

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION

REGION IV

NRC Inspection Report: 50-285/84-29

License: DPR-40

Docket: 50-285

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

Facility Name: Fort Calhoun Station

Inspection At: Fort Calhoun Station, Blair, Nebraska

Inspection Conducted: December 1-31, 1984

Inspector: *L. M. Hennicutt* *1/25/85*
for L. A. Yandell, Senior Resident Reactor Date
Inspector

Approved: *L. M. Hennicutt* *1/25/85*
for L. E. Martin, Section Chief, Project Date
Section A, Reactor Project Branch 2

Inspection Summary

Areas Inspected: Routine, unannounced inspection of licensee's actions on previous inspection findings, operational safety verification, surveillance testing, maintenance activities, and followup of LERs. The inspection involved 80 inspector-hours onsite by one NRC inspector, of which 14 were offshift hours.

Results: Within the five areas inspected, two violations were identified (failure to take prompt corrective action - paragraph 2; and failure to follow procedures - paragraph 3).

8501310356 850128
PDR ADDCK 05000285
G PDR

DETAILS

1. Persons Contacted

- W. C. Jones, Assistant General Manager, OPPD
- *R. L. Andrews, Division Manager, Nuclear Production
- *R. L. Jaworski, Section Manager, Technical Services
- *K. J. Morris, Manager, Administrative Services
- H. H. Voigt, Esq., LeBoeuf, Lamb, Leiby & MacRae
- *M. C. Winter, Manager, Quality Assurance
- *W. G. Gates, Manager, Fort Calhoun Station
- C. J. Brunnert, Operations Supervisor, Quality Assurance
- M. R. Core, Supervisor, Maintenance
- L. T. Kusek, Supervisor, Operations
- R. J. Mueller, Supervisor, I&C and Electrical Field Maintenance
- J. E. Bentzinger, Procurement Supervisor, Quality Assurance

*Denotes attendance at the exit interview.

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

2. Licensee Action on Previous Inspection Findings

(Closed) Deviation 285/8308-01, "Documentation of QA Personnel Training." The licensee failed to include QA Form No. 18 into the revision of QAP 19, and to use QA Form No.'s 28 and 29 in individual training files. The licensee revised their program and issued new Procedures QADP-3, "Training and Certification of Audit Personnel," and QADP-4, "Training and Certification of Inspectors," to cover documentation of training. The NRC inspector reviewed the records of five QA auditors/inspectors and verified that the records were complete, the proper forms had been used, and supporting information was present. This item is considered closed.

(Closed) Deviation 285/8308-02, "Failure to Meet 30-Day Response Period." The licensee was cited in NRC Inspection Report 285/81-07 for failure to provide a response to Deficiency Report FCI-80-A-0044 within the required 30 days. In their response of June 16, 1981, the licensee committed to, "developing a procedure to provide for consolidating the listing and for tracking . . . the status of major outstanding items," and to include QA Deficiency Reports in this program. The District committed to be "in full compliance by August 1, 1981." As a followup to this violation, on April 4-8, 1983, this program was reviewed by an NRC inspector and found to be inadequate. A review of audit reports and responses from August

1981 to August 1982, showed that about 40 percent of the responses required were submitted after the 30-day period. A spot check of 1983 response records indicated that late responses had been reduced to 25 percent but this failure of the licensee to meet the August 1981, commitment resulted in Deviation 8308-02 being issued. In OPPD Letter LIC-83-133, dated June 3, 1983, the licensee stated that, "each division involved in the report process has established an internal short term tickle system," and that OPPD would, "be in full compliance with the 30-day initial response requirements for deficiency and quality reports by July 1, 1983."

On December 18, 1984, the NRC inspector reviewed licensee records and determined that 20 out of 44 active deficiency/quality reports were classified as overdue by the licensee's tracking system. This did not include those items that were past the 30-day response period but had been granted extensions and were considered "in progress." The QA representative indicated that OPPD was aware of this situation and had taken action to resolve these overdue items by the end of the year. During the exit interview, the licensee stated that subsequent to NRC Report 285/83-08, the 30-day response period was being satisfied until recently, when administrative delays had allowed due dates to be missed. The NRC inspector received a copy of the Deficiency/Quality Report Status Report showing all items either "in progress" or being verified by QA. This failure to promptly correct this condition is an apparent violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," which requires that, "measures . . . be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective equipment, and nonconformances are promptly identified and corrected." (285/8429-01)

Since this matter will be addressed in the licensee's response to Violation 285/8429-01, this item (285/8308-02) is considered closed.

3. Operational Safety Verification

The NRC inspector performed activities as described below to ascertain that the facility is being maintained in conformance with regulatory requirements and that the licensee's management control system is effectively discharging its responsibilities during power operation.

- a. The NRC inspector made several control room tours to verify proper shift manning, operator adherence to approved procedures, adherence to selected Technical Specifications, and operability of the reactor protective system and engineered safeguards equipment. Selected logs, records, recorder traces, annunciators, panel indications, and switch positions were reviewed to verify compliance with regulatory requirements. The licensee's equipment control was reviewed for proper implementation by reviewing the tag-out log and verifying

selected safety-related tag-outs. Several shift turnovers were observed and shift turnover sheets were reviewed during this inspection period.

- b. The NRC inspector toured the plant at various times to assess plant and equipment conditions. The following items were observed during these tours:

- . general plant conditions
- . vital area barriers not degraded or appropriately manned by security personnel
- . adherence to requirements of radiation work permits (RWPs)
- . proper use of protective clothing and respirators
- . plant housekeeping and cleanliness practices including fire hazards and the control of combustible material
- . work activities being performed in accordance with approved activities
- . physical security
- . HP instrumentation is operable and calibrated

- c. The NRC inspector verified operability of the following safety-related systems by performing a walkdown and switch verification of the accessible portions of the system:

- . Containment Spray System per Checklist CS-1-CL-A
- . High Pressure Safety Injection System per Checklist SI-1-CL-A
- . Low Pressure Safety Injection System per Checklist SI-1-CL-B
- . Auxiliary Feedwater per Checklist FW-1-CL-A
- . Engineered Safeguards Controls per Checklist ES-1-CL-A

On December 4, 1984, while performing the system walkdown in Room 13 of the Containment Spray System, the NRC inspector found SI-342 (Containment Spray to S.I. Check Valve Leakage Header Valve) closed but not locked. Checklist CS-1-CL-A called for this valve to be locked closed. 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 USNRC Regulatory Guide 1.33 . . .," and Procedure G-7 which states in Section 1.3 that, "adherence to the Operating Manual is mandatory." (285/8429-02)

Related to this matter the NRC inspector noted the following:

- (1) A review of OP-1, "Master Checklist for Startup or Trip Recovery," for the December 2, 1984, startup indicated that the containment spray lineup was exempted from being performed. A portion of Step IV.B, Note 2, Operating Instructions OI-RC-2B, "Reactor Coolant Vent and Leak Test Instruction," was deleted by a procedure change that eliminated the requirement to perform RC-2B-CL-D, "Reactor Startup Locked Valves." These deletions to startup procedures allowed the unlocked valve to be overlooked.
 - (2) It appears that SI-342 was operated as part of Step IV.Q of OI-RC-4, "Reactor Coolant System Normal Shutdown," to aid in the pressurizer cooldown, and the procedure seemed inadequate to ensure that SI-342 is returned to its proper position and locked. The licensee indicated at the exit interview that a procedure change was already being processed to revise OI-RC-4 to correct this matter.
 - (3) Since the startup of December 2, 1984, routine tours by Auxiliary Building operator failed to notice or question the presence of the lock and chain hanging over the pipe next to the valve in Room 13.
- d. The licensee completed heatup and final preparations for startup. The plant was made critical at 4:16 a.m. on December 2, 1984. The critical boron concentration was within acceptable limits, and all systems operated normally. The NRC inspector reviewed the following documents:
- . OP-1, "Master Checklist for Startup or Trip Recovery"
 - . CO-1-CL-A, "Containment Closure Checks"
 - . ES-1-CL-A, "Engineered Safeguards Controls"
- The plant was placed on an increasing power ramp and reached 100 percent power on December 4, 1984.
- e. The NRC inspector observed portions of Discharge Permit 84295 for "A" Monitor Tank. It was verified that radioactive and chemical analyses were performed, and that limits were satisfied at the discharge canal. The maximum release rate was established and the operations

checklist was complete and signed off. Procedure OI-WDL-3, Section IV.A, was performed and to verify that the Overboard Discharge Valves HCV-691 and HCV-692 shut on high radiation was performed satisfactorily, signed off, and attached to the discharge permit.

- f. The NRC inspector observed portions of Containment Purge 84065 and noted the following:
- . The X/Q log was maintained, the readings were within limits, and the shift supervisor review was performed
 - . the limiting X/Q was established
 - . VIAS was tested using RM 061
 - . the stack dewpoint and annubar readings were taken
 - . the tritium sampler was in place and the sample was taken
 - . the recommended release rate was established, and the actual flow was lower than that authorized
 - . radioactivity analyses were performed
 - . the required effluent monitors and recorders were operational
 - . the required auxiliary building exhaust fans were operating
 - . OI-VA-1, Section IV.G was performed satisfactorily and attached to the permit
 - . the initial reading of the stack flow integrator was noted on the recorders
 - . the operations checklist to CMP 4.5 was complete and signed off by the shift supervisor
 - . the permit was reviewed and signed off properly, and the termination time was established

No other violations or deviations were identified.

4. Surveillance Testing

The NRC inspector witnessed portions of the following surveillance tests:

- a. ST-ESF-11, F.1 (Monthly) Steam Generator Pressure Channel Check

- b. ST-RM-1, F.2 (Monthly) Area Monitor Checks
- c. ST-RM-2, F.2 (Monthly) Process Monitor Checks
- d. ST-ISI-WD-1, F.1 (Quarterly) Waste Disposal Valves Inservice Testing
- e. ST-FW-1, F.2 (Quarterly) Pump and Remotely Operated Valve Check and F.3 (Monthly) FW-10 Steam Supply Line Check

In the above surveillance tests, the NRC inspector verified, where applicable that:

- . testing was scheduled in accordance with Technical Specification requirements
- . procedures were being followed
- . calibrated test equipment was being used
- . qualified personnel were performing the tests
- . limiting conditions for operation were being met
- . test data were being accurately recorded

No violations or deviations were identified.

5. Maintenance Activities

The NRC inspector witnessed portions of the work performed on the following maintenance items:

- a. Maintenance Order (MO) 843894, "A/PIC-905." As Surveillance Test ST-EST-11, F.1 was started, the Sigma meter for Channel "A" PIC-905 was found inoperable causing a partial (1/2) Steam Generator Low Signal (SGLS). The NRC inspector observed the preparation of the MO and verified that it was properly filled out and signed off. It was noted that repairs were performed per Maintenance Procedure MP-SIGMA-1, "Sigma Maintenance Procedure," and that RPS "A" Channels 6 and 7 were bypassed as per the Technical Specifications. The NRC inspector observed part of the work performed at the I&C shop and verified that qualified technicians were assigned to the task. The NRC inspector noted that the jumper log was used and that entries were properly made and cleared. Following completion of repairs, the NRC inspector observed the performance of ST-ESF-11 to verify operability and noted that a QC representative was present, that the MO was signed off, and that the channel bypass keys were removed and

returned to the shift supervisor's custody when the channels were returned to operation.

- b. MO 844025, "AC-10C." The Raw Water Pump, AC-10C, had experienced a high bearing vibration that was identified during the performance of Surveillance Test ST-ISI-RW-3, F.1, "Raw Water Inservice Pump Test." The MO was verified to be signed off properly and Tag-Outs 84-1679 and 84-1680 were assigned to the job. Maintenance Procedure MP-AC-10, "Removal and Installation of Raw Water Pumps," was used to cover this work and the NRC inspector verified that initial conditions were signed off, procedure steps were signed off when completed, and FC-18, "Flame, Cutting, and Welding Permit," was attached to the package. Qualified craftsmen were assigned to perform the work, and the requirements of Technical Specification 2.4 were satisfied. Following completion of the work, ST-ISI-RW-3, F.1 was performed and bearing vibration was within acceptable limits.
- c. MO 843991, "CH-1C Packing Cooling System." This MO was initiated when the packing cooling pressure alarm for Charging Pump CH-1C was activated. An initial check by the I&C technicians verified that the pressure switch was set and operating properly per CP-282, "Packing Cooling Pump Pressure Control Switch 282." The NRC inspector reviewed the MO and verified that the applicable Technical Specification reference was identified and that QA/QC signoffs were present. The entire packing cooling pump unit was changed out, but the pump shaft broke. The licensee manufactured a new shaft, but it too broke after a few days service. A second shaft was manufactured and the NRC inspector observed the work in the machine shop. It was verified that the new shaft was built to manufacturer's specifications, and that CQE material was used and identified on the MO. The NRC inspector accompanied the machinists and electricians and observed the installation and testing of the unit at the charging pump. Acceptable discharge pressure was obtained, but pump amperage was high and the electricians removed the unit to rebuild the motor. The motor was rebuilt the next day, installed and tested satisfactorily.
- d. MO 844144, "FP-1B." The Diesel Driven Fire Pump FP-1B, failed to start and it was found that the starter was physically damaged due to a sheared pin. The MO was properly filled out and the NRC inspector noted that the appropriate Technical Specification was referenced, that the fire insurer was notified, and that the notification tag (along with regular Tag-Out 84-1726) was hung on the control switch. A new qualified switch was obtained and installed the following day. The unit was tested satisfactorily per Surveillance Test ST-FP-1, F.1 using OI-FP-6, "Fire Protection System Inspection and Test," and returned to service the same day.

- e. SRDCO 84-74, "DC Grounds On HCV-507B and HCV-500B," and MO 843999, "HCV-507B." A MO was written when a DC ground was observed as Valve HCV-507B was going to the SHUT position. The licensee expanded their investigation of the matter under EEAR 84-204 and issued SRDCO 84-74 to install varistors at Panel AI-100 on HCV-507B (Terminals C52 and C53) and HCV-500B (Terminals C83 and C84). The NRC inspector reviewed the SRDCO package for completeness and verified that QC hold points had been observed, that all other steps were signed off, and that the applicable Technical Specification was referenced. The NRC inspector reviewed the drawings Dwg. 161F576, Sheet 7 and Dwg. 11405-E-38 and noted that they reflected the work accomplished and were marked up for transmittal to be updated. The NRC inspector verified that the spare parts used were recorded for tracking purposes, that Qualified Life Program requirements were considered, and that Tag-Out 84-1728 was issued for this job. The NRC inspector reviewed the safety evaluation (FC-154) which was attached to the package and noted that it addressed the matter of maintaining containment integrity during this design change.

No violations or deviations were identified.

6. Followup of Licensee Event Reports (LERs)

- a. LER 84-001, "Crane Interlocks Left Bypassed Without a Crane Supervisor." The hooks on the auxiliary building crane cannot travel over the spent fuel pool unless the travel interlocks are bypassed by means of a key switch on the crane. Contrary to the requirements of Technical Specification 2.11(2), the crane supervisor left the spent fuel pool area while the key was still in the interlock bypass switch. The QC inspector discovered this condition and immediately called for another crane supervisor. During the period of approximately 20 minutes, the crane was not operated in any interlocked zone over the spent fuel pool. The certification of the crane supervisor who failed to maintain proper administrative control of the interlock key was withdrawn and the incident was discussed with the individual by plant supervision. The licensee reviewed the training and certification of crane supervisors.

The NRC inspector verified that this certification was withdrawn and that retraining of the individual was conducted before recertification was granted. The training package was reviewed to verify that Technical Specification 2.11(2) and Operating Instruction OI-HE-2, "HE-2 Auxiliary Building Crane," were adequately covered. The corrective actions of the licensee appeared to be adequate.

- b. LER 84-003, "Inadvertent Trip of DC Power to Control Room Panel AI-41B." During the process of tagging out Instrument Inverter "B" for maintenance, the operator installing the tags inadvertently

opened the DC power to Panel AI-41B rather than the DC feeder to the inverter. The plant was in a refueling shutdown at the time. The operator realized his mistake and restored power to AI-41B in approximately two minutes. As a result of this power loss, both channels of the Steam Generator Low Signal (SGLS) unblocked and tripped, and several component cooling water valves failed open allowing system pressure to drop. This in turn caused several raw-water backup valves to open. This resulted in a loss of inventory to the Component Cooling Water (CCW) system, and the running CCW pump was secured. Refilling of the CCW system was started immediately and the system was restored to normal in approximately one hour.

The licensee reviewed the maintenance procedure to ensure that it was correctly written and verified that the error was made by the operator in opening the wrong breaker. This matter was reviewed by the licensee with the operator involved and the remaining operating personnel. The NRC inspector considered the licensee's corrective actions adequate.

- c. LER 84-004, "High Reactor Coolant Activity During Plant Shutdown." During a normal plant shutdown, it was determined during a routine reactor coolant sample analysis that the reactor coolant radioactivity was in excess of 1.0 uCi/gm DOSE EQUIVALENT I-131. Technical Specification 2.1.3(5) required that sampling/analysis frequency be increased to once every eight hours and a report be submitted to the NRC. It is common for activity to "spike" during a shutdown, and this particular event was high because the licensee was shutting down from 302 days of continuous operation.

The NRC inspector verified that the increased sampling and analysis was performed, and noted that the DOSE EQUIVALENT I-131 returned to below the limit within 30 hours.

It appears that the LER was not required under the new LER ruling that went into effect on January 1, 1984, but the licensee elected to submit the report under the requirements of Technical Specification 2.1.3(5). The NRC inspector considered the actions taken by the licensee to be adequate.

7. NRC Meetings

On December 20, 1984, Mr. W. C. Jones, Assistant General Manager of OPPD, Mr. H. H. Voigt, Esq. of LeBoeuf, Lamb, Leiby & MacRae, and other members of OPPD management met with Messrs. P. S. Check, D. R. Hunter, W. L. Brown, T. F. Westerman, and L. A. Yandell of Region IV for an enforcement conference. The purpose of the conference was to discuss

the licensee's response to IE Bulletin 82-02 and the associated material false statement cited in NRC Inspection Report 285/84-12. Final disposition of this enforcement package is pending as of the end of this report period.

8. Exit Interview

The NRC inspector met with licensee representatives on January 4, 1985, to summarize the scope and findings of the inspection.