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

Report Nos.: 50-424/91-02 and 50-425/91-02

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 Nuclear Station Units 1 and 2

Inspection Conducted: January 19 - February 23, 1991

Inspectors: S. E. Sparks for 3/13/91
B. R. Bonser, Senior Resident Inspector Date Signed

S. E. Sparks for 3/13/91
R. D. Starkey, Resident Inspector Date Signed

Accompanied By: P. A. Balmain

Approved By: for 3/13/91
P. Skinner, Chief Date Signed
Reactor Projects Section 3B
Division of Reactor Projects

SUMMARY

Scope: This routine inspection entailed resident inspection in the following areas: plant operations, maintenance, surveillance, review of licensee event reports and followup.

Results: A violation was identified involving a failure to perform seismic monitoring instrumentation surveillances due to inadequate procedures and personnel error. (paragraph 3a)

A strength was noted in the licensee event investigation program. During this report period, event investigation teams were assigned to investigate three ESF actuations, two reactor trips, and several diesel generator problems. The licensee's process was effective in assessing the problems and implementing corrective actions.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*H. Beacher, Senior Plant Engineer
*J. Beasley, Manager Operations
*S. Bradley, Engineering Supervisor
S. Chesnut, Manager Technical Support
*C. Christiansen, Safety Audit and Engineering Group Supervisor
*T. Greene, Assistant General Manager Plant Support
*H. Handfinger, Manager Maintenance
*M. Hobbs, I&C Superintendent
K. Holmes, Manager Training and Emergency Preparedness
*M. Horton, Manager Engineering Support
W. Kitchens, Assistant General Manager Plant Operations
*R. LeGrand, Manager Health Physics and Chemistry
G. McCarley, Independent Safety Engineering Group Supervisor
*R. Odom, Nuclear Safety and Compliance Manager
*W. Shipman, General Manager Nuclear Plant
*C. Stinespring, Manager Plant Administration
*J. Swartzweider, Manager Outage and Planning

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

Oglethorpe Power Company Representative

*E. Toupin

NRC Resident Inspectors

*B. Bonser
*D. Starkey
*P. Balmain

*Attended Exit Interview

An alphabetical list of acronyms and initialisms is located in paragraph 8 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, and administrative controls. Control logs, shift supervisors' logs, shift relief records, LCO status logs, night

orders and standing orders, lifted wires and jumper logs, 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 TSs. 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 DC 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, NSCW towers, DG buildings, 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 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 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.

On January 23, the inspector observed an unannounced fire drill. The simulated fire was located on level 2 of the Water Treatment Building in a 480 VAC switchgear transformer. The fire brigade responded quickly and was on the scene in approximately eleven minutes. Several additional personnel were on hand to assist in transporting equipment and laying out fire hoses. The fire brigade leader, who had completed brigade leader training the previous week, exhibited good command and control during the drill. Overall, the drill was well conducted.

The Unit 2 "Jumper and Lifted Wire" log book was reviewed. Two of the three active entries were walked down to verify correct placement of the tags. The log book entry for C Train Battery Charger A, Control Number 2-90-01, indicated that two lifted wire tags were hung on charger 2CD1CA. Upon inspection, only one tag was placed on charger 2CD1CA. Further inquiry determined that I&C had placed only one tag due to the confined space location of the lifted wires. The single tag did contain the information relative to the two lifted leads. Combining information onto one tag is not consistent with the requirements of procedure 00306-C, Temporary Jumper and Lifted Wire Control. The licensee reviewed the procedure requirements with the responsible I&C technician and corrected the tags.

An audit of the Unit 2 control room "Information Tags" was performed. An Information Tag is for information only and may be attached to a switch, component, or piece of equipment to provide pertinent information regarding operation of that switch, component, or piece of equipment. Nine tags were selected for review. The inspector noted that three of the nine tags were not recorded in the unit shift supervisor's Information Tag Log and these were corrected. Additionally, the licensee conducted a complete review of all Unit 1 and Unit 2 Information Tags. No additional discrepancies were identified.

b. Unit 1 Summary

The unit operated at full power throughout the inspection period. On February 4, an ESF actuation occurred when a Reactor Operator trainee inadvertently actuated the incorrect slave relay during the performance of a Containment Ventilation Isolation slave relay test resulting in startup of the TDAFW pump. On February 22, a second unplanned ESF actuation occurred when a ground in the test circuitry caused 1HV-8811A, RHR Containment Sump Valve, to open during performance of a semi-automatic switchover to containment sump surveillance test.

c. Unit 2 Summary

Unit 2 began the period operating at approximately 70% power for MFP A repairs. On January 28, MFP A was returned to service and power was increased to 90%. The unit returned to full power on January 30. On February 13, a train B CVI occurred while corrective maintenance was being performed on 2RE-2565, containment vent effluent monitor. On February 18 the unit tripped on lo-lo steam generator level when the A MFP was lost due to a failure in the main feed pump speed control circuitry. The unit remained in Mode 3 until February 19. The unit was taken critical on February 20 and full power attained on February 21. On February 23, the unit experienced an automatic reactor trip when a loop 1 hot leg temperature circuitry amplifier card failed during power range instrument testing resulting in an OT Delta T trip. The unit was subsequently restarted and tied to the grid on February 24.

d. Unit 2 Reactor Trip On Loss of Main Feed Pump

On February 18, 1990, Unit 2 experienced an unplanned automatic reactor trip on lo-lo steam generator level due to the loss of the MFP A. A voltage disturbance to the power supply feeding the process cabinets for the main feed pump speed control circuitry initiated this event. The voltage disturbance caused the voltage output from either process cabinet QPCI, which contains the master and slave MFP speed controllers, or process cabinet QPCG, which contains the comparator unit between QPCI and the MFP speed governor panel, to fail to zero. When the current output of either cabinet drops to less than 2 milliamps, the signal memory function feature in the feed pump speed controllers for each of the MFPs defaults to their last sampled value and overrides any further control of MFP speed from either the master or slave MFP controllers on the main control board. If the last sampled value generated from the signal function memory feature is close to the existing output when the speed control switches to SMF control a feedwater transient will not occur. On February 18, 1991, MFP A had a failed SMF card which defaulted to a minimum speed signal and caused the pump to slow to minimum speed following the voltage disturbance. The MFP B SMF card worked properly and controlled at approximately 6000 RPM. Since the SMF feature was overiding the master and slave MFP controllers, the operator's attempted manipulation of the slave controllers in manual had no affect on speed.

The licensee has replaced the failed SMF card and will implement periodic inspections in an effort to detect future failures. A shift briefing describing this event was developed for the operations staff. The licensee is revising procedures to direct the operator to control MFP speed using the manual control potentiometer if MFP speed does not follow manual demand actions using the master or slave MFP controllers and will also enhance training to include this MFP failure mode. The licensee assigned an event review team to investigate the event.

e. Unit 2 Reactor Trip on Overtemperature Delta T

On February 23, at 12:38 EST, Unit 2 experienced an automatic reactor trip from 100% power on Overtemperature Delta T. At the time of the trip a channel calibration was being performed on power range channel 2NI-44 which required that the loop 4 OT Delta T and OP Delta T bistables be placed in the tripped condition. During the period that the loop 4 bistables were tripped, a random failure occurred on a loop 1 hot leg temperature circuit amplifier card. The failure of the card caused the loop 1 OT Delta T bistable to function momentarily completing the 2 out of 4 logic required for a reactor trip. All systems responded as designed. The unit was restarted and tied to the grid on February 24. The licensee assigned an event review team to investigate this event.

f. ESF Actuation - TDAFW Pump Start

On February 4, while performing a CVI slave relay surveillance test on Unit 1, a Reactor Operator trainee, under the direction of a licensed Reactor Operator, inadvertently actuated the incorrect slave relay, starting the TDAFW pump. When the TDAFW pump started, the control room operators observed the startup, immediately realized the cause of the action, stabilized the turbine at minimum flow conditions and secured the pump. No changes in steam generator levels were noted. The slave relay was returned to it's correct position and the TDAFW pump was restored to standby readiness. An event review team was assigned to investigate the event.

g. ESF Actuation - Containment Ventilation Isolation

On February 13, a Unit 2, B train CVI occurred while corrective maintenance was being performed on radiation monitor 2RE-2565, containment vent effluent monitor (no abnormal radiological condition actually existed within the containment). To perform this maintenance, the monitor was required to be placed in "bypass" at the data processing module with the actuation leads lifted prior to placing it in bypass. The DPM is a microprocessor that gathers and processes data from the associated detectors, generates alarms and communicates information.

The direct cause of this CVI was an inadvertent grounding of the actuation lead for 2RE-2565 A,B,C by the I&C technician working in the DPM. Contributing to the inadvertent grounding were the cramped conditions in which the technician was required to perform the task. The root cause of the CVI was the design of the system which did not allow blocking of CVI actuation signals during maintenance and testing without lifting leads. The licensee's corrective actions include a design change to install blocking switches to prevent CVI actuation during maintenance and testing. The appropriate procedures will be revised to eliminate lifting of leads which can potentially cause an ESF actuation and to add steps for the use of the blocking switches.

h. ESF Actuation - Containment Sump Valve

On February 22, Unit 1 experienced an unplanned ESF actuation during the performance of procedure 14658-1, SSPS Slave Relay K740 and K741 Train A Test Semi-Automatic Switchover to Containment Sump. To allow the test circuit to function the initial test configuration calls for the installation of a test jumper to bypass the interlock circuitry for valves 1HV-8812A, 1HV-8701A and 1HV-8701B. When slave relay K740 was energized during the test, the RHR containment sump valve, 1HV-8811A, opened. The licensee determined that a ground in the test circuitry allowed the K741 relay to energize completing the actuation path to 1HV-8811A when the K740 relay was energized during the test.

The ground is in the test circuitry and will not impact normal operation of this valve.

No violations or deviations were 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 accaptable and systems restoration was completed.

Listed below are surveillances which were either reviewed or witnessed:

Surveillance No.	Title
13432-C	Transferring Essential Instrument Panel 2NY2N To Normal Source
14000-2	Operations Shift And Daily Surveillance Logs
14228-1	Operations Monthly Surveillance Logs
14510-2	Control Room Emergency Filtration System Operability Test
22332-C	Temperature Switch Calibration - 1TS22574B, ESF Chiller 'B' Oil Temperature Switch
24390-1	AFW Pump Mini Flow Control Valve IFV-5154 Channel Calibration
87006-2	Moveable Incore Detector System Operation Instructions

a. Failure to Perform Seismic Monitoring Instrumentation Surveillances.

On January 19, 1991, the inspector witnessed the performance of the ACOT portion of procedure 24737-1, Rev. 7, Time History Accelerograph and SMA-3 Recorder AXT-19903 ACOT and Channel Calibration, to verify that the requirements of TS 4.3.3.3.1, were completed satisfactorily. During the test, the I&C technician performing the test identified a procedural discrepancy which directed the technician to record data from a tape transport associated with another seismic monitoring instrument. At this point the licensee suspended performance of the surveillance and restored the seismic monitoring system.

Subsequently, the inspector reviewed the ACOT portions of the surveillance procedures for the six triaxial time-history accelerographs shown in TS table 3.3-5. These accelerographs have tape transports located on the time-history accelerograph panel.

The inspector identified the following discrepancies during this review:

- Procedure 24734-1, Rev. 4, Time-History Accelerograph and SMA-3 Recorder AXT-19900 Analog Channel Operational Test and Channel Calibration, instruction step 4.1.2.1 specifies tape transport AXR-19928G which is correct, however ACOT datasheet 1 references AXR-19928A.

- Procedure 24735-1, Rev. 4, Time History Accelerograph and SMA-3 Recorder AXT-19901 Analog Channel Operational Test and Channel Calibration, instruction step 4.1.2.1 specifies tape transport AXR-19928A and ACOT datasheet 1 references AXT-19928A both of which were incorrect.

- Procedure 24736-1, Rev. 7, Time History Accelerograph and SMA-3 Recorder AXT-19902 Analog Channel Operational Test and Channel Calibration, instruction step 4.1.1.2 specifies tape transport AXR-19928E which was incorrect, and ACOT datasheet 1 references AXR-19928A which is correct.

- Procedure 24727-1, Rev. 4, Time History Accelerograph and SMA-3 Recorder AXT-19906 Analog Channel Operational Test and Channel Calibration, instruction step 4.1.2.1 does not specify a tape transport location and ACOT datasheet 1 references AXR-19928J which is correct.

- Procedure 24737-1, Rev. 7, Time History Accelerograph and SMA-3 Recorder AXT-19903 Analog Channel Operational Test and Channel Calibration, instruction step 4.1.1.2 specifies tape transport AXR-19928E and ACOT datasheet 1 references AXR-19928A both of which were incorrect.

- Procedure 24726-1, Rev. 6, Time History Accelerograph and SMA-3 Recorder AXT-19905 Analog Channel Operational Test and Channel Calibration, instruction step 4.1.2.1 does not specify a tape transport location and ACOT datasheet 1 references AXR-19928B which is correct.

These discrepancies reveal that the instruction steps for performing ACOTs on AXT-19901, AXT-19902, and AXT-19903 were inadequate and would not direct test personnel to the appropriate accelerograph. The inspectors also reviewed documentation for the previous ACOTs performed on these accelerographs found similar discrepancies and concluded that required ACOTs were not performed.

Following identification of the procedure descrepancies by the inspector, the licensee determined that ACOT surveillances were not performed for AXT-19900 on April 21, 1990 and November 5, 1989; AXT-19901 on November 4, 1990, May 20, 1990 and December 3, 1989; AXT-19902 on October 6, 1990;and AXT-19903 on August 5, 1990. In addition, channel calibration surveillances were not performed for AXT-19900 on November 5, 1989; AXT-19901 on December 3, 1989; and AXT-19903 on March 5, 1990. The direct cause of these missed surveillances is due to inadequate procedures. The licensee declared the seismic monitoring system inoperable on February 1, 1991.

The licensee pursued corrective action for this deficiency promptly by completing procedure revisions and performing the surveillances. Satisfactory surveillance results were obtained for all accelerographs except for the vertical sensor for AXT-19903. An engineering evaluation determined that data taken from other sensors can be used in lieu of data obtained from this sensor.

As discussed above, the cause of these missed surveillances was due to inadequate procedures. However, the large number of missed surveillances and the length of time over which this has occurred is of concern since the trained technicians performing these surveillances did not correct these procedure inadequacies.

This finding is identified as Violation 50-424, 425/91-02-01: Failure to Perform Seismic Monitoring Instrumentation Surveillances. The licensee is also preparing an LER on this problem (50-424/91-01).

b. C Train Battery Surveillance

On February 6, 1991, during the performance of Unit 1 surveillance procedure 28911-102, Seven Day Battery Inspection and Maintenance, cell 35 on the C train battery did not meet the minimum float voltage of 2.13 volts. Measured cell voltage on cell 35 was 2.08 volts. This immediately placed the unit in TS Action Statement 3.8.2.1 which requires that, with less than the minimum required DC electrical sources operable, restore the inoperable DC source to operable status within two hours or be in at least hot standby within the next six hours.

The licensee's immediate solution to the problem was to perform a temporary modification to jumper cell 35. The inspectors reviewed the licensee's temporary modification and 10 CFR 50.59 evaluation and were satisfied the licensee was taking a safe and conservative approach. Cell 37 on the C battery had previously been jumpered. Major items reviewed were the procedure to install the jumper cables, the calculated minimum final battery terminal voltage, adjustment of the float and equalize voltages on the battery chargers, and the effect of the jumper. The licensee exited the LCO five hours after identifying the problem.

Only two cells can be jumpered on this battery without dropping below the requirements for final battery terminal voltage. The licensee is considering the technical issues surrounding individual cell replacement and single cell charging as a response to future problems. The licensee is also improving the process to jumper battery cells. In this case, the licensee had begun preparations for a plant shutdown and came within three hours of being in hot standby.

c. Diesel Generator Failures

On January 29, 1991, DG 2A was started for surveillance testing using procedure 14980-2, "Diesel Generator Operability Test". When the DG was paralleled to the grid, the reactive power value dropped to approximately negative 6000 KVars. The operator attempted to raise reactive power but was unsuccessful. The output breaker was opened and DG 2A was declared inoperable. With the diesel still running, the redundant voltage rectifier bridge circuit was selected for the voltage regulator. The 2A DG was again loaded on the grid. Reactive power remained at normal levels and no other problems occurred. The surveillance procedure was completed satisfactorily and the 2A DG was declared operable.

TS require that with either DG inoperable for reasons other than preplanned preventive maintenance or testing, the operability of the remaining operable DG must be demonstrated within 24 hours. Due to this TS requirement, DG 2B was started. When the DG was paralleled to the grid, as with DG 2A, reactive power immediately dropped to negative 6000 KVars. The operator on this diesel was able to raise reactive power to a negative 4500 KVars, however, this was still unacceptable. DG 2B was shutdown and declared inoperable.

As a result of these DG problems, the licensee assembled an event investigation team to determine the cause of the problem. As part of the investigation, the DG 2B bridge circuit was instrumented and the DG was retested in the as left condition following the failure on January 30. When DG 2B was started and paralleled to the grid there was no recurrence of the problem. DG 2B was stopped and the voltage regulator was switched to the alternate rectifier bridge. The DG was restarted again and paralleled to the grid and no problems occurred. Following the diesel run on the second rectifier bridge, DG 2B was started again to verify operability. The surveillance test was completed satisfactorily and DG 2B was declared operable on January 30. To satisfy the TS requirements described above, DG 2A was also run on January 30, 1991, to verify operability and successfully completed the surveillance requirements.

The event investigation team, after investigating possible causes of the event, suspected the transfer relays in the voltage regulator. These relays transfer control of voltage regulation from automatic to manual control. On February 1, DG 2A was removed from service to make resistance measurements on the transfer relays. Contact resistance on one relay (K4) was found to be abnormally high and replaced. Following relay replacement, the rectifier bridge on DG 2A was changed back to the bridge that had failed on January 29, 1991. With instrumentation monitoring the start, DG 2A started and paralleled with no problems. Following this test, DG 2A was declared operable after satisfactorily completing surveillance requirements.

Since completion of testing on the 2A DG, the other three DG have been tested or retested with satisfactory results. The licensee has been unable to definitively characterize the cause of the problems on January 29. The licensee believes that the relays that were replaced did not cause the problem. The licensee is continuing the investigation by pursuing other areas. These include possible operator error and sequencer problems. The residents will continue to monitor the licensee's investigation.

One violation was identified.

4. Maintenance Observation (62703)

The inspectors observed maintenance activities, interviewed personnel, and reviewed records to verify that work was conducted in accordance with approved procedures, TSs, and applicable industry codes and standards. The inspectors also 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; quality control hold points were adequate and observed; 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:

MWO No.	Work Description
19003195	Recalibrate 1TS225743, ESF Chiller 'B' Oil Temperature Switch
19004508	Retest (MOVATS) Valve 1HV8509A Using Applicable Sections Of Procedure 26859-C

19004975	Remove Valve Internals From Check Valve 1-1202-V4-425 To Implement DCP No. 90-V1N0019, Rev. 0
2910010	18 Month - Steam Generator Blowdown Heat Exchanger (2FT 1174) Loop 4 Calibration
2900326	Diesel Generator 2B Troubleshooting

a. Microfiltration System Installation

The licensee has installed a radwaste microfiltration system, designed by ABB Impell Corporation, in the ARB. This system replaces the Fava system which was taken out of service and removed. This microfiltration system is a subsystem of the existing Radioactive Waste System and will interface with the existing waste processing equipment. The system consists of a precoatable backwash type filter, air accumulator, backwash receiving tank, filter aid mix tank, precoat recycle tank, spent resin storage tank, and precoat overlay tank. All system components are located within the ARB radiologically controlled area with the exception of a remote control panel, which is located in the ARB operations office. This microfiltration system will be utilized for additional liquid waste treatment capability and is equipped with both an inlet and outlet piping manifold which will allow operation with the existing equipment in series; in parallel; or independently.

The inspectors reviewed the DCP associated with this system and were satisfied with the licensee's safety evaluation and other documentation (DCP 90-VAN0108-0-1). This system was designed and procured in accordance with a formal engineering specification and complies with USNRC Regulatory Guide 1.143, "Design Guidance for Radioactive Waste Management Systems, Structures, and Components Installed in Light-Water-Cooled Nuclear Power Plants," as well as applicable codes and standards as defined by that document. An exception was for the use of nonmetallic hoses which do not meet the material requirements of ASME Code, Section II for permanent liquid radwaste equipment. However, the system is designated as portable, or mobile, as the existing demineralizers in the ARB.

The licensee is presently performing preoperational testing on this system prior to placing it in service. The resident inspectors will continue to observe portions of the preoperational testing.

b. MOVATS Testing

The inspectors observed diagnostic testing (MOVATS) (MWO 19004508) of motor operated valve 1HV8509A, CCP A miniflow valve. The testing was being performed due to a notification from MOVATS on August 27, 1990, that this and other valves may have been tested with

out-of-tolerance MOVATS equipment. The vendor had found an out-of-tolerance transducer card in the Diagnostic Acquisition Monitor. The transducer card was determined by MOVATS to be out-of-tolerance by approximately +35 percent. This could have resulted in setting the MOV torque switches at a valve thrust of 35 percent less than desired. Using calibrated diagnostic equipment, the actual as-found thrust for 1HV8509A was determined during the retest to be 30 percent less than the previous as-left thrust. In addition, the thrust setting was found to be 15 percent and 18 percent less than the minimum required thrust setting in the open and closed valve travel directions, respectively. The minimum required thrust setting is set such that the valve may operate under design differential pressure with normal frictional effects without tripping prematurely. Testing for 1HV8509A was completed, the torque switch was reset and the valve returned to service.

The inspectors questioned the licensee on the other valves which were affected by the out of tolerance MOVATS equipment, and the extent of their operability evaluation. A total of 27 valves were identified by the licensee. The licensee stated that an operability evaluation was performed for each valve shortly after receiving the out-of-tolerance notification from MOVATS to determine if the valves were capable of performing their intended safety function. However, no documentation of this evaluation could be retrieved at the time of the inspection, and as such, the inspectors could not review the bases for the licensee's conclusions. The inspectors requested the licensee to re-perform and document an operability evaluation for each of the 27 valves.

The licensee stated that six valves had been retested and their torque switches were set properly. Of the remaining 21 valves, 13 were determined to have a thrust setting less than the required minimum, based on an assumed error in the thrust setting of 35 percent. These valves included Main Purge Valves (1HV2627A & 1HV2629A), SI Pump Suction Isolation Valve (1HV8923B), CCP A Discharge Isolation Valve (1HV8485A), CS Pump Emergency Sump Suction Isolation Valves (1HV9002A/B & 1HV9003A/B), SI Pump A Miniflow Valve (1HV8814), SI Pump B Miniflow Valve (1HV8920), CCP A Alternate Miniflow Valve (1HV8509B), SI to CVCS Cross Tie Train A Valve (1HV8807B), and SI Pump Suction Cross Tie Valve (1HV8924). Some of these valves were affected in the open direction only, some in the closed direction only, and some were affected in both directions of valve travel. The licensee's evaluation considered whether the valve would need to re-position during an accident, its safety position and function, and upstream and downstream valves which may be used in lieu of the valve in question. The licensee concluded that the systems or trains in which the valves were located were capable of performing their safety function.

The licensee verified that for the valves already MOVATS tested, no operability concern existed and that the assumed thrust error of 35 percent was conservative in all but one case. The actual error for one valve (1HV1669A) was 41 percent in the open direction of valve travel. The licensee determined that the higher error had no effect on the operability evaluation. Also the licensee provided a schedule for retesting the remaining valves in which the thrust setting was less than the required minimum thrust setting. The licensee also stated that a DC would be written and an evaluation performed for any of the retested valves in which the as-found thrust error was greater than the 35% error originally assumed in their operability evaluation.

The inspectors initially considered this issue to be a potential violation of Procedure 00208-C, Rev. 5, Control of Measuring and Test Equipment, which delineates actions to be taken when M&TE is found to be out of calibration. Specifically, step 4.2.7 states that plant equipment previously tested with out of calibration M&TE shall be investigated and documented to determine either its continued acceptability or to confirm the equipment nonconformance. Although the licensee stated an investigation was performed at the time of discovery, no documentation of this investigation could be found during the inspection. However, following the exit meeting on February 26, the licensee provided the inspectors a memo to file dated September 7, 1990, which documented discussions between the maintenance and operations departments. It should be noted, however, that it took the licensee an unusually long period of time (from 1/31/91 to 2/27/91) to retrieve any documentation of their investigation.

No violations or deviations were identified.

5. Review of Licensee Reports (90712)(92700)

The below listed Licensee Event Reports (LER) were reviewed to determine if the information provided met NRC requirements. The determination included: adequacy of description, verification of compliance with TS and regulatory requirements, corrective action taken, existence of potential generic problems, reporting requirements satisfied, and the relative safety significance of each event.

a. (Closed) 50-424/87-84, Rev. 0, "Incorrect Reactor Coolant Drain Tank Volume Curve Results In RCS Leakage Miscalculation."

The Unit 1 RCDT volume curve was corrected and reissued. The Unit 2 RCDT volume curve was checked and verified to be correct. A review was also initiated to determine what effect use of the incorrect curve may have had on prior performances of RC leakage calculations. Only one instance (April 19, 1987) could be identified where use of the incorrect curve actually resulted in failure to comply with TS action requirement. Subsequently, another RCS leakage surveillance

was performed on April 20, 1987. A recalculation, using the corrected curve of the values obtained during performance of that surveillance resulted in a value less than the maximum allowed for unidentified leakage. Therefore, unidentified leakage did not remain above the TS limit for a significant amount of time. Finally, similar tank curves will be evaluated and corrected, if necessary, by March 30, 1991.

b. (Closed) 50-424/88-28, Rev. 1, "Safety Injection Initiated While Performing Test Procedure."

The licensee's corrective actions included a revision to procedures 54055-1,2 (Train A Diesel Generator and ESFAS Test) and 54065-1,2 (Train B Diesel Generator and ESFAS Test) such that the test will be performed using circuitry other than that available through the Logic Test Panel. In addition, the inspectors review of the procedures noted several minor procedural discrepancies which could lead to confusion and difficulty during testing. In response, the licensee committed to a revision of the procedures, to be completed by 6/1/91, involving clarification of the order of testing and additional explanatory statements for clarity. Training sessions on all sections of the procedures have also been conducted with all engineers involved in the performance of ESFAS testing.

No violations or deviations were identified.

6. Followup (92701)

(Closed) Bulletin 425/88-BU-02, "Rapidly Propagating Fatigue Cracks in Steam Generators."

This IEB requires plants having Westinghouse steam generators with carbon steel support plates to formulate an action plan addressing tube denting and potential tube rupture and to respond to the NRC via letter. Plant Vogtle has Westinghouse Model F steam generators with stainless steel tube support plates and is not affected by the requirements of the Bulletin.

7. Exit Meeting

The inspection scope and findings were summarized on February 26, 1991, 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 this inspection.

Item Number	Description and Reference
VIO 424,425/91-02-01	Failure to Perform Seismic Monitoring Instrumentation Surveillances

8. Acronyms And Initialisms

ACOT	Analog Channel Operability Test
AFW	Auxiliary Feedwater System
ALARA	As Low As Reasonably Achievable
ARB	Alternate Radwaste Building
ASME	American Society of Mechanical Engineers
CCP	Centrifigal Charging Pump
CIV	Containment Isolation Valve
CS	Containment Spray System
CVCS	Chemical and Volume Control System
CVI	Containment Ventilation Isolation
DC	Deficiency Cards
DCP	Design Change Package
DG	Diesel Generator
DPM	Data Processing Module
ESF	Engineered Safety Features
ESFAS	Engineering Safety Features Actuation System
I&C	Instrumentation and Control
HP	Health Physics
LCO	Limiting Conditions for Operations
LER	Licensee Event Reports
M&TE	Measuring and Test Equipment
MFP	Main Feed Pump
MFPT	Main Feedpump Turbine
MOV	Motor Operated Valve
MOVATS	Motor Operated Valve Actuating Testing System
MWO	Maintenance Work Order
NI	Nuclear Instrument
NSCW	Nuclear Service Cooling Water System
OT	Over Temperature
OP	Over Power
PA	Protected Area
RCDT	Reactor Coolant Drain Tank
RCS	Reactor Coolant System
RHR	Residual Heat Removal System
SI	Safety Injection
SMF	Signal Memory Function
SSPS	Solid State Protection System
T	Temperature
Tave	Reactor Coolant System Average Temperature
TDAFW	Turbine Driven AFW Pump
TS	Technical Specification