

APPENDIX

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

Report 50-285/81-29

Docket 50-285

License DPR-40

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: October 1-31, 1981

Inspector: LA. Yandell for 11/3/81
D. L. Kelley, Senior Resident Reactor Inspector Date

Inspector: LA. Yandell 11/3/81
L. A. Yandell, Reactor inspector Date
Reactor Project Section 2

Approved by: D. M. Hunnicutt 11/3/81
D. M. Hunnicutt, Chief, Reactor Project Section 2 Date

Inspection Summary

Inspection conducted during period of October 1-31, 1981 (Report 50-285/81-29)

Areas Inspected:

Routine, announced inspection including (1) Operational Safety Verification (refueling mode); (2) Surveillance (refueling mode); (3) Maintenance (refueling mode); (4) Refueling Activities. The inspection involved 171 inspector hours by two NRC inspectors.

Results:

Within the four areas inspected no violations or deviations were identified.

DETAILS1. Persons Contacted

- *S. C. Stevens, Manager, Fort Calhoun Station
- W. G. Gates, Supervisor, Operations
- G. R. Peterson, Supervisor, Maintenance
- L. T. Kusek, Supervisor, Technical
- B. Hickie, Chemistry & Radiation Protection Supervisor
- *R. L. Andrews, Section Manager, Operations
- J. J. Fluehr, Reactor Engineer
- T. Chapman, Plant Health Physicist
- J. J. Fisicaro, Supervisor, Administrative Services
- D. Dale, QC Inspector

*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 (Refueling Mode)

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 selective Limiting Conditions for Operations (LCO's).
 - (b) Verification of operator adherence to approved procedures.
 - (c) Verification of control room and shift manning (Refueling).
- (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.

b. Inspection Activities Performed on a Weekly Basis

- (1) 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 Specification action statements.
 - (b) Verification of "return to operable status of selected safety-related components and systems."
- (2) The inspectors toured 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 is being implemented by observing that:

- . The security organization is properly manned and security personnel are capable of performing their assigned tasks.
- . Protected Area barriers are not degraded.
- . Isolation Zones are clear.
- . Vehicles are properly authorized, searched, and escorted or controlled within the protected area.
- . Persons within the protected area display photo identification badges and persons requiring escort are properly escorted.
- . Vital area physical barriers are not degraded.
- . Persons and packages are checked prior to entry into the protected area.

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

No violations or deviations were identified.

3. Maintenance Observations (Refueling Mode)

a. The inspectors observed portions of the following maintenance activities:

- (1) M09395, Tensioning of Reactor Vessel Studs. The inspectors attended the pre-meeting held to brief the personnel involved with the work. The inspectors observed the first pass as called for in MP-RC-6-11 and the taking of the first set of micrometer readings. The inspectors verified the qualifications of two QC inspectors participating in the activity.
- (2) FC-79-181B, Automatic Initiation of Auxiliary Feedwater. The inspectors observed electricians from Industrial Electrical Works, Inc. doing field connection work in panels AI-196 and AI-198 under contract #1288. The inspectors verified that proper drawings were being used and discussed with the contractor QC manager how field work was verified and drawings controlled.
- (3) FC-79-181C, Automatic Initiation of Auxiliary Feedwater, (SRDCO 81-220; Wide Range Steam Generator Level Indication). The inspectors observed craftsmen from ESSCO making connections to existing tubing of LT-901A and LT-901B in accordance with OPPD drawing D-4065. The inspectors reviewed the original, signed off SRDCO retained by Generation Station Engineering, and reviewed the results of the 1500 pound hydrostatic test performed on the tubing.

In addition, the inspectors observed the opening of the "B" Steam Generator as the licensee made preparations for eddy current testing. The inspectors verified that proper radiological controls were utilized, and observed that Health Physics were present during the evolution.

- b. On October 22, 1981, the containment HP discovered four contract workers, in an area of containment requiring respirators, not wearing respirators. They were immediately escorted from the area and given whole body counts. There were no abnormal indications recorded on the results of the whole body counts. The licensee investigated the occurrence and determined that between the time that inquiries were made of the requirements (several days) for entry and the actual entry, the respirator requirements changed. The workers apparently failed to note the change. The licensee has reviewed the method of posting to ensure that posting visibility is adequate and re-instructed the personnel involved on the need to heed the postings and follow requirements. This is a licensee identified item. No further investigation by the NRC is deemed necessary.

- c. 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 tag-outs 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 material being used were properly certified.
 - (8) Radiological controls were proper and 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.
- d. The inspectors 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 could 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.

4. Surveillance Observations (Refueling Mode)

- a. The inspectors observed portions of the following surveillance tests:
- (1) CP-105, "Pressurizer Pressure Channel 105," as part of ST-SDC-1, F.1, which verified the shutdown cooling interlock on HCV-347 and HCV-348.
 - (2) ST-ESF-14, F.3, Offsite Power Low Signal, but test was halted by an apparent failure in one of the steps. MO#12456 was issued to trouble shoot the problem.
 - (3) ST-ESF-6-F3, F4, Automatic Diesel Generator Operation, which verified the actuation of the ESF Systems with loss of off-site power.
- b. The inspectors determined through personal observations and records, as appropriate, that:
- (1) Approved procedures were 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.
- c. The records review was conducted to verify that:
- (1) Schedules and procedures were followed.
 - (2) Calibration history included; calibration interval, date of last calibration, and conformance or non-conformance to required tolerance prior to and following adjustments.
 - (3) Each item had a unique identification number.
 - (4) Reference standards were correct and verifiable.
- No violations or deviations were identified.

5. Refueling Activities

- a. The inspectors reviewed procedure OP-11, Reactor Core Refueling Procedure, and observed various refueling activities to verify compliance with Technical Specifications. In reviewing the initial conditions of OP-11, the inspectors verified that:
- (1) various equipment checkouts and surveillance procedures were performed,
 - (2) the reactor cavity water level was being maintained 23 feet above the upper end fitting of the fuel,
 - (3) personnel participating in core loading had been briefed on the procedure,
 - (4) at least two source range channels were providing continuous visual indication in the control room,
 - (5) containment integrity had been established,
 - (6) required radiation monitoring equipment was tested and operational,
 - (7) shutdown cooling was established,
 - (8) auxiliary building ventilation was lined up for the refueling mode,
 - (9) boron concentration was being maintained greater than 1700 ppm and determined once a shift, and
 - (10) proper communications were established between the Control Room, spent fuel area, and the refueling machine in containment.

The inspectors reviewed appendix A to OP-11, Fuel Movement Sequence, and verified that it was approved by the PRC and distributed to the various operating stations. The Master Copy was being maintained in the Control Room.

The inspectors observed refueling operations in the Control Room, the spent fuel pool area, and the containment. During these evolutions, the inspectors observed movements of the following fuel bundles:

IA11	G003	G017
HA03	E017	HA17
HA06	IA36	IA05
G41	FI05	E019
F006	F102	G014

The inspectors verified that the licensee's staffing during refueling was in accordance with Technical Specifications and observed that the licensee maintained good housekeeping in the refueling area.

- b. During fuel transfer operations on October 15, 1981, the TV camera mounted on the lower end of the refueling machine mast collided with the reactor vessel, at the time the machine was transiting empty from one core position to another. The collision sheared the cap screws holding the camera, so that the camera was only secured by two electric cables and the tilt air piston.

With the camera in this condition, the mast could not be fully retracted. The manufacturer (PAR) was contacted and the method of retracting and removal of the TV camera discussed.

A tarpaulin was lowered under the mast and the camera maneuvered into alignment using the cables and air piston. The mast was successfully retracted and the fuel handling machine moved away from the vessel.

It was then decided that the best method of removal was to send a diver into the cavity. This was done on October 16, 1981.

The camera was removed and four items (two pairs of safety wired cap heads and two shims) were successfully removed from the core shroud and fuel bundle tops.

Fueling operations were resumed after verifying no more items were in the vessel. Refueling operations were successfully completed.

No violations or deviations were identified.

6. Exit Interview

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