APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-285/94-07

Operating License: DPR-40

Licensee: Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 399, Hwy. 75 - North of Fort Calhoun
Fort Calhoun, Nebraska

Facility Name: Fort Calhoun Station

Inspection At: Blair, Nebraska

Inspection Conducted: February 13 through March 26, 1994

Inspectors: R. Mullikin, Senior Resident Inspector
R. Azua, Resident Inspector

Approved: W D Johnson
William D. Johnson, Chief, Project Branch A

4/11/94
Date

Inspection Summary

Areas Inspected: Routine, unannounced inspection of onsite response to events, operational safety verification, maintenance and surveillance observations, engineered safety features walkdown, and onsite review of licensee event reports.

Results:

- The licensee took good corrective action after an undersized molded case circuit breaker was discovered (Section 2.3).
- System engineering did not perform adequate trending of maintenance history to identify the circuit breaker problem earlier (Section 2.3).
- Control room operations were performed in a professional manner (Section 3.1).
- Previous corrective actions were not adequate to prevent a recurrence of an individual entering the radiologically controlled area without proper dosimetry (Section 3.3).

- Appropriate licensee action was taken on an inspector identified concern of auxiliary steam line degradation (Section 3.5).
- The response to a Notification of Unusual Event disclosed training deficiencies (Section 3.6).
- Maintenance activities were performed in a good manner with good supervisory oversight (Section 4).
- Surveillance activities were performed in a good manner (Section 5).
- Selected plant systems were found in the proper alignment for the operating conditions (Section 6).

Summary of Inspection Findings:

- Unresolved Item 285/9407-01 was opened (Section 2.3).
- Inspection Followup Item 285/9407-02 was opened (Section 2.3).
- Violation 285/9407-03 was opened (Section 3.3).
- Unresolved Item 285/9407-04 was opened (Section 3.6).
- Licensee Event Reports 93-008 and 93-010 were closed (Section 7).

Attachment:

- Persons Contacted and Exit Meeting

DETAILS

1 PLANT STATUS

At the beginning of this inspection period, the plant was in power ascension following a February 11, 1994, reactor trip due to a failed engineered safety feature supervisory relay. On February 17, the Fort Calhoun Station reached 100 percent power where it remained throughout the rest of the inspection period.

2 ONSITE RESPONSE TO EVENTS (93702)

2.1 Update on February 11, 1994, Reactor Trip

On February 11, a reactor trip occurred due to an inadvertent containment high pressure signal that resulted from a shorted supervisory relay. The review of the event is documented in NRC Inspection Report 50-285/94-03.

The licensee's engineering organization used the information gained from this event to investigate whether a single component failure resulting in a lockout relay actuation could put the plant outside of the design basis. The licensee concluded that a premature lockout relay actuation in the recirculation actuation system could put the plant outside of the design basis. This was the subject of an NRC special inspection from February 21 through March 8, 1994. The results of this special inspection are documented in NRC Inspection Report 50-285/94-08.

2.2 Intake Structure Sanding

On March 4, 1994, the licensee declared Raw Water Pump AC-10C inoperable due to high motor current readings. Sand intrusion was the suspected cause. The licensee was subsequently able to clear the sand from the pump and declare it operable on the same day. On March 1, the licensee had declared Raw Water Pump AC-10B inoperable due to a similar sanding problem. Pump AC-10B was back in service prior to the Pump AC-10C inoperability. The licensee determined that, since a common mode problem affected two pumps and occurred close together, it was reportable under 10 CFR 50.73(a)(2)(vii).

Sand intrusion into the raw water and fire pumps has been an ongoing problem at Fort Calhoun Station. Recently, the licensee has gone to an increased frequency of rotation of all the affected pumps to reduce the sand problem. The inspector questioned the licensee on whether any corrective action was planned to eliminate or alleviate the problem, other than increased pump rotation frequency. The licensee stated that they had two ongoing programs to correct the sanding problem. One involved water sparging of the intake cells to suspend the sand so it can be sent through the raw water system instead of having it collect at the pumps. The second is a study that was being performed to investigate the possibility of a underwater structure to divert the sand away from the intake structure.

The licensee has been prompt in repairing equipment affected by sand intrusion. The recent increase in this problem has flagged the need to provide a permanent solution. The licensee's efforts in this area show an awareness of equipment operability concerns. The inspectors will evaluate the effectiveness of licensee's corrective actions during routine review of Licensee Event Report 94-003.

2.3 Boric Acid Pump CH-4B Breaker Trip

On March 8, 1994, the Boric Acid Pump CH-4B breaker tripped on instantaneous overcurrent when the pump was started. The control room was able to successfully start redundant Pump CH-4A.

On March 8, electrical maintenance personnel were troubleshooting the tripping of the Boric Acid Pump CH-4B, 480-volt breaker, using Maintenance Work Order 940686. The licensee discovered that the installed breaker was not the correct breaker for that application. It was discovered that the installed breaker was a General Electric Model THEF136M1050, while the correct breaker was Model THEF136M2050. These two breakers are identical in appearance and the continuous current trip setpoints were the same (50 amps). However, the instantaneous trip setpoints for the two breakers were 360 and 570 amps, with the lower setpoint being for the incorrectly installed breaker. The licensee found that the normal starting current for the motor was close enough to the instantaneous trip setting to create nuisance trips.

The licensee declared Boric Acid Pump CH-4B inoperable. However, Technical Specification 2.2 allows continued operation with one inoperable pump. The Technical Specification allows both boric acid pumps to be inoperable for 24 hours provided that both boric acid storage tanks (BASTs) meet Technical Specification level and concentration requirements.

The licensee initiated Engineering Change Notice 94-103 to replace the breaker. This action was required since the Model THEF136M2050 breaker was not available from the manufacturer. The licensee installed a General Electric Model TEC36050 breaker, which had the proper protection characteristics. In addition, the licensee physically inspected the breaker for Pump CH-4A and found that the correct breaker was installed. The licensee initiated Engineering Analysis Request 94-044 to investigate whether other molded case circuit breakers installed in motor control centers are correct for their applications. The inspector noted that a priority three was given for this request. Priority one is the highest and six being the lowest. The inspector questioned the licensee on the priority given. The licensee's design engineering subsequently performed an initial evaluation to provide confidence that no other instances similar to the Pump CH-4B breaker problem existed. Engineering reviewed the results of a physical walkdown performed during the 1992 refueling outage that documented the molded case circuit breakers installed in the motor control centers, including the as-found breaker trip settings. The licensee determined from each safety-related load the correct breaker based upon the vendor application guide. Engineering then verified that the walkdown listed the correct breaker. This effort would have

discovered the Pump CH-4B breaker problem. Design engineering will continue to perform a more detailed review as part of the engineering assistance request to verify that the installed safety-related molded case circuit breakers are correct for their application. This was scheduled to be completed in May 1994.

The licensee performed a review of the maintenance history on Pump CH-4B and, specifically, instances of breaker problems. The maintenance history showed nine maintenance orders for breaker problems beginning in February 1977. The maintenance work orders discovered from 1991 to the present were in the licensee's computerized maintenance history program, while the prior orders were available in hard copy. The inspector performed an independent review of the hard copy work orders from initial construction and found the same maintenance orders as the licensee did. In addition, the inspector reviewed the maintenance orders for Pump CH-4A and its motor control center to insure that work performed on Pump CH-4B wasn't inadvertently listed for the redundant pump. The inspector located no such examples. From review of the work orders, it was not possible to determine when the incorrect breaker was installed. The inspector noted that the breaker was replaced in May 1979, October 1991, and June 1992. Maintenance Work Order 913560, performed in October 1991, documented that the breaker was replaced with a Model THEF136M1050. This was the first official documented record of the installation of the incorrect breaker. The work order did not state the model number of the as-found breaker. The information on the work orders prior to this time was not detailed enough in that the breaker model number was not identified. As of the end of the inspection period the licensee had not been able to positively identify when the incorrect breaker had been installed. The system engineer located some unofficial maintenance notes that indicated that the undersized breaker was in place prior to 1979. There was a possibility that the breaker was installed during initial construction. However, there was no information located to date to support or disprove this possibility. Based on this review, the inspectors have identified concerns with the licensee's corrective action process for identifying and resolving repetitive hardware problems. Specifically, the adequacy of the maintenance process will be reviewed to determine whether the causes for deficient equipment conditions are adequately identified and corrected. This is an unresolved item (285/9407-01).

The inspectors reviewed the potential safety significance of the second boric acid transfer pump being inoperable during the period that the incorrect breaker was installed. The two boric acid pumps (CH-4A and CH-4B) take suction from their associated concentrated BAST (CH-11A and CH-11B). The normal discharge path for the pumps is to the volume control tank. However, if a safety injection actuation signal is received, the pumps will discharge to the suction of the charging pumps. Each boric acid pump is driven by a 480-VAC, 30 horsepower motor. However, if both boric acid pumps are not operable, boric acid will flow by gravity from the concentrated BAST to the charging pump suction. It was determined that the overall safety significance was minimal for this specific event because the system would have performed its safety function if needed.

The inspectors reviewed the licensee's process for identifying potentially significant conditions adverse to quality. One aspect of the licensee's process involved system engineering trending. The system engineers trend performance data received from routine surveillance tests such as pump flow and valve stroke time data. However, there was no such comprehensive trending program established to review equipment failures identified through the maintenance process. The inspectors will review the effectiveness of the licensee's system engineering trending program as an inspection followup item (285/9407-02).

2.4 Conclusions

The licensee has instituted corrective action to alleviate the concern of sand intrusion into the raw water and fire pumps. The licensee's response to return the boric acid pump to operable status was good once the reason for the breaker tripping had been identified.

3 OPERATIONAL SAFETY VERIFICATION (71707)

3.1 Routine Control Room Observations

The inspectors observed activities throughout this inspection period to verify that proper control room staffing and control room professionalism were maintained. Shift turnover meetings were conducted in a manner that provided for proper communication of plant status from one shift to the other. Discussion with operators indicated that they were aware of plant and equipment status and reasons for lit annunciators. The inspectors observed that Technical Specification limiting conditions for operation were properly documented and tracked. The inspectors noted that operators were consistently declaring equipment inoperable during surveillance testing. Control room traffic was observed to be effectively limited to personnel requiring access to conduct related work activities.

3.2 Plant Tours

On March 9, 1994, the inspector observed, while touring the upper electrical penetration room, an equipment danger tag attached to a labeled spare breaker on Motor Control Center MCC-3B1. The tag stated that the breaker for Radiation Monitor RM050/051 should be in the open position. The inspector was concerned that an equipment tag had been inappropriately placed. The inspector contacted the tagging coordinator and was informed that the spare breaker will be used for the new radiation monitor and that the label had not been changed yet. The new monitor had not become operational as of that observation. The inspector noted that the breaker was in the position required by the tag.

The inspectors observed that plant housekeeping was being maintained at an excellent level. However, it was noted that there were an increasing number of leaks throughout the radiologically controlled area that were being contained in catch basins and drains to the auxiliary building sump. Although

not considered an excessive amount, it did represent a noticeable increase over prior inspection periods. This observation was brought to management's attention.

3.3 Radiological Protection Program Observations

The inspectors verified that selected activities of the licensee's radiological protection program were properly implemented. Health physics personnel were observed routinely touring the controlled area. Contaminated areas and high radiation areas were properly posted, and restricted high radiation areas were found to be locked, as required.

On March 15, 1994, a licensee employee entered the radiologically controlled area without an operating alarming dosimeter. The individual read and signed the applicable radiation work permit (RWP 94-3015) and picked up an alarming dosimeter and a self-reading dosimeter. However, he failed to stop at the entry point to be logged, via computer, onto the applicable radiation work permit and have the alarming dosimeter turned on. The individual entered the entry point through the swinging exit gate. The failure to turn on the dosimeter was not discovered until the individual exited the controlled area to have his exposure logged onto the computer. The licensee's immediate actions were to suspend the individual's access to the controlled area, read his self-reading dosimeter (zero exposure), and initiate Incident Report 940123 to document and review the event. Procedure RP-AD-200, "Radiation Protection Administration Procedure," required that all personnel log in and out of the access control system for each radiologically controlled access entry. In addition, the procedure required, in Section 5.3.2.A, that personnel entering the controlled area wear approved personnel monitoring equipment. Radiation Work Permit 94-3015 required a thermoluminescent dosimeter and an alarming dosimeter. The failure to log into the access control system and have an approved (operable) alarming dosimeter is a violation of NRC requirements (285/9407-03).

NRC Inspection Report 50-285/93-23 contained a violation documenting four examples of individuals entering the radiologically controlled area without proper dosimetry. The corrective actions taken by the licensee in response to this violation have not been totally adequate to preclude recurrence.

3.4 Security Program Observations

Security personnel were observed performing their duties in a professional manner. Vehicles were properly controlled or escorted within the protected area. Designated vehicles parked and unattended within the protected area were found to be locked with the keys removed. The inspectors routinely toured the protected area perimeter and found it maintained at an excellent level. Proper compensatory measures were taken when a security barrier was inoperable. Plant personnel assigned escort responsibilities appropriately maintained control of their assigned personnel.

3.5 Followup on Auxiliary Steam Leak Concern

In NRC Inspection Report 50-285/94-03, the inspectors identified an issue concerning the potential for an auxiliary steam line break in the emergency diesel generator rooms. Auxiliary steam is used for room heating in these areas. The issue was raised with the licensee after the inspectors noted that there had been two steam leaks in the recent past on small diameter piping in the Emergency Diesel Generator 1 room. Another leak has occurred since. Based upon this identification, the licensee developed an auxiliary steam leak prevention/repair action plan with the goal to prevent steam leaks from occurring and affecting emergency diesel generator equipment.

The inspectors discussed the licensee's plan with operations personnel. It was verified that a heightened awareness by operating personnel had been established to closely monitor for auxiliary steam/condensate return leaks in the emergency diesel generator rooms. This monitoring was to include routine checks of piping and the fire detection system during routine operator rounds.

The inspector also reviewed the action plan items which were scheduled to be implemented by June 1994. These items included:

- Perform ultrasonic testing thickness measurements on auxiliary steam/condensate return piping.

- Perform inspection of threaded connections contained in auxiliary steam/condensate return piping in the diesel rooms.

Corrective actions would be dependent on the results of the inspections. The inspectors will monitor the results of the licensee's actions when they are implemented.

3.6 Licensee Emergency Response Organization Response to a Notification of Unusual Event (NOUE)

On February 11, 1994, the licensee declared a NOUE due to the plant trip following a engineered safety features supervisory relay failure. The shift supervisor declared the NOUE and instructed the control room communicator to send a pager code of "1-1-1," which is an information only NOUE notification intended to alert senior management. However, the communicator inadvertently entered a pager code of "2-2-2" which signifies a real emergency NOUE and instructs emergency response organization personnel to report to their assigned station. The licensee found that some of the people reported, some called the control room for information, and some did not report while waiting for a followup phone call. Normally, a followup phone call would be made if the individuals were required to report. However, the licensee stated that the training they give to their personnel is to report to their assigned stations upon receiving the "2-2-2" pager code. At the time of the NOUE there were 141 licensee personnel with emergency response duties that had pagers. There were 38 individuals that reported to the technical support center and 21

to the emergency offsite facility. The number that reported to the control room or the operations support center were not known.

The licensee investigated this event and concluded the following:

- Some emergency response organization members did not fully understand the responsibilities for reporting.

- Some members were not aware that emergency response activation can occur for a NOUE.

The licensee's corrective actions included required reading for all emergency response organization personnel of an event summary and explanation of responsibilities. The lesson plan was revised to include the option to activate the emergency response organization on a NOUE.

In addition, during the licensee's notification, the state of Nebraska did not answer the conference operations network phone. The licensee discovered that there was a phone line problem. The network is tested monthly and the last test was on January 27, 1994. It was not until 27 minutes after the declaration of the NOUE that the control room was able to call the state through commercial telephone lines. The licensee's corrective actions included providing backup commercial telephone numbers at various locations.

Division of Radiation Safety and Safeguards inspectors will perform further review of the failure of some personnel to respond to the NOUE and the failure to make a timely notification to the state of Nebraska. This is an unresolved item (285/9407-04).

3.7 Status of Licensee Equipment Subject to ASME Section XI Inservice Testing Requirement

During this inspection period, the inspectors performed a review of licensee equipment that was subject to ASME Section XI inservice testing. Specifically reviewed were the equipment that were presently in the ALERT RANGE or had been in the ALERT RANGE but had exited witnin the last 12 months.

There were a total of 15 pieces of equipment (valves and pumps) in the ALERT RANGE. No pumps were presently in the ALERT RANGE. Of the valves that were in the ALERT RANGE, seven were valves that had recently undergone significant modifications, including valve replacements. These modifications had slightly altered the valve performance characteristics, and the licensee needed to develop new reference data. Another five of the valves had recently been added to the inservice testing program and were also undergoing development of reference data. All of these valves were to remain in the ALERT RANGE until the reference data was fully developed.

The reasons for the remaining three valves being in the ALERT RANGE were as follows:

- The valve stroke time for the letdown temperature control valve was found to hover around the entry point to the HIGH ALERT RANGE due to high stem drag. The valve was scheduled to be repacked during the 1995 refueling outage.

- The licensee had recently lowered the reference stroke time for Charging Isolation Valve HCV-238, due to a consistent trend that was noted over the last year. During a surveillance test on November 15, 1993, the valve stroke time entered the HIGH ALERT RANGE. Subsequent surveillance tests have indicated that the valve was performing as it did prior to November 15. The licensee was unable to determine the exact cause. The licensee was reevaluating the valve reference data.

- Raw water component cooling water heat exchanger Raw Water Outlet Valve HCV-2881B was undergoing system valve modifications due to a valve stem failure and remained inoperable until these modifications were completed and the valve was successfully retested.

None of the valves that had been found to be in the ALERT RANGE had been there for a period longer than 6 to 8 months.

The inspectors identified 20 valves and pumps that had exited from the ALERT RANGE within the last 12 months. Of the valves, seven had entered the ALERT RANGE by a small margin, but then maintained a consistent performance which was well inside the REQUIRED ACTION RANGE. Since no problems were identified with the valves, new reference data was developed. The four remaining valves had either undergone maintenance or subsequent surveillance testing showed satisfactory results.

With regard to the pumps, the two fuel oil transfer pumps for Emergency Diesel Generator 2 had entered the HIGH REQUIRED ACTION RANGE due to an error in reading the data.

The inspectors found the licensee's actions in each case identified to be appropriate and in compliance with the requirements of ASME Section XI. The number of items that were presently being tracked did not appear to be excessive or to constitute a source of undue burden to site personnel. The inspectors also verified that those items that were presently in the ALERT RANGE were under an increased surveillance schedule. The coordinator for the inservice testing program was found to have an excellent knowledge of the status of the equipment addressed above and of the entire program. Licensee implementation of this portion of the inservice testing program was found to be very good.

3.8 Conclusions

Control room operations were performed in a professional manner. Previous corrective actions were not adequate to preclude an individual from entering the radiologically controlled area without proper dosimetry. The licensee developed an action plan to monitor auxiliary steam piping degradation in the emergency diesel generator rooms. The actions by members of the emergency response organization during a NOUE disclosed training deficiencies.

4 MAINTENANCE OBSERVATIONS (62703)

4.1 Scaffold Construction for Emergency Diesel Generator Air Start System In-Service Testing

On March 8, 1994, the inspector observed the licensee's efforts in erecting scaffolding in the area surrounding Emergency Diesel Generator 1. The scaffolding was erected to perform the 10-year pneumatic pressure test of the emergency diesel generator air start system. This effort was performed under Maintenance Work Order 940048 and the attached work package.

The inspector reviewed the maintenance work order and found it to be general in nature, but it provided clear information regarding the intent of the package and location where the work was to be performed. In addition, the maintenance work order provided appropriate precautionary statements with regard to the fact that this effort was being performed in proximity to safety-related equipment. The maintenance work order had been reviewed and approved as noted by the appropriate signatures. The rest of the work package, which included Procedure CWP-12, "Tube and Coupler Scaffold Work Procedure," Procedure CSS-12, "Standard Specification for Tube and Coupler Scaffold Construction," and Scaffold Control Form S-94-015, provided more detail guidance for this effort, but still relied, to a certain extent, on the skill of the craft. The inspector also reviewed the design of the scaffold to be erected and verified that it met the guidance set forth in licensee Procedures CWP-12 and CSS-12. For those portions of the design which did not meet the requirements listed in the afformentioned procedures, the inspector verified that an engineering evaluation had been performed to disposition these deviations. No problems were noted. The scaffold design was found to be adequate for this effort.

The inspector questioned the licensee personnel involved in the construction of the scaffold. The licensee personnel were found to have excellent knowledge of their responsibilities and were clearly aware of the concern regarding the safety-related equipment situated closely to the work activity. The inspector noted that the licensee personnel took appropriate precautions with regard to maneuvering around the diesel generator room with the scaffolding material. While erecting the scaffold, similar precautions were taken by the licensee personnel. The system engineers responsible for the diesel generators and the scaffolding effort, were noted to periodically tour the area, monitoring the work in progress. They inspected the diesel generator and the scaffold, verifying no problems had arisen. In addition,

the engineers provided guidance and oversight to the personnel performing this effort. The inspector determined that this effort was within the skill of the craft.

4.2 Charging Pump CH-1B Preventive Maintenance

On March 15, 1994, the inspector observed portions of the preventive maintenance activities that were being performed on Charging Pump CH-1B. Activities performed on the pump included taking oil samples, the disassembly, lubrication, and reassembly of the motor/pump coupling, and the changing of the pump oil and oil filters. The maintenance was conducted in accordance with Preventive Maintenance Order 9401846.

The inspector reviewed the preventive maintenance order and verified that it had been reviewed and approved as noted by the appropriate signatures. The guidance given in the work package was detailed in nature and technically adequate.

During the maintenance activity, the inspectors noted that maintenance personnel exhibited good mechanical work practices. Maintenance personnel disassembled the gear box-to-reducer coupling and the reducer-to-motor coupling for inspection. The couplings and their associated parts were inspected for corrosion and mechanical wear. None was noted. Following the inspection, the maintenance personnel replaced the lubrication grease for each coupling. After the preventive maintenance was completed, the gearbox was reassembled. Very good procedural compliance was noted. Throughout portions of this effort, the supervisor of maintenance planning was noted to monitor the maintenance activity. He observed the maintenance personnel performance and provided support wherever needed. Since the maintenance activity was conducted in a contaminated area, the inspectors verified that the workers utilized good radiation protection practices.

The inspectors verified the qualifications of the workers performing the maintenance. The inspectors also verified that the lead maintenance worker had completed the licensee certification process for performing charging pump maintenance.

4.3 Raw Water Valve HCV 2883-B Seat Replacement

On March 17, 1994, the inspector observed the performance of maintenance to repair a seat leak on Raw Water Inlet Valve HCV-2883B for Component Cooling Water Heat Exchanger AC-1D. The work was being performed under Maintenance Work Order 932018 using Procedure PE-RR-VX-0421S, "Inspection and Repair of Safety Related Masoneilan Minitork 37000 Series Butterfly Valves." After approximately 4 hours of attempting to drain the heat exchanger to a point below the valve, maintenance personnel suspected that a boundary isolation valve was leaking by. Maintenance called the system engineer who concluded that a leaking boundary isolation valve did exist. The inspector questioned whether the leak could be component cooling water from a tube leak. The licensee determined from a sample that component cooling water was not in the

drained water. The licensee decided to return the valve to its operable state and suspend the work until an outage.

Although the work was suspended before the valve was removed, the inspector noted two items. When the air operator was removed, it was supported from a compressed air line nearby. The craftsman questioned the maintenance supervisor in attendance and the operator was then supported from a heavier pipe support. Another observation was that excellent care was taken to assure that the tagout boundary was adequate before removing the valve. In this particular case, if maintenance had begun to remove the valve, raw water would have spilled over a large area. Although this would have had minimal personnel safety concerns, it would have caused a large cleanup problem.

4.4 Raw Water Pump AC-10B Replacement

On March 22, 1994, the inspector observed the removal of Raw Water Pump AC-10B, which was scheduled for replacement due to the inability to adjust the flow rate. The pump was replaced under Maintenance Work Order 940731 using Procedure MM-RR-RW-0001, "Removal and Installation of Raw Water Pumps." The inspector noted good adherence to the procedure and good care to protect both personnel and equipment during the removal.

4.5 Conclusions

Maintenance personnel were found to be knowledgeable of their responsibilities. Good procedural adherence and a good questioning attitude were noted. Maintenance supervisory oversight was observed.

5 SURVEILLANCE OBSERVATIONS (61726)

5.1 Auxiliary Feedwater Pump Operability Test

On March 25, 1994, the inspector observed the performance of the monthly operability test of both safety-related auxiliary feedwater pumps. The test was performed to satisfy Sections 3.9(2) and 3.9(4) of the Technical Specifications. The licensee used Surveillance Test Procedure OP-ST-AFW-004, "Auxiliary Feedwater Pump Operability Test," during the surveillance.

The test measured flow and differential pressure for Steam-Driven Auxiliary Feedwater Pump FW-10 and Motor-Driven Auxiliary Feedwater Pump FW-6. The inspector verified that the procedure required putting Pump FW-10 back into its normal configuration prior to performing the test on Pump FW-6. The licensee stated that during the test the pumps were operable and would have reacted to an engineered safety feature signal.

The inspector observed good adherence to procedure for both operations and maintenance personnel. A licensed operator was the lead in the test and was very knowledgeable of his duties.

5.2 10-Year Pneumatic Pressure Test of Emergency Diesel Generator 1 Air Start System

On March 15, 1994, the inspector observed the licensee perform portions of the 10-year pneumatic pressure test of the Emergency Diesel Generator 1 primary air start system. The surveillance activity was performed with the use of Surveillance Test Procedure SS-ST-SA-3001, "Ten Year Pneumatic Pressure Test of the DG-1 Air Start System."

The inspector found that Procedure SS-ST-SA-3001 had been reviewed and approved as noted by the appropriate signatures. In addition, the inspector verified that this surveillance test satisfied, in part, the requirements of Technical Specification 3.3(1)a. The pressure gauge being used to measure the pressure of the air start system during the test was within its calibration cycle, as noted by the calibration sticker. The inspector reviewed the valve lineup for this test and verified that all the appropriate valves had been tagged in the proper position. Finally, the inspector verified that the licensee had taken the appropriate measures to ensure the operability of the redundant air start system for this diesel and the operability of Emergency Diesel Generator 2.

During the performance of the test, procedural compliance was noted. The engineer performing the test was found to have a good knowledge of his responsibilities during this test. Craft personnel involved in the test periodically raised questions regarding steps in the procedure and valve lineups, indicating a good questioning attitude.

5.3 Conclusions

Good procedural compliance was noted. Personnel performing surveillances were knowledgeable of their responsibilities and exhibited a good questioning attitude.

6 ENGINEERED SAFETY FEATURES WALKDOWN (71710)

6.1 Auxiliary Feedwater System - Normal Operation

The inspector walked down the accessible portions of the auxiliary feedwater system to verify the system valve and switch alignments using Operating Instruction OI-AFW 1, " Auxiliary Feedwater System - Normal Operation." Drawings 11405-M-252, "Flow Diagram Steam," 11405-M-253, "Flow Diagram Steam Generator Feedwater and Blowdown," and 11405-M-254, "Flow Diagram Condensate," were also used in the verification process.

The inspector found that all valves and switches were in the correct position.

6.2 Containment Isolation Valves

The inspectors walked down the accessible areas of the plant to verify that manual containment isolation valves were in their correct positions and locks

ATTACHMENT 1

1 PERSONS CONTACTED

1.1 Licensee Personnel

*R. Andrews, Division Manager, Nuclear Services
*C. Boughter, Supervisor, Special Services Engineering
*J. Chase, Manager, Fort Calhoun Station
*G. Cook, Supervisor, Station Licensing
J. Foley, System Engineer
M. Frans, Supervisor, Systems Engineering
*W. Groves, Shift Security Supervisor
R. Jaworski, Manager, Station Engineering
*L. Kusek Manager, Nuclear Safety Review Group
J. Knight System Engineer
*D. Leiber, Supervisor, Security Support Services
B. Mierzejewski, System Engineer
*S. Miller, System Engineer
*R. Mueller, Supervisor, Electrical Design
*W. Orr, Manager, Quality Assurance and Quality Control
*T. Patterson, Division Manager, Nuclear Operations
R. Phelps, Manager, Design Engineering
*A. Richard, Acting Manager, Mechanical Design Engineering
*D. Ritter, Acting Manager, Security Services
*M. Roberts, Supervisor, Access Authorization
C. Schaffer, System Engineer
F. Smith, Supervisor, Chemistry
*R. Short, Manager, Nuclear Licensing and Industry Affairs
J. Tills, Operations Supervisor
*D. Trausch, Supervisor, Operations

*Denotes personnel that attended the exit meeting. In addition to the personnel listed above, the inspectors contacted other personnel during this inspection period.

2 EXIT MEETING

An exit meeting was conducted on March 28, 1994. During this meeting, the inspectors reviewed the scope and findings of the report. The licensee agreed with the inspection findings presented at the meeting. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.