



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report No.: 50-424/88-02

Licensee: Georgia Power Company
P.O. Box 4545
Atlanta, GA 30302

Docket No.: 50-424

License No.: NPF-68

Facility Name: Vogtle 1

Inspection Conducted: December 22 - January 29, 1988

Inspectors: <u>C. W. Burger</u>	<u>2/5/88</u>
for J. F. Rogge, Senior Resident Inspector	Date Signed
<u>C. W. Burger</u>	<u>2/5/88</u>
for R. J. Schepens, Senior Resident Inspector	Date Signed
<u>C. W. Burger</u>	<u>2/5/88</u>
for C. W. Burger, Resident Inspector	Date Signed
Approved By: <u>M. V. Sinkule</u>	<u>2/8/88</u>
M. V. Sinkule, Section Chief	Date Signed
Division of Reactor Projects	

SUMMARY

Scope: This routine, unannounced inspection entailed resident inspection in the following areas: plant operations, radiological controls, maintenance, surveillance, fire protection, security, and quality programs and administrative controls affecting quality.

Results: No violations or deviations were identified.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *G. Bockhold, Jr., General Manager Nuclear Operations
- *R. M. Bellamy, Plant Manager
 - T. V. Greene, Plant Support Manager
 - E. M. Dannemiller, Technical Assistant to General Manager
- *J. E. Swartzwelder, Nuclear Safety & Compliance Manager
- *W. F. Kitchens, Manager Operations
- *W. C. Marsh, Deputy Operations Manager
 - R. E. Lide, Engineering Support Supervisor
 - H. Varnadoe, Plant Engineering Supervisor
- *R. E. Spinnatu, ISEG Supervisor
 - C. W. Hayes, Vogtle Quality Assurance Manager
- *W. E. Mundy, Quality Assurance Audit Supervisor
 - M. A. Griffis, Maintenance Superintendent
 - R. M. Odom, Plant Engineering Supervisor
- *C. L. Cross, Senior Regulatory Specialist
 - S. F. Goff, Regulatory Specialist
 - A. L. Mosbaugh, Assistant Plant Support Manager
 - H. M. Handfinger, Assistant Plant Support Manager
 - F. R. Timmons, Nuclear Security Manager
- *K. Pointer, Senior Plant Engineer
- *P. D. Rushton, Plant Training Manager

Other licensee employees contacted included craftsmen, technicians, supervision, engineers, operations, maintenance, chemistry, inspectors, and office personnel.

*Attended Exit Interview

2. Exit Interviews - (30703)

The inspection scope and findings were summarized on January 29, 1988, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection results. No dissenting comments were received from the licensee. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection. Region based NRC exit interviews were attended during the inspection period by a resident inspector. This inspection closed five Licensee Event Reports (LER). The items identified during this inspection are:

Unresolved Item 88-02-01 "Review Technical Specification 4.3.1 Surveillance Requirements for the July 12, 1987 Reactor Startup" - paragraph 3.

Unresolved Item 88-02-02 "Determine Licensing Bases Status Regarding Surveillance Requirement 4.6.1.1a" - paragraph 3.

3. Unresolved Items - (92701)

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. Two unresolved items identified during this inspection is discussed in Paragraph 4.b.(6).

4. Operational Safety Verification - (71707)(93702)

The plant began this inspection period in Power Operation (Mode 1) at approximately 100% power until the unit tripped on January 17 ending a 67 day continuous power run. The trip resulted from a loss of the #2 Reactor Coolant Pump when the power supply breaker opened on a faulty time distance relay. The unit planned to remain in Hot Standing (Mode 3) to conduct an outage to repair a Hydrogen seal breakage problem on the main generator, however, on January 23 was forced to go to cold shutdown (Mode 5) upon discovery of a reactor coolant pressure boundary leakage. With repairs complete, the unit entered Hot Shutdown (Mode 4) on January 28.

The unit experienced one ESF actuation of the Control Room Emergency Ventilation System when the radiation monitor RE-12116 spiked momentarily.

a. Control Room Activities

Control Room tours and observations were performed to verify that facility operations were being safely conducted within regulatory requirements. These inspections consisted of one or more of the following attributes as appropriate at the time of the inspection.

- Proper Control Room staffing
- Control Room access and operator behavior
- Adherence to approved procedures for activities in progress
- Adherence to Technical Specification (TS) Limiting Conditions for Operations (LCO)
- Observance of instruments and recorder traces of safety related and important to safety systems for abnormalities
- Review of annunciators alarmed and action in progress to correct
- Control Board walkdowns
- Safety parameter display and the plant safety monitoring system operability status
- Discussions and interviews with the On-Shift Operations Supervisor, Shift Supervisor, Reactor Operators, and the Shift Technical Advisor to determine the plant status, plans and to assess operator knowledge
- Review of the operator logs, unit log and shift turnover sheets

No violations or deviations were identified.

b. Facility Activities

Facility tours and observations were performed to assess the effectiveness of the administrative controls established by direct observation of plant activities, interviews and discussions with licensee personnel, independent verification of safety systems status and LCO's, licensee meetings and facility records. During these inspections the following objectives are achieved:

- (1) Safety System Status - Confirmation of system operability was obtained by verification that flowpath valve alignment, control and power supply alignments, component conditions, and support systems for the accessible portions of the ESF trains were proper. The inaccessible portions are confirmed as availability permits.
- (2) Plant Housekeeping Conditions - Storage of material and components and cleanliness conditions of various areas throughout the facility were observed to determine whether safety and/or fire hazards existed.
- (3) Fire Protection - Fire protection activities, staffing and equipment were observed to verify that fire brigade staffing was appropriate and that fire alarms, extinguishing equipment, actuating controls, fire fighting equipment, emergency equipment, and fire barriers were operable.
- (4) Radiation Protection (71709) - Radiation protection activities, staffing and equipment were observed to verify proper program implementation. The inspection included review of the plant program effectiveness. Radiation work permits and personnel compliance were reviewed during the daily plant tours. Radiation Control Areas (RCAs) were observed to verify proper identification and implementation.
- (5) Security (71881) - Security controls were observed to verify that security barriers were intact, guard forces were on duty, and access to the Protected Area (PA) was controlled in accordance with the facility security plan. Personnel within the PA were observed to verify proper display of badges and that personnel requiring escort were properly escorted. Personnel within vital areas were observed to ensure proper authorization for the area. Equipment operability of proper compensatory activities were verified on a periodic basis.

In addition to the above inspection, the Security Barrier Walkdown procedure No 90317-C was reviewed with the licensee. This walkdown was being conducted as part of the corrective action for earlier security violations and should be complete by February 15, 1988. The program has identified 24 deficiencies.

- (6) Surveillance (61726)(61700) - Surveillance tests were observed to verify that approved procedures were being used; qualified personnel were conducting the tests; tests were adequate to verify equipment operability; calibrated equipment was utilized; and TS requirements were followed. The inspectors observed portions of the following surveillances and reviewed completed data against acceptance criteria:

<u>Surv. No.</u>	<u>Dept.</u>	<u>Title</u>
14850	OPS.	Cold Shutdown Valve Inservice Test
14980	OPS.	Diesel Generator Operability Test
14896	OPS.	ECCS Check Valve Cold Shutdown Inservice Test
14000	OPS.	Operations Shift And Daily Surveillance Logs

An inspection was conducted relative to the licensee's administrative controls for ensuring that power is removed to the pilot solenoids (by opening sliding links) during all modes of operation except during wet layup & periodic testing for the steam generator chemical addition isolation valves (1 HV-5278, 1 HV-5279, 1 HV-5280 & 1 HV-5281) in accordance with note 8 on P&ID 1X4DB159-1 & 1X4DB159-3. Also, FSAR table 6.2.4-1 note h stated that for the steam generator chemical addition isolation valves the air supply valves will be closed and enclosed in lockable boxes to provide seal-closed barriers.

The inspector determined that administrative controls were in place for the steam generator chemical addition isolation valves via Clearance No. 1-87-1418 which removed power to the solenoid by pulling fuses to the pilot solenoids for valve Nos. 1 HV-5278, 1 HV-5279, 1 HV-5280 & 1 HV-5281 as required by operations surveillance procedure No. 14475-1 "Containment Integrity verification - Valves Outside Containment." Relative to the FSAR statement that the air supply valves be closed and enclosed in lockable boxes it was determined that this was not being administratively controlled and the licensee initiated deficiency Report No. 1-88-0069. In addition the licensee initiated Clearance No. 1-88-0015 to remove power from the SG chemical injection isolation valve pilot solenoids by opening the sliding links and to close the air supply valves in order to be in strict compliance with the P&ID and FSAR. Subsequently, the licensee determined that per Bechtel letter No. BS 6668 dated September 22, 1986, the method of administrative controls to be utilized for providing seal closed barriers for the SG and APW chemical addition remote - manual valves was to remove power

from their respective pilot solenoid valves. The licensee has taken corrective action in this matter consisting of initiating licensing document change request No FS-88006 to change the FSAR note to reflect that power will be removed from the solenoids.

During the licensee's review of Bechtel letter No. BS 6668 it was determined that the requirement to remove power from the pilot solenoids to the SG chemical addition isolation valves also applied to the AFW chemical injection valves (1 HV-5194, 1 HV-5195, 1 HV-5196, & 1 HV-5197). The licensee determined that administrative controls had not been established for these valves and documented the as found condition on deficiency report No. 1-88-0080. The licensee also initiated clearance No. 1-88-0017 to remove power from the pilot solenoids to the AFW chemical injection isolation valves in accordance with note 7 on R&ID 1X4DB166-3.

Based on the above information the inspector conducted a review of surveillance procedure 14475-1 and determined that the AFW chemical injection valves were not included to be verified as being closed with power removed every 31 days in accordance with technical specification surveillance requirement 4.6.1.1a. The licensee is taking action to include these valves into the surveillance procedure. Pending further review of the licensing basis toward this TS surveillance applicability with NRR this item will be identified as Unresolved Item 50-424/88-02-02 "Determine licensing bases status regarding surveillance requirements 4.6.1.1a."

A second issue identified during the inspection involved an interpretation by the licensee regarding surveillance TS 4.3.1.1 (Table 4.3-1, Item 2.b.) which requires the Analog Channel Operational Test (ACOT) to be performed "prior to each startup unless performed within the last 31 days." The ACOT was performed on June 5, 1987 and on July 23, 1987. A startup conducted on July 12, 1987 had been signed off as having the ACOT complete, however in preparing for the startup on July 23, 1987, the plant personnel could not identify a surveillance performed within the last 31 days. During the review of the draft LER on the event, the corporate office determined that provisions of TS 4.0.2 could apply allowing a 25% extension on the surveillance. This would make the surveillance performed on June 5 adequate for 31 days + 25% (7.75) or 38.75 days. The effective due date would be thus July 14 and thus the startup was performed within the surveillance interval. The inspector notes that a specified time interval does not exist for this TS in that it is due "prior to each reactor startup" and the 25% extension would have to be applied to this term which is mathematically not possible. The inspector requested copies of the draft LER and DC card and will further review this item in

the next inspection. This item pending completion of this review is identified as 50-424/88-02-01 "Review Reactor Startup Of July 12, 1988 And Determine If TS Requirements And Reportability Requirements Were Met".

- (7) Maintenance Activities (62703) - The inspector observed maintenance activities to verify that correct equipment clearances were in effect; work requests and fire prevention work permits, as required, were issued and being followed; quality control personnel were available for inspection activities as required; retesting and return of systems to service was prompt and correct; TS requirements were being followed. Maintenance backlog was reviewed. Outage activities were closely monitored.
- (8) Cold Weather Preparations (71714) - The inspector reviewed implementation of the cold weather preparation program. Maintenance and engineering activities were reviewed to ensure that proper equipment and sensitive systems had been identified. Operational activities implemented when cold weather is pending (temperatures less than 40 degrees F) were reviewed. The Safety Evaluation Report, Section 7.5.2.6 and FSAR Question 420.11. were reviewed as they pertain to area of freeze protection. Operations Procedure 11877-1, Cold Weather Checklist, Rev 0 was reviewed.

During the first portion of the inspection (see NRC Rpt. 50-424/87-70) the inspector questioned the lack of a completed lineup procedure. The licensee produced an acceptable lineup performed during the fall of 1987. The inspector reverified portions of the lineup with the assistance of the licensee.

During the ice and snow storm which occurred on January 7 and 8, 1988, the inspector conducted various additional inspections to determine if the licensee had a contingency plan for the adverse weather conditions. Each department had a list of the minimum shift crew required to safely run the plant per the Site Emergency Plan. Essential plant personnel were held over the evening of January 7 and were provided sleeping facilities and meals. On site licensee's four wheel drive vehicles were assembled and used to transport personnel as required. As a result of this exercise the licensee noted that additional supplies were needed prior to another occurrence. An order has been placed by the licensee to acquire the additional supplies. In addition to the above inspection the inspector also performed an inspection of the freeze protection operability for various outside systems during the storm.

No violations or deviations were identified.

6. Review of Licensee Reports (90712)(90713)(92700)

a. In-Office Review of Periodic and Special Reports

This inspection consists of reviewing the below listed reports to determine whether the information reported by the licensee is technically adequate and consistent with the inspector knowledge of the material contained within the report. Selected material within the report is questioned randomly to verify accuracy to provide a reasonable assurance that other NRC personnel have an appropriate document for their activities.

- (1) Monthly Operating Report - The report dated January 12, 1988 was reviewed. The inspector had no significant comments regarding this report.
- (2) (Open) Special Report 50-424/87-02 "Containment Tendons Structural Integrity." The licensee submitted this report on January 6, 1988 pursuant to TS 3.6.1.6.b and 6.8.2. This report discusses the identification of sheathing filler grease voiding in excess of 5% of the net duct volume in four of the ten sampled horizontal tendons. These tendons have been corrected. The inspector questioned why the report did not address corrective action or provide engineering evaluation to address the statistical implication that filler grease in the tendon population has voiding greater than allowable by the technical specification.

b. Licensee Event Reports and Deficiency Cards

Licensee Event Reports (LER) and Deficiency Cards (DC) were reviewed for potential generic impact, to detect trends, and to determine whether corrective actions appeared appropriate. Events which were reported pursuant to 10 CFR 50.72, were reviewed as they occurred to determine if the technical specifications and other regulatory requirements were satisfied. In-office review of LERs may result in further followup to verify that the stated corrective actions have been completed, or to identify violations in addition to those described in the LER. Each LER is reviewed for enforcement action in accordance with 10 CFR Part 2, Appendix C. Review of DCs were performed to maintain a realtime status of deficiencies, determine regulatory compliance, follow the licensee corrective actions, and assist as a basis for closure of the LER when reviewed. Due to the numerous DCs processed only those DCs which result in enforcement action or further inspector followup with the licensee at the end of the inspection are discussed as listed below. The LERs denoted with an asterisk indicates that reactive inspection occurred at the time of the event prior to receipt of the written report.

(1) Deficiency Card reviews:

- (a) DC 1-88-3386 "Radioactivity Releases Potentially Greater Than Expected During a Steam Generator Tube Rupture (SGTR)". As a result of the North Anna SGTR, Westinghouse is reevaluating the Vogtle Analysis. Pending the completion of the analysis this DC tracks the issue. The inspector reviewed the preliminary information and determined that until Westinghouse can make a more definitive analysis that this is sufficient licensee action. The inspector was informed that Westinghouse should be able to provide and Southern Company review the issue by March 1, 1988.
- (b) DC 1-88-0143 "Reactor Trip Due To #2 RCP Trip" On January 17, 1988, the unit tripped when distance relay 221 at switchgear 1-1825-53-OAB sensed a fault and opened the #2 RCP breaker. The unit tripped on low RCP flow. This trip received follow-up by the residents and a review of the post trip data was conducted. This item will receive further review when submitted as an LER pursuant to 50.73 (a)(2)(iv).
- (c) DC 1-88-0194 "Failure To Declare The B Diesel Generator Inoperable" On January 21, 1988, the shift supervisor identified that the B diesel had been inoperable for 1 hour. Operations procedure 14980 was in progress when the barring device failed preventing the performance of the required moisture checks. Maintenance personnel were attempting to correct the problem when the decision to backout of the procedure was initiated and the deficiency was identified. This item will receive further review when the LER is submitted pursuant to 50.73 (a)(2)(i)(B) is issued.
- (d) DC 1-88-0209 "Steam Leak At Line 1-1201-068 3/4 Inch Attachment To Line 1-1201-036-6" On January 23, 1988, the licensee identified that a cracked weld was emitting steam. The weld was located on a Class 2 pipe on the pressurizer safety relief loop seal drain line. The licensee declared a Notice of Unusual Event based on having RCS pressure boundary leakage. The discovery in Mode 3 required the plant to achieve cold shutdown. The shutdown and work procedures were reviewed by the inspectors. This item will receive further review when submitted as an LER pursuant to 50.73 (a)(2)(i)(A).

- (2) The following LERs were reviewed and are ready for closure pending verification that the licensee's stated corrective actions have been completed.

- (a) 50-424/87-52, Rev 0 "Inadvertent Containment Ventilation During Source Check Of Radiation Monitor" This LER documents an unplanned automatic actuation of the Containment Ventilation Isolation (CVI) on August 9, 1987, when the containment vent effluent radiogas monitor setpoint was changed to a valve below background. Two of the four corrections were reviewed regarding the issuance of a memo on communications and a standing order. Records of training and further procedure revisions will be verified at a latter inspection.
- (3) The following LERs were reviewed and are considered closed.
- (a) 50-424/87-48, Rev 0 "Local Leak Rate Test Not Performed Within Technical Specifications Time Limit" This item is discussed in NRC Report 50-424/87-56 and required verification of corrective action. The inspector reviewed the work control process revisions to ensure early control of maintenance work orders which effect surveillance requirements.
- (b) *50-424/87-49, Rev 0 "Entry Into LCO 3.0.3 Due To Inoperable ESF Room Cooler Chiller Trains" On July 22, 1987, the unit was forced into LCO 3.0.3 because a temperature switch failed on the train "B" chiller while the "A" train was out of service for preventive maintenance. The plant restored the "A" train to service within 45 minutes and LCO 3.0.3 was no longer applicable. The event was followed by the resident at the time of occurrence. The maintenance order was also reviewed.
- (c) 50-424/87-51, Rev 0 "AFW Flow Transmitters Inoperable Due To Inadequate Instructions And Personnel Errors". This issue was review in NRC reports 50-424/87-49 and 50-424/87-56 and resulted in identifying a licensee identified violations. This inspection completed the review by verifying the licensee corrective action implementation.
- (d) *50-424/87-53, Rev 0 "Personnel Error Leads To Exceeding Technical Specification Surveillance Time Limit". During the period from August 18, 1987 until September 2, 1987 surveillance intervals for measuring the stroke times of thirteen valves required to be tested by ASME section XI exceeded the required technical specification time requirements. Upon performance of the missed surveillances all valves were verified to be operable. Two factors contributed to this event. The first factor involved the increasing of the surveillance from quarterly to monthly and the second factor was the rescheduling of the quarterly

due dates to even the workload. For these thirteen valves the two factors resulted in an error in scheduling. Corrective actions were to perform the surveillance, counsel the schedules and verify the other 153 potentially affected valves. In addition, the licensee immediately informed the Residents of the findings. The inspector verified completion of the actions. This item represents a violation of NRC requirements where the licensee has met the criteria for no citation. To track this item the following is identified.

50-424/LIV 88-02-01 "Failure To Perform ASME Section XI Surveillance Of TS 4.0.5 At The Required Surveillance Intervals".

- (e) 50-424/87-54, Rev 0 "Containment Hydrogen Level Indication Inoperable Due To Personnel Error" On August 24, 1987, the licensee identified that the A channel hydrogen monitor had the signal wires reversed. Investigation revealed that on August 3, 1987, the quarterly channel calibration was performed which incorrectly reversed the signal wires. Independent verification also failed to identify the error. Individuals and the IC department were counseled on procedure compliance. The licensee determined that the instrument was inoperable for 21 days which violated TS 3.3.3.6 action statement 31 by 14 days for the unit to be in Hot Shutdown. The inspector noted that this is the most restrictive of two TS. TS 3.6.4.1 would allow inoperability for 30 days. The test that led to discovery was being performed to satisfy TS 3.6.4.1. Upon discovery the licensee recognized the action requirements of the more restrictive TS 3.3.3.6 and complied with these. Corrective action was verified. This item represents a violation of NRC requirements where the licensee has met the criteria for no citation. To track this item the following is identified.

50-424/LIV 88-02-02 "Failure To Comply With TS 3.3.3.6 Operability Requirements For The A Train Hydrogen Monitor".