U. S. NUCLEAR REGULATORY COMMISSION (NRC)

REGION II

Docket Nos.	50-424 and 50-425
License Nos.	NPF-68 and NPF-81
Report No:	50-424/96-09, 50-425/96-09
Licensee:	Georgia Power Company (GPC)
Facility:	Vogtle Electric Generating Plant, Units 1 & 2
Location:	7821 River Road Waynesboro, GA 30830
Dates:	July 7 - August 17, 1996
Inspectors:	C. Ogle, Senior Resident Inspector M. Widmann, Resident Inspector K. O'Donohue, Resident Inspector (in training) W. Kleinsorge, Reactor Inspector (Section M1.1, M1.2, M1.5, R2.2) R. Chou, Reactor Inspector (Section M1.1, M1.4, R2.1, F3.2) R. Carrion, Project Engineer (Section 08.2, R1.1, R2.3)
Approved by:	P. Skinner, Chief, Projects Branch 2, Division of Reactor Projects

Enclosure 2

EXECUTIVE SUMMARY

Vogtle Electric Generating Plant, Units 1 and 2
NRC Inspection Report 50-424/96-09, 50-425/96-09

This integrated inspection included aspects of licensee operations, engineering, maintenance, and plant support. The report covers a six-week period of resident inspection. It also includes the results of announced inspections by two regional reactor inspectors and a project engineer.

Operations

- In general, the conduct of operations was satisfactory (section O1.1).
- A non-cited violation (NCV) was identified for an improperly established rod deviation/radial tilt annunciator response procedure (section O1.2).
- A violation (VIO) was documented for the licensee's identification that the Unit 1 fire protection header containment isolation valve was open instead of shut as required. Though of minimal safety consequence, this latest mispositioning may indicate that additional management attention in the area of configuration control is required (section O1.4).
- The self-assessment activities witnessed by the inspectors were effective (O7.1).
- A NCV was identified as a result of a failure to perform quadrant power tilt ratio calculations on Unit 2 as required by Technical Specifications (TS) for approximately three hours (section O8.1).

Maintenance

- In general, maintenance and surveillance activities witnessed by the inspectors were performed satisfactorily (section M1.1 and M1.4).
- Repairs to a reactor makeup water isolation valve were completed thoroughly and professionally, generally in accordance with procedures. Several examples were noted where proceduralized personnel safety precautions were not followed. Additionally, although the repairs to the valve were successfully completed and the associated freeze seals held, a number of unsupported divergences between NRC Technical Guidance and the implementation of the freeze seals were noted (section M1.2).
- The licensee identified three additional instances of debris in the nuclear service cooling water (NSCW) system piping to safety related components. Operability of the cooled components was not impacted (section M1.3).
- A deficiency was identified as a result of the inspectors' observation that operators were performing the steps for a diesel generator slow speed start surveillance when a fast speed start was planned (section M1.4).

Engineering

- Three minor discrepancies in the Updated Final Safety Analysis Report (UFSAR) were documented (section E2.1).

Plant Support

- No deficiencies were identified during chemistry sampling activities observed by the inspectors (section R1.1).
- NRC walkdown inspections and review of the licensee's monthly inspection records of self-contained breathing apparatuses verified the adequacy and availabilty of this equipment (section R2.1).
- A NCV was identified as a result of a failure to perform a TS required reactor coolant sample following a power change (section R2.3).
- A VIO with two examples was identified for improper transient combustible controls (section F3.1 and F3.2).

Report Details

Summary of Plant Status

Unit 1 operated at full power throughout the entire inspection period.

Unit 2 began the inspection period increasing reactor power from approximately 44% power after completion of tube repairs inside the condenser A waterbox. On July 10, full power was obtained. However, on July 10 activities were initiated to decrease reactor power to below 80% to allow inspection of the condenser A east waterbox due to continued problems with higher than normal sodium levels in the secondary plant. On July 12 power ascension was commenced. Full power was obtained on July 13. The unit operated at 100% power until August 11 when activities were again initiated to reduce power and stabilize the unit at approximately 80% power to support inspection of the condenser A east waterbox. On August 14, upon completion of maintenance activities power ascension was again initiated. On August 15, the unit was operated at 100% power. At the end of the inspection period the unit remained at full power.

I. Operations

O1 Conduct of Operations

O1.1 General Comments (71707)

Using Inspection Procedure (IP) 71707, the inspectors conducted frequent reviews of ongoing plant operations. In general, the conduct of operations was satisfactory.

O1.2 Rod Deviation/Radial Tilt Annunciator

a. Inspection Scope (71707) (93702)

The inspectors reviewed licensee actions in response to a rod deviation/radial tilt annunciator received during a Unit 2 power reduction on July 5, 1996. The inspectors reviewed the following documents:

Procedure 13502	Control Rod Drive and Position Indication System
Procedure 14915	Special Conditions Surveillance Logs
Procedure 17010	Annunciator Response Procedures for ALB10 on Panel 2C1 on Main Control Board (MCB)
UFSAR Section 7.7.1.2	Rod Control System
April 10, 1996	Core Operating Limits Report

The inspectors also reviewed the applicable TS requirements, bases, and associated action statements; rod supervision program computer point UD0362; integrated plant computer (IPC) control bank step counters plots; log entries; manual sequence of events report; Westinghouse correspondence on rod insertion; and the deficiency card (DC) generated in response to this event. The inspectors also interviewed the shift superintendent (SS), unit shift supervisor (USS), and operator involved, as well as, appropriate operations management regarding their review of this event.

b. Observations and Findings

The inspectors determined that on July 5, 1996, the licensee entered Abnormal Operating Procedure (AOP) 18015-C, Secondary Plant Chemistry, as a result of elevated sodium levels in the Unit 2 condenser A waterbox. As required by the AOP, the licensee commenced a power reduction to less than 30% at approximately 1:25 p.m. At approximately 2:50 p.m., at a nominal power level of 50%, a rod deviation/radial tilt annunciator was received. Following a review of plant indications and the annunciator response procedure (ARP), the operating crew concluded that the most probable cause of the annunciator was a radial tilt as a result of the ongoing power reduction. However, given that they could not conclusively determine the cause of the annunciator, the SS determined that the annunciator should be considered inoperable and initiated the required compensatory measures specified by Procedure 17010. Accordingly, Data Sheet 3, Moveable Control Assembly Group Height With Rod Position Deviation Monitor Inoperable, and Data Sheet 7, Quadrant Power Tilt Ratio, of Procedure 14915 were performed. The downpower continued and at approximately 3:51 p.m., Unit 2 was stabilized at 28% power.

Immediately after turnover, the oncoming USS diagnosed the cause of the still illuminated rod deviation/radial tilt annunciator as an improper tip-to-tip separation between control bank C and control bank D. The USS recognized that the nominal 115 step separation between the rods was not maintained and had in fact been reduced to 114 steps. Upon discovery of this discrepant condition, the licensee revised procedure 13502 and subsequently withdrew control bank C to establish the proper control bank tip-to-tip separation. Pursuant to 10 CFR 50.72 (b)(1)(ii)(A) the licensee made a one-hour notification to the NRC on July 5. On July 11, the licensee retracted the report based on a licensee engineering evaluation that determined that the observed condition did not represent an unanalyzed condition that significantly compromised plant safety.

A review of the IPC sequence of events log by the inspectors identified that a rod withdrawal sequence error alarm, indicating the improper tip-to-tip separation, came in and cleared several times during the power reduction on July 5. The inspectors learned through discussions with the on-shift crew, that while this IPC alarm was recognized, its cause

was not fully diagnosed. Likewise, the inspectors also noted that the "Probable Causes" section of the ARP identified improper rod withdrawal as a cause of the alarm. However, this information did not result in the discrepant condition being diagnosed. The on-shift crew indicated that time constraints and other operator crew duties during the power reduction impacted the ability of the operating crew to fully investigate the discrepant condition.

The inspectors noted that the required actions of Procedure 17010 did not require a verification of proper rod sequencing despite the fact that an improper rod withdrawal sequencing can result in the annunciator. Additionally, the required actions of the compensatory action surveillances of Procedure 14915 did not have a required action to verify proper rod sequencing.

On July 7, following a similar occurrence, the licensee identified the potential cause of the problem as dirty contacts in the bank overlap counter S6 thumbwheel switch. The S6 control bank thumbwheel contacts were cleaned to prevent recurrence. The licensee stated their intention to clean the remaining Unit 2 control bank thumbwheel contacts during the upcoming outage. As a result of this event, the licensee has revised Procedure 14915, Data Sheet 3, to include a verification of proper control bank tip-to-tip distance.

The inspectors noted that this event was of minimal safety consequence. Adequate shutdown margin was maintained and the one-step sequence error did not significantly challenge fuel reliability.

c. Conclusions

The inspectors concluded that Procedure 14915 was not properly established in that it failed to direct operator actions to resolve a known cause of the rod deviation/radial tilt annunciator; namely improper rod withdrawal. This is contrary to the requirements of Appendix B, Criterion V. However, consistent with Section VII of the NRC Enforcement Policy this was identified as NCV 50-424,425/96-09-01, Failure To Properly Establish Procedure For Rod Deviation/Radial Tilt Annunciator.

O1.3 Unit 2 Fuel Handling Building Ventilation System Isolation

a. Inspection Scope (71707)

The inspectors reviewed the events surrounding a Unit 2 fuel handling building (FHB) ventilation system isolation which occurred on August 8, 1996.

The inspectors reviewed the post-accident sampling system (PASS) panel valve drawings, IPC computer trends for affected radiation monitors, and the DC generated as a result of the event. The inspectors also monitored the activities of an event review team initiated to investigate this event. The inspectors interviewed PASS panel system engineers, chemistry technicians involved in the event, and licensee management as to their evaluation of the event.

b. Observation and Findings

At 11:05 a.m. on August 8, during the performance of a quarterly sampling of the reactor coolant system (RCS) using the Unit 2 PASS, a FHB isolation occurred due to a high radiation signal from radiation monitor ARE-2532A. The FHB post-accident ventilation system actuated as designed and the normal ventilation path was isolated. RCS sampling was terminated and radiation levels dropped below the high radiation setpoint for a FHB ventilation system actuation. Pursuant to the requirements of 10 CFR 50.72(b)(2)(ii) the licensee made a 4-hour non-emergency report to the NRC. Approximately four hours later the FHB ventilation system was returned to its normal configuration. The licensee formed an event review team to investigate the event.

The licensee informed the inspectors that preliminary indications are that the elevated radiation levels in the FHB exhaust may have been caused by activity released from the PASS system during the sampling. At the end of the inspection report period, the licensee was focusing on the potential that a PASS system relief valve had actuated as a result of leakage past another valve.

The licensee stated their intention to document this event in a Licensee Event Report (LER).

c. Conclusions

The inspectors will review the licensee's corrective actions during the LER review.

O1.4 Mispositioned Containment Isolation Valve

a. Inspection Scope (71707)

The inspectors reviewed the circumstances surrounding the licensee's July 16, 1996, identification that 1-HV-27901, fire protection header containment isolation valve, was open instead of shut as required. The inspectors reviewed operations, fire protection, and maintenance activities that may have required manipulation of this valve. This included monthly surveillances, quarterly valve stroke tests, slave relay tests, and engineered safety features actuation system (ESFAS) surveillances performed at the conclusion of the last Unit 1 refueling outage. The inspectors also reviewed lineup Procedure 11903-C, Fire

Protection System Alignment, which requires the valve be closed in Modes 1 through 4.

b. Observations and Findings

On July 16, while establishing the initial positions for components to be tested during surveillance Procedure 14635, Solid State Protection System (SSPS) Slave Relay K630 Train B Test Containment Isolation, the licensee identified that valve 1-HV-27901 was open. This is a normally closed containment isolation valve whose position is indicated by status lights on the MCB and by two additional, independent position indications on a back panel in the control room. The valve functioned properly during the surveillance and was left in the proper position at the completion of the surveillance.

The inspectors' review of this issue determined that the valve was last documented as being operated on June 7, 1996, for surveillance procedure 14634, SSPS Slave Relay K630 Train A Test Containment Isolation. The completed surveillance showed that the valve was verified by an operator as being in the closed position at the completion of the surveillance. No other documentation was available that would indicate that a surveillance, maintenance work order (MWO), lineup, or other procedure was performed on valve 1-HV-27901 from June 7 to July 16. The inspectors were unable to determine the cause for the valve being mispositioned. Likewise the inspectors could not determine how long the valve was in the incorrect position.

The inspectors did learn that the valve's indicated position to the handswitches are wired independently through separate pairs of limit switches. In addition, valve 1-HV-27901 will only open if both handswitches are operated in the proper sequence. These design features decrease the probability that the valve was inadvertently operated.

c. Conclusions

The inspectors noted that although the valve was improperly positioned, the valve remained operable and capable of performing its design function. Therefore, the safety consequence of the mispositioned valve was minimal. Additionally, it is noteworthy that the valve was detected to be in the incorrect position by the licensee during the conduct of a surveillance.

However, the failure of the operating crew to detect the mispositioning during the performance of their routine duties is troubling. This is particularly true in light of the similarities between this issue and a similar mispositioning documented as VIO 50-424/95-31-01. This latest event may indicate that additional management attention is required in the area of configuration control.

Overall, the inspectors concluded that the operating personnel manning

the control room on July 16, were not cognizant of the status of valve 1-HV-27901. This is a violation of Procedure 10000-C, Conduct of Operations, which requires shift personnel be aware of equipment component status and system lineups. This was identified as VIO 50-424/96-09-02, Mispositioned Unit 1 Fire Protection Header Containment Isolation Valve.

03 Operations Procedures and Documentation

03.1 Review/Walkdown Clearances (71707)

During the inspection period, the inspectors walked down the following clearances:

19500234	480 Volt Motor Control Center (MCC) 1BBB
19600422	Electrical Switchgear And Motor Control Center (MCC) Room Cooler B (Room R-B16)
29600082	Auxiliary Component Cooling Water Heat Exchanger 1A

No discrepancies were noted.

07 Quality Assurance in Operations

07.1 Licensee Self-Assessment Activities (40500)

During the inspection period, the inspectors reviewed multiple licensee self-assessment activities including:

Two Plant Nuclear Safety Committee meetings

Safety Audit and Engineering Review post-audit conference of performance team activities

No concerns were identified. The inspectors concluded that the self-assessment activities witnessed were effective.

08 Miscellaneous Operations Issues (92700) (71707)

08.1 (Closed) LER 50-425/96-003: Quadrant Power Tilt Ratio (QPTR) Calculation Not Performed

a. Inspection Scope (71707)

The inspectors reviewed the events that contributed to a reactor operator (RO) on July 7, 1996, not performing a required limiting condition for operation (LCO) action statement for QPTR. The inspectors reviewed the following documents:

Procedure 17010	Annunciator Response Procedures For ALB10 on Panel 2C1 on MCB
Procedure 14915	Special Conditions Surveillance Logs
LER 50-425/96-003	Quadrant Power Tilt Ratio Calculation Not Performed

The inspectors also interviewed the RO and USS involved as well as appropriate licensee management as to their findings of a root cause investigation.

b. Observations and Findings

A review of computer records by the inspectors and the licensee indicated that reactor thermal power was above 50% power and that QPTR had not decreased to less than 1.02 during the interval between the first calculation and approximately 2:50 p.m.. As a result, three required QPTR calculations were not performed.

The licensee also stated that based on a review of computer records, the QPTR ratio remained below 1.09 throughout the period of time that the LCO action statement calculation was not performed. This is important since additional actions beyond the missed calculation are required by TS 3.2.4. for QPTR in excess of 1.09. The inspectors independently reviewed the computer data and agreed with the licensee's conclusion.

In addition to the misapplication of nuclear instrument power to exit the LCO action statement, the inspectors also learned during interviews, that the RO failed to notify the USS of the results of his initial QPTR calculation. The inspectors noted that this effectively removed the USS as a potential second check of the RO's conclusion that no further QPTR calculations were required. The RO informed the inspectors that the relatively high pace of activities during the shift may have contributed to his failure to notify the USS of the results of his calculations.

The licensee informed the inspectors that their review of the issue determined that the event occurred due to personnel error. The inspectors agree with the licensee's findings. As corrective action, the licensee counseled the involved individual and stated their intention to include this event in upcoming requalification training.

c. Conclusions

The inspectors concluded that the failure to complete the QPTR calculations violated the requirements of the TS 3.2.4. However, consistent with Section VII of the NRC Enforcement Policy this is identified as NCV 50-425/96-09-03, Quadrant Power Tilt Not Calculated Hourly As Required.

08.2 (Closed) LER 50-424,425/95-002: Dual Unit Reactor Trip Due To Lightning Strikes

This issue was originally addressed in inspection report (IR) 50-424,425/95-18, Paragraph 2.d. The referenced LER and associated documentation was reviewed by the inspectors. The licensee instituted a design change to, among other things, provide backup power to the rod control cabinet circuit cards so that the cards would remain energized upon loss of their primary power supply. The inspectors interviewed cognizant licensee personnel and reviewed the design change package (DCP), the safety evaluation check list (including the safety evaluation itself), and the field change notice for the Unit 1 modification. The documentation was found to be thorough. The modification had been completed in March 1996, per MWO 19600555 and the modified system is currently in service. The Unit 2 modification is scheduled to be done during the upcoming autumn refueling outage, per DCP 95-V2N0061. Although the MWO had not yet been generated, it was expected to be done within the next few weeks.

II. Maintenance

M1 Conduct of Maintenance

M1.1 Maintenance Work Order Observations

a. Inspection Scope (62703)

The inspector observed portions of maintenance activities involving the following work orders:

Work Order No.	Components
19601165	Electrical Switchgear And Motor Control Center Room Cooler Maintenance (1555A7002)
19601166	Electrical Switchgear And Motor Control Center Room Cooler Maintenance (1555A7004)
19601739	Troubleshooting And Repairs To Diesel Generator Building Dampers
19601767	Repairs To Auxiliary Building Continuous Exhaust Fan Motor

19601769	ALB05F05 Annunciator Direct Current Ground In Alarm Troubleshooting
29502236	Containment Spray Pump Motor Breaker Relay Calibration And Modification Per DCP 91-V2N0139 On 2AA0214-150/151-PH-A
29600649	Calibration On Bypass Feedwater Regulating Valve Loop 2 2LIC0560.
29601184	Calibration Of Residual Heat Removal Train B Loop Return Bypass Flow Transmitter 2-FT-619A
29601245	Spent Fuel Pool Level Switch 18-Month Preventive Maintenance
29601855	Repairs To Reactor Makeup Water Isolation Valve (2 1901 U4144)
29601888	Tavg/Auctioneered Tavg Deviation Alarm ALB012A04 Troubleshooting
29601970	Troubleshoot Relay K737; White Light DS8085 Delayed In Coming On When K737 De-energized

b. Observations and Findings

The observed activities were performed satisfactorily.

M1.2 Repairs to Reactor Makeup Water Isolation Valve (2-1901-U4-144)

a. Inspection Scope (62703)

The inspectors observed repair activities after the establishment of freeze seals and valve disassembly to the termination of the freeze seal.

b. Observations and Findings

Prior to reassembly of valve 2-1901-U4-144, a quality control cleanliness inspection identified a damaged bonnet stud. A proper stud was acquired and installed. The valve was reassembled and leak tested. By record review and direct observation, the inspectors determined that the observed valve repair and inspection activities were conducted by properly qualified personnel, using properly calibrated tools and proper replacement parts.

The inspectors reviewed the licensee's freeze seal procedure GEN-20, Freeze Seal Installation and Control, Revision 3, dated January 18, 1996, and compared it with NRC Inspection Manual Part 9900: Technical Guidance, Mechanical - Freeze Plugs FPLUG.TG, dated June 14, 1993. The following items diverged from the Technical Guidance without supporting justification.

- Surface non-destructive examination (NDE) acceptance criteria, ("Indications where the depth is greater than one-half width." is rejectable) in GEN-20, is not measurable with surface examination.

- GEN-20 does not specify a single source of liquid nitrogen (N_2) for each freeze seal. Multiple freeze seals supplied from a single source have failed due to an inability to control the coolant flow down multiple paths.

- GEN-20 controls the temperature and flow of the liquid N_2 by observation of the N_2 plume at the freeze seal vents, and at the location of the frost lines. The failure of a freeze seal at River Bend Nuclear Station, monitored by observation of the N_2 plume at the freeze seal vents and the location of the frost lines, demonstrates why this method of temperature and flow control is not always effective.

- GEN-20 does not require a documented contingency plan for recovery from a freeze seal failure.

- GEN-20 does not require continuous communications with the control room during the performance of a freeze seal.

The inspectors noted the following relative to the installation and maintenance of the freeze seal on July 24, 1996:

- Two freeze seals were simultaneously supplied from a single source, contrary to NRC Manual Part 9900 - Technical Guidance.

- The temperature and flow of the liquid N_2 was controlled by observation of the N_2 plume at the freeze seal vents and at the location of the frost lines, contrary to NRC Manual Part 9900 - Technical Guidance.

- A documented contingency plan for recovery from freeze seal failure was not established, contrary to NRC Manual Part 9900 - Technical Guidance.

- Continuous communications with the control room, during the active phase of a freeze seal, was not established, contrary to NRC Manual Part 9900 - Technical Guidance. In the event that communication with the control room was necessary, a telephone or Gaitronics set would have to be sought out, with its attendant delay.

- Workers arms were not covered. All personnel directly involved with the freeze seal were wearing short sleeves contrary to GEN-20, paragraph 1.1b.

- Barrier tape was not placed around the immediate area of the freeze seal, and not in the area below the grating below the freeze seals, contrary to GEN-20, paragraphs 1.4 and 1.5.

- A rubber mat was not placed under the freeze seals, contrary to GEN-20, paragraph 4.3.

Notwithstanding the discrepancies listed above, the freeze seals held and the repair to valve 2-1901-U4-144, was successfully completed.

As discussed in NRC IR 50-424,425/96-03, the licensee, in the spring of 1996, established three freeze seals, using a contractor and the contractor's procedure, in support of repairs to valve 1-HV-8701B. Several areas of divergence from NRC Inspection Manual Part 9900: Technical Guidance, Mechanical - Freeze Plugs, dated June 14, 1993, were noted. These areas included multiple seals supplied from a single source of liquid N_2, adequacy of the documented contingency plan, and location of temperature measuring devices to control N_2 temperature and flow. At that time, the licensee was provided with a copy of NRC Inspection Manual Part 9900: Technical Guidance, Mechanical - Freeze Plugs. It appears, that the lessons learned from contractor's procedure and the NRC technical guidance were not translated into the in-house procedure (GEN-20) and practices.

The licensee indicated that they would require documentation of all (acceptable and unacceptable) surface examination indications as well as provide a measurable acceptance criteria for surface examination

To resolve the divergence between NRC Inspection Manual Part 9900: Technical Guidance, Mechanical - Freeze Plugs and GEN-20, Freeze Seal Installation and Control, Revision 3, dated January 18, 1996, the licensee has initiated Open Item, Control Number C00033276, with a completion due date of November 12, 1996, "Review Attached NRC Inspection Manual And Incorporate Necessary Changes In GEN-20 Freeze Seal Manual."

c. Conclusions

Maintenance activities were completed thoroughly and professionally, generally in accordance with procedures. Several examples were noted where proceduralized personnel safety precautions were not followed. Although the repair to valve 2-1901-U4-144 was successfully completed and the associated freeze seals held, a number of unsupported divergences were noted, between NRC Technical Guidance and the implementation of the freeze seals.

M1.3 NSCW System Debris

a. Inspection Scope (62703)

The inspectors reviewed recent licensee activities to remove and evaluate debris from the NSCW system. This included a review of the following:

MWO 19601647	Disassemble And Flush Safety Injection Pump 1A Motor Cooler
MWO 29600019	Disassemble And Flush Safety Injection Pump 2A Motor Cooler
MWO 29600009	Disassemble And Flush Containment Spray Pump 2B Motor Cooler
DC 1-96-307	Deficiency Card - Degraded NSCW Flow To Safety Injection Pump 1A Motor Cooler
DC 2-96-062	Deficiency Card - Degraded NSCW Flow To Safety Injection Pump 2A Motor Cooler

The inspectors also reviewed a previously developed evaluation of the impact of reduced cooling water flow to the safety injection and containment spray pump motors.

b. Observations and Findings

On July 27, 1996, during a routine surveillance, the licensee measured NSCW system flow to the safety injection pump 1A motor cooler at 22.4 gallons per minute (gpm), which was below the surveillance acceptance criteria. However, given that this flow remained above a previously calculated minimum, the pump was not declared inoperable. The pump was subsequently removed from service and the motor cooler flow orifice was flushed. Though the post-flush flow returned to normal, the cause of the reduced flow was not postively identified.

On July 31, 1996, during a similar surveillance on the safety injection pump 2A motor cooler, flow was measured at between 28.2 gpm and 31.4 gpm. Though, above minimum NSCW flow for operability, this was below the surveillance acceptance criteria. Again, the pump was removed from service and the cooler orifice was flushed. Debris removed included three probable pieces of pump bearing material as well as three small pieces of lockwire. The pump was returned to service and post-flush NSCW flows were reported as normal. The inspectors did not identify any concerns during the observation of a portion of this flushing activity.

On August 11, 1996, during a planned flush of the containment spray pump 2B motor cooler, the licensee removed a three-inch by half-inch piece of thin metal from the associated NSCW cooling line. Pre-flush NSCW flows were normal to the motor cooler.

c. Conclusions

The licensees' program to identify and remove debris from the NSCW system has identified three additional instances of debris in the NSCW lines to safety related components.

M1.4 Surveillance Observation

a. Inspection Scope (61726)

The inspector observed portions of the following surveillance activities:

Surveillance	Description
14030-1	Power Range Calorimetric Channel Calibration
14485-2	Containment Spray System Flow Path Verification (Train A and B)
14606-2	SSPS Slave Relay K618 Train A Test Safety Injection
14635-1	SSPS Slave Relay K630 Train B Test Containment Isolation
14645-2	SSPS Slave Relay K643 Train B Test Containment Spray
14806-2	Containment Spray Pump Inservice And Response Time Test (Pump 2-1206-P6-002)
14980-1	Monthly Train A Diesel Generator Operability Test

b. Observations and Findings

The observed surveillance testing was performed satisfactorily, although minor deficiencies were identified.

The inspectors witnessed the performance of a portion of Procedure 14980-2, Diesel Generator Operability Test on July 17, 1996. During the observation of the diesel generator 2B surveillance, the inspectors observed that the operators were performing and signing the steps in the procedure for a slow speed start. The inspectors questioned this, given that a diesel fast speed start was planned. The operators acknowledged their error and transitioned into the fast speed start section of the surveillance procedure. The inspectors noted that the two sections of the procedures are similar up to the point at which the inspectors' questions were raised.

On August 6, during observation of a Unit 2 slave relay test 14606-2, SSPS Slave Relay K618 Train A Test Safety Injection, on motor driven auxiliary feedwater pump A train, the inspectors questioned the RO performing the test about pencil and pen markings on the face of the train load sequencer panel. The RO stated that he believed that the markings were to highlight the sequencer panel lights that would illuminate during the test. After the surveillance was completed the inspectors informed the USS of the observations. The inspectors also

identified this observation to licensee management. Followup by the inspectors and the licensee determined that all four load sequencer panels had markings on the face of the panels to some extent.

Although of minimal safety consequence, the inspectors were concerned that the informal markings could mislead the operators during the performance of surveillance activities. However, this surveillance was performed successfully and no other discrepancies were identified during this review. The inspectors also noted during a followup tour, that the markings had been removed.

M1.5 Monthly Train A Diesel Generator Operability Test

a. Inspection Scope (62703)

The inspectors observed the complete test in the 1A diesel generator building.

b. Observations and Findings

During the performance of the operability test the inspectors noted that a significant number of MCC panel door closure "dogs" were not secured. This is indicative of lack of attention to detail. It could not be determined whether the cabinets were within the envelope of their seismic qualification with the dogs not fully secured. The licensee indicated that this question had been asked by a GPC staff engineer in 1989, but was never acted upon. The licensee stated that request for engineering assistance (REA)-96-VAA639 has been opened to address this issue.

III. Engineering

E2 Engineering Support of Facilities and Equipment

E2.1 UFSAR Discrepancies (37551)

A recent discovery of a licensee operating their facility in a manner contrary to the UFSAR description highlighted the need for a special focused review that compares plant practices, procedures and/or parameters to the UFSAR description. While performing the inspections discussed in this report, the inspectors reviewed the applicable portions of the UFSAR that related to the areas inspected. The following inconsistencies were noted between the wording of the UFSAR and the plant practices, procedures and/or parameters observed by the inspectors.

- The control room indication of the piping penetration area filtration and exhaust system flow is provided from a measurement made at the filter unit inlet. UFSAR 9.4.3.2.5 states that this flow is measured at the unit outlet.

- No temperature indication of piping penetration area filtration and exhaust system carbon bed temperature is provided in the control room. UFSAR 6.5.1.7.H states that this temperature is displayed in the control room.

- A review identified that a combustible loading calculation conducted in 1988 changed the fire load analysis and relocated room 133 from Fire Area 112 to 118. The UFSAR was not modified to reflect this change.

E8 Miscellaneous Engineering Issues (37551)

E8.1 (Closed) Unresolved Item (URI) 50-424,425/96-03-02: Piping Penetration Filter Exhaust System Walkdown Issues.

Three potential concerns were identified: (1) a system arrangement which differed from that described in the UFSAR, (2) the extensive use of a caulk-like material to seal the Unit 1 piping penetration cooler housing, and (3) the elimination of the drain path for the moisture separators on the filter units.

Regarding Item (1), two inconsistencies were identified and are documented in Section E2.1 of this report. In both cases the inspectors were informed that these changes were accomplished by field change requests and that the corresponding changes to the UFSAR had not been made. The inspectors were informed that these revisions would be incorporated into a future UFSAR update.

The inspectors also noted that the strip chart recorders used to accomplish flow and pressure drop recording across the filter unit as specified in UFSAR Section 9.4.3.2.5 were removed by ongoing DCPs. During the review of the Licensing Document Change Requests (LDCR) provided to update the work accomplished by these DCPs, the inspectors noted that DCP safety evaluations stated that flow through the filtration units would be trended during system operation. This requirement was provided as an alternative to the recorders. The inspectors' questions on the mechanism used to accomplish this trending, revealed that no provisions had been made to capture this information. The inspectors were subsequently informed that a new LDCR which more completely addressed this issue would be developed. The inspectors noted that the inconsistencies were minor and of minimal safety consequences. Regarding Item (2), the inspectors reviewed an engineering qualification report, 1X4AJ16-10000, Analysis of Dow Corning 732, Multi-Purpose Sealant, dated August 31, 1987. This evaluation concluded that the use of the sealant on the cooler was acceptable.

Regarding Item (3), the inspectors reviewed the licensee's basis for sealing the moisture separator drain path contained in Deficiency Report T-1-86-4163, dated December 2, 1986.

Based on this review, this URI is closed.

IV. Plant Support

R1 Radiological Protection and Chemistry (RP&C) Controls

R1.1 Sampling and Chemistry

a. Inspection Scope (71750)

The inspectors reviewed the licensee's sampling and chemistry programs for both primary and secondary chemistry, including observation of sample collection and review of analysis results, as recorded in plant logs.

b. Observations and Findings

The inspectors reviewed the plant data log for the primary chemistry TS required parameters for the period of June 1 through July 10, 1996. Secondary chemistry parameters were reviewed for the period of July 1 through July 10, 1996. The inspectors observed the collection and analysis by licensee technicians of diesel fuel for emergency diesels of both units, steam generator blowdown composites for both units, and the noble gas and charcoal cartridge of the Unit 2 containment vent, as required by TSs. In each case, the technicians were well-prepared, had reviewed the appropriate procedure, collected the requisite sample, prepared and analyzed the sample, and entered the results into the plant data log. Proper sampling techniques and health physics practices by the technicians were noted by the inspectors.

The following procedures were used by the technicians, as appropriate:

Procedure 30080-C	Diesel Fuel Chemistry Control
Procedure 32510-C	Determination Of Clear And Bright Appearance Of Diesel Fuel
Procedure 35210-C	Chemistry Control Of The Steam Generators
Procedure 33015-C	Obtaining Gaseous Samples For Radioactivity Analysis

c. Conclusions

The inspectors concluded that both primary and secondary parameters satisfied their respective acceptance criteria. No discrepancies were identified during this review.

R2 Status of RP&C Facilities and Equipment

R2.1 Review of Self Contained Breathing Apparatus

a. Inspection Scope (71750)

The inspector observed licensee inspection activities for the following:

Procedure No.	Procedure Title
47013-C	Inspection, Repair, Storage of Self-Contained Breathing Apparatus (SCBAs)

b. Observations and Findings

The inspectors randomly selected three SCBAs, including respirators and bottles from the fire brigade locker room, the control room area, and the technical support center, and observed the licensee personnel inspecting the SCBAs. Inspection activities were conducted in a professional and effective manner.

To verify the compliance for the storage of the minimum number of SCBAs and spare bottles, the inspectors toured the following areas: health physics at control building, fire brigade at control building, control room area, technical support area and the technical support center. The stored quantities for the SCBAs and spare bottles met the requirements of Procedure 47013-C. The inspectors also randomly verified that the pressure of several spare bottles were within the pressure requirements.

The inspectors reviewed procedure records to verify that the licensee performed monthly checks on the spare bottles and the SCBA units for the periodic maintenance and after each use inspections.

c. Conclusions

The licensee's inspection and storage of SCBAs were adequate.

R2.2 Off Site Dose Calculation

The inspectors examined the licensee's program for Off Site Dose Calculation (OSDC) of gaseous releases, and ascertained that the licensee was knowledgeable of the required data inputs, the source of those inputs and alternate sources for the inputs. The inspectors reviewed operability, source check and calibration records, and deter-

mined that the necessary instruments are currently operable, have been maintained operable, and are included in a program to assure that they remain operable. The licensee is knowledgeable of the OSDC process, the plant systems to collect the necessary data, and compensatory measures to be taken in the event of a loss of operability of those systems.

R2.3 Missed Unit 2 RCS Surveillance

a. Inspection Scope (71750)

The inspectors reviewed chemistry sampling methods based on a Unit 2 downpower event that occurred on July 5, 1996. Logs, chemistry sample printouts, and applicable procedures were reviewed.

b. Observations and Findings

On July 5, 1996, the licensee made two Unit 2 thermal power changes of greater than fifteen percent within a one-hour period, one at 1:55 p.m. and another at 2:50 p.m.. In order to avoid a duplication of work effort, the licensee's chemistry technicians responsible for taking the TS required sample planned to take a single sample at approximately 5:00 p.m. to satisfy the TS sampling requirements of both power changes simultaneously. (Refer to Table 4.4-4 of TS 3/4.4.8.) However, the required sample, collected at 5:25 p.m., was taken from Unit 1 (Unit 1 was clearly indicated on the sample bottle). At approximately 5:40 p.m. a different technician analyzed the sample as if it had been taken from Unit 2, as indicated on the computer printout of the sample's activities. At approximately 6:10 p.m., the technician who collected the sample entered some of the radioiodine activities into a data sheet but did not finish due to shift turnover. The data entry was completed by the oncoming chemistry foreman. Later, upon review of the data, the foreman noticed inconsistencies in the data compared to previous Unit 2 data, wrote Anomaly 96-21, and directed that a new Unit 2 sample be collected. The sample was collected at 8:49 p.m. and, therefore, satisfied the sampling requirement for the second power change; however, it did not satisfy the timeliness requirement for sampling for the first power change.

The inspectors reviewed the results of the analyses of Unit 2 samples taken before and after the power changes and determined that the TS chemistry limits were satisfied at all times. However, the sample for the first power change was not collected within the TS required timeframe.

The inspectors interviewed the technician who took the sample. The technician said that he was fully aware that the required sample was to be collected from Unit 2. In the course of supporting other work, he collected a Unit 1 waste holdup tank sample and prepared a label for the RCS collection vial, identifying it as Unit 1 also. The RCS sample was subsequently taken from Unit 1, rather than from the required Unit 2.

The technician who analyzed the sample did not notice that the sample had a Unit 1 label and analyzed it as a Unit 2 sample. Discussions with the licensee's senior nuclear specialist indicated that the licensee had issued DC 2-96-058 and would issue a LER concerning this incident. Although these efforts were in the preliminary stages, to prevent recurrence, the DC was expected to: administratively reduce the allowable sample collection window by an hour, from two to six hours after a referenced power change to two to five hours; require that the technician who begins a sample analysis be responsible for its completion; require a thorough, timely review by the chemistry foreman. Furthermore, the inspectors were informed that Independent Safety Engineering Group would review the issue.

c. Conclusions

The inspectors concluded that the failure to collect a RCS sample within the prescribed timeframe for the first power change was a violation of TS 3/4.4.8. Consistent with Section VII of the NRC Enforcement Policy, this was identified as NCV 50-425/96-09-04, Failure To Take Chemistry Sample Within Required Time.

F3 Fire Protection Procedures and Documentation

F3.1 Transient Combustibles Inside the Radiological Controlled Area (RCA)

a. Inspection Scope (71750)

A review of transient combustible materials was performed by the inspectors as follow up to earlier identified occurrences documented in previous inspection periods. The inspectors' reviewed the following document:

Procedure 92015-C	Use, Control and Storage of Flammable/Combustible Materials

The inspectors also interviewed fire protection technicians, the fire protection engineer and supervisor regarding the licensee's investigation of the issue.

b. Observations and Findings

On August 13 and 14, 1996, during routine tours of the Unit 1 and 2 auxiliary buildings, the inspectors identified wood pallets without the required transient combustible fire loading permits. The first example, on August 13, was located inside the hot tool shop inside a contaminated zone. The second example identified, on August 14, was located in the alternate radwaste building. The discrepancies were identified to the

on-shift fire technician for resolution. Following confirmation of the inspectors' observations transient combustible permits were issued. The inspectors have identified previous examples of deficiencies in transient combustibles materials inside the RCA (IR 50-424,425/95-28).

Procedure 92015-C, section 4.2.1.2, states that if the maximum amount of transient combustible material being brought into a fire protected area exceeds the limits specified in the procedure, a transient combustible permit is required. In both of the cases identified during the inspection report period, the loadings exceeded the procedural limit which would require a permit.

c. Conclusions

The inspectors concluded that these two examples of transient combustible materials in the auxiliary building without the proper fire loading permits were contrary to the requirements of procedure 92015-C. This item was identified as an example of VIO 50-424,425/96-05, Improper Transient Combustible Control, Two Examples.

F3.2 Review of Special Protection for Combustible Gas Bottles, Resins and Hazardous Chemical

a. Inspection Scope (71750)

The inspector reviewed and observed activities involving special protection guidelines from the UFSAR and the following procedures used to control the storage of specific combustible or hazardous materials:

Procedure No.	Procedure Title
00260-C	Hazardous Substance And Waste Control
92015-C	Use, Control, And Storage Of Flammable/ Combustible Materials
92812-1	Zone 112-Control Building-Level 1 Fire Fighting Preplan
92818-1	Zone 118-Control Building-Level 1 Fire Fighting Preplan

b. Observations and Findings

The inspectors walked down Levels 1, 4, and B of the control building and Levels 1, B, and C of the auxiliary building to check the permanent and temporary storage areas for the combustible gas bottles, ion exchange resins, or hazardous chemicals and to verify that those materials were not stored in areas near the safe shutdown or safety related equipment. The following discrepancies were observed:

- Room 133 of the control building Level 1 is a designated flammable gas storage room and specifically stated as such in Combustible

Control Procedure 92015-C. This room is in Fire Area 1-CB-LI-B which is described in the Fire Hazards Analysis (FHA), (UFSAR Section 9.A.1.82). "Gas Bottle Storage" is specifically mentioned in the text of this section. Per the UFSAR, the room is in Fire Zone 112 which is not specified to store combustible gas bottles. Per Procedure 92818-1, Fire Zone 118 is specified for storage of combustible gas bottles in racks. A further review identified that a combustible loading calculation conducted in 1988 changed the fire load analysis and relocated room 133 from Fire Zone 112 to 118; however, the UFSAR was not changed to reflect this reanalysis. This discrepancy is considered to be minor and the licensee stated that they plan on resolving the difference between the UFSAR and fire loading calculation.

- Several discrepancies in flammable gas bottle storage were identified to the licensee.

- The licensee stored ion-exchange resins in designated ion-exchange resin storage areas on Level 1 of the auxiliary building in room 120 and 135. However, based on inspectors' questions the licensee identified that there were some safety related raceways (cables and cable trays) approximately 10 feet above storage areas. The licensee moved these resins to nearby tool room 142 which is a separate fire area with no safety related equipment. The storage of resins in rooms 120 and 135 is contrary to the requirements of Procedure 92015-C, which states that unused ion exchange resins will not be stored in areas that contain or expose safety-related equipment. This item was identified as an example of VIO 50-424,425/96-09-05, Improper Transient Combustible Control, Two Examples.

c. Conclusions

A violation was identified for the improper storage of ion exchange resins. The licensee needs to improve the control of combustible gas bottle storage.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on August 21, 1996. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. Beasley, General Manager Nuclear Plant
R. Brown, Manager Training and Emergency Preparedness
S. Chestnut, Manager Operations
J. Gasser, Assistant General Manager Plant Operations
K. Holmes, Manager Maintenance
M. Sheibani, Nuclear Safety and Compliance Supervisor

INSPECTION PROCEDURES USED

IP 37551:	Onsite Engineering
IP 40500:	Effectiveness Of Licensee Controls In Identifying, Resolving, And Preventing Problems
IP 61726:	Surveillance Observations
IP 62703:	Maintenance Observations
IP 71707:	Plant Operations
IP 71750:	Plant Support Activities
IP 92700:	Onsite Notification Of Written Reports Of Non-routine Events At Power Reactor Facilities
IP 93702:	Prompt Onsite Response To Events At Operating Power Reactors

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-424/96-09-02	VIO	Mispositioned Unit 1 Fire Protection Header Containment Isolation Valve (Section 01.4).
50-424,425/96-09-05	VIO	Improper Transient Combustible Control, Two Examples (Sections F3.1, F3.2).

Closed

50-424,425/96-09-01	NCV	Failure To Properly Establish Procedure For Rod Deviation/Radial Tilt Annunciator (Section 01.2).
50-425/96-09-03	NCV	QPTR Not Calculated Hourly As Required (Section 08.1).
50-425/96-09-04	NCV	Failure To Take Chemistry Sample Within Required Time (Section R2.3).
50-424,425/95-002	LER	Dual Unit Reactor Trip Due To Lightning Strikes (Section 08.2).

50-425/96-003	LER	Quadrant Power Tilt Ratio Calculation Not Performed (Section 08.1).
50-424.425/96-03-02	URI	Piping Penetration Filter Exhaust System Walkdown Issues (Section E8.1).

LIST OF ACRONYMS USED

AOP - Abnormal Operating Procedure
ARP - Annunciator Response Procedure
ATTN - Attention
CFR - Code of Federal Regulations
DC - Deficiency Card
DCP - Design Change Package
ESFAS - Engineered Safety Features Actuation System
FHA - Fire Hazards Analysis
FHB - Fuel Handling Building
GPC - Georgia Power Company
gpm - Gallons Per Minute
IP - Inspection Procedure
IPC - Integrated Plant Computer
IR - Inspection Report
LCO - Limiting Condition for Operation
LDCR - Licensing Document Change Request
LER - Licensee Event Report
MCB - Main Control Board
MCC - Motor Control Center
MWO - Maintenance Work Order
N_2 - Nitrogen
NCV - Non-Cited Violation
NDE - Non-Destructive Examination
NPF - Nuclear Power Facility
NRC - Nuclear Regulatory Commission
NSCW - Nuclear Service Cooling Water
NUREG - Nuclear Regulations
OSDC - Off Site Dose Calculation
PASS - Post Accident Sampling System
PDR - Public Document Room
QPTR - Quadrant Tilt Power Ratio
RCA - Radiologically Controlled Area
RCS - Reactor Coolant System
RO - Reactor Operator
RP&C - Radiological Protection and Chemistry
SCBA - Self-Contained Breathing Apparatus
SCS - Southern Company Services
SS - Shift Superintendent
SSPS - Solid State Protection System
TAVG - Average Temperature
TS - Technical Specifications
UFSAR - Updated Final Safety Analysis Report

URI - Unresolved Item
USS - Unit Shift Supervisor
VIO - Violation