

U. S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
REGION IV

Report: 50-285/81-09

License No. DPR-40

Docket 50-285

Licensee: Omaha Public Power District  
1623 Harney Street  
Omaha, Nebraska 68102

Facility Name: Fort Calhoun Station, Unit 1

Inspection at: Fort Calhoun Station, Blair, Nebraska

Inspection conducted: April 1-30, 1981

Inspectors: *D. M. Hunnicutt*  
for D. L. Kelley, Senior Resident Reactor Inspector

5/22/81  
Date

*L. A. Yandell*  
L. A. Yandell, Reactor Inspector

5/21/81  
Date

Approved by: *D. M. Hunnicutt*  
D. M. Hunnicutt, Chief, Reactor Project Section 2

5/22/81  
Date

Inspection Summary

Inspection Conducted During Period of April 1-30, 1981 (Report 50-285/81-09)

Areas Inspected: Routine, announced inspection including (1) operational safety verification, (2) monthly maintenance observation, (3) monthly surveillance observation, (4) review of reactor trip, and (5) review of personnel air lock seal degradation. The inspection involved 60 inspector-hours on site by two NRC inspectors.

Results: Within the five areas inspected, one violation was identified in one area (operational safety, safety verification, paragraph 2). No violations or deviations were identified in the remaining four areas.

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DETAILS1. Persons Contacted

- \*S. C. Stevens, Manager, Fort Calhoun Station
- \*R. L. Andrews, Section Manager, Operations
- \*T. L. Patterson, Licensing Administrator, Production Operations
- \*R. L. Jaworski, Section Manager, Technical Services
- \*J. M. Gloschen, QA Engineer
- W. G. Gates, Supervisor, Operations
- G. R. Peterson, Supervisor, Maintenance
- L. J. Dugger, Reactor, Engineer

\*Denotes those attending exit interview.

The inspectors also talked with and interviewed other licensee employees during the inspection. These employees included licensed and unlicensed operators, craftsmen, engineers and office personnel.

2. Operational Safety Verification

The inspectors performed certain activities to ascertain that the facility is being operated safely and in conformance with regulatory requirements and that the licensee's management control system is effectively discharging its responsibilities for continued safe operation. The inspectors' activities and findings in this regard are described in the following paragraphs:

a. Inspection Activities Performed Several Times Per Week

- (1) Control room observations were made which included the following items:
  - (a) Licensee adherence to selected Limiting Conditions for Operations (LCO's).
  - (b) Observation of instrument and recorder traces for abnormalities.
  - (c) Verification of operator adherence to approved procedures.
  - (d) Verification of control room and shift manning.
- (2) Review of selected logs and records to obtain information on plant operations, trends, compliance with regulatory requirements, and assess the effectiveness of communication provided by these logs and records.

- (3) During the course of control room observations the inspectors noted the alarm status of the control room annunciators. The alarm status was discussed with several licensed operators to determine the cause for the alarm conditions. The inspector determined as a result of these discussions that for the plant status these alarms were normal and the operating staff is cognizant of the cause for the alarms.

b. Inspection Activities Performed on a Weekly Basis

- (1) The operability of selected Emergency Safeguards Features (ESF) systems was verified by noting valve positions, breaker positions, instrumentation and the general condition of major systems components.

The NRC inspector verified the operability of the High Pressure Safety Injection System by performing a complete walk down of the accessible portions of the system to (1) confirm that start-up valve checklist SI-1-CL-1A reflects plant drawings, (2) identify equipment conditions and items that may degrade performance, (3) ensure that instrumentation was properly valved in and functioning, and (4) ensure that valves were properly positioned, locked and sealed as appropriate.

The NRC inspector found two local pressure indication isolation valves, SI-223 and SI-224, mispositioned as required by the checklist. A review of the latest valve lineups on this system showed that on May 2 and June 6, 1980, these valves were in the correct position (shut). Surveillance test procedure ST-SI/CS-1, Section F.1, requires that these valves be operated in order to read HPSI pump discharge pressure locally, and the operator failed to restore these valves to their proper position at the completion of the test on March 17, 1981. This failure to follow procedures is an apparent violation against Technical Specification 5.8.1 which requires that "Written procedures . . . be established, implemented and maintained that meet or exceed the minimum requirements of Sections 5.1 and 5.3 of ANSI N18.7-1972 and Appendix A of US NRC Regulatory Guide 1.33 . . . ." (8109-01)

- (2) The licensee's equipment control was reviewed for proper implementation by performing the following inspection activities:
- (a) Review of maintenance order log and tag-out log to determine the licensee's compliance with LCO's and Technical Specifications action statements.
  - (b) Verification of "return to operable status of selected safety-related components and systems."

- (3) The inspector toured accessible areas of the plant at various times during the inspection to determine and/or verify equipment conditions, plant conditions, security, safety and housekeeping. Observations included the following:

- (a) General plant and equipment condition.
- (b) Fire Hazards.
- (c) Control of combustible material.
- (d) Fire watch postings and presence of fire watches when required.
- (e) Physical security.

The inspectors verified that the security plan is being implemented by observing that:

The security organization was properly manned and security personnel were capable of performing their assigned tasks.

- . Protected Area barriers were not degraded.
- . Isolation Zones were clear.
- . Vehicles were properly authorized, searched, and escorted or controlled within the protected area.
- . Persons within the protected area displayed photo identification badges and persons requiring escort were properly escorted.
- . Persons and packages were checked prior to entry into the protected area.

The inspector observed several shift turnovers and reviewed several shift turnover sheets.

No other violations or deviations were identified.

### 3. Surveillance Observations

- a. The NRC inspectors observed the following surveillance test:

ST-Acoustic-1, Revision 0, dated February 12, 1981 and modified by Setpoint/Procedure Change No. 6428.

- b. The inspectors determined through personal observation and appropriate records where appropriate that:

- (1) An approved procedure was used.
- (2) Test instrumentation was calibrated.
- (3) Limiting conditions for operation were met when the system being tested was removed from service.
- (4) The test data was recorded accurately and completely. Selected test results were independently verified by the inspector.
- (5) The surveillance test documentation was properly reviewed and test discrepancies were rectified.
- (6) Test results met Technical Specification requirements.
- (7) The test was done by qualified personnel.

No violations or deviations were identified.

4. Maintenance Observations

- a. The inspectors observed portions of the following maintenance activity:

A small leak was discovered in the piping to charging pump CH-1B. Maintenance Order (M.O.) 9859 was written and approved to perform the maintenance.

- b. The inspectors determined through personal observation and review of records, where appropriate that:

- (1) These activities were not violating limiting conditions for operations.
- (2) Redundant components were operable.
- (3) Required administrative approvals and tagouts were obtained prior to initiating the work.
- (4) Approved procedures were being used, if appropriate.
- (5) The procedures used were adequate to control the activity.
- (6) Activities were being accomplished by qualified personnel.



- (7) Replacement parts and materials being used were properly certified.
  - (8) Radiological controls were proper and that they are being properly implemented.
  - (9) Ignition source controls were properly implemented.
  - (10) QC hold points, if any, were observed.
  - (11) Equipment was properly returned to service.
- c. The inspector reviewed outstanding job orders to determine that the licensee is giving priority to safety-related maintenance and that a backlog is not developing on a given system which might affect its operability. The inspectors also determined that the proper approvals were obtained for job orders which appear to constitute design changes.

No violations or deviations were identified.

5. Reactor Trip

On April 28, 1981, at 6:40 a.m., Fort Calhoun Power Station experienced a reactor trip. The trip was caused by the negative lead on the feeder switch to panel AI41B burning at the cable termination point. The DC panel affected feeds various safety-related valves. Loss of this panel caused the valves to go to their fail position which is the accident position. The result was partial containment isolation. This in turn secured the cooling water to the RCP thermal barrier coolers. The RCP's were secured and the reactor temperatures were controlled by natural circulation. The loss of DC power from this panel also tripped the MSIV's. The power operated relief valves were used to control temperature.

The inspector interviewed several licensed operators and other members of the plant staff. Also, a review of the Sequence of Events (SEQ) record and plant charts were examined. The results of the reviews and interviews were that the reactor plant behaved as it should have.

No violations or deviations were identified.

6. Personnel Air Lock Door (PAL) Seal Degredation

On April 30, 1981, at 4:45 p.m., Fort Calhoun Power Station experienced a partial loss of containment integrity. The loss occurred when licensee personnel were exiting the containment after collecting chemistry samples.

Licensee procedures require a low pressure test of the personnel air lock doors after each entry. When this test was performed the limit of 82 bubbles per minute was exceeded on both doors. The licensee immediately implemented his emergency procedure for loss of containment integrity in accordance with his Technical Specifications. Approximately 40 minutes later, after dressing the inner door seal, the licensee regained containment integrity and terminated the emergency procedure actions. Shortly after, the outer door was sealed and the plant was returned to normal operating status.

No violations or deviations were identified.

7. Exit Interview

The inspectors met with licensee representatives (denoted in paragraph 1) on April 30, 1981, to discuss the scope and findings of this inspection.