



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

Report Nos.: 50-424/92-27 and 50-425/92-27

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: October 25 - November 28, 1992

Inspector: *B.R. Bohser* 12/17/92
B. R. Bohser, Senior Resident Inspector Date Signed
R.D. Starkey 12/11/92
R. D. Starkey, Resident Inspector Date Signed
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Reactor Projects Section 3B
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SUMMARY

Scope: This routine, inspection entailed inspection in the following areas: plant operations, surveillance, maintenance, review of corporate engineering and design change support, and follow-up.

Results: One non-cited violation (NCV) was identified.

The NCV involved the failure of the site to act upon information provided from the corporate office regarding a potential valve operability issue. The issue involved the identification of several safety related motor operated valves (MOV) that may not develop sufficient thrust to operate under certain differential pressure (DP) conditions that could be experienced during the recirculation phase of safety injection (paragraph 2d).

The 1A diesel generator (DG) experienced a failure to start during testing. When the operator depressed the manual push button in an

attempt to start the DG, the engine failed to roll. A similar incident occurred in July 1990 (paragraph 2f).

During the inspection period the licensee performed a procedure to ensure the centrifugal charging pump alternate mini-flow relief lines were filled and vented. Both Unit 1 and 2 lines contained a minimal amount of air. While performing the procedure the licensee determined that the setpoints on the Unit 2 relief valves had drifted outside their required tolerances. A review of the work order history on these valves by the licensee and resident inspectors did not provide an explanation for the setpoint drift (paragraph 4b).

The inspectors observed the licensee's annual re-call drill. Scheduling the drill on the Thanksgiving holiday week proved beneficial because it utilized personnel in positions they did not normally fill. Overall the licensee's response to the drill was satisfactory and the objectives were met (paragraph 2g).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *J. Beasley, Assistant General Manager Plant Operations
- *P. Burwinkel, Plant Engineering Supervisor
 - S. Bradley, Reactor Engineering Supervisor
 - W. Burmeister, Manager Engineering Support
- *S. Chesnut, Manager Engineering Technical Support
 - C. Christiansen, Safety Audit and Engineering Review Supervisor
- *C. Coursey, Maintenance Superintendent
- *R. Dorman, Manager Training and Emergency Preparedness
 - G. Frederick, Manager Maintenance
- *B. Gabbard, Nuclear Specialist
- *M. Griffis, Manager Plant Modifications
 - M. Hobbs, Instrumentation and Controls Superintendent
- *K. Holmes, Manager Health Physics and Chemistry
 - D. Huyck, Nuclear Security Manager
- *W. Kitchens, Assistant General Manager Plant Support
- *R. LeGrand, Manager Operations
- *G. McCarley, Independent Safety Engineering Group Supervisor
 - R. Moye, Plant Engineering Supervisor
- *M. Sheibani, Nuclear Safety and Compliance Supervisor
- *W. Shipman, General Manager Nuclear Plant
- *C. Stinespring, Manager Administration
 - J. Swartzwelder, Manager Outage and Planning
 - C. Tynan, Nuclear Procedures Supervisor
- *J. Williams, Supervisor Work Planning and Controls

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

Oglethorpe Power Company Representative

- *T. Mazingo

NRC Resident Inspectors

- *B. Eonser
- *D. Starkey
- *P. Balmain
- *J. Starefos

*Attended Exit Interview

An alphabetical list of abbreviations 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, Technical Specifications (TS), and administrative controls. Control logs, shift supervisors' logs, shift relief records, Limited Condition for Operation (LCO) status logs, night orders, standing orders, and clearance logs were routinely reviewed. Discussions were conducted with plant operations, maintenance, chemistry and 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 observed to verify they were within TS limits. The inspectors also reviewed Deficiency Cards (DCs) to determine whether the licensee was appropriately documenting problems and implementing corrective actions.

Plant tours were taken during the reporting period on a routine basis. They included, but were not limited to the turbine building, the auxiliary building, electrical equipment rooms, cable spreading rooms, Nuclear Service Cooling Water System (NSCW) towers, Diesel Generator (DG) buildings, Auxiliary Feedwater System (AFW) buildings, and the low voltage switchyard.

During plant tours, housekeeping, security, equipment status and radiation control practices were observed.

The inspectors verified that the licensee's health physics (HP) policies/procedures were followed. This included observation of HP practices and review of area surveys, radiation work permits, postings, and instrument calibration.

The inspectors verified that the security organization was properly manned and security personnel were capable of performing their assigned functions; persons and packages were checked prior to entry into the Protected Area (PA); vehicles were properly authorized, searched, and escorted within the PA; persons within the PA displayed photo identification badges; and personnel in vital areas were authorized.

b. Unit 1 Summary

The unit began the period operating at 100% power and operated at full power throughout the inspection period.

c. Unit 2 Summary

The unit began the period operating at 100% power and operated at full power throughout the inspection period.

d. MOV Operability Review

During an NRC Headquarters audit of the Vogtle Motor Operated Valve (MOV) program (G.L. 89-10) during the week of November 9 at the licensee's corporate office in Birmingham, Alabama, a concern was raised associated with the timeliness of the licensee's implementation of corrective action. The issue involved the identification of several safety related MOVs that may not develop sufficient thrust to operate under certain postulated DP conditions. An example of this is the inability of these motor operators to close and isolate a passive failure leak. This requirement to consider a passive failure leak is only applicable during the recirculation phase of safety injection.

The corporate engineering group analyzing the MOV thrust requirements transmitted this information to the plant. A Standing Order (C-92-07) was developed which would require certain operator actions to reduce the DP across the valves under certain passive failure conditions. The Standing Order contained detailed steps to start or stop Residual Heat Removal (RHR) pumps or Centrifugal Charging Pumps (CCP), and to sequence valve operation to reduce the system DP to ensure that the valves in question would operate.

The inspectors identified two concerns after a review of the compensatory actions in the Standing Order and the details surrounding the transmittal of the potential operability concern from the corporate office to the site. One concern involved the timeliness of actions. The initial discovery of the potential valve operability issue was in January 1992, and the compensatory actions described above were not implemented by the site until November 11, 1992. The site had been verbally informed of this issue in January but had not taken any action. Normally when the site is notified by formal correspondence from the corporate office of an action, the item is entered into the site commitment tracking system. In this case that did not occur.

The other concern was associated with the use of Standing Orders. The detailed information contained in the Standing Order is the type of information that would normally be contained in an abnormal operating procedure (OP) or emergency operating procedure (EOP). The inspectors were concerned that this detailed operating information may not be appropriate in a Standing Order since the

standing order does not receive the same level of review as a procedure. Normally the Plant Review Board (PRB) is responsible for review of EOPs and abnormal operating procedures. In this case, revisions were made to the EOPs incorporating the operator actions for a passive failure. When the EOP changes were reviewed by the PRB a decision was made to prepare a Standing Order instead of revising the EOPs. The PRB decided that the revised EOPs could be misleading to the operators during an event and that it was safer and more appropriate to place these instructions in a Standing Order. The licensee reviewed the inspectors concern regarding the use and implementation of Standing Orders and has initiated a Standing Order review by the Independent Safety Engineering Group (ISEG). The inspectors will monitor the ISEG review.

The failure of the site to perform a timely evaluation of the valve operability information and promptly issue compensatory actions is a violation of 10 CFR 50 Appendix B Criterion XVI, Corrective Action. Criterion XVI requires that conditions adverse to quality be promptly identified and corrected. This violation will not be subject to enforcement action because the licensee's efforts in identifying and correcting the violation meet the criteria specified in Section VII.B of the Enforcement Policy. This violation is identified as Non-cited Violation (NCV) 50-424,425/92-27-01: Failure To Take Timely Corrective Action On Potential MOV Operability Issue.

e. Engineering Personnel Qualifications

During the review of the MOV program several of the licensee calculations to support the MOV program were reviewed. The inspectors reviewed the qualification and training of several of the engineers that performed these calculations.

The requirements for personnel qualification are contained in TS 6.3.1. This TS requires that personnel meet the minimum education and experience of Regulatory Guide 1.8, Revision 2. The TS also allows a person to perform specific task as long as they are trained and qualified. The training and qualification requirements are also specified in Southern Company Services (SCS) Plant Vogtle Operational Support Policy and Procedure Manual 010604.2-1 dated October 31, 1987.

Training and qualification information for four mechanical and three electrical engineers was reviewed by the inspectors. The records indicate that all of the personnel were well experienced and qualified and met the minimum training requirements. However, due to changes in required training there were varying degrees of training records in the individual folders. There was no master index as to what records were needed making record auditing difficult. The inspectors observations in this area were

discussed with engineering management during the audit debrief on November 13, 1992.

f. Diesel Generator 1A Failure

At 2:22 a.m., on November 18, 1992, with Vogtle Unit 1 at 100% power a control room operator attempted to start the 1A DG for a normal monthly surveillance. When the operator depressed the DG start push button the DG did not start. Shift supervision at that time believed that the operator had not held the manual start push button a sufficient length of time to start the diesel. Further investigation by shift personnel did not identify any evidence of a problem and DG 1A was started successfully at 2:34 am. The DG ran without further problems and the surveillance was completed satisfactorily.

A similar incident had occurred in July 1990. The investigation into that event revealed that once the DG start push button is depressed the electrical relays close resulting in initiation of the sequence to air roll the diesel engine. The 1990 event had been caused by malfunctioning air start pilot valves. All operations personnel had been trained on this incident.

On November 18, licensee management, upon being informed of the DG 1A malfunction, declared the DG inoperable as of 2:22 a.m., and initiated an investigation into the cause of the DG failure to start. Based on the indications following the failure, event investigation efforts focused on the air start system. Follow-up on this DG failure will be documented in NRC Inspection Report (IR) 50-424,425/92-30.

g. Drill Observation

On the evening of November 24, the inspectors observed an after hours recall drill. The major objectives of the drill were to make off-site and on-site notifications, to recall off-duty personnel, to timely activate the emergency response facilities (TSC, OSC & EOF) after normal working hours, and to perform a site assembly and accountability. The licensee concluded that the objectives of the drill were met. The inspectors made the following observations: a number of key management/supervisory personnel were on vacation at the time and many positions were filled by individuals that were trained in their position but had little experience in performing their duties in these positions; the TSC was activated in about an hour, however, personnel arriving first were not thoroughly familiar with the set-up of the facility; TSC personnel were unsure how to activate the status loop between the CR and the TSC; emergency facility managers did not appear to fully understand their options on individuals that did not meet Fitness for Duty (FFD) requirements on alcohol consumption, although their actions were correct. The inspectors will review the licensee's follow-up actions.

The inspectors concluded that scheduling the drill during the Thanksgiving holiday week proved beneficial since it utilized personnel in positions they did not normally fill. Overall the licensee's response to the drill was satisfactory and the objectives were met.

h. Unplanned Pressurization of RHR Suction Piping

On November 23, Unit 1 Control Room Operators observed an increase in RHR pump suction pressure for both trains of RHR. Subsequent investigation revealed that during a Post Accident Sampling System (PASS) sample of the Reactor Coolant System (RCS) back leakage occurred through several PASS valves (3/8 inch sample line) resulting in pressurization of the RHR pump suction piping. According to an Emergency Response Facilities (ERF) printout, the pressure in the RHR suction piping increased to approximately 500 psig (suction relief setpoint 450 ± 10 psig), at which time the suction relief valves, 1-PSV-8708 A/B, lifted slightly and relieved pressure to the Pressurizer Relief Tank (PRT). The relieving of the suction relief valves maintained the RHR system below its design pressure of 600 psig. However, the licensee is investigating the apparent discrepancy between the actual and required relief valve setpoints (DC 1-92-216.) The event was terminated by the isolation of the PASS system and depressurization of the RHR system. At no time during the event was the relief capacity of the relief valves approached by the leak through the PASS system. The licensee has initiated an interim corrective action by attaching a "Caution Tag" to the to 1 HV-8220, RCS Hot Leg Pass Sample Isolation Valve, handswitch located in the Control Room. The tag requires licensed operators to "monitor RHR pressure when 1 HV-8220 is open, and if the RHR pressurizes, then shut 1-2702-U4-012," a manual isolation valve near the PASS panel. The licensee has written a Design Change Request, 93-005, to add a check valve rated for RCS pressure and temperature between the PASS Sample Cooler Rack and valve 1-2701-U4-012. This design change will be incorporated in a Minor Departure from Design (MDD). The same problem was identified on Unit 2 during construction and a check valve was installed to correct the problem. As a result, Unit 2 has not experienced the back leakage problems of Unit 1. The inspectors will follow-up on the licensee's long term corrective actions and investigation into the relief valve setpoint discrepancy.

One non-cited violation was identified.

3. Surveillance Observation (61726)

Surveillance tests were reviewed by the inspectors to verify procedural and performance adequacy. The completed tests reviewed were examined for necessary test prerequisites, instructions, acceptance criteria, technical content, data collection, independent verification where required, handling of deficiencies noted, 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 systems restoration was completed.

Listed below are surveillances which were either reviewed or witnessed:

| <u>Surveillance No.</u> | <u>Title</u> |
|-------------------------|--|
| 14644-2 | SSPS Slave Relay K 643 Train A Test Containment Spray |
| 28911-1 | Weekly Class 1E Battery Inspection Unit 1-C train |
| 14806-2 | Containment Spray Pump and Check Valves Inservice Test |
| 24812-1 | Delta T/T Avg Loop 3 Protection Channel II ACOT |
| 14980-2 | Diesel Generator Operability Test B-Train |
| 14701-1 | A-Train, Reactor trip Breakers UV & Shunt Trip Test |
| 24555-1 | Containment H2 Monitor Train A ACOT and Calibration |
| 14986-C | Security DG Operability Test |

No violations or deviations were identified.

4. Maintenance Observation (62703)

a. General

The inspectors observed maintenance activities, interviewed personnel, and reviewed records to verify that work was conducted in accordance with approved procedures, TS, and applicable industry codes and standards. The inspectors also frequently verified that redundant components were operable, administrative controls were followed, clearances were adequate, personnel were qualified, correct replacement parts were used, radiological controls were proper, fire protection was adequate, adequate post-maintenance testing was performed, and independent verification requirements were implemented. The inspectors independently verified that selected equipment was properly returned to service.

Outstanding work requests were reviewed to ensure that the licensee gave priority to safety-related maintenance activities.

The inspectors witnessed or reviewed the following maintenance activities:

| <u>MWO NOS.</u> | <u>WORK DESCRIPTION</u> |
|-----------------|---|
| 29203020,3021 | SG 3 & 4 Water Level Control |
| 19201861 | Battery Cell Replacement |
| 19202700 | DG Sequencer Board Investigation (UV Detection Channel 2) |
| A9201246 | Relief Valve Test Proc. 28207 |
| T-OPER-92-05 | CCP Alternate Mini-flow Relief Valve Venting Unit 1 |
| T-OPER-92-06 | CCP Alternate Mini-flow Relief Valve Venting Unit 2 |
| 19203033 | DGIA Air start Investigation |

b. Failure of Unit 2 CCP Alternate Mini-flow Relief Valves During Venting

On October 26, the licensee approved procedures T-OPER-92-05 and T-OPER-92-06, CCP Alternate Mini-flow Relief Valve Venting, for Units 1 and 2 respectively. The purpose of the procedure was to provide a temporary means to vent the CCP alternate mini-flow piping through relief valves until a permanent change can be implemented in response to failures of a similar mini-flow design at the Shearon Harris plant Information Notice (IN) 92-61). The procedure was successfully performed on Unit 1 on November 5. The inspectors witnessed performance of the procedure on both Unit 1 trains, did not observe any discrepancies, and noted that the relief valves lifted within their allowable set-point range. Both valves were vented by injecting demineralized water into the alternate mini-flow piping using a small hand pump, which increased the line pressure to the point at which the relief valve would lift and vent any trapped air. A pressure gauge was installed on the piping to monitor the venting and relief valve lifting. The inspector did not detect significant amounts of air vented during this process on either train.

On November 6, the inspectors observed the licensee venting the Unit 2 B train CCP alternate mini-flow piping. During the performance of the procedure, relief valve 2PSV-8510B lifted at approximately 2400 psi. The valve is required to lift at 2200±66 psig. The licensee declared CCP B inoperable and entered 72 hour LCO for TS 3.5.2, ECCS Subsystems. The licensee replaced the relief valve with a spare valve under Maintenance Work Order (MWO) 29203358 and exited the LCO on November 7. The inspectors observed subsequent

bench testing of the malfunctioning valve and noted that the valve lifted consistently at about 2400 psig.

On November 10, the inspectors observed the licensee venting the Unit 2 A train CCP alternate mini-flow piping. Relief valve 2PSV-8510A began lifting at approximately 1960 psig, which is below its required setpoint. The procedure was subsequently reperformed using an air driven hydro pump. The relief lifted consistently at approximately 2050 psig using this pump. The licensee then declared CCP A inoperable and entered the LCO. The LCO was exited based on verbal determination from Westinghouse that operability was not affected by the low setpoint. The Westinghouse determination was based on a revised calculation of ECCS flow rates based on the A-train CCP alternate mini-flow relief valve being fully open at 90% of 1960 psig and concluded that the lower relief pressure did not have an adverse affect on the accident analyses. The licensee replaced the valve on November 11.

The inspectors were initially concerned that the improper relief pressures indicated that the relief valves had been improperly calibrated or that previous maintenance activities resulted in a change to the relief valve setting. Based on this concern the inspectors reviewed the MWO history of the unit 2 valves. This review identified that the A train valve (2PSV-8510A) was last verified by bench testing and lifted at the required setpoint in April 1990. The valve was then placed in storage and in October 1991, was installed in the CCP A alternate mini-flow piping. This valve has had two previous instances where the "as found" setpoints were low. The valve was reworked following both of these instances. The B train valve (2PSV-8510B) was last verified to lift at the required setpoint in April 1992. The valve had been reworked due to leakage prior on two prior occasions. The MWO history did not reveal any abnormal lift setpoints.

As part of the corrective actions, since the cause of the setpressure drifts could not be determined, the licensee currently plans for a vendor representative to validate the bench testing procedure and to witness disassembly of the two relief valves. The inspectors reviewed the followup letter submitted to the licensee from Westinghouse. The inspectors concluded that the licensees actions were appropriate following discovery of the failures and have no immediate concern with the operability of the CCP subsystems since the reliefs were replaced with properly calibrated spares. The inspectors will follow this investigation.

c. Unit 1 Battery Cell Failures

In NRC IR 92-23 the inspector noted a declining trend in the performance of the Unit 1 1E station batteries. During this inspection period a cell in the 1D battery failed TS cell float voltage surveillance requirements and a cell in the 1C battery did not meet TS category A float voltage limits and marginally met the

category B allowable limits. Both cells were replaced. Cell # 12 in the 1D battery failed its surveillance requirements on October 29, when its float voltage was measured at 2.068 volts. Before failing the surveillance this cell was being tracked by the licensee as a problem cell due to its erratic voltage trend. The inspector observed the replacement of this cell. Prior to its removal the inspector was shown a cloudy rust-like discoloration in the electrolyte solution localized to the lower one inch of the cell jar. The licensee has noted this discoloration in the last two or three failures. On November 4, float voltage on cell #38 in the 1C battery was measured at 2.101 volts and was replaced. The inspector questioned why the licensee did not immediately enter the two hour LCO action statement since the initial reading was 2.10 volts. The inspector found that the initial reading was confirmed with a more accurate voltmeter. This reading was 2.101 volts which is greater than the TS allowable limits. The licensee replaced this cell shortly after performing the surveillance.

In NRC IR 92-23 it was noted that the licensee has plans to replace, during the next Unit 1 refueling outage, those original C train battery cells that have not already been replaced. The licensee decided during this inspection period to replace the entire battery with new cells during the next Unit 1 refueling outage. Replacing the entire battery will ensure uniform cell voltage characteristics. Prior to initial operation of Unit 1 a large number of cells were replaced in the C battery. This may have caused a non-uniform cell voltage behavior and contributed to the recent cell failures.

The inspector reviewed the major loads which are supplied by the C train DC electrical system and noted that it supplies loads for the turbine driven auxiliary feedwater pump (TDAFW) and Channel III vital AC instrumentation. The inspectors were concerned with the performance of the C battery since it provides power to the TDAFW system.

The inspector observed single cell discharge tests on two cells that had been removed. Cell #38 from battery 1C was determined to have 112% of its design capacity and cell #12 from battery 1D had 100% of its design capacity. The inspector also discussed with engineering personnel the affect of a failed cell if it were to remain in the battery. During a full discharge, a cell with reduced capacity could discharge to a level lower than the rest of the battery, possibly reverse polarity, and ultimately reduce the capacity of the entire battery. Based on the results of the single cell discharge tests, the inspectors concluded that the C train and D train batteries will fulfill their safety function prior to replacement of the two cells.

d. Storage of Transient Materials Near Safety Related Equipment

In August 1992, the licensee initiated a Request for Engineering Review, (RER) 92-0298, to identify areas in the plant where material is stored which could interact with safety related or Seismic Category 1 components. Seismic components which may experience interaction with unrestrained equipment during an Safe Shutdown Earthquake (SSE) were identified by Operations, Chemistry, and Maintenance Departments. Once identified, the storage areas were divided into areas that represented unacceptable potential interactions and where items should be secured in place, areas where items can remain in place without restrictions, and areas where no storage would be permitted. The licensee acted promptly to take the actions recommended by the RER by identifying suitable auxiliary building equipment storage locations and moving items where necessary. The original scope of the RER considered only the auxiliary building, the fuel handling building, and the control building. The licensee expanded the scope of this review to include fire water pump houses, liquid nitrogen storage facility, NSCW chlorination building, the main steam valve rooms, the NSCW towers, the DG buildings, the AFW pump houses, and additional rooms within the control building.

The inspector performed a walkdown of storage areas in both auxiliary buildings. The licensee has made significant progress in moving or securing transient materials and in identifying these rooms suitable for use as storage areas. Some equipment, such as welding machines, must be anchored in place and a plan is being developed (RER 92-0438) to ensure that a proper method is used to restrain such equipment. Rooms that will be used as designated storage areas will be clearly labeled as such. Prior to RER 92-0298, the licensee had previously designated a "high radiation" storage area on level 1 of the auxiliary building where transient high radiation items are stored until processed for offsite disposal.

A follow-up RER, RER 92-0439, has been initiated which will evaluate other areas in the fuel handling building and the auxiliary building which were not identified in RER 92-0298. The inspector determined that the licensee is taking appropriate actions to control storage of transient materials to prevent interaction with safety related or seismic category 1 components. The inspectors will monitor the progress of this licensee initiative during future plant walkdowns.

No violations or deviations were identified.

5. Review of Corporate Engineering and Design Change Support (40703, 37838)

During this reporting period the inspectors visited the Southern Nuclear Operating Company offices in Birmingham, Alabama. The objective of the visit was to review current activities of corporate engineering and

licensing which support Vogtle. The inspectors met with representatives of Southern Nuclear and Southern Company Services which provides the engineering support for Southern Nuclear. Each person contacted discussed current projects in their area of responsibility which directly related to support of site activities.

Discussions with the Southern Nuclear Manager of Maintenance and Support highlighted several areas of ongoing work in support of the site. These included support in the resolution of several current plant problems and areas of improvement. The inspectors also reviewed several licensing activities with the Licensing Manager and reviewed a list of current TS submittals. The inspectors received an update on the status of the Individual Plant Examination (IPE) which the licensee plans to submit by the end of 1992. The licensee has determined that no design changes are necessary based on the projected results of the IPE.

The Southern Nuclear Manager of Engineering for Vogtle discussed his group's interface with the site engineering group. He particularly emphasized the goal of completing design change packages at least six months prior to implementation on site. This goal was previously discussed in NRC IR 92-04 and the licensee appears at this time to be completing the reviews and submitting the change packages to the site prior to the six-month time frame. This gives the site sufficient time to prepare for implementation. During the design review process, status meetings are held at 10%, 50%, and 90% completion stages so that DCP progress can be reviewed and necessary changes made prior to package completion. Southern Nuclear engineering personnel attempt to meet on site with their counterparts once per month to discuss program status.

The inspectors met with representatives of SCS and discussed several ongoing projects. One project of particular interest to the inspectors was the long term project to install an Integrated Plant Computer to replace Proteus, ERF, Emergency Response Data System, and the Radiation Monitoring System. These modifications will be completed during future refueling outages.

The inspectors noted the wide range of projects being performed for the site by corporate support departments. The prevailing attitude at Southern Nuclear is that the corporate staff functions to support the site. This attitude is reflected in the professionalism of the corporate staff and the good working relationship which appears to exist between the corporate staff and the site.

6. Follow-up (92701)

(Closed) Part 21 50-424,425/P21-136, Defect In DSRV-16-4 Enterprise Standby DG Jacket Water Pump Shaft Caused by Incorrect Tapers Machined on Shaft.

On September 4, 1992, Cooper Industries notified the licensee of a potential defect with the jacket water pump shaft of the DSRV-16-4 Enterprise Standby DG. The cause of the defect was incorrect machining

of the pump shaft taper on shafts supplied by a vendor to Cooper-Enterprise. Only 8 shafts purchased by two other utilities were known to have the defect, but because there was the possibility of the defect being present in previously supplied parts, all utilities which had received jacket water pump shafts from the affected lot were included in the notification.

Vogtle determined that three shafts from the affected lot, 02-425-03-AF, are in warehouse stores. Inspection by the licensee, vendor, and resident inspector, determined that none of the three spare shafts were defective. Also, as described in the Part 21 notification, due to the physical differences between the jacket water pump gear and the incorrectly machined shafts, it is unlikely that a defective shaft could be assembled in a jacket water pump. Even if assembly were to occur, shaft failure would occur within a short period of time. Vogtle has experienced many operating hours on the existing installed jacket water pumps with the pumps performing as designed.

The inspector concluded that Vogtle does not have in inventory any of the defective jacket water pump shafts as described in the Part 21 notification. This item is considered closed.

7. Exit Meeting

The inspection scope and findings were summarized on November 30, 1992, with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection findings listed below. 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.

| <u>ITEM NO.</u> | <u>DESCRIPTION AND REFERENCE</u> |
|----------------------|---|
| NCV 424,425/92-27-01 | Failure to Take Timely Corrective Action on Potential MOV Operability Issue. (Paragraph 2d) |

8. Abbreviations

| | |
|------|-----------------------------------|
| AC | - Alternating Current |
| ACOT | - Analog Channel Operational Test |
| AFW | - Auxiliary Feedwater System |
| CCP | - Centrifugal Charging Pump |
| CFR | - Code of Federal Regulations |
| CR | - Control Room |
| DC | - Deficiency Card |
| DG | - Diesel Generator |
| DP | - Differential Pressure |
| DSRV | - Designation for Diesel Engine |
| ECCS | - Emergency Core Cooling Systems |
| EDG | - Emergency Diesel Generator |
| EOF | - Emergency Operations Facility |

| | |
|-------|--|
| ERDS | - Emergency Response Data System |
| EOP | - Emergency Operating Procedures |
| ERF | - Emergency Response Facilities |
| ESFAS | - Engineered Safety Feature Actuation System |
| FFD | - Fitness for Duty |
| I&C | - Instrumentation and Controls |
| IN | - Information Notice |
| IPE | - Individual Plant Examination |
| IR | - Inspection Report |
| ISEG | - Independent Safety Engineering Group |
| LCO | - Limiting Condition for Operation |
| MDD | - Minor Departure from Design |
| MOV | - Motor Operated Valve |
| MWO | - Maintenance Work Order |
| NCV | - Non-Cited Violation |
| NRC | - Nuclear Regulatory Commission |
| NRN | - Office of Nuclear Reactor Regulation |
| NSCW | - Nuclear Service Cooling Water System |
| OSC | - Operations Support Center |
| PA | - Protected Area |
| PASS | - Post Accident Sampling System |
| PRB | - Plant Review Board |
| PRT | - Pressurizer Relief |
| PSIG | - Pounds per Square Inch - Gauge |
| RCS | - Reactor Coolant System |
| RER | - Request for Engineering Review |
| RHR | - Residual Heat Removal |
| RPS | - Reactor Protection System |
| SAER | - Safety Audit And Engineering Review |
| SCS | - Southern Company Services |
| SG | - Steam Generator |
| SSE | - Safe Shutdown Earthquake |
| SPDS | - Safety Parameter Display System |
| SSPS | - Solid State Protection System |
| TDAFW | - Turbine Driven Auxiliary Feedwater System |
| TS | - Technical Specifications |
| TSC | - Technical Support Center |
| USS | - Unit Shift Supervisor |
| UV | - Undervoltage |