UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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July 26, 2000

Southern Nuclear Operating Company, Inc.
ATTN: Mr. J. B. Beasley
Vice President
Vogtle Electric Generating Plant
P. O. Box 1295
Birmingham, AL 35201

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION REPORT NOS. 50-424/00-03 AND 50-425/00-03

Dear Mr. Beasley:

On July 1, 2000, the NRC completed an inspection at your Vogtle Units 1 and 2 reactor facilities. The enclosed integrated report presents the results of that inspection which were discussed on July 5, 2000, with Mr. J. Gasser and other members of your staff.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel. Based on the results of this inspection, no findings were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at *http://www.nrc.gov/NRC/ADAMS/index.html* (the Public Electronic Reading Room).

Sincerely,

/RA/
Stephen J. Cahill, Chief
Reactor Projects Branch 2
Division of Reactor Projects

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

Enclosure: NRC Integrated Inspection Report
50-424/00-03 and 50-425/00-03

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U. S. NUCLEAR REGULATORY COMMISSION (NRC)

REGION II

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

Report No: 50-424/00-03 and 50-425/00-03

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Vogtle Electric Generating Plant Units 1 and 2

Location: 7821 River Road
Waynesboro, GA 30830

Dates: April 2, 2000 through July 1, 2000

Inspectors: J. Zeiler, Senior Resident Inspector
K. O'Donohue, Resident Inspector
D. Forbes, Radiation Protection Specialist (Sections 2OS2, 2PS1, and 2PS3)

Approved by: Stephen J. Cahill, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000424-00-03, IR 05000425-00-03, on 04/02-07/01/2000; Southern Nuclear Operating Company; Vogtle Electric Generating Plant, Units 1 and 2. Resident Inspector Operations Report.

The inspection was conducted of baseline activities and was performed by resident inspectors and a regional radiation specialist. Temporary Instruction (TI) 2515/144, Performance Indicator Data Collecting and Reporting Process Review, was also conducted during this inspection. There were no findings identified during this inspection.

Report Details

Summary of Plant Status

Unit 1 operated at 100% Rated Thermal Power (RTP) throughout the inspection period except for two days following an uncomplicated manual reactor trip on June 5 when a main steam isolation valve closed due to a blown control circuit fuse.

Unit 2 operated at essentially 100% RTP throughout the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

The inspectors conducted partial walkdowns of the following systems to evaluate the operability of selected trains or backup systems when the redundant train or system was inoperable or out of service. The walkdowns included a review of plant procedures and drawings to determine the correct system lineups and an evaluation of conditions which could affect the operability of the redundant train or backup system.

- Unit 1 Train B (1B) Essential Chilled Water System
- 2B Emergency Diesel Generator (EDG)
- 2A EDG
- 2B Spent Fuel Pool Cooling System

b. Issues and Findings

No findings were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors periodically reviewed the licensee's fire protection limiting condition for operation log. The inspectors reviewed the status of ongoing surveillance activities to determine whether they were current to support the operability of the fire protection system. The inspectors also observed the fire protection detection and suppression equipment in the following areas to determine if any conditions existed which would impair the operability of that equipment.

- 2A and 2B Motor Driven Auxiliary Feedwater Pump rooms
- Unit 2 Turbine Driven Auxiliary Feedwater Pump room
- 2A and 2B EDG rooms
- 1A and 1B Essential Chilled Water System rooms
- Unit 1 Control Room Emergency Filtration System room
- 2A and 2B Nuclear Service Cooling Water (NSCW) Buildings

- 2A Safe Shutdown Panel room
- 2B Spent Fuel Pool Pump and Heat Exchanger room
- 1A EDG room
- 1A and 1B Centrifugal Charging Pump rooms and valve galleries

b. Issues and Findings

No findings were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed licensed operator performance during plant startup simulator training on June 6. In addition, the inspectors observed licensed operator performance on June 13 during simulator requalification training activities, which involved a steam generator tube rupture. The inspectors evaluated crew communications, command and control, use of procedures, emergency plan implementation, and fidelity of the simulator to the actual control room. The inspectors also reviewed the evaluators' critiques of the training.

b. Issues and Findings

No findings were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

For the equipment issues described in the following Condition Reports (CRs), the inspectors reviewed the licensee's implementation of the Maintenance Rule (10 CFR 50.65) regarding characterization of failures, a(1) or a(2) classification, a(2) performance criteria or a(1) performance goals, and corrective actions. In addition, the inspectors reviewed the licensee's biennial maintenance rule periodic assessment conducted May 15-19, 2000. The inspectors verified that the assessment met the requirements of the Maintenance Rule and the licensee's engineering procedure 50028-C, "Engineering Maintenance Rule Implementation."

- CR 2000000119, Failure of 2B Engineered Safety Features (ESF) Chiller
- CR 2000000118, Intermittent failure of relay K18 causing 2B ESF Chiller Trip
- CR 2000000115, Incorrect calibration of 2B ESF Chiller U2 relay
- CR 2000000343, Failure of Control Room Emergency Filtration System fire dampers
- CR 2000000772, Unit 1 control room flooding due to floor drain obstructions
- CR 2000000933, Failure of the Unit 1 Main Steam Isolation Valve 1HV3036A

b. Issues and Findings

No findings were identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

a. Inspection Scope

For the maintenance work orders (MWOs) listed below, the inspectors evaluated: (1) the necessary steps taken to plan and control the work activities; (2) the effectiveness of the risk assessments performed before the maintenance activities were conducted; and, (3) implementation of risk management controls, such as, establishing compensatory actions, minimizing the duration of the activity, obtaining appropriate management approval, and informing appropriate plant staff. The inspectors also reviewed the work scope and planning, and associated risk impact assessments for the Unit 1 forced outage activities following a manual reactor trip.

- MWO 20000359, 2A and 2B Heater Drain Pump preventive maintenance (PM)
- MWO 29901287, Unit 2 NSCW Pump #1 PM
- MWO 29901289, Unit 2 NSCW Pump #1 discharge valve PM
- MWO 29901288, Unit 2 NSCW Pump #5 PM
- MWO 29901256, Unit 2 NSCW Pump #5 discharge valve PM
- MWO 20001629, 2A Moisture Separator Drain Tank Normal Level Control Valve
- MWO 10001783, Unit 1 Component Cooling Water Pump #6
- MWO 10000287, Unit 1 Component Cooling Water Pump #6 discharge check valve
- MWO 20001950, Unit 2 Atmospheric Relief Valve (ARV) 2HV3009

b. Issues and Findings

No findings were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions and Events

1. Fire Inside the Protected Area

a. Inspection Scope

On June 1, the inspectors observed the fire brigade extinguish a small fire inside the plant protected area, which was initiated when sparks from welding/grinding ignited acetylene gas leaking from a nearby torch cutting rig in a maintenance shed. The inspectors assessed control room notifications, fire brigade response time, actions to mitigate the fire, and precautions for control of combustibles. The inspectors also reviewed the event for emergency plan implementation and reportability.

b. Issues and Findings

No findings were identified.

2. Unit 1 Manual Reactor Trip Following Main Steam Isolation Valve Closure

a. Inspection Scope

On June 5, the inspectors observed control room operators respond to the closure of a main steam isolation valve and subsequent manual reactor trip. The inspectors reviewed plant parameters, the mitigation equipment operation, and operator use of emergency and abnormal operating procedures. The inspectors also reviewed the outage trip plan and prioritization of work activities and the startup process to determine if mode change prerequisites were followed.

b. Issues and Findings

No findings were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following evaluations of degraded equipment or non-conforming conditions. The inspectors evaluated the technical adequacy of the evaluations to ensure that operability determinations were properly justified and the subject component or system remained available to perform its safety function.

- CR 2000000481, De-energizing NSCW cooling tower spray and bypass valves
- CR 2000000617, Equipment qualification degradation for Main Steam Line Break
- CR 2000000717, 1A Containment Spray Pump discharge valve degradation
- CRs 2000000685 and 2000000732, Unit 2 ARV 2PV3000 degradation
- CR 2000000734, 1A Safety Injection System piping overpressure operability

b. Issues and Findings

No findings were identified.

1R16 Operator Workarounds

a. Inspection Scope

The inspectors reviewed the control room logs, operator turnover logs, clearance and tagging logs, caution tag logs, out of normal configuration log, MWOs, and CRs to identify any potential operator workarounds. Any identified workarounds were evaluated for affect on either the functional capability of the related system or human reliability in responding to an initiating event.

b. Issues and Findings

No findings were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed Design Change Package (DCP) 97-V1N0055-003, "Replacement of Non-Essential Positive Displacement Pump (PDP) with Non-Essential Powered Centrifugal Charging Pump." The inspectors evaluated the adequacy of the 10 CFR 50.59 evaluation and reviewed the Updated Final Safety Analysis Report and system design criteria. The inspectors validated the adequacy of temporary operating procedure T-OPER-00-04, "Chemical Volume and Control system and Contingency Actions for Operating With A Freeze Seal Utilized As An Isolation Boundary During Removal Of PDP Discharge Relief Valve, 1-PSV-8118."

b. Issues and Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors witnessed the post maintenance testing associated with the following MWOs. The inspectors also reviewed test procedures and records to determine if the scope of testing adequately verified that the work performed was correctly completed and demonstrated that the affected equipment was functional and operable.

- MWOs 10000134 and 10001220, 1A ESF Chilled Water System relief valve 1PSV22442A replacement and AGASTAT relay calibration
- MWO 19901153, Unit 1 NSCW Pump #6 breaker replacement
- MWO 20001701, Post Accident Monitoring System Data Processing Unit 2B repairs
- MWO 10002322, Unit 1 Main Steam Isolation Valve 1HV3036A control circuit repair
- MWOs 10001783 and 10000287, Unit 1 Component Cooling Water Pump #6 PM
- MWOs 19902548, 19902546, and 19902538, Unit 1 NSCW Pump #5 PM

b. Issues and Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the following surveillance test procedures, witnessed the testing, and reviewed test records to determine if the testing adequately demonstrated that the affected equipment was functional and operable.

- 24811-1, Delta-T/T-Average Loop 2 Protection Channel II and 1T-421 Channel Operational Test and Channel Calibration
- 24705-1, Power Range Channel 1N42 Channel Calibration
- 14808-2, Centrifugal Charging Pump and Check Valve IST and Response Time Test
- 14540-1, Main Turbine Valves Stroke Test
- 14802-1, NSCW Pumps and Check Valve IST and Response Time Test
- 14806-1, Containment Spray Inservice and Response Time Test
- 14410-2, Control Rod Operability Test

b. Issues and Findings

No findings were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following temporary modification (TM) packages to determine if system operability/availability was affected, configuration control was maintained, and post installation testing was performed:

- TM 2000-VAT020, Rewired Connection for Primary Meteorological Tower 10-meter Wind Speed
- TM 2000-V1T021, Portable Reverse Osmosis Unit for Unit 1 Refueling Water Storage Tank and Spent Fuel Pool

b. Issues and Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS2 As Low As Reasonably Achievable (ALARA) Planning and Controls

a. Inspection Scope

The inspectors reviewed the plant collective exposure history, current exposure dose trends, outage reports and exposure goals, and the year 2000 annual site dose goal. The inspectors also reviewed ALARA initiatives for reducing solid radioactive waste to the environment using the ALARA criteria of 10 CFR 20.1101.

b. Issues and Findings

No findings were identified.

2PS1 Gaseous and Liquid Effluent

a. Inspection Scope

The inspectors reviewed the most current radiological effluent release reports to verify the program is implemented in accordance with Technical Specifications and the Offsite Dose Calculation Manual (ODCM). The inspectors also reviewed radioactive liquid and gaseous monitor calibrations to ensure the monitor setpoint calculation methodology had not changed. The inspectors reviewed a sample of monthly, quarterly, and annual effluent calculations. Also, compensatory samples for radioactive material were reviewed for out of service monitors.

b. Issues and Findings

No findings were identified.

2PS3 Radiological Environmental Monitoring

a. Inspection Scope

The inspectors reviewed meteorological instrumentation in use and reviewed operability results for local and remote meteorological data readouts and recording equipment for wind speed, wind direction, and delta-temperature. The inspectors observed environmental sampling for surface water and air to verify sampling was being performed as required by the ODCM. Interlaboratory comparison results for environmental sampling were reviewed, as well as audits and corrective actions for the laboratory performing environmental analysis.

b. Issues and Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

(Closed) Temporary Instruction (TI) 2515/144, Performance Indicator Data Collecting and Reporting Process Review

a. Inspection Scope

The inspectors reviewed the licensee's performance indicator (PI) data collecting and reporting process as described in the licensee's program implementation procedure 00163-C, "NRC Performance Indicator Preparation and Submittal Procedure," Revision 1. The inspectors verified that the licensee's PI data and collecting and reporting process, indicator definitions, data reporting elements, calculational methods, definition of terms, and clarifying notes, were consistent with the guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 0. Also, the inspectors interviewed selected licensee personnel responsible for PI data collection and reporting to verify their knowledge and understanding of the program was consistent with NEI 99-02 and procedure 00163-C.

b. Issues and Findings

No findings were identified.

4OA3 Event Follow-up

Manual Reactor Trip Following Main Steam Valve Closure

a. Inspection Scope

The inspectors reviewed the licensee's actions following the June 5 Unit 1 manual reactor trip that occurred in response to closure of main steam isolation valve, 1HV3036A. The inspectors reviewed the sequence of events, verified proper performance of mitigating systems, and reviewed licensee corrective actions.

b. Issues and Findings

No findings were identified.

4OA5 Other

1. (Closed) Licensee Event Report (LER) 50-424,425/99-004-00, Inadequate Technical Specification Surveillances Due to Error in Calibrations

The inspectors reviewed a sample of the surveillance procedures affected including 24751-1, Steam Generator Level Protection Channel I 1L-529 Channel Operational Test and Channel Calibration, Revision 15. A non-conservative static shift scaling factor was incorporated into this calibration procedure, as well as other equipment flow and level

procedures resulting in five steam generator narrow range level transmitters on each unit being outside their calibration tolerances. Although the inspectors determined that the inadequate surveillance procedures constituted a violation of Technical Specification (TS) 5.4.1, the errors did not result in any of the level transmitters exceeding their TS allowable values for nominal trip setpoints. Therefore, this failure constitutes a violation of minor safety significance and is not subject to formal enforcement action in accordance with Section IV of the NRC's Enforcement Policy.

2. (Closed) LER 50-424,425/99-002-01, High-Energy Line Break Instrument Channels Inadequately Calibrated

This revision of the LER involved inadequate procedures used to perform the channel operational test (COT) for the Cold Over-Pressure Protection System. The inspectors reviewed the affected procedures, which included 24518-1(2), Reactor Coolant Pressure Protection II 1P-403(2P-403) COT and Channel Calibration, Revision 21(14) and 24519-1(2), Reactor Coolant Pressure Protection I 1P-405(2P-405) COT and Channel Calibration, Revision 16(14). The procedures tested a spare contact across the auto-interlock slave relay as opposed to the actual auto-interlock contact. Although the inspectors determined that the inadequate surveillance procedures were a violation of TS 5.4.1, subsequent licensee testing of the actual auto-interlock contact did not result in the identification of any problems. Therefore, this failure constitutes a violation of minor safety significance and is not a subject to formal enforcement action in accordance with Section IV of the NRC's Enforcement Policy.

3. (Closed) LER 50-424/00-002, Manual Reactor Trip Following Main Steam Valve Closure

This event is discussed in Sections 1R14.2 and 4OA3.

4OA6 Management Meetings

1. Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on July 5, 2000. An interim exit was held on May 5, 2000, to discuss the results of a region-based radiation protection inspection. The licensee acknowledged the findings presented. No proprietary information was identified.

2. Public Meetings

The NRC conducted a Revised Reactor Oversight Program Meeting at the Burke County Courthouse in Waynesboro, Georgia on June 26, 2000, to discuss the NRC's revised program for inspection and enforcement of nuclear plants with members of the public.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

W. Bargeron, Manager Operations
R. Brown, Manager, Training and Emergency Preparedness
W. Burmeister, Manager Engineering Support
G. Frederick, Plant Operations Assistant General Manager
J. Gasser, Nuclear Plant General Manager
K. Holmes, Manager Maintenance
P. Rushton, Plant Support Assistant General Manager

NRC

S. Cahill, Chief, Region II Reactor Projects Branch 2
W. Rogers, Region II Senior Reactor Analyst

ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

2515/144	TI	Performance Indicator Data Collecting and Reporting Process Review (Section 4OA1)
50-424,425/99-004-00	LER	Inadequate Technical Specification Surveillances Due to Error in Calibrations (Section 4OA4.1)
50-424,425/99-002-01	LER	High-Energy Line Break Instrument Channels Inadequately Calibrated (Section 4OA4.2)
50-424/00-002-00	LER	Manual Reactor Trip Following Main Steam Valve Closure (Section 4OA4.3)

Attachment: NRC's Revised Reactor Oversight Process Summary

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at *http://www.nrc.gov/NRR/OVERSIGHT/index.html*.

Attachment