UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

Report Nos.: 50-424/95-31 and 50-425/95-31

Licensee: Georgia Power Company
P. O. Box 1295
Birmingham, AL 35201

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

Facility Name: Vogtle 1 and 2

Inspection Conducted: December 17, 1995, through January 27, 1996

Inspector: FOR R. W. Wright 2/15/96
C. R. Ogle, Senior Resident Inspector Date Signed

FOR R. W. Wright 2/15/96
M. T. Widmann, Resident Inspector Date Signed

Approved by: P. H. Skinner 2/16/96
P. H. Skinner, Chief Date Signed
Reactor Projects Branch 2
Division of Reactor Projects

SUMMARY

Scope: This routine inspection entailed inspection in the following areas: plant operations, surveillance, maintenance, onsite engineering, plant support, and follow-up. Backshift inspections were performed on December 20, and 26, 1995 and on January 3, 9, 10, 16, 18, and 27, 1996.

Results: Two violations and two non-cited violations were identified.

Operations:

- In general, performance in the operations area was satisfactory.

- A violation was identified for valve 1HV-8220, RCS Hot Leg PASS Sample Isolation Valve, being in the incorrect position. This containment isolation valve, whose position is indicated in the control room, was in the wrong position for approximately 20 hours until questioned by the inspectors. This valve was previously identified by the inspectors to be in the incorrect position in September

1995. This represents the seventh valve found by the inspectors in the wrong position in the last five months and indicates that additional licensee focus on configuration control is warranted. (paragraph 2.d)

- The timely response by Unit 2 control room operators to a minor inadvertent dilution event was considered a strength. However, the licensee's failure to capitalize on a similar scenario which occurred in November 1995 was noted as a deficiency. (paragraph 2.e)

- A deficiency was also identified for two instrument air drain valves on Unit 1 found in the incorrect position by the inspectors. The safety significance of this observation was minimal, but it serves to emphasize the inspector concerns related to configuration control discussed above. (paragraph 2.f)

- No mechanism was established by control room operators to ensure that the Technical Support Center ventilation system was returned to its normal mode following a surveillance performance. As a result of a "N/A" placed in a procedural step, the system was left in the pressurization mode for approximately 24 hours. This was of minimal safety significance; however, this loss of configuration control was identified as a deficiency. (paragraph 5.b)

Maintenance:

- In general, performance in the maintenance area was satisfactory.

- A violation was issued for deficiencies associated with the operation of the incore detector system. As a result of a failure to follow procedure, the Unit 2 incore detectors were not properly stored following a routine surveillance. This error was not detected during a subsequent check as a result of an inadequate independent verification on the part of licensed senior reactor operator. Prudent licensee management actions were observed during the resolution of this issue. (paragraph 3.b)

- The failure to perform a Technical Specification required verification of electrical power sources within one hour of rendering diesel generator 2B inoperable was identified as a non-cited violation. (paragraph 3.c)

- Deficiencies observed during the performance of a piping penetration area ventilation unit surveillance were identified as a non-cited violation. (paragraph 3.d)

Engineering:

- In general, performance in the engineering area was satisfactory.

- A review of procurement controls for items and services indicated that the program met the regulatory requirements, and no programmatic problems were identified. (paragraph 5.c)

Plant Support:

- In general, performance in the plant support area was satisfactory.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. Beasley, General Manager Nuclear Plant
S. Bradley, Reactor Engineering Supervisor
*R. Brown, Manager Training and Emergency Preparedness
W. Burmeister, Manager Engineering Support
*P. Burwinkel, Engineering Supervisor
*C. Christiansen, SAER Supervisor
*W. Dunn, Unit Superintendent
#*J. Gasser, Assistant General Manager Plant Operations
M. Griffis, Manager Plant Modifications & Maintenance Support
R. Harris, Supervisor, Materials Services
P. Hendrickson, Supervisor, Materials Engineering
K. Holmes, Manager Maintenance
*D. Huyck, Manager Nuclear Security
*W. Kitchens, Assistant General Manager Plant Support
I. Kochery, Health Physics Superintendent
R. LeGrand, Manager Health Physics and Chemistry
*N. Moseley, Planning & Scheduling Supervisor
*W. Munoy, Senior Nuclear Specialist, SAER
*R. Odom, Assistant Performance Team Manager Maintenance
T. Parton, Chemistry Superintendent
K. Ramaswamy, Procurement Engineer, Materials Services
*P. Rushton, Manager Operations
*M. Sheibani, Nuclear Safety and Compliance Supervisor
*M. Slivka, ISEG Engineering Group Supervisor
#*C. Stinespring, Manager Plant Administration
J. Swartzwelder, Manager Outage and Planning
#*C. Tippins, Nuclear Specialist, NSAC
R. Waters, Materials Supervisor, Plant Administration

Other licensee employees contacted included technicians, supervisors, engineers, operators, maintenance personnel, quality control inspectors, and office personnel.

Oglethorpe Power Company Representative

J. Sharpe, Site Representative

NRC Inspectors

*C. Ogle, Senior Resident Inspector
#*M. Widmann, Resident Inspector
P. Fillion, Regional Inspector, DRS, Region II

#Attended Exit Interview on January 26, 1996, conducted by P. Fillion
*Attended Exit Interview on January 31, 1996, conducted by residents

An alphabetical list of abbreviations and acronyms is located in the last paragraph of the inspection report.

2. Plant Operations (71707)

a. General

The inspection staff reviewed plant operations throughout the reporting period to verify conformance with regulatory requirements, TSs, and administrative controls. Control logs, shift supervisors' logs, shift relief records, LCO status logs, night orders, standing orders, and clearance logs were routinely reviewed. Discussions were conducted with plant operations, maintenance, chemistry, health physics, engineering support and technical support personnel. Daily plant status meetings were routinely attended.

Activities within the control room were monitored during shifts and shift changes. Actions observed were conducted as required by the licensee's procedures. The complement of licensed personnel on each shift met or exceeded the minimum required by TS. Direct observations were conducted of control room panels, instrumentation, and recorder traces important to safety. Operating parameters were verified to be within TS limits.

Plant tours were taken during the reporting period on a routine basis. They included, but were not limited to the auxiliary building, control building, electrical equipment rooms, cable spreading rooms, NSCW towers, DG buildings, AFW buildings, MSIV rooms, turbine building and the low voltage switchyard. During plant tours, housekeeping and equipment status were observed.

b. Unit 1 Summary

The unit operated at full power throughout the inspection period.

c. Unit 2 Summary

The unit operated at full power throughout the inspection period.

d. PASS Valve 1HV-8220 In Incorrect Position

On January 27, 1996, during a walkdown of the control room, the inspectors identified that valve 1HV-8220, RCS Hot Leg PASS Sample Isolation Valve, was in the open position. This is a normally closed containment isolation valve whose position is indicated on the main control board. Following identification to control room personnel, the valve was shut without incident using the control room handswitch.

The inspectors had previously identified this same valve as being in the incorrect position on September 12, 1995. This was addressed as part of NCV 50-424/95-21-01, Mispositioned Fuel Oil Storage Tank Drain Valve and RCS Hot Leg PASS Sample Valve. As in

the earlier occurrence, the valve being in the wrong position was attributed by the licensee to inadvertent operation following manipulation of reactor coolant sample valves.

Based on a review of the event sequence log, the inspectors determined that the valve was in the incorrect position for approximately 20 hours before its' position was questioned by the inspectors. The same sequence log supports the licensee's theory of inadvertent operation following RCS sample valve manipulation. The log shows the valve coming open at about the same time the sample valves were manipulated.

The inspectors noted that the valve remained operable and capable of performing its design function. However, the previous occurrence, the fact that the valve position information was readily available to operators in the main control room, and the period of time the valve was in the wrong position, all increase the significance of this issue.

The inspectors concluded that two shifts were not cognizant of the status of valve 1HV-8220. 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 is identified as VIO 50-424/95-31-01, Unit 1 Post Accident Sampling System Valve In Incorrect Position.

The inspectors noted that this is the seventh valve found in the incorrect position by the inspectors in the last five months. None of these mispositionings has resulted in a degradation in the performance of any safety system. However, collectively, they represent an adverse trend and indicate that additional licensee focus on configuration control is warranted.

e. Unit 2 Inadvertent Dilution Event

On January 18, 1996, during a Unit 2 spent fuel pool demineralizer resin fluff, transfer, and header flush, non-borated RMWST water was inadvertently introduced through the CVCS system to the VCT. The subsequent introduction of this diluted water into the RCS increased Tavg to approximately 586.6 degrees F and reactor power to approximately 100.36%. The operators borated the RCS, thereby reducing Tavg and reactor power and hence terminating the event.

The inspectors reviewed procedure 13215, Demineralizer Resin Removal and Addition; temporary operating procedure T-OPER-96-01, Resin Sluice Valve Leakage Evaluation; CVCS and waste processing system drawings; IPC trend data for VCT level, Tavg, and reactor power; documentation associated with the licensee's event

investigation; USS and RO control room log entries; a SAER report on previous industry dilution events; and the DC generated as a result of this event. The inspectors also interviewed the RO, BOP, and USS involved in the event, and cognizant operations management on their review of the issue.

Procedure 13215 provides instruction for the replacement of resin for the spent fuel pool demineralizer. On January 18 at approximately 2:30 p.m. the licensee implemented a TCP to use RMWST water for sluicing of the spent fuel pool demineralizer bed. (The normal method of sluicing the SFP demineralizer is using the spent resin sluice pump, but the pump was not operational on January 18.) CVCS mixed bed demineralizer number 2 was in operation. Approximately one hour and 20 minutes after starting the resin sluice, the BOP operator noticed reactor coolant loop Tavg increase approximately 0.4 degrees, from 586.2 to 586.6 degrees F. The RO responded by borating a total of 25 gallons to the RCS. A post-event review by the licensee noted that subsequent to the spent fuel pool resin sluice being initiated, that VCT level first decreased approximately 3%, then increased approximately 6%, then again decreased approximately 25%. A review of IPC data trends indicated that at the time of the RO's observation of the increase in Tavg and reactor power, VCT level was stable. The licensee's investigation attributed this leakage, and the observed VCT level changes, to leakage past isolation valve 2-1208-U4-067. This valve isolates the CVCS mixed bed demineralizer number 2 from the RMWST header. The isolation valve was demonstrated to exhibit seat leakage in a post-event test. Initially when the RMWST header was depressurized during preparations for spent fuel pool resin demineralizer fluff activities this valve leaked by resulting in flow from the CVCS system. This corresponded to the first VCT level decrease. When the RMWST header was pressurized, during the resin fluff activity, RMWST water leaked past the valve into the CVCS demineralizer and hence into the VCT. This resulted in an increased VCT level and inadvertent dilution of the RCS makeup water with the non-borated RMWST water. During performance of the resin transfer and flush, the RMWST header was again depressurized allowing leakage out of the CVCS system and a corresponding VCT level. VCT continued to decrease until the resin sluice was completed at approximately 3:50 p.m..

The inspectors concluded that the operators who identified the small increase in Tavg and reactor power did a good job of detecting the transient and terminating it effectively. This is identified as a strength.

During the review the inspectors were informed that a similar incident occurred in November 1995. A review of the reactor operator logs indicated that a similar scenario occurred during a resin sluice of the mixed bed demineralizer number 3 and the inservice demineralizer number 2. The licensee failed to

capitalize on the scenario. No maintenance work order was initiated to investigate the loss of RCS inventory through suspected leaking demineralizer isolation valves. This is identified as a deficiency. The licensee has formed an event review team to examine both potential inadvertent dilution scenarios. The residents will review the licensee's findings.

f. Mispositioned Instrument Air System Valves

On January 16, 1996, while conducting a partial system walkdown, the inspectors observed that normally closed instrument air valves 1-2420-U4-152 and 153 were open. These valves are drain valves in the instrument air lines which supply the Unit 1 RHR heat exchanger isolation and bypass valves. Following verification of the inspectors' observation, the valves were shut and a deficiency card was generated.

The inspectors reviewed the instrument air valve lineup, the deficiency card, and operations surveillances which have the potential to reposition the valves. The issue was also discussed with plant management.

From this, the inspectors determined that the impact of the mispositioned valves was minimal. In essence, having the drain valves open resulted in a vent path being established in the air piping supplying the RHR heat exchanger outlet and bypass valves. However, instrument air is normally isolated to the RHR valves by shutting the inlet air isolation valve. Additionally, any residual air pressure is removed from this isolated piping by momentarily venting the air piping. The net effect of establishing these inadvertent vent paths therefore is that they may have delayed or precluded restoring air and hence the motive force to the two RHR heat exchanger valves. However, these RHR valves fail to their safety position with instrument air removed. Therefore, the RHR system remained operable with the mispositioned drain valves.

One violation was identified.

3. Surveillance Observation (61726)

a. General

Surveillance tests were reviewed by the inspectors to verify procedural and performance adequacy. The completed tests were examined for necessary test prerequisites, instructions, acceptance criteria, technical content, data collection, independent verification where required, handling of deficiencies, and review of completed work. The tests witnessed, in whole or in part, were inspected to determine that approved procedures were available, equipment was calibrated, prerequisites were met, tests were conducted according to procedure, test results were

acceptable, and system restoration was completed.

The inspectors witnessed or reviewed the following surveillance activities:

SURVEILLANCE NO.	TITLE
14540-2	Main Turbine Valve Stroke Test; Control Valves Quarterly Test
14546-2	TDAFW Operability Test
14804-1	SI Pump A Train IST
14806-1	Containment Spray Pump 1A Inservice and Response Time Test
14825-1	Quarterly Inservice Valve Test; Stroke Time Test 1HV-8000B

The inspectors did not identify any problems or concerns during the observation of these surveillance activities.

b. Improper Movable Incore Detectors Storage

On December 12, 1995, at the completion of Unit 2 surveillance procedure 87006, Movable Incore Detectors System Operating Instructions, the detectors were not properly returned to their stored position. This resulted in a high radiation alarm being annunciated in the control room, on seal table radiation monitor, RE-0011. Immediately following the surveillance, RE-0011 indicated approximately 4.5 rem/hour. This alarm condition cleared after approximately 36 to 48 hours when radiation levels decayed to below the alarm setpoint of 50 mrem/hour. On December 18, 1995, after the licensee determined that the detectors were not properly stored, the incore detectors were placed in the proper storage position.

The inspectors reviewed surveillance procedures 87006, and 88025, Determination of Movable Incore Detector Operating Voltages; training department lesson plans LP-17401-C, Incore Instrumentation and LP-63308-09-C, Independent Verification Policy; administrative procedures 00054-C, Rules For Performing Procedures, and 00308-C, Independent Verification Policy; plant engineer training procedure 50003-C, Engineering Support Personnel Qualifications; the training record of the reactor engineer trainee responsible for mispositioning the detectors; procedure 85000-C, Quality Control Conduct of Operations; Operations Quality

Assurance Policy Manual; and the DC generated in response to the event. The inspectors also interviewed the reactor engineer and trainee responsible for performance of surveillance procedure 87006 on December 12 and appropriate engineering and operations management regarding their investigation into this event.

Procedure 87006 is used to perform flux maps for incore/excore calibrations, QPTR, and hot channel factors data collection. Reactor engineers perform the surveillance and hence manipulate the MIDS. At the completion of the flux map, the reactor engineer is responsible for completing the restoration section of the procedure thereby placing the MIDS equipment in its properly stored configuration. During restoration, the reactor engineer drives the detectors into the storage position at high speed until the detectors reach the storage area bottom limit switch. The detectors are then driven into the fully stored position at low speed until the top limit switch is engaged inside the concrete storage shelter.

On December 12, believing that he had properly stored the detectors, the reactor engineer trainee signed-off the first four steps of surveillance procedure 87006, Section 9.0, Restoration. During an interview, the trainee stated that during this restoration, he signed-off the four steps together. This included step 9.4 to drive the detectors into the fully stored position. Given the as found position of the detectors, the inspectors concluded that the reactor engineer trainee did not perform step 9.4 as required. Additionally, the inspectors noted that signing all four restoration steps at one time was not consistent with the philosophy of procedure 00054-C. This procedure requires that sign-offs be completed after each step is performed and prior to performing the next step. Believing that restoration was complete, the reactor engineer trainee then requested the Unit 2 USS accomplish the procedurally required IV of the detector positions. During an interview conducted by the inspectors the following day, the USS stated that he performed the IV, but the reactor engineer performing the surveillance indicated (i.e., pointed) to what components on the MIDS panel he was to use to verify the detector positions. The reactor engineer inadvertently pointed to the incorrect indication, thereby misdirecting the USS, and negating the value of the IV. Procedure 00308-C requires that an IV be separated by time and distance from performance of the task to be verified. The inspectors concluded that the performance of the IV for incore detector storage position was inadequate.

The inspectors concluded that the failure to properly store the incore detectors as required by procedure 87006 and the failure of the Unit 2 USS to perform an adequate independent verification on the MIDS common control panel per procedure 00308-C on December 12, 1995, represent two examples of a violation for failure to follow procedures. This is identified as VIO 50-425/95-31-02, Improper Storage and Independent Verification of Unit 2 Movable Incore Detectors.

The inspectors noted several contributing factors during their review of this issue. First, the surveillance was performed by a less than fully qualified reactor engineer. A review of the individual's qualification records revealed that the appropriate MIDs panel operating modules were not completed as of December 12, 1995. Though he was supervised for the majority of the surveillance on December 12, the trainee was not supervised during the restoration section. Second, the inadequate IV may have been due in part to the unfamiliarity of some licensed individuals with the MIDS. Licensed operators receive some training on the system during initial qualifications. However, no requalification training on the system is performed.

The inspectors noted that licensee management was actively involved in this issue from the onset. In fact, in lieu of a containment entry to support further investigation, licensee management directed further review of the issue and continued troubleshooting efforts. As a result, the detectors were identified to be improperly stored on December 18, six days after the initial high radiation alarm. The inspectors concluded that management's action were prudent and prevented unnecessary personnel radiation exposure.

c. Unit 2 AC Source Verification Missed Surveillance

At approximately 5:48 p.m., on January 8, 1996, the Unit 2 USS identified that surveillance procedure 14230, AC Source Verification, had not been performed earlier in the shift as required by TS 3.8.1.1, following the removal of DG 2B from service. This procedure, required to be completed within one hour after a DG is declared inoperable, verifies that two operable offsite power sources are available. Immediately after the missed surveillance was identified, it was successfully completed at 6:20 p.m..

In response to this issue, the inspectors reviewed applicable TS requirements and associated action statements; surveillance procedure 14230; and the DC generated in response to the missed surveillance. The inspectors also interviewed the USS involved, and appropriate operations management regarding their review of this event.

At 11:08 a.m., on January 8, DG 2B was rendered inoperable to allow both voltage regulators to be replaced due to previously known deficiencies (documented in IRs 50-424,425/95-19 and 50-424,425/95-13). With DG 2B inoperable, TS 3.8.1.1 required that the operability of the offsite transmission network to the onsite Class 1E distribution system be demonstrated. This is accomplished by procedure 14230. However, at the time the DG was rendered inoperable, the USS was distracted by various ongoing shift activities. As a result, the surveillance was not completed within the timeframe specified by TS. The USS informed the inspectors that the LCO tracking sheet, which clearly identified the surveillance requirement, was not completed when the DG was rendered inoperable. Instead, it was prepared coincident with shift turnover. This is consistent with standard licensee practice for LCOs which are expected to be less than one shift in duration. (In this case, the maintenance extended to more than one shift.) The licensee informed the inspectors that the failure to perform the required surveillance was due to cognitive personnel error. Licensee corrective actions as a result of the event included counseling of the USS involved, and a briefing of the event to be conducted during upcoming licensed operator requalification training.

The inspectors agreed with the licensee's conclusion for the cause of the late surveillance. The inspectors also reviewed the licensee's corrective actions and determined that they are adequate.

The inspectors concluded that not performing the AC source verification surveillance within one hour of rendering the DG inoperable was contrary to the requirements of TS 3.8.1.1. Consistent with Section VII of the NRC Enforcement Policy this is identified as NCV 50-425/95-31-03, Unit 2 AC Source Verification Missed Surveillance.

d. ECCS Piping Penetration Area Ventilation System Surveillance Observations

On January 4, 1996, during performance of Unit 1 surveillance procedure 54059, ECCS Piping Penetration Area Ventilation System Performance, the licensee identified that the PPAFES ventilation system Train B heating elements circuits apparently failed the surveillance. However, the following day, the licensee determined that this apparent failure was the result of procedural errors on the part of the system engineer performing the surveillance. Following this discovery, the surveillance was successfully performed on January 5, 1996.

The inspectors reviewed surveillance procedure 54059; administrative procedures 00100-C, Quality Assurance Records Administration, 00054-C, Rules for Performing Procedures, and 00404-C, Surveillance Test Program; the training record of the

system engineer involved in the surveillance; the Operations Quality Assurance Policy Manual; and the DC generated in response to the event. The inspectors also interviewed the system engineer and I&C technician involved in performance of surveillance procedure 54059 on January 4, and appropriate engineering management regarding their review of this event.

Surveillance procedure 54059 is used to demonstrate operability of the ECCS piping penetration area ventilation system. Due to the apparent failure on January 4, the engineering supervisor directed that the portion of the surveillance which tests the heaters be performed again. On the morning of January 5, the inspectors observed a portion of this repeated surveillance. During these observations, the inspectors were concerned with the system engineer's data collection methods (i.e., crossing out the old data on the January 4 surveillance data sheet, and capturing the new measurements on the same data sheet without documenting the performance of the applicable surveillance steps). The inspectors discussed these concerns with the engineering supervisor, who was also watching the surveillance, and then left the work area. Later that day, the engineering supervisor informed the inspectors that his review also identified several performance deficiencies in the surveillance. Most notably, the supervisor determined that the initial failure of the heater test on January 4 was the result of the engineer not performing the procedure steps as written. Specifically, the surveillance procedure required a rise in humidity in the exhaust unit be simulated by the use of a signal generator feeding the heater control terminal board. Heater operating currents were then measured with this simulated humidity. However, between these two steps, the system engineer directed that the I&C technician disconnect the signal generator thereby deviating from the intent of the procedure. The engineering supervisor also identified that the engineer did not perform all steps in section 5.7 for the heater test on January 4. Furthermore, the engineer stopped the test when he realized that the heater check would fail the TS requirement. No notes or comments were entered by the engineer on the January 4 surveillance data sheets to this effect. The precautions and limitations contained in procedure 54059 specifically require that each section of the test, once begun, be completed or that a note/comment to explain the non-completion be made. Additionally, on January 5, the supervisor identified that the engineer did not document the retest of section 5.7, Heater Test, (sign-off of individual steps), but he collected data and entered it on the applicable surveillance sheet. The licensee informed the inspectors that these errors were the result of the system engineer not fully understanding the surveillance test. Corrective actions included counseling of the system engineer on the importance of following procedures and an engineering department brief for all engineers who perform surveillances on the lessons learned from the event.

The inspectors concur with the licensee's conclusion for the cause of this issue. The inspectors also reviewed the licensee's corrective actions and determined that they are adequate.

The inspectors concluded that the performance of the ECCS piping penetration area ventilation surveillance on January 4, and 5, was contrary to the requirements of procedure 54059. Consistent with Section VII of the NRC Enforcement Policy this is identified as NCV 50-424/95-31-04, Failure to Follow Procedure on Piping Penetration Area Ventilation System Surveillance.

One violation and two non-cited violations were identified.

4. Maintenance Observation (62703)

General maintenance activities were observed or reviewed during the reporting period to verify that work was conducted in accordance with approved procedures, TSs, and applicable industry codes and standards. Activities, procedures, and work orders were examined to verify proper authorization to begin work, fire hazard provisions, cleanliness, and exposure controls, proper return of equipment to service, and adherence to limiting conditions for operation were met.

The inspectors witnessed or reviewed the following maintenance activities:

MWO NOS.	WORK DESCRIPTION
19501793	Worm and Motor Pinion Gear Change Out 1HV-9003A; Clean, Inspect, Lubricate, and VOTES Test
19503329	Flow Indicator Reading 6% with System in Standby; Investigate and Repair
19503332	Replace Thermal Overload Relay in Breaker 1BBE15 on Valve 1HV-8000B

The inspectors did not identify any problems or concerns during the observation of these maintenance activities.

No violations or deviations were identified.

5. Onsite Engineering (37550) (37551)

a. General

During the inspection period, the inspectors assessed the effectiveness of onsite engineering processes by reviewing engineering evaluations, root cause determinations, modifications, and engineering testing. The inspectors also reviewed DCs to determine whether the licensee was appropriately documenting problems and implementing corrective actions.

b. TSC HVAC System Configuration Control

On the morning of January 9, 1996, during a routine tour of the control room, the inspectors questioned the Unit 1 USS on the cause of a TSC HVAC Trouble annunciator. Subsequent investigation by the inspectors and the shift personnel revealed that the TSC was operating in the Safety Actuation (pressurization) mode. Following this, the system was restored to the Normal mode of operation.

In response to this issue, the inspectors reviewed the FSAR, emergency plan, as well as appropriate operations and engineering procedures. The inspectors also interviewed cognizant engineering and maintenance personnel.

The inspectors determined that the observed annunciator was the result of a low TSC to atmosphere differential pressure. This condition was most likely the result of personnel passage through a TSC airlock while the system was in the Safety Actuation mode. On-shift operations personnel interviewed by the inspectors were not aware that the system was in this mode at the time of the inspectors' observation. The inspectors determined that the system had been in this mode since early on January 8, 1996, a period of over 24-hours. While this did not pose a safety concern, the inspectors were troubled that the system could be operated for this period of time in other than its normal mode of operation, unbeknownst to on-shift personnel.

The inspectors determined that the system had been left in emergency pressurization following the completion of Procedure 14400-1, Control Room Emergency Filtration Actuation Logic Test at 1:00 a.m. on January 8, 1996. Both the CREFS and TSC system were left in the pressurization mode for a follow-on CREFS surveillance. Both the reactor operator and USS acknowledged that a "N/A" was placed in the procedure 14400-1 step securing the TSC fan. However, they failed to verify that any procedural step in the follow on CREFS surveillance or any other method was in place to ensure that the TSC ventilation system would be restored to its normal configuration. This resulted in the TSC ventilation system being in the pressurization mode until questioned by the inspectors. Since the TSC system is not safety related, this lack

of configuration control will not be the subject of enforcement action. However, this is identified as a deficiency.

c. Review of Procurement Activities

During this inspection period, the inspector made a review of procurement activities, with emphasis on the commercial grade dedication process. The inspector followed the guidance in Inspection Procedure 38703, Commercial Grade Dedication.

FSAR Section 1.9 stated that the Operations Quality Assurance Plan will implement the guidance of Regulatory Guide 1.123, Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants, Rev 1, dated July 1977. This regulatory guide endorsed ANSI N45.2.13-1976 of the same title. The licensee's Administrative Procedures 00800, 00850, 00853 and 00857 implemented the ANSI standard and covered requisition, receiving, control and issue of components. Another relevant procedure was 70516, Commercial Grade Item Dedication Program.

The inspector reviewed seven purchase order/receipt packages for components that were procured safety-related. Various categories were selected and the dates of the purchase orders spanned 1984 to 1988. The inspector concluded that the documentation included all the elements specified by the above listed requirements.

The inspector selected a sample of ten components that were procured under the commercial grade dedication process for installation in safety-related systems. The selected components were: power driven potentiometer, control transformer, lubricating oil, control wire, temperature alarm module (repair services), thermal overload relay, capacitor (purchase and repair), fuse, fuse holder and lever arm for a limit switch. The sample was representative of commercial grade dedications performed by the licensee for complex components.

With regard to the commercial grade components, the inspector reviewed the purchase order, the dedication plan, the receipt record, the manufacturer's submittals, and inspected hardware in the warehouse as appropriate. The detailed guidance provided by EPRI for the commercial grade dedication of wire and cable was reviewed.

Based on the information reviewed, the inspector concluded that the requirements for the control of purchased components were met. The inspector noted that all the components in the sample were ordered by part number and had an adequate dedication plan. Adequate equivalency determinations were performed when necessary. The inspector noted that the personnel had considerable experience in purchasing and were knowledgeable of the requirements and procedures.

While inspecting a size 1 thermal overload relay in the warehouse, the inspector noticed that the heater selection table in the shipping box was different than the table being used by the engineers in their design guides. The table showed a choice of 92 ranges. On the table found in the box in the warehouse with a relay having a 1995 date code, each of the ranges had a higher value than the table in the design guide. The percent difference was about 1.8 for the smallest rated coil and about 8.5 for the highest rated coil. Also, the warehouse table had one less heater coil than the design guide table. The engineers evaluated the new information, and concluded that the Vogtle design was conservative in terms of motors fulfilling their safety function. The inspector agreed with this determination. The licensee and the inspector initiated efforts to determine the facts surrounding the different heater tables, such as why and when the tables were revised. The issue will be pursued as a generic industry concern.

No violations or deviations were identified.

6. Plant Support (71750)

General

Plant support activities were observed and reviewed to ensure that licensee programs were implemented in conformance with facility policies and procedures and in compliance with regulatory requirements. Activities reviewed included radiological controls, physical security, emergency preparedness, and fire protection.

No violations or deviations were identified.

7. Follow-up (92903)

The following items were reviewed using licensee reports, inspections, record reviews, and discussions with licensee personnel, as appropriate:

a. (Closed) LER 50-424/95-01, Lack of Penetration Seals Represents Condition Outside of Design Basis

LER 50-424/95-01 dealt with a failure by the licensee's design architect/engineering firm to specify the design and installation requirements for penetration seals in Units 1 and 2 interfaces between the DG electrical tunnels and level B of the control buildings. The inspectors' review of this issue is documented in IR 50-424,425/95-13.

The inspectors reviewed the licensee's corrective actions and concluded they are adequate. This item is closed.

b. (Closed) LER 50-425/95-04, ESF Testing Results In Unplanned ESF Actuations

LER 50-425/95-04, documents a voltage regulator malfunction on DG 2B that resulted in a voltage drop which in turn actuated the Unit 2 ESF load sequencer. The cause of the event was the failure of the DG voltage regulator to maintain voltage above the setpoint of the load sequencer. A special inspection conducted concerning the voltage regulator event was documented in IR 50-424,425/95-19.

The inspectors reviewed the licensee's corrective actions stated in LER 50-425/95-04 and concluded they are adequate. This item is closed. A followup inspection on voltage regulator issues as a result of the special inspection documented in IR 50-424,425/95-19 was conducted during this inspection period and is documented in paragraphs 5.c, 7.c, and 7.d.

c. (Closed) VIO 50-424,425/95-19-01, Failure to Take Prompt Corrective Action to Resolve Diesel Generator Voltage Regulator Transformer Problem

This violation involved a failure of components in the voltage regulator for the emergency diesel generators. The violation was issued due to inadequate corrective actions for those problems. The inspector verified corrective actions stated in the licensee's response to the violation. The inspector verified replacement of all power driven potentiometers through review of copies of the completed MWOs. The MWO numbers were: 19502178, 19502177, 29501960, and 29501937. The inspector verified that administrative controls were in place to ensure replacement of the power driven potentiometers at five year intervals. The controls were contained in Maintenance Checklist Number SCL02573. The reason for replacement of the power driven potentiometers was they were subject to buildup of silver oxide film on the contact surface.

The inspector verified, by inspection of the equipment, that the T2 and T3 voltage transformers at the automatic voltage regulator input had been replaced on DG 2B. The inspector verified the T2 and T3 transformers on DG 2A had been replaced through review of MWO 29502809, completed January 17, 1996. Corresponding work on the Unit 1 DGs was scheduled for spring 1996 refuel outage.

The inspector verified that the interim testing of the T2 and T3 transformers was being performed through review of records for completed 28-day Repetitive Task Number 22403A324.

The inspector verified that plant personnel had been trained as to lessons learned from the circumstances of the violation. This training was contained in lesson plan RQ-LP-63144-00, dated November 17, 1995.

Other inspection activities related to corrective actions for VIO 50-424,425/95-19-01 were: (1) review of the procurement records for the new T2 and T3 transformers, which had been purchased through the commercial grade dedication process; (2) witness of installation and testing of one voltage regulator for DG 2B on January 8, 1996; and (3) witness of the start and one-hour full load run test of DG 1A on January 10, 1996. Based on the above actions and inspection findings, this item is closed.

d. (Closed) VIO 50-424,425/95-19-02, Failure to Control Non-Conforming Material in that a Defective Transformer was Replaced in Stock and Subsequently Issued to the Field

This violation involved a situation where a suspected problem voltage regulator was sent to the vendor for testing, and the testing indicated a defective transformer. Licensee personnel witnessed the vendor testing. The voltage regulator was shipped back to the site with the intent of replacing the transformer at the site. Instead the voltage regulator was put in the warehouse, and later installed in a DG control cabinet. The defective regulator was detected during post maintenance testing. The root cause for this problem was material receipt and storage procedures were not designed to cover the unique circumstances of the voltage regulator.

Three material control procedures were revised to help ensure that similar problems do not occur in the future. The revised procedures were: (1) 00800, Rev 13, Requisition of Materials and Services, dated August 28, 1995 (Section 4.2.9); (2) 00850, Rev 12, Materials Receiving and Inspection, dated September 12, 1995 (Note after Section 4.2.12); and (3) 00853, Rev 18, Material Identification, Control and Issue, dated September 7, 1995 (Section 4.4.14).

The inspector discussed the procedure changes with the cognizant licensee personnel, and agreed that they should be effective in avoiding further similar violations. Personnel had been trained on the procedure revisions. This item is closed.

No violations or deviations were identified.

8. Other NRC Personnel on Site

On December 19, 1995, Mr. P. Skinner, Branch Chief, DRP, Region II, was on site for a plant tour and to meet with the resident inspectors and licensee personnel. On January 10, and 11, 1996, Mr. L. Wiens, Project Directorate II-2 (Acting), and Mr. L. Wheeler, Project Manager, NRR, were on site for a plant tour and to discuss engineering issues with the residents and licensee personnel in preparations for the upcoming SALP meeting.

9. Exit Meeting

The inspection scope and findings were summarized on January 31, with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection findings. No dissenting comments were received from the licensee. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during the inspection.

Item No.	Status	Description and Reference
VIO 50-424/ 95-31-01	Open	Unit 1 Post Accident Sampling System Valve In Incorrect Position (paragraph 2.d)
VIO 50-425/ 95-31-02	Open	Improper Storage and Independent Verification of Unit 2 Movable Incore Detectors (paragraph 3.b)
NCV 50-425/ 95-31-03	Closed	Unit 2 AC Source Verification Missed Surveillance (paragraph 3.c)
NCV 50-424/ 95-31-04	Closed	Failure to Follow Procedure on Piping Penetration Area Ventilation System Surveillance (paragraph 3.d)
LER 50-424/ 95-01	Closed	Lack of Penetration Seals Represents Condition Outside of Design Basis (paragraph 7.a)
LER 50-425/ 95-04	Closed	ESF Testing Results In Unplanned ESF Actuations (paragraph 7.b)
VIO 50-424,425/ 95-19-01	Closed	Failure to Take Prompt Corrective Action to Resolve Diesel Generator Voltage Regulator Transformer Problem (paragraph 7.c)
VIO 50-424,425/ 95-19-02	Closed	Failure to Control Non-Conforming Material in that a Defective Transformer was Replaced in Stock and Subsequently Issued to the Field (paragraph 7.d)

10. Abbreviations

AC	- Alternating Current
AFW	- Auxiliary Feedwater System
ANSI	- American National Standards Institute
BOP	- Balance Of Plant
CREFS	- Control Room Emergency Filtration System
CVCS	- Chemical and Volume Control System
DC	- Deficiency Card
DG	- Diesel Generator
ECCS	- Emergency Core Cooling System
EPRI	- Electrical Power Research Institute
ESF	- Engineered Safety Feature
F	- Fahrenheit
FSAR	- Final Safety Analysis Report
HVAC	- Heating, Ventilating and Air Conditioning
I&C	- Instrumentation and Controls
IPC	- Integrated Plant Computer
IR	- Inspection Report
ISEG	- Independent Safety Engineering Group
IST	- Inservice Test
IV	- Independent Verification
LCO	- Limiting Condition for Operation
LER	- Licensee Event Report
MIDS	- Movable Incore Detector System
mrem	- One Millionth of a Roentgen Equivalent Man
MSIV	- Main Steam Isolation Valve
MWO	- Maintenance Work Order
MWt	- Megawatt Thermal
N/A	- Not Applicable
NCV	- Non-Cited Violation
NPF	- Nuclear Power Facility
NRC	- Nuclear Regulatory Commission
NRR	- Nuclear Reactor Regulation
NSAC	- Nuclear Safety and Compliance
NSCW	- Nuclear Service Cooling Water System
NUREG	- Nuclear Regulations
PASS	- Post Accident Sampling System
PDR	- Public Document Room
PPAFES	- Piping Penetration Area Filtration and Exhaust
QPTR	- Quadrant Power Tilt Ratio
RCS	- Reactor Coolant System
rem	- Roentgen Equivalent Man
RHR	- Residual Heat Removal System
RMWST	- Reactor Make-up Water Storage Tank
RO	- Reactor Operator
SAER	- Safety Audit And Engineering Review
SALP	- Systematic Assessment of Licensee Performance
SFP	- Spent Fuel Pool
SI	- Safety Injection
TAVG	- Average Temperature
TCP	- Temporary Change To Procedure

TDAFW	- Turbine Driven Auxiliary Feedwater
TS	- Technical Specifications
TSC	- Technical Support Center
URI	- Unresolved Item
USS	- Unit Shift Supervisor
VCT	- Volume Control Tank
VIO	- Violation
VOTES	- Valve Operation Test and Evaluation System