ENCLOSURE 2

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-285/95-19

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: September 24 through November 4, 1995

Inspectors: W. Walker, Senior Resident Inspector
V. Gaddy, Resident Inspector

Approved: John L. Pellet 11-20-95
John L. Pellet, Acting Chief, Project Branch A Date

Inspection Summary

Areas Inspected: Routine, unannounced inspection of operational safety verification, plant support activities, maintenance and surveillance observations, onsite engineering, open item followup, and onsite review of licensee event reports.

Results:

Plant Operations

- The inspectors identified that Condensate Pump FW-2B did not contain any vibration probe markings for the pump bearing necessary for accurate, consistent vibration probe measurements during inservice testing. A similar occurrence was identified on a raw water pump in NRC Inspection Report 50-285/95-09. This appeared to be an example of ineffective communications in the system engineering group in that the lack of predesignated identification points for vibration readings on motors had been identified in the recent past (Section 2.3).

- Review of the licensee's locked valve program resulted in identification of one valve, Auxiliary Feedwater Valve FW-1049, not having the required caution tag. The licensee indicated that the required caution tag must have fallen off the valve during the period between the last licensee walkdown and the identification by an inspector. The licensee indicated that an additional walkdown of all the valves in the locked valve program would be performed (Section 2.4).

- The licensee revised their self-checking and peer checking and attention to detail procedure. The revision was designed to provide further guidelines for self-checking and peer checking. The new peer checking guidelines and expanding self-checking guidance appear to be a notable undertaking that could contribute to reducing operations personnel errors (Section 2.5).

- Review of log readings for Auxiliary Feedwater Pump FW-54 identified the failure by an auxiliary operator to properly verify one of the voltage readings that were being taken hourly. This was an example of a lack of attention to detail (Section 2.6).

- The inspectors identified plant equipment that did not have the required equipment labels. The lack of labels was considered a weakness in the licensee's plant labeling program (Section 2.7).

Maintenance

- Electrical maintenance personnel were racking in a 4160 volt lighting breaker and did not have work instructions with them at the work site. This activity was notable because the work was being performed in the presence of a maintenance supervisor. Failure to have the work instructions at the work location was identified as a violation of Criterion V of Appendix B to 10 CFR Part 50 (Section 4.1.1).

- Maintenance personnel performing preventive maintenance on Containment Spray Pump SI-3C failed to have the proper work instructions at their work site with them. This was another example of the licensee failing to have the proper work instructions at the work location and represents a second example of a violation of Criterion V of Appendix B to 10 CFR Part 50 (Section 4.1.3).

- The licensee took prompt action to analyze green lubrication oil in Boric Acid Pump CH-4A identified by the inspector. No degradation of the oil was found; however, the licensee is evaluating whether to change the 2-year oil change frequency to 1 year (Section 4.1.4).

- Surveillance activities were performed properly and in accordance with procedures (Section 5).

Engineering

- The licensee's actions were appropriate in addressing high particulate levels for the diesel generator (DG) fuel oil day tank and the auxiliary fuel oil storage tank in that there was a standing order in place and the licensee performed the appropriate actions per the standing order. However, the inspectors concluded that the licensee should have been more questioning concerning other potential diesel fuel oil sources which may have been contaminated, particularly the auxiliary feedwater day tank (Section 6.1).

- The licensee investigation of the failure of the Lockout Relay 86-B/Containment isolation actuation signal to trip was good. The system engineer thoroughly reviewed the past failure data for these relays and was aggressively pursuing the root cause for the failure (Section 6.2).

- The licensee determined that moisture had gotten into the DG secondary air receiver tanks prior to replacing the air dryers with the instrument air booster compressors. The moisture was introduced into the system during the times that the air dryers were out to service. Blowdowns of the air receivers will continue until the dew point measurements provide positive indication that all moisture has been removed from the tanks (Section 6.3).

Plant Support

- The licensee identified that two individuals entered a radiologically controlled area without having signed on the proper radiological work permit for that area. The individuals were properly logged in to the radiological controlled area; however, they did not log on to the correct radiological work permit which would allow them to go into an airborne radiation area. A noncited violation for entering into a radiological controlled area without following proper procedures was identified (Section 3.1.1).

Summary of Inspection Findings:

- A noncited violation was identified (Section 3.1.1).
- Violation 285/9519-01 was opened (Section 4.1.1).
- Licensee Event Report 285/94-010 was closed (Section 8.1).
- Licensee Event Report 285/94-011 was closed (Section 8.2).
- Licensee Event Report 285/95-003 was closed (Section 8.3).
- Violation 285/9512-01 was closed (Section 7.2).
- Violation 285/9519-01 was opened (Section 4.1.3).

Attachment:

- Persons Contacted and Exit Meeting

DETAILS

1 PLANT STATUS

The Fort Calhoun Station operated at 100 percent power throughout the entire inspection period.

2 OPERATIONAL SAFETY VERIFICATION (71707)

2.1 Routine Control Room Observations

The inspectors observed operational activities throughout this inspection period to verify that adequate 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. Discussions with operators indicated that they were aware of plant status, equipment status, and reasons for lit annunciators. Control room indications of various valve and breaker lineups were verified for current plant status.

2.2 Plant Tours

The inspector routinely toured various areas of the plant to assess the safety conditions and adequacy of plant equipment. The inspectors verified that various valve and switch positions were correct for the current plant conditions. Piping and instrumentation drawings and operating instructions posted in vital areas were inspected and found to be current. Personnel were observed obeying rules for escorts, visitors, and entry and exits into and out of vital areas.

2.3 Condensate Pump Vibration Markings

On October 3, 1995, during a tour of the turbine building, the inspectors observed that Condensate Pump FW-2B did not contain vibration probe markings for the pump bearing. The inspectors questioned the system engineer concerning the missing indications for placement of the vibration probe. The system engineer was not aware that the condensate pump did not have a specific location identified for placement of the vibration probe and agreed that a location point should be placed on the pump bearing to ensure comparable data was obtained during inservice testing. The inspector was informed that this pump had recently been reconditioned and the vibration probe location had not been re-marked.

The inspectors discussed with the system engineer whether any inservice tests had been performed without appropriate markings being on the pump and were informed that this had not occurred. The inspectors considered that the failure by the system engineer to identify the absence of an identified location for placement of the vibration probe appeared to be an example of ineffective communications in the system engineering group in that the lack of predesignated identification points for vibration readings on motors had been identified previously on a component cooling water motor during the service water system operational performance self-assessment and also recently on a raw water motor in NRC Inspection Report 50-285/95-09.

The licensee took prompt corrective actions in that vibration markings were placed on the pump bearing.

The inspectors also discussed with the system engineer whether a condition report had been written. The engineer informed the inspectors that a condition report had not been written; however, a review would be done to determine whether a condition report was appropriate.

2.4 Locked Valves

The inspector conducted a walkdown of selected valves in the licensee's locked valve program. The locked valves were contained in Standing Order SO-O-44, "Administrative Controls for the Locking of Components." All valves walked down were locked in their required position. However, the inspector did note a few valves did not have caution tags as required by the procedure. These caution tags alerted plant personnel that the valves should not be unlocked or operated without prior shift supervisor approval. Three valves in the potable water system and one valve in the auxiliary feedwater system did not have the required tags.

The valves were required to have a caution tag in accordance with the response to Licensee Event Report 91-027. As part of the corrective action from this report, the licensee indicated that labels for locked valves would be developed and installed on the valves.

Upon notification by the inspector, the licensee conducted an evaluation and determined that the potable water valves did not have to be in the locked valve program. The licensee had begun a procedural change to remove these valves from the program.

Auxiliary Feedwater Valve FW-1049 was the alternate supply valve to the emergency feedwater tank. This provided an alternate method of filling the emergency feedwater tank from the condensate storage tank. The licensee determined that this valve should have had the required caution tag and a tag was promptly placed on the valve.

The inspector noted that the valves were required to be periodically walked down. During the walkdown, the valve's position and the presence of a caution tag were to be verified. The licensee indicated that the required caution tags must have fallen off Valve FW-1049 during the period between the last licensee walkdown and the identification by the inspector because the licensee's walkdown had been recently completed. The licensee indicated that an additional walkdown of all the valves in the locked valve program would be performed.

2.5 Peer Checks

In an effort to supplement the previously existing self-checking program, the licensee revised Procedure OPD-3-09, "Self-Checking/Peer Checking/Attention to Detail," dated September 22, 1995. The revision was designed to provide further guidelines for self-checking and peer checking. New guidelines for peer checks were developed and existing guidance for self-checking was expanded. This new guidance was to further reinforce to operations personnel the need to provide attention to detail.

The inspectors discussed the new peer checking program with the licensee and were informed that all components that required a peer check prior to their manipulation had been marked with orange tape. These components were selected for peer check due to their impact on plant safety, reliability, and reactivity. A list of the components identified for peer checks were identified in Attachment 1 of the procedure. The peer check process would require operators to verify that the correct component was operated. This would be accomplished by using self-checking techniques and to request peer verification prior to operating the component.

Other equipment that was manipulated from either the control room or locally required the performance of a self-check. The self-check consisted of the following: verifying the component to be manipulated, touching the component prior to operation, reading the component label, pausing, performing intended action, and ensuring desired response was received.

The inspectors considered the implementation of new peer check guidelines and expanding self-checking guidance to be a notable undertaking that could contribute to reducing operations personnel errors.

2.6 Diesel Driven Auxiliary Feedwater Pump (FW-54)

During a tour of Room 87 (diesel drive auxiliary feedwater pump room), the inspectors reviewed the data sheets that logged pump performance data during the 96-hour pump run. During the review, the inspectors noted that the voltage readings taken on November 1, 1995, had been recorded as 580 volts. The voltage was recorded hourly by nonlicensed operations personnel. The inspectors noted that five consecutive hourly readings of 580 volts had been recorded. The inspectors reviewed the pump performance data from the previous day and noted that the voltage was consistently recorded as 480 volts. The inspectors questioned the licensee concerning the difference in voltage readings.

The licensee determined that the operator who had taken the 580 volt reading had misread the initial hourly reading. The operator recorded 580 volts instead of 480 volts. For the four remaining hourly voltage readings, the operator did not verify the pump voltage but simply continued to carry over the initial 580 volt reading.

The licensee discussed this incident with the operator and stressed the importance of verifying all parameters and attention to detail.

2.7 Equipment Labeling

During routine plant tours, the inspectors identified approximately 15 instrument air accumulators that did not have labels. The accumulators provided a temporary source of air to raw water and component cooling water interface valves in the event of a loss of instrument air. In addition the licensee identified other accumulators and associated subcomponents that were either not labeled or labeled incorrectly. The equipment included instrument air check valves, isolation valves, filter regulators, and instrument air trip valves.

To address the incident, the licensee initiated Condition Report 199500182 on November 2, 1995. The licensee indicated that the equipment should have had labels. The licensee stated that the components were overlooked during the plant relabeling program. The licensee then initiated label request forms to manufacture new labels for equipment missing labels and to correct inaccurate information found on certain tags.

In addition to this incident, the inspectors found an equipment tag that was not secured to any plant equipment. The equipment tag was for Valve HCV-385-20, "Safety Injection Refueling Water Storage Tank Recirculation Valve Solenoid." After discussions with the inspectors, the licensee took prompt action and attached the label to the correct component.

3 PLANT SUPPORT ACTIVITIES (71750)

3.1 Radiological Protection Program Observations

During this inspection period, the inspectors verified that selected activities of the licensee's radiological protection program were properly implemented. Health physics personnel were observed routinely touring the radiologically controlled areas. Contaminated areas and high radiation areas were properly posted, and restricted high radiation areas were found to be locked, as required. Area surveys, posted outside each room in the auxiliary building, were found to be current.

3.1.1 Entry Into a Radiologically Controlled Area Without a Proper Radiological Work Permit

On October 11, 1995, two licensee individuals entered a radiologically controlled area without having signed in on the proper radiological work permit for that area. The individuals were properly logged in to the radiologically controlled area; however, they did not log on to the correct radiological work permit which would allow them to go into an airborne radiation activity area. The licensee identified this activity in Condition Report 199500087. The inspectors discussed this incident with the radiation protection manager and were informed that the individuals who had entered the airborne area incorrectly had been counseled and were aware of the proper procedures.

This licensee-identified and corrected violation is being treated as a noncited violation, consistent with Section IV of NRC Enforcement Policy.

3.2 Security Program Observations

The inspectors observed various aspects of the licensee's security program. Security personnel were found to perform 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 and the keys removed. The inspectors routinely toured the protected area perimeter and found it maintained at an excellent level. Proper compensatory measures were observed when a security barrier was inoperable.

3.2.1 Security Diesel Weekly Start up

On October 19, the inspectors observed the automatic start up and loading of the security diesel. This is a weekly preventive maintenance run which verifies the diesel will automatically start and carry electrical loads for the security system and technical support center in the event of a loss of off site power.

The inspectors noted that the preventive maintenance work order had been reviewed and signed by the appropriate personnel.

The inspectors observed that the housekeeping in the security diesel room and backup battery system room was excellent.

4 MAINTENANCE OBSERVATIONS (62703)

The maintenance activities listed below were observed and documentation reviewed to verify that the activities were conducted in a manner which resulted in reliable safe plant operation.

4.1 Maintenance Observations

The following maintenance activities were observed:

- Construction Work Order, 95-126 "Plant Lighting"
- Maintenance Work Order 942329, "Fuel Oil Tubing Replacement"
- Preventive Work Order 9502514, "Containment Spray Pump SI-3C"

4.1.1 4160 Volt Plant Lighting Breaker

On October 6, 1995, the inspector observed electrical maintenance personnel attempt to rack in a 4160 volt lighting breaker. The electrical maintenance supervisor was also present at the work site. The breaker (1A4-15) provided power to Transformer TIC-4A, which provided lighting to the containment building and auxiliary building. Work was being conducted in accordance with Construction Work Order 95-126. In addition to racking in the breaker, the inspector also determined that electrical maintenance personnel had also conducted troubleshooting on the breaker to determine why the breaker would not rack in.

The inspector noted that electrical maintenance personnel did not have the work instructions with them during any of these work activities. Section 6.5.3.B of Procedure SO-M-100, "Conduct of Maintenance," requires, in part, that all work being performed be authorized by an approved work document that is maintained at the work location. Failure to have the work instructions at the work location is a violation (285/9519-01).

In addition to being a violation of the procedure, the inspector noted that the work was being performed in the presence of a electrical maintenance supervisor. The electrical maintenance supervisor failed to question the performance of the work without the required work documentation. The supervisor also initially indicated that the type of work being performed could be conducted without the work instructions being at the work site.

To address this event, the licensee counseled the individual involved on the importance of having the work instructions with them when performing work in the field.

4.1.2 Fuel Oil Tubing Replacement

The inspector observed portions of the postmaintenance testing of the DG 1 fuel oil transfer system. Mechanical maintenance had previously replaced the carbon steel tubing that connected the fuel oil pressure switch to the pump discharge with stainless steel tubing, since the carbon steel piping had caused prior fuel system leaks. This was not a like-for-like replacement. The inspector verified that the necessary engineering evaluation had been performed to ensure the acceptability of the stainless steel tubing.

The work was conducted in accordance with Maintenance Work Order 942329. The inspector verified that the carbon steel tubing was satisfactorily replaced. During postmaintenance testing, the inspector observed maintenance and operations personnel run the pump to verify the integrity of the tubing. Since the pump was run, the DG's day tank was filled, resulting in a high level alarm. Maintenance personnel drained the day tank to a level that cleared the alarm. The portion of maintenance observed was conducted in accordance with the procedure.

4.1.3 Containment Spray Pump SI-3C

On October 12, 1995, the inspector observed electrical maintenance personnel perform routine motor maintenance on Containment Spray Pump SI-3C. Specifically, maintenance personnel performed a motor inspection and also changed the oil in the pump. The work was authorized by Preventive Work Order 9502514. While observing the work, the inspector noted that maintenance personnel did not have the work documentation at the work site. When questioned, maintenance personnel indicated that they should have brought the work documentation with them to the work site. Section 6.5.3.B of Procedure SO-M-100, requires, in part, that all work being performed be authorized by an approved work document that is maintained at the work location. Failure to have the work instructions at the work location is a violation (285/9519-01).

The inspector noted that the work was inside a contaminated area and that radiation protection personnel were present to provide good radiological support during the maintenance activities.

The inspector discussed this event with the maintenance supervisor since this was the second instance of maintenance personnel performing work without having the work document at the work site. The maintenance supervisor stated that these events did not meet his expectation. The maintenance supervisor indicated that all maintenance personnel will be counseled on the importance of having work instructions at the work site.

4.1.4 Boric Acid Pump CH-4A

On September 26, 1995, during a walkdown of Boric Acid Pump CH-4A, the inspector noted the oil in the site glass appeared to have a greenish tint. The inspector verified that the oil in the site glass for Boric Acid Pump CH-4B was clear. The inspector informed the system engineer of the observation. The system engineer stated that the oil should not have a greenish tint and that the oil was clear when it was installed in April 1994. The system engineer then initiated Maintenance Work Order 953166 to have the oil replaced and analyzed to determine why the oil changed color. The pump had a 2-year oil change frequency. The last time the oil was changed and analyzed was April 1994. All parameters were in specification.

The oil was removed for analysis on October 3, 1995. After the oil was changed, the system was flushed and the pump passed postmaintenance testing. Sample results did not indicate any abnormalities indicative of damage to pump bearings or other pump components. Analysis results only revealed an elevated level for silicon (contamination).

The licensee concluded that, since the analysis did not reveal anything indicative of bearing damage and since previous vibration readings taken on the pump were within specifications, no operability concerns existed.

The licensee had not determined why the oil in the pump changed color. The licensee planned to continue to monitor the pump to determine the source of the silicon. Additionally, the licensee was evaluating whether to change the 2-year oil change frequency to 1 year. The licensee did not believe that an anomaly with the pump caused the oil to change color.

5 SURVEILLANCE OBSERVATIONS (61726)

The inspectors observed the surveillance testing listed below to verify that the activities were performed in accordance with the licensee's approved programs and the Technical Specifications.

5.1 Surveillance Observations

The following surveillance activities were observed:

- IC-PM-DSS-1001, "Diverse Scram System Actuation Relay Operability Test," Revision 4

- OP-ST-SI-3008, "Safety Injection and Containment Spray Pump Inservice Test and Valve Exercise Test," Revision 18

- SE-ST-AFW-3006, "Auxiliary Feedwater FW-10, Steam Isolation Valve and Check Valve Test," Revision 11

Operations and maintenance personnel were very knowledgeable of the tests. The inspectors verified the effectiveness of the new peer-check process that began on September 22, 1995. The inspector concluded that operators used good self-checks and proper repeat backs prior to manipulating any component that required self-checking. The tests were completed in accordance with the procedure. The inspectors also confirmed that the tests veri.ied the requirements of the Technical Specifications and the inservice testing program. The system engineer also participated in the performance of the auxiliary feedwater surveillance. All tests observed were conducted in a good manner.

6 ONSITE ENGINEERING (37551)

6.1 DG Fuel Oil High Particulates

On September 13, 1995, the licensee performed sampling of the DG main storage tank, DG 1 and 2 day tanks, and also the auxiliary boiler fuel oil storage tank. This sampling is done on a monthly basis per the licensee's Standing Order SO-T-16, "Emergency Diesel Generator and Auxiliary Boiler Fuel Monitoring Program, Revision 16." One of the items tested for is particulate levels. The specification calls for particulates at a level of 10 milligrams per liter or less.

Based on the test results, the licensee found that the DG 2 day tank and the auxiliary boiler fuel oil storage tank both contained high particulate levels. The as-found levels for the auxiliary fuel oil storage tank were approximately 14 milligrams per liter and, for the DG 2 day tank, approximately 23 milligrams per liter. Per the standing order, the licensee entered Action Level 2, which required that the affected tanks must be resampled and an analysis reperformed to verify the out-of-specification condition. The resampling and testing verified that the initial results were correct and the licensee, per the procedure, had 14 days to adjust the high particulate levels or perform an engineering evaluation to justify using the high particulate fuel.

The licensee filtered the fuel oil in the auxiliary storage tank and also the DG 2 day tank and reduced the particulate level in both tanks to less than 10 milligram per liter. The licensee verified the result of the filtering efforts by sampling the two tanks.

In addition, to address the potential for future degradation of the fuel oil, the licensee has developed an action plan which will address the root cause of where the particulates may have come from and also look into industry guidance on fuel oil integrity.

The inspectors also questioned the licensee concerning any other equipment in the plant which may have fuel oil supplied to it which potentially could be contaminated or have high particulate levels. Specifically, the inspectors questioned the system engineer concerning the source of the Auxiliary Feedwater Pump FW-54 diesel fuel oil supply. The inspectors were informed that Pump FW-54's day tank is supplied from the auxiliary boiler storage tank. The inspectors questioned the licensee concerning whether the auxiliary feedwater day tank fuel oil had been sampled and were informed by the licensee that this had not been done. The licensee promptly sampled the Pump FW-54 day tank and determined that particulate levels were approximately 14 milligrams per liter. The licensee established a preventive maintenance order (PMO) for sampling the fuel oil and testing it every 6 months.

The inspectors concluded that the licensee's actions were appropriate and timely for the DG day tank and the auxiliary fuel oil storage tank in that there was a standing order in place and the licensee followed the appropriate actions per the standing order. However, the inspectors determined that the licensee could have been more diligent in reviewing other diesel fuel oil sources which may have been contaminated, particularly the auxiliary feedwater day tank.

6.2 <u>Replacement of Lockout Relay 86-B</u>

On October 12, the inspectors observed the performance of Maintenance Work Order 95-3347, which was issued to replace Lock-out Relay 86-B/containment isolation actuation signal. This relay failed to trip as expected during quarterly testing for the Channel B safety injection actuation, containment spray, and recirculation actuation signal test. The inspectors noted that the electrical technicians performed the maintenance in accordance with the procedural requirements and signoffs were completed as required. The inspectors also observed that procedures used for performance of the maintenance had been reviewed in time by appropriate personnel.

The licensee initiated Condition Report 199500094 to document the failure of the relay to properly trip. The inspectors discussed with the system engineer whether similar failures had been observed in the past and were informed that this particular relay had been replaced in 1992 and was a newer style lock-out relay. The system engineer was in the process of performing a root cause analysis to try to determine the failure mechanism which caused this relay to be delayed in tripping.

The inspectors concluded that the lock-out relay replacement activities were performed in an appropriate manner.

6.3 Emergency DG Starting Air

The inspectors followed the licensee's investigation to determine how moisture had gotten into the DG 2 secondary air receiver tanks. In 1988, following a recommendation by industry groups, the licensee installed air dryers in the starting air system for both DGs. The air dryers were not very reliable, were often out of service for maintenance, and were occasionally bypassed. Since the air dryers were not very reliable they were replaced with instrument air booster compressors. Air dryers for DG 1 were replaced in April 1995, and the air dryers for DG 2 were replaced in November 1994.

Following the installation of the instrument air booster compressors, oil was noted during blowdowns of DG 2 secondary starting air receiver tanks. Dewpoint checks on the tanks were also out of specification. The licensee concluded that the small amount of oil noted during the blowdowns was not an operability concern. The licensee initially suspected that the high dewpoint readings noted during blowdowns of the secondary starting air receiver tanks were due to the oil in the system. This theory was contradicted when an oil removal filter was installed on the dewpoint analyzer and high dewpoints were still measured.

The licensee investigation determined that, during the 6 months prior to replacing the air dryers with the instrument air booster compressors, the air dryers were out of service on several occasions. The licensee believed that during this time moisture entered the tanks.

Concurrently, the licensee had conducted tests that showed the air coming out of the air booster compressor was very dry, with dewpoints of approximately -50°F. The air coming out of the secondary air receiver tanks had dewpoints of approximately +60°F. The air from the compressor supplied the secondary starting air receiver tanks. To eliminate the moisture, the licensee opened the drain valves on the air receiver tanks and continuously operated the instrument air booster compressor. The licensee believed that the dry air from the boosters might evaporate any residual moisture remaining inside the starting air receiver tanks. Blowdowns began on October 13, 1995. Initial dewpoint readings for both secondary starting air receiver tanks were +24°F and +42°F. The licensee planned to continue the blowdowns until they were satisfied all moisture had been removed from the tanks. To date, the dewpoints measured by the licensee have been inconsistent and have not provided assurance that all residual moisture had been removed from the tanks. The licensee will continue the blowdowns until dewpoint measurements provide positive indication that all moisture has been removed from the tanks. The inspectors will continue to monitor the licensee's progress in removing air from the secondary starting air system.

7 FOLLOWUP - MAINTENANCE (92902)

(Closed) Violation 285/9512-01: Failure to Implement Foreign Material Exclusion Controls During Control Room Air Conditioning Modification

This violation involved the failure of contract maintenance personnel to implement system cleanliness controls during a modification to the control room air conditioning system. Specifically, the inspector observed that, during a period of nonwork activity, maintenance personnel had not taken appropriate measures to preclude the introduction of foreign material into the safety system. Maintenance personnel had left the work area without covering the open portions of the system as required by procedure.

As part of the immediate response to this violation, the licensee counseled the individuals involved in the event and presented training sessions to appropriate contract maintenance personnel to reinforce management expectations concerning Standing Order SO-M-103, "Conduct of Maintenance," Revision 2. Specifics of the training included procedural compliance, expectations for covering systems during period of inactivity, affirmation of self-checking, and attention-to-detail expectations while performing maintenance.

As part of the long-term corrective action, the licensee planned to add this event to the industry events portion of conduct of maintenance training. This training was to be provided to contract maintenance and supervisory personnel and licensee maintenance personnel. This training was scheduled to be added to the conduct of the maintenance lesson plan by June 1996.

The inspectors reviewed the actions already completed by the licensee and the proposed actions and found that the actions appropriately addressed this issue.

8 ONSITE REVIEW OF LICENSEE EVENT REPORTS (92700)

8.1 (Closed) Licensee Event Report 285/94-010: Potential Accident Scenario Involving Loss of Control Room Air Conditioning

This report discussed the discovery made by the licensee that involved the potential loss of or inoperability of both control room air-conditioning units during certain potential scenarios.

The licensee's initial corrective actions were to revise the applicable procedures to ensure that control room temperature could be maintained at or below required levels during potential accident scenarios.

In addition, the licensee instituted a modification to the control room air conditioning system. This modification involved the addition of two air condenser units which now provide the ultimate heat sink for the control room air conditioners versus the component cooling water system. This modification was implemented to ensure that the control room air conditioning units would be able to perform their intended function in the event of an accident.

The inspectors considered the action taken by the licensee to be sufficient to address this issue.

8.2 (Closed) Licensee Event Report 285/94-011: Failure to Satisfy Surveillance Requirement for Steam Generator Level Check

This report documented the failure of a control room operator to record steam generator level readings on the data sheet for Surveillance Test OP-ST-SHIFT-0001, "Operations Technical Specification Required Shift Surveillance." The failure to record the steam generator level was a violation of Technical Specification 3.1, which required that shiftly checks of steam generator level be conducted and compared with remaining channels. In addition, the shift supervisor and shift technical advisor, who were required to review the surveillance data, failed to recognize that the steam generator level had not been recorded.

The licensee determined that the root cause of the failure was inadequate review by operations personnel.

To address the event, the licensee counseled the appropriate operations personnel. Licensed and nonlicensed operators were required to attend training on the event. The training stressed the importance of attention to detail during the performance of routine activities. Additionally, the format of the surveillance data sheet was changed to more clearly distinguish between days and shifts in the data entry area to more readily assist reviewers in identifying missing information.

The inspectors determined that the actions taken by the licensee were appropriate.

8.3 <u>(Closed) Licensee Event Report 285/95-003: Manual Reactor Trips Due to Water Leakage Into Reactor Coolant Pump Lube Oil</u>

This report concerns the manual tripping of the reactor when the licensee discovered that the upper oil reservoir lube oil cooler heat exchanger for the Reactor Coolant Pump RC-D3 motor had developed a leak. The leak was allowing component cooling water into the lube oil system for the reactor coolant pump motor.

To minimize possible damage to the motor bearings the reactor was required to be manually tripped. Initially, the licensee plugged tubes in this particular cooler and restarted the reactor. Approximately 1 week later a similar leak developed on the same lube oil cooler and the reactor was again manually tripped. The licensee performed destructive examination of the lube oil coolers and determined that intergranular stress corrosion cracking associated with nitrates in the component cooling water had caused the tube failures.

The licensee corrective actions were to replace the lube oil coolers in all four reactor coolant pumps and identify any other heat exchangers which might be susceptible to a similar failure. In addition, the licensee performed extensive testing to determine the failure mechanism for the lube oil coolers. Based on this failure analysis, the licensee concluded that the tube failure was produced by locally high residual stresses from the machining process coupled with the nitrate reaction on the material that resulted in stress corrosion cracking of those particular heat exchanger tubes. No additional heat exchangers in the plant were identified as being fabricated in a similar manner to the reactor coolant pump lube oil coolers and, therefore, the licensee concluded that a similar type failure would not be anticipated in those heat exchangers.

This issue was reviewed at the time the problem was identified and the results of the review are documented in NRC Inspection Report 50-285/94-09. The review indicated that the licensee had taken the appropriate actions to address this issue.

ATTACHMENT

1 PERSONS CONTACTED

Licensee Personnel

J. Brown, Shift Supervisor, Operations
J. Chase, Manager, Fort Calhoun Station
R. Connor, Assistant Manager, Fort Calhoun Station
G. Cook, Supervisor, Station Licensing
J. Cook, Shift Supervisor, Operations
R. Demeulmeester, Shift Supervisor
H. Faulhaber, Supervisor, Maintenance
S. Gambhir, Division Manager, Production Engineering
R. Jaworski, Manager, Station Engineering
L. Kusek, Manager, Nuclear Safety Review Group
D. Lovett, Supervisor, Radiation Protection
E. Matske, Licensing Engineer
W. Orr, Manager, Quality Assurance and Quality Control
T. Patterson, Division Manager, Nuclear Operations
J. Sefick, Manager, Security Services
J. Skiles, Manager, Design Engineering
M. Tesar, Manager, Corrective Action Group
J. Tesarek, Supervisor, Simulator Services
J. Tills, Assistant Plant Manager, Operations

The above personnel attended the exit meeting.

2 EXIT MEETING

An exit meeting was conducted on November 9, 1995. During this meeting, the inspectors reviewed the scope and findings of the report. The licensee did not express a position on the inspection findings documented in this report. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.