observed the testing or reviewed test results to verify that testing was conducted in accordance with the procedures and that the acceptance criteria adequately demonstrated that the equipment was operable. Additionally, the inspectors reviewed the CR database to verify that the licensee had adequately identified and implemented appropriate corrective actions for surveillance test problems. Documents reviewed are listed in the Attachment.

Surveillance Tests

C 24570-2, RCP 3 Train A, Reactor Trip Relays Underfrequency (281 A), Undervoltage (227 A), Timing (262R A) Trip Actuating Device Operational Test and Channel Calibration

In-Service Tests

C 14806-2, Containment Spray Pump Inservice and Response Time Test
 C 14808-2, Centrifugal Charging Pump and Check Valve IST and Response Time Test
 C 14806-1, Containment Spray Pump Inservice and Response Time Test

RCS Leak Detection Systems

C 14905-1, RCS Leakage Calculation (Inventory Balance)

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors sampled licensee submittals for the PIs listed below during the period from April 2004 to June 2006 for Unit 1 and Unit 2. The inspectors verified the licensee's basis in reporting each data element using the PI definitions and guidance contained in: procedures 00163-C, NRC Performance Indicator and Monthly Operating Report Preparation and Submittal, and 50025-C, Reporting of Mitigating System Performance Indicator Unavailability; and Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Indicator Guideline, Revision 4.

Barrier Integrity Cornerstone

- Unit 1 and 2 RCS Activity
- Unit 1 and 2 RCS Leakage

The inspectors reviewed completed radiochemistry data sheets from procedure 35110-C, Chemistry Control of the Reactor Coolant System, operating logs, leakage calculation results obtained from procedures 14905-1,-2, RCS Leakage Calculation (Inventory Balance), and the licensee's monthly PI summary reports for the PI data submitted by the licensee during the period from April 2004 to June 2006 for both Unit 1 and Unit 2.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Daily Screening of Corrective Action Items

As required by Inspection Procedure 71152, Identification and Resolution of Problems, and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished by either attending daily screening meetings that briefly discussed major CRs, or accessing the licensee's computerized corrective action database and reviewing each CR that was initiated.

.2 Annual Sample Review - Unit 2 RHR Bypass Line Weld Leakage

a. Inspection Scope

The inspectors reviewed licensee actions to identify, evaluate, and resolve problems with RCS leakage through the welds of a 3/4-inch diameter bypass line connected to suction valve 2HV-8701B (suction line of "A" train of the RHR system connected to

Loop 1 of the RCS). The bypass line leakage events had resulted in forced plant outages on December 9, 2005, February 3, 2006, and March 20, 2006. The NRC conducted a special inspection (05000425/2006010) to assess the circumstances associated with the repetitive weld failures. At the time of the special inspection, the root cause evaluation addressing the last two bypass line leakage events was not formally issued. The inspection activities described in this section were a followup of the special inspection to review the final root cause analysis for the RCS leakage events. The inspectors reviewed the root cause evaluation associated with CRs 2006101340 and 2006103407 and Event Investigation Report 2-2006-1 (Attachment 12 of NMP-GM-002-GL03, Root Cause Determination Guideline) to verify the adequacy and completeness of the root cause evaluation and corrective actions. The inspectors focused the review on the technical causes of the bypass line failures, the extent of condition evaluation for similar system configurations, and the adequacy of the corrective actions initiated to prevent recurrence. Documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings of significance were identified. The licensee's Root Cause Team (RCT) used the Event and Causal Factor technique to determine the causes for the RHR bypass line leakage. The RCT identified seven causes that were present to create vibration severe enough to result in the failure of the RHR bypass line welds. These seven causes were condensed in the following two primary causes:

- The bypass line was flexible relative to the RHR line and did not have any axial restraint to prevent it from whipping or amplifying resulting from movement of the larger RHR pipe, and
- A combination of resonance of the vortex shedding, RHR acoustic, and bypass line structural frequencies and the stimuli of the Safety Injection check valve reseating procedure caused the RHR piping and bypass line to vibrate with enough amplitude to increase stress at the break locations above the endurance limit of the material, resulting in the fatigue cracks and leaks.

The inspectors reviewed the analysis that supported the primary causes described above and they found that the RCT performed a thorough evaluation of the problem and the conclusions were properly supported by factual data. After the second bypass line leakage event in February 2006, the licensee installed temporary equipment on the RHR and bypass lines to monitor vibration levels, piping displacement, and piping temperature. The acquired data from this instrumentation was effectively used to identify the conditions where vibration levels and piping displacement were high enough to cause excessive stress in the failed locations. The inspectors concluded that the data acquisition and its interpretation were adequate enough to understand the bypass line leakage problem and determine the root causes.

The inspectors reviewed the licensee's broadness review which consisted of the determination of similar configurations in Unit 2 RHR suction line connected to RCS

Loop 4, and Unit 1 RHR suction lines connected to RCS Loops 1 and 4. After the February 2006 Unit 2 forced outage, the licensee also installed monitoring equipment on the RHR suction piping connected to RCS Loop 4 to verify if similar conditions existed. In addition, during a Unit 1 forced outage in April 2006, the licensee installed monitoring equipment on Unit 1 RCS Loops 1 and 4, which have similar RHR bypass line configurations. The licensee also compared the RHR bypass line dimensions for RCS Loops 1 and 4 in both Units as part of the extent of condition analysis. The inspectors concluded that the extent of condition evaluation was adequate and that sufficient data and facts were obtained to determine if the condition was present in other applicable piping configurations.

The inspectors reviewed the licensee corrective actions to address the technical causes of the RHR bypass line leakage as well as corrective actions developed by the Independent Review Team regarding management and organizational factors that contributed to the repetitive failure of the RHR bypass line. The inspectors concluded that the proposed corrective actions were adequate to address the problem and should prevent reoccurrence of a similar event.

.3 Annual Sample Review - Operator Work-Arounds

a. Inspection Scope

The inspectors reviewed the licensee's list of identified operator workarounds and burdens to determine whether any items would adversely affect the operators' ability to implement abnormal or emergency operating procedures. Additionally, the inspectors reviewed Unit 1 and Unit 2 control room logs, caution tag logs, MWOs, and the clearance and tagging database to identify any abnormal plant equipment configurations that might be considered operator workarounds, and to verify the licensee has identified and documented operator workarounds in accordance with licensee procedure 10025-C, Work Around Program. The inspectors also assessed the cumulative effects of any potential operator workarounds on the operators' ability to effect a correct and timely response to plant transients and events.

b. Findings and Observations

No findings of significance were identified.

.4 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more safety significant safety issue. The inspectors' review focused on CRs with corrective action that were not sufficiently comprehensive to reduce the likelihood or prevent the recurrence of the condition. The review also considered the results of the daily screening, licensee trending efforts, and licensee human performance improvement efforts. The inspectors reviewed the

licensee quarterly trend report for November 2005 through January 2006, daily CRs, selected completed CRs, maintenance rule (a) (1) list, equipment health reports and quality assurance reports to identify issues not recognized by the licensee. The inspectors also evaluated the trend reports against the requirements of the licensee's CAP as specified in licensee procedure NMP-GM-002 and 10 CFR 50, Appendix B.

b. Findings and Observations

No findings of significance were identified.

4OA3 Event Followup

a. Inspection Scope

Unit 1 Forced Shutdown. On April 16, the licensee commenced a shutdown of Unit 1 due to the loop 3 MFRV not operating in automatic control. During the shutdown, operators also became unable to operate the loop 3 MFRV in manual control. As a result, the reactor was manually tripped at 33% RTP. Plant safety systems responded properly following the reactor trip. The licensee's investigation identified that the root cause of the loop 3 MFRV failure to be the I/P transducer in the valve control system. Prior to unit restart, the licensee replaced the I/P transducers on all four Unit 1 MFRVs.

Unit 1 Manual Reactor Trip. The inspectors reviewed the circumstances of the Unit 1 manual reactor trip on April 17. The inspectors discussed the trip with operations, engineering, and licensee management personnel to understand the event and assess followup actions. The inspectors reviewed operator actions taken in accordance with licensee procedures and reviewed unit and system indications to verify that actions and system responses were as expected. The inspectors discussed the trip with the licensee's event investigation team and assessed the team's actions to gather, review, and assess information leading up to and following the event. The inspectors also reviewed the initial licensee notification to verify that it met the requirements specified in NUREG-1022, Event Reporting Guidelines. The inspectors later reviewed the initial investigation report and root cause determination to assess the detail of review and adequacy of the root cause and proposed corrective actions prior to unit restart.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

(Closed) NRC Temporary Instruction (TI) 2515/165: Operational Readiness of Offsite Power and Impact on Plant Risk

The inspectors reviewed licensee procedures and controls and interviewed operations and maintenance personnel to verify these documents contained specific attributes delineated in the TI to ensure the operational readiness of offsite power systems in accordance with plant

Technical Specifications; the design requirements provided in 10 CFR 50, Appendix A, General Design Criterion 17, Electric Power Systems, and the impact of maintenance on plant risk in accordance with 10 CFR 50.65(a)(4), Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants. Appropriate documentation of the results of this inspection was provided to NRC headquarters staff for further analysis, as required by the TI. This completes the Region II inspection TI requirements for the Vogtle Nuclear Station.

4OA6 Meetings, Including Exit

On July 6, 2006, the resident inspectors presented the inspection results to Mr. T. Tynan and other members of his staff, who acknowledged the findings. 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 and Emergency Preparedness Manager
C. Buck, Chemistry Manager
R. Dedrickson, Assistant General Manager - Operations
K. Dyar, Security Manager
I. Kochery, Health Physics Manager
J. Robinson, Operations Manager
S. Swanson, Engineering Support Manager
T. Tynan, Nuclear Plant General Manager
J. Williams, Assistant General Manager - Plant Support

NRC personnel:

S. Shaeffer, Chief, Reactor Project Branch 2

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

05000424,425/2515/165 TI Operational Readiness of Offsite Power and Impact on Plant Risk

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

11006-1, Chemical and Volume Control System Alignment
13006-1, Chemical and Volume Control System
11715-1, Component Cooling Water System Alignment
13715B-1, Component Cooling Water System Train B
11610-1, Auxiliary Feedwater System Alignment
13610-1, Auxiliary Feedwater System
11011-2, Residual Heat Removal System Alignment
13011-2, Residual Heat Removal System
Drawings: 1X4DB114, 1X4DB115, 1X4DB116-1, 1X4DB136, 1X4DB137, 1X4DB161-1, 1X4DB161-2, 1X4DB161-3, 2X4DB122
Condition Reports: 2006105317, 2006103235, 2005103849

Section 1R05: Fire Protection

92745-2, Zone 45 Auxiliary Building Level 1 & 2 Fire Fighting Preplan
92789-2, Zone 89 Control Building Level A Fire Fighting Preplan
92790-2, Zone 90 Control Building Level A Fire Fighting Preplan
92859-2, Zone 159 Control Building Level A Fire Fighting Preplan
92760-1, Zone 60 Control Building Level B Fire Fighting Preplan
92761-1, Zone 61 Control Building Level B Fire Fighting Preplan
92764-1, Zone 64 Control Building Level B Fire Fighting Preplan

92759-2, Zone 59 Control Building Level B Fire Fighting Preplan
 92775-2, Zone 75 Control Building Level B Fire Fighting Preplan
 92769-2, Zone 69 Control Building Level B Fire Fighting Preplan
 92768-2, Zone 68 Control Building Level B Fire Fighting Preplan
 92865-2, Zone 165 Diesel Generator Tanks and Pumphouse Fire Fighting Preplan
 92866-2, Zone 166 Diesel Generator Tanks and Pumphouse Fire Fighting Preplan
 92733-2, Zone 33 Auxiliary Building Level B Fire Fighting Preplan
 92730-2, Zone 30 Auxiliary Building Level B ACCW Pump, Train A Fire Fighting Preplan
 92839-1, Zone 139 Fuel Handling Building Level 1 Fire Fighting Preplan
 92754-1, Zone 54 Auxiliary Building Level 2 Fire Fighting Preplan
 92755-1, Zone 55 Auxiliary Building Level 2 Fire Fighting Preplan

Section 1R06: Flood Protection Measures

11219-1, Auxiliary and Containment Buildings and Miscellaneous Drain Systems Alignment
 13219-1, Auxiliary and Containment Buildings and Miscellaneous Drain Systems
 Condition Reports: 2006102929, 2006100972, 2006105431, 2006105403, 2006101244,
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 VEGP Design Manual DC-1218, Auxiliary Building Flood-Retaining Rooms, Alarms, and Drains

Section 1R07: Heat Sink Performance

83305-C, Heat Exchanger Testing/Maintenance Program
 83306-C, CCW and ACCW Heat Exchanger Testing
 ES-MISN-V-901, Eddy Current Examination Procedure for Heat Exchanger Tubing
 Component Health Report, Vogtle Heat Exchangers, 1st quarter, 2006

Section 1R11: Licensed Operator Requalification

18002-C, Nuclear Instrument System Malfunction
 18008-C, Secondary Coolant Leakage
 18032-1, Loss of 120V AC Instrument Power
 19000-C, E-0 Reactor Trip or Safety Injection
 19211-C, FR-S.1 Response to Nuclear Power Generation/ATWT
 91001-C, Emergency Classification and Implementing Instructions

Section 1R12: Maintenance Effectiveness

System Health Report, 125 volt direct current system, 1st quarter 2006
 Condition Reports: 2006104547, 2005107540, 2006104265, 2005110364, 2006104666,
 2006104044, 2006104503, 2006104519
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Section 1R14: Operator Performance During Non-Routine Plant Evolutions

12005-C, Reactor Shutdown to Hot Standby (Mode 2 to Mode 3)
 13005-1, Reactor Coolant System and Refueling Cavity Draining
 11899-1, RCS Draindown Configuration Checklist
 13001-1, Reactor Coolant System Filling and Venting

Section 1R20: Refueling and Outage Activities

12005-C, Reactor Shutdown to Hot Standby (Mode 2 to Mode 3)
12006-C, Unit Cooldown to Cold Shutdown
11899-1, RCS Draindown Configuration Checklist
13005-1, Reactor Coolant System and Refueling Cavity Draining

Section 1R22: Surveillance Testing

24570-2, RCP 3 Train A, Reactor Trip Relays Underfrequency (281 A), Undervoltage (227 A), Timing (262R A) Trip Actuating Device Operational Test and Channel Calibration

Section 4OA2: Identification and Resolution of Problems

Event Investigation Report 2-2006-1 for CR 2006103407 (NMP-GM-002-GL03, Root Cause Determination Guideline, Attachment 12, Version 5.0)
Root Cause Analysis for CR 2006101340/2006103407
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