UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
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April 20, 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 05000424/2006002 AND 05000425/2006002

Dear Mr. Grissette:

On March 31, 2006, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection at your Vogtle Electric Generating Plant (VEGP), Units 1 and 2. The enclosed integrated inspection report documents the inspection results, which were discussed on April 13, 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, Acting Chief
Reactor Projects Branch 2
Division of Reactor Projects

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

Enclosure: Inspection Report 05000424/2006002
and 05000425/2006002
w/Attachment: Supplemental Information

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ADAMS: ☐ Yes ACCESSION NUMBER:_____

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NAME	RCarrion:rcm	GMcCoy	BAnderson				
DATE	04/19/2006	04/20/2006	04/20/2006				
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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.:	05000424/2006002 and 05000425/2006002
Licensee:	Southern Nuclear Operating Company, Inc.
Facility:	Vogtle Electric Generating Plant, Units 1 and 2
Location:	7821 River Road Waynesboro, GA 30830
Dates:	January 1, 2006 through March 31, 2006
Inspectors:	G. McCoy, Senior Resident Inspector B. Anderson, Resident Inspector
Approved by:	Scott M. Shaeffer, Acting Chief Reactor Projects Branch 2 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000424/2006-002, 05000425/2006-002; 01/01/2006 - 03/31/2006; Vogtle Electric Generating Plant, Units 1 and 2; Routine Integrated Report.

The report covered a three-month period of inspection by two resident inspectors. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in 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

No findings of significance were identified.

REPORT DETAILS

Summary of Plant Status

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

Unit 2 started the period at full RTP. On February 2, power was reduced to 30% RTP and the turbine taken off-line to repair a turbine control oil system leak. Repairs were complete later that same day and the unit returned to full RTP. On February 3, the unit was shutdown to repair a failed primary coolant system boundary weld. The unit was restarted on February 14 and operated at full RTP until March 20 when the unit was shutdown to repair another failed primary coolant system boundary weld. The unit remained shutdown at the end 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 three systems listed 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. In addition, the inspectors reviewed the condition report (CR) database to verify that equipment alignment problems were being identified and appropriately resolved.

- Unit 2 train B emergency diesel generator (EDG) during train A EDG maintenance
- Unit 1 train B containment spray (CS) during train A CS pump maintenance
- Unit 2 train A charging during train B centrifugal charging pump (CCP) maintenance

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Area Tours. The inspectors walked down the nine plant areas listed to verify that 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 (LCO) 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.

- Unit 2 auxiliary feedwater building
- Unit 2 train A and B remote shutdown panel rooms
- Unit 1 north main steam valve house
- Unit 1 south main steam valve house
- Unit 1 control building, level A, east penetration rooms
- Unit 1 auxiliary building, level B, penetration room
- Unit 2 train A and B containment spray rooms
- Unit 2 train A diesel generator and day tank room
- Unit 1 diesel generator tanks and pumphouse

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

Resident Quarterly Observation. The inspectors evaluated operator performance on January 31, 2006, during licensed operator simulator training associated with Requalification Segment 20061 and described on simulator exercise guide V-RQ-SE-06101. The simulator scenario covered operator actions resulting from a loss of class 1E 125-V DC followed by a turbine runback and a loss of all AC power. Procedures reviewed are listed in the Attachment. The inspectors specifically assessed the following areas:

- Correct use of the abnormal and emergency operating procedures
- Ability to identify and implement appropriate actions in accordance with the requirements of the Technical Specifications (TSs)
- Clarity and formality of communications in accordance with procedure 10000-C, Conduct of Operations
- Proper control board manipulations including critical operator actions
- Quality of supervisory command and control
- 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 issue to evaluate the effectiveness of the licensee's handling of equipment performance problems and to verify that 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.

- CR 2006103344, 1PV3000 Hydraulics Pressurization is not performing properly
- System Operability of the Unit 2 Main Steam Atmospheric Relief Valves

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the six following activities to verify that 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 that 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 corrective action program, and appropriately resolved.

- Unit 2 train B EDG outage
- Unit 2 train A EDG outage
- Unit 1 train B piping penetration ventilation system outage
- Unit 2 train B CCP outage
- Unit 2 backup pressurizer heater maintenance
- Unit 2 forced outage for Residual Heat Removal (RHR) system 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 crews' 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.

- Unit 2 downpower to 30% for Electro-Hydraulic Control (EHC) leak repair on main generator front standard
- Unit 2 shutdown to repair primary coolant boundary leakage

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the five listed evaluations to verify that 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.

- DOEJ-06-19000 C V29-001, Operations with Nuclear Service Cooling Water spray bypass valve open
- CR 2006100473, Degraded o-rings in the steam generator atmospheric relief valve
- CR 2006102295, Incorrect assembly of unit 1 Turbine-Driven Auxiliary Feedwater (TDAFW) governor control linkage following maintenance
- CR 2006101959 Part 21 affecting TDAFW governor operability
- CR 2006103105, Unit 2 train A CS pump, leak on motor cooler vent valve

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 five listed maintenance activities to verify that the testing met the requirements of procedure 29401-C, Work Order Functional Tests, for ensuring that equipment operability and functional capability were restored. The inspectors also

reviewed the test procedures to verify that the acceptance criteria was sufficient to meet the TS operability requirements.

- MWO 20517449, Unit 2 train B EDG exhaust stack replacement
- DCP 20390005, Replace protective relays, 2B EDG
- MWO 20541594, Unit 2 train B CCP system maintenance outage
- MWO 20604876, Unit 2 train A containment spray pump motor cooler vent valve replacement
- MWO 10600403, Plant Wilson blackstart diesel generator voltage regulator replacement

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 two outages to repair reactor coolant boundary leaks on Unit 2. The first outage was from February 3 through February 16, and the second outage was from March 20 through April 2. Documents reviewed are listed in the Attachment.

- Reviewed reactor cooling system (RCS) pressure, level, and temperature instruments to verify that the instruments provided accurate indication and that allowances were made for instrumentation errors
- 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 selected control room operations to verify that the licensee was controlling reactivity in accordance with the technical specifications
- 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
- Observed licensee control of containment penetrations to verify that the requirements of the TSs were met
- Reviewed the licensee's plans for changing plant configurations to verify that TSs, license conditions, and other requirements, commitments, and administrative procedure prerequisites were met prior to changing plant configurations
- Toured containment prior to reactor startup to verify that debris had not been left which could adversely impact the performance of the containment sumps and ECCS components

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the five listed 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. In addition, 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 13419-C, EDG 2B Extended Allowed Outage Time (AOT) Preparations
C 14980A-1, EDG 1A Operability Test
C 24568-1, RCP train A, Reactor Trip Underfrequency (281-A) and Undervoltage (227-A) Relays Trip Actuating Device Operational Test and Channel Calibration

In-Service Tests
C 14805-1, Unit 1 RHR Pump and Check Valve IST and Response Time Tests
C 14805-2, Unit 2 RHR Pump and Check Valve IST and Response Time Tests

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors evaluated the listed Temporary Modification (TM) and associated 10 CFR 50.59 screening against the system design basis documentation and UFSAR to verify that the modification did not adversely affect the safety functions of important safety systems. In addition, the inspectors reviewed licensee procedure 00307-C, Temporary Modifications, to assess if the modification was properly developed and implemented.

- TM 2060265001, Installation of instrumentation on Unit 2 RHR suction isolation valve bypass line (2HV8701B and 2HV8702B)

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed and reviewed the emergency drill on March 1 to verify that the licensee was properly classifying emergency events, making the required notifications, and making appropriate protective action recommendations. The inspectors verified that classifications, notifications, and protective action recommendations were performed in accordance with procedures 91001-C, Emergency Classification and Implementing Instructions; 91002-C, Emergency Notifications; and 91305-C, Protective Action Guidelines. In addition, the inspectors attended the licensee's post-drill critique to verify performance weaknesses and improvements were identified.

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 listed PIs during the period from January 1, 2005, through December 31, 2005, 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 2.

Initiating Events Cornerstone
- Unplanned Scrams per 7,000 Critical Hours
- Scrams with Loss of Normal Heat Removal
- Unplanned Power Changes per 7,000 Critical Hours

The inspectors reviewed Licensee Event Reports (LERs), Unit 1 and Unit 2 operator log entries, the monthly operating reports, monthly PI summary reports, the maintenance rule database, and NRC inspection reports to verify that the licensee had accurately submitted the PI data.

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 corrective action program. 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.

4OA5 Other Activities

.1 Review of Institute of Nuclear Power Operations (INPO) Evaluation Report

The inspectors reviewed the results of an INPO evaluation of licensee performance conducted during December 2005. The report did not identify any significant licensee performance issues that had not been previously addressed and/or reviewed by the NRC.

4OA6 Meetings, Including Exit

1. Exit Meeting Summary

On April 13, 2006, the resident inspectors presented the inspection results to Mr. Tom 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.

2. Annual Assessment Meeting Summary

On March 29, the NRC's Acting Chief of Reactor Projects Branch 2 and Resident Inspector assigned to the Vogtle Electric Generating Plant (VEGP) met with Southern Nuclear Operating Company to discuss the NRC's Reactor Oversight Process (ROP) and the NRC's annual assessment of VEGP safety performance for the period of January 1, 2005 - December 31, 2005. The major topics addressed were: the NRC's assessment program and the results of the VEGP assessment. A listing of meeting attendees and information presented during the meeting are available from the NRC's document system (ADAMS) as accession number ML061020062. ADAMS is accessible from the NRC Web site at *http://www.nrc.gov/reading-rm/adams.html*.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:
R. Brown, Training and Emergency Preparedness Manager
C. Buck, Chemistry Manager
J. Robinson, Operations Manager
K. Dyar, Security Manager
T. Tynan, Nuclear Plant General Manager
I. Kochery, Health Physics Manager
J. Williams, Assistant General Manager - Plant Support
S. Swanson, Engineering Support Manager
R. Dedrickson, Assistant General Manager - Operations

NRC personnel:
M. Widmann, Chief, Region II Reactor Project Branch 2 (1/1 - 2/19)
C. Rapp, Acting Chief, Region II Reactor Project Branch 2 (2/20 - 3/3 and 3/20 - 3/31)
S. Freeman, Acting Chief, Region II Reactor Project Branch 2 (3/6 - 3/17)

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Procedures
14980B-2, Diesel Generator 1B Operability Test
11145-2, Diesel Generator Alignment
11146-2, Diesel Generator Fuel Oil Transfer System Alignment
11115-1, Containment Spray Alignment
13115-1, Containment Spray System
11006-2, Chemical and Volume Control System Alignment
13006-2, Chemical and Volume Control System

Drawings
2X4DB170-2, P&I Diagram Generator System Train B
1X4DB131, Containment Spray System
1X4DR003, Containment Spray Fill and Vent Diagram
2X4DB114, Chemical and Volume Control System
2X4DB115, Chemical and Volume Control System

Section 1R05: Fire Protection

Procedures
92856-2, Zone 156 Auxiliary Feedwater Pumphouse Fire Fighting Preplan
92855-2, Zone 155 Auxiliary Feedwater Pumphouse Train B Fire Fighting Preplan
92857A-2, Zone 157A Auxiliary Feedwater Pumphouse Train C Fire Fighting Preplan
92857B-2, Zone 157B Auxiliary Feedwater Pumphouse Train C Fire Fighting Preplan
92798-2, Zone 98 Control Building Level A Fire Fighting Preplan
92803-2, Zone 103 Control Building Level A Fire Fighting Preplan
92804-1, Zone 104 MSIV Room North Level 1 Fire Fighting Preplan
92745-1, Zone 45 Auxiliary Building Level 1 Fire Fighting Preplan

92789-1, Zone 89 Control Building Level A Fire Fighting Preplan
92790-1, Zone 90 Control Building Level A Fire Fighting Preplan
92859-1, Zone 159 Control Building Level A Fire Fighting Preplan
92726B-1, Zone 26B Auxiliary Building Levels A and B Fire Fighting Preplans
92701-2, Zone 4 Auxiliary Building Level D Containment Spray Pump A
92705-2, Zone 5 Auxiliary Building Level D Containment Spray Pump B
92863-2, Zone 163 Diesel Generator Building-Train A DFO Day Tank Fire Fighting Preplan
92861-2, Zone 161 Diesel Generator Building Fire Fighting Preplan
92865-1, Zone 165 Diesel Generator Tanks and Pumphouse Fire Fighting Preplan
92866-1, Zone 166 Diesel Generator Tanks and Pumphouse Fire Fighting Preplan

Section 1R11: Licensed Operator Requalification

Procedures

18012-C, Turbine Runback
18031-1, Loss of Class 1E Electrical Systems
19000-C, E-0 Reactor Trip or Safety Injection
19100-C, ECA-0.0 Loss of All AC Power
91001-C, Emergency Classification and Implementing Instructions

Section 1R12: Maintenance Effectiveness

System Health Report, Main Steam System, 4th Quarter 2005
Condition Reports: 2005109336, 2005110712, 2005111702, 2005111703, 2005110222
Work Orders: 20401727, 2053182901, 2053794101

Section 1R14: Operator Performance During Non-Routine Plant Evolutions

12004-C, Power Operation (Mode 1)
12005-C, Reactor Shutdown to Hot Standby (Mode 2 to Mode 3)

Section 1R20: Refueling and Outage Activities

Procedures

12005-C, Reactor Shutdown to Hot Standby (Mode 2 to Mode 3)
12006-C, Unit Cooldown to Cold Shutdown
12001-C, Unit Heatup to Hot Shutdown (Mode 5 to Mode 4)
12002-C, Unit Heatup to Normal Operating Temperature and Pressure (Mode 4 to Mode 3)
14900-C, Containment Exit Inspection

Section 1R22: Surveillance Testing

Procedures

13418-C, Standby Auxiliary Transformer
ABW 2901, Plant Wilson Blackstart Procedure
55053-C, Plant Wilson Start Log