

APPENDIX C

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-285/87-24

Operating License: DPR-40

Docket: 50-285

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

Facility Name: Fort Calhoun Station (FCS)

Inspection At: Fort Calhoun Station, Blair, Nebraska

Inspection Conducted: September 1-30, 1987

Inspector:

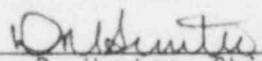
  
P. H. Harrell, Senior Resident Reactor  
Inspector

1/22/88  
Date

  
T. Reis, Resident Reactor Inspector

1/22/88  
Date

Approved:

  
D. R. Hunter, Chief, Technical Support Staff  
Division of Reactor Projects

1/22/88  
Date

Inspection Summary

Inspection Conducted September 1-30, 1987 (Report 50-285/87-24)

Areas Inspected: Routine, unannounced inspection including followup on previously identified items, licensee event report followup, operational safety verification, plant tours, safety-related system walkdowns, monthly maintenance observations, monthly surveillance observations, radiological protection observations, in-office review of periodic and special reports, review of 10 CFR Part 21 program, and followup on IE Information Notices and IE Bulletins issued for information only.

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Results: Within the 11 areas inspected, 6 violations (failure to properly store compressed gas cylinders in the auxiliary building, paragraph 5; failure to establish a procedure for controlling the erection of temporary scaffolding in areas containing safety-related equipment, paragraph 5; failure to post up-to-date 10 CFR Part 21 documentation, paragraph 12) and 1 deviation (failure to implement interim measures for control of fire barriers, paragraph 2.m) were identified.

## DETAILS

### 1. Persons Contacted

- \*R. Andrews, Division Manager, Nuclear Production
- \*W. Gates, Plant Manager
- \*C. Brunnert, Supervisor, Operations Quality Assurance
- \*M. Core, Supervisor, Maintenance
- \*T. Dexter, Supervisor, Security
- \*J. Fisicaro, Supervisor, Nuclear Regulatory and Industry Affairs
- J. Foley, Supervisor, I&C and Electrical Field Maintenance
- H. Faulhaber, Manager, Electrical Engineering, Generating Station Engineering
- \*J. Gasper, Manager, Administrative and Training Services
- \*L. Gundrum, Plant Licensing Engineer
- \*R. Jaworski, Section Manager, Technical Services
- J. Kecz, Acting Reactor Engineer
- R. Kellogg, Technical Services Engineer
- M. Klanderud, Licensing Engineer
- L. Kusek, Supervisor, Operations
- D. Munderloh, Plant Licensing Engineer
- \*T. McIvor, Supervisor, Technical
- R. Mueller, Plant Engineer
- \*A. Richard, Manager, Quality Assurance
- G. Roach, Supervisor, Chemical and Radiation Protection
- \*R. Scofield, Supervisor, Outage Projects
- \*D. Trausch, Nuclear Production Engineer
- S. Willrett, Supervisor, Administrative Services and Security

\*Denotes attendance at the monthly exit interview.

The NRC inspectors also contacted other plant personnel, including operators, technicians, and administrative personnel.

### 2. Followup on Previously Identified Items

- a. (Closed) Open Item 285/8623-03: Modification of Exhaust Piping on the Security Diesel Generator - This item was related to the failure of the security emergency diesel generator while supplying power to security equipment. A review by the licensee determined that the diesel stopped because the air intake filter had become clogged due to exhaust gasses entering the fresh air intake.

Initially, the licensee indicated that a review would be performed to determine if a modification to the diesel exhaust piping should be made. The licensee subsequently determined that a preventive maintenance (PM) instruction would be issued to require the air intake filter to be changed monthly. PM EE-24 was issued and

performed on September 29, 1986, to change the filter. The licensee has changed the filter monthly since initiating the PM.

The NRC inspector reviewed the actions taken by the licensee. It appears that the actions taken by the licensee will ensure that the security diesel will be available when needed. The NRC inspector noted that the licensee had tested the security diesel weekly since the event and no further problems were encountered and that during sustained diesel operations, the licensee personnel have been instructed to routinely check the condition of the air intake filter.

- b. (Closed) Severity Level IV Violation 285/8522-II.F.1.1  
(Deficiency 85-22/2.1-8): Incorrect Information on Flow Diagram for the Main Steam System - This violation noted that Drawing M-252 incorrectly represented the piping arrangement associated with the bypass valves and the auxiliary feedwater steam warm-up lines.

In response to this violation, the licensee revised and reissued Drawing M-252 to correctly represent all lines associated with the main steam system.

The NRC inspector reviewed and performed a walkdown of the main steam system to verify that Drawing M-252 accurately reflected the plant as-built conditions. No problems were noted.

During each inspection period, the NRC inspector walks down a selected safety-related system to verify that the plant drawings accurately reflect plant as-built conditions. During recent system walkdowns, the NRC inspector occasionally found errors between the drawings and the as-built plant, but the errors were of an editorial nature and did not affect the safe operation of the plant or the operability of the system. After each walkdown, the licensee corrected the minor errors noted by the NRC inspector.

- c. (Closed) Severity Level IV Violation 285/8529-II.A.2  
(Deficiency 85-29/2.2-1): Installation of Temporary Lead Shielding Without an Engineering Evaluation - This violation described a problem where the licensee was installing temporary lead shielding on safety-related piping without performing an engineering evaluation to determine if the piping could withstand the stresses caused by the additional weight of the lead.

The licensee analyzed all locations where lead shielding had been installed and a documented engineering evaluation was not available for review at the time the violation was identified. In each case reviewed by the licensee, no cases were noted where the installed piping had been over stressed due to the weight of the shielding. In four of the locations, the licensee opted to leave the shielding installed. The licensee performed appropriate calculations to verify that no piping degradation existed. In addition, the licensee securely attached the shielding to ensure that the shielding would

not shift or move on the piping. The weight of the attachments was considered in the engineering evaluations.

The licensee has established a program through the issuance of Procedure SO-G-57, "Installation of Temporary Lead Shielding," to ensure that a proper engineering evaluation was performed and documented prior to the installation of any lead shielding. The program required that an independent review be performed to verify that the required analysis and safety evaluation were completed prior to approving installation.

The NRC inspector reviewed a selected number of evaluations to verify that the shielding installed without a documented engineering evaluation did not affect piping integrity, reviewed the evaluations and actual installation for the four locations where the shielding was left installed to verify proper installation, and reviewed Procedure SO-G-57 to verify that the licensee had established an appropriate program for control of shielding installation.

During the 1987 refueling outage, the NRC inspector reviewed the installation of temporary lead shielding on several occasions to verify that an engineering evaluation had been performed and that the shielding was installed in accordance with the installation instructions. For each case reviewed, the licensee had properly installed the shielding.

Based on the review performed by the NRC inspector, it appeared that the licensee had performed evaluations for installed shielding and had established a program to adequately control future shielding installations.

- d. (Closed) Severity Level IV Violation 285/8529-II.A.3 (Deficiency 85-29/2.2-2): Swagelok Fitting Installed Through Fire Barrier at the Entrance to Room 17 - This item involved the installation of a stainless steel Swagelok fitting through a fire barrier. The licensee could not produce documentation to indicate that the installation of the fitting was performed in accordance with an approved plant engineering field change.

The licensee, prior to startup from the 1985 refueling outage, performed an evaluation and determined that the installation of the fitting did not degrade the fire barrier. The review of this portion of the followup on this violation is documented in NRC Inspection Report 50-285/86-03.

The licensee revised and upgraded Procedure SO-G-58, "Fire Barrier Protection," to include requirements for identification and evaluation of all existing fire barrier penetrations. A program for identification was completed and the evaluations performed on the penetrations indicated some penetrations were inadequate. The licensee repaired the inadequate penetrations. The barrier



containing the stainless steel fitting identified by this violation was replaced with a new fire door.

The NRC inspector reviewed Procedure SO-0-58 to verify that the licensee had established an adequate program to ensure an evaluation was performed prior to installing a penetration. It appeared that the program was adequate. In addition, the NRC inspector performed numerous plant tours to identify any penetrations that had been installed without prior approval. No penetrations were identified during the tours.

- e. (Closed) Severity Level IV Violation 285/8529-II.A.4 (Deficiency 85-29/2.2-3): Safety Evaluations for Installation of Temporary Jumpers had not been Performed - This violation was related to the failure of the licensee to perform evaluations for electrical and mechanical jumpers and blocks installed in safety-related systems. It was noted during the inspection that some jumpers had been installed greater than 18 months.

The licensee performed a review of all electrical and mechanical jumpers installed at the time of the inspection to verify none of the jumpers adversely affected the operation of a safety-related system. No problems were noted. The licensee also revised Procedure SO-0-25, "Electrical and Mechanical Jumpers and Block Control," to include requirements previously unaddressed in Procedure SO-0-25. The new requirements included performance of a documented safety evaluation prior to installation of a jumper or block, review of jumpers and blocks for initiation of a design change to make long-term temporary system changes into permanent system modifications, and implementation of a tracking system to ensure the design changes are implemented in a timely manner.

The NRC inspector reviewed the jumper and lifted lead log to verify that all temporary modification activities performed on safety-related systems received an evaluation prior to installation of the modification. During review of the log, the NRC inspector noted no problems with the performance of evaluations. There were two temporary modifications that had been installed in systems for greater than 18 months. In both cases, the licensee had initiated and scheduled system design changes to make the temporary modifications permanent. A review of the log also indicated that the Supervisor, I&C and Electrical Maintenance and the Plant Engineer reviewed the temporary modification log each month to verify that all installed jumpers and blocks were necessary. The NRC inspector performed a review of Procedure SO-0-25 to verify that the procedure appropriately implemented a program that provided adequate control of temporary jumpers and blocks. Based on the various reviews performed, it appeared that the licensee had established and implemented an acceptable program for control of temporary modifications.

- f. (Closed) Unresolved Item 85-29/2.5-2 of NRC Inspection Report 50-285/85-29: No Documentation Available for Replacement of O-rings in Foxboro Transmitters - This unresolved item identified that the licensee could not produce documentation for replacement of the O-rings in Foxboro transmitters following instrument calibration. The calibration procedures used by the licensee required O-ring replacement in order to maintain the equipment qualification of the transmitters.

The licensee replaced the O-rings in all Foxboro transmitters prior to plant startup from the 1985 refueling outage. Each O-ring replacement was documented by an informal notation in the calibration procedure for each instrument and by completion of a Form FC-198 "Electrical Equipment Qualification/Qualified Life Program Information Sheet." In addition, the licensee made changes to all affected calibration procedures to require that formal entries be made to record the part and purchase order numbers for the O-ring used, and a verification sign-off that the transmitter cap was torqued to the proper value. By including this information in each calibration procedure, the licensee established a method for easily retrievable documentation for verification of O-ring replacement.

The NRC inspector reviewed a selected sample of completed calibration procedures that were performed during the 1985 refueling outage to verify that documented evidence existed to indicate that the O-rings were properly replaced. The NRC inspector also reviewed selected calibration procedures to verify that changes had been made to require documentation of O-ring replacement in each calibration procedure. No problems were noted during the reviews.

- g. (Closed) Severity Level IV Violation 285/8529-II.F.1.b (Deficiency 85-29/2.8-1): Failure to Properly Perform a Battery Charger Test - This violation was related to the failure of the licensee to perform an adequate test of Battery Charger 3. The test did not require that data be taken at specific time intervals; therefore, no evidence existed that the battery charger could meet the established acceptance criteria.

In response to this violation, the licensee reperformed the test on the battery charger during the 1987 refueling outage in accordance with Maintenance Order (MO) 871643. The MO provided specific instructions for testing that included the concerns identified by the inspection team. The concerns were starting time of test, initial float and equalizing voltages, voltage values recorded at regular intervals, final float and equalizing voltages at test completion, and completion time of test. The licensee reviewed the test results and determined that the battery charger was capable of meeting its intended safety function.

The NRC inspector reviewed MO 871643 to verify that the licensee had established an appropriate test for the battery charger. The review

included verification that the appropriate data was taken, the acceptance criteria were clearly established, and the test results verified that the battery charger was capable of performing its operational requirements. Based on the results of the review performed, it appeared that the licensee had taken appropriate actions to verify proper operation of the charger.

- h. (Closed) Severity Level IV Violation 285/8529-II.I.4, II.I.5, and II.I.6 (Deficiency 85-29/2.9-1): Failure to Properly Store Material in Temporary Critical Quality Element (CQE) Storage Areas - This violation involved the failure of the licensee to ensure only properly designated CQE material was stored in temporary CQE storage areas. CQE storage areas were erected inside the plant to provide storage for items that had received quality assurance (QA) inspection and required segregated storage in accordance with ANSI standards.

In response to this violation, the licensee revised Procedure SO-G-22, "Storage of Critical Element and Radioactive Material Packaging, Fire Protection Material, and Calibration Equipment." The procedure revision established new requirements for placing or storing parts and materials in the temporary CQE storage areas. The procedure required that an entry on a storage area log sheet be made and verification established to ensure that the material was CQE prior to placement in the storage area.

The NRC inspector reviewed Procedure SO-G-22 to verify that the procedure had properly implemented requirements to prevent storage of non-CQE material in temporary CQE storage areas. During the past 12 months, the NRC inspector also performed an inspection of various temporary CQE storage areas located in the plant. During the reviews, the NRC inspector verified that the material stored in the areas was CQE material; the material was properly identified; the material was properly stored with respect to cleanliness control, as appropriate; and no non-CQE material was stored in the area. No problems were noted with the procedure revision or storage of material in the temporary CQE areas.

- i. (Closed) Severity Level IV Violation 285/8529-II.I.3 (Deficiency 85-29/2.9-3): Failure to Perform Surveillances of Temporary CQE Storage Areas - This violation was related to the failure of the quality control (QC) department to perform surveillances of temporary CQE storage areas. The monthly surveillance requirements were established by Procedure SO-G-22 and no documentation existed to indicate the surveillances were being performed.

The licensee revised Procedure SO-G-22 to establish a program for tracking the surveillances performed to verify the adequacy of temporary CQE storage areas. The revision to the procedure implemented Form FC-1068 that provided a historical record for surveillance performance for each storage area. Form FC-1068



required a surveillance of each storage area monthly during plant operations and weekly during the high activity period of a refueling outage.

The NRC inspector reviewed Procedure SO-G-22 to verify that an appropriate surveillance program for storage areas had been established. The NRC inspector also reviewed Form FC-1068 to verify that surveillances had been performed on a monthly or weekly frequency, as appropriate. During review of Procedure SO-G-22 and Form FC-1068, no problems were noted. It appeared that the licensee had established and implemented an acceptable program for the surveillance of temporary CQE storage areas.

- j. (Closed) Severity Level IV Violation 285/8529-II.J.1 (Deficiency 85-29/2.10-1): A Program for Installation of Temporary Lead Shielding had not been Established - This violation documented the failure of the licensee to establish a program for installation of temporary lead shielding on safety-related systems.

This violation is discussed in paragraph 2.c of this inspection report. Based on the discussion, this violation is considered closed.

- k. (Closed) Severity Level IV Violation 285/8614-01: Failure to Maintain Cable and Cable Tray Installations in Accordance with Design Documents - This violation was related to the failure of the licensee to maintain the installation of safety-related cable and cable trays in accordance with the design documents that originally installed the cable and trays. The problems noted in this violation were the failure to maintain cable tray covers properly installed and overfilling of a tray with power cables.

The licensee took actions to ensure that the installation of safety-related cable trays complied with design documentation. The actions taken by the licensee included a walkdown of all trays to ensure all covers were properly installed. The walkdown was performed in accordance with the instructions provided by MO 862038. The licensee established a computerized system for the cable and conduit schedule. Using the computerized schedule, the licensee established that the cables installed in Tray Section 21S were satisfactory. The cables were determined to be satisfactory based on cable derating factors. Prior to establishment of a computerized schedule, the licensee used a criteria based on cable and tray cross-sectional area. The licensee also revised the appropriate sections of the Updated Safety Analysis Report (USAR) Figure 8.5-1 to reflect the change to the computerized system. Drawing 11405-E-151 provided instructions for installation of cable trays. This drawing has been deleted and USAR Figure 8.5-1 has been implemented for cable tray installation instructions.

The NRC inspector reviewed the actions taken by the licensee to verify that they were appropriate. The items reviewed are listed below:

- . Reviewed the calculation performed by the licensee and verified that the cables installed in Tray 21S did not exceed the limits specified for cable derating.
- . Reviewed USAR Figure 8.5-1 to verify that the licensee had changed the figure to reflect the newly established computerized conduit and cable schedule.
- . Walked down various cable trays in the auxiliary building and in containment to verify that covers were properly installed, no loose objects were in the trays, divider plates were securely fastened, and cables were tied down.

Based on the reviews performed, it appeared that the licensee had taken appropriate actions to ensure cables and cable trays were installed in accordance with design requirements and had taken actions to ensure the cables and cable trays were maintained in a satisfactory condition.

1. (Closed) Open Item 285/8702-05: Review of the Audit Performed by the Licensee in the Area of 10 CFR Part 21 Activities - This open item is related to an audit performed by the licensee in the area of Part 21 activities. During an inspection performed by the NRC inspector in January 1987 the inspector noted various problems with the licensee's implementation of their Part 21 activities. The NRC inspector noted that the licensee's QA department had found the same problems during an audit performed in December 1986.

The NRC inspector reviewed the close out of the deficiencies identified by the licensee. The review was performed to verify that the QA department had addressed the specific problem noted and had ensured that adequate action had been taken to prevent recurrence. The deficiencies noted by the QA department were a systematic and generic problem with issuance and control of procedures and instructions related to Part 21 reporting responsibilities, and a systematic and generic problem related to training of personnel in each individual's responsibilities for reporting Part 21 deficiencies. Based on the review, it appeared that the QA department performed adequate close out of the audit findings.

- m. (Open) Severity Level V Violation 285/8710-01: Failure to Provide a Continuous or Hourly Fire Watch for Nonfunctional Fire Barriers - This violation identified a problem where the licensee failed to provide a fire watch for a nonfunctional fire barrier. The failure to provide a fire watch was a violation of TS 2.19(7).

In response to the violation, the licensee stated that Procedures SCP-14, "Patrol Procedures," used to define responsibilities of the security guard during plant tours, and SO-0-38, "Firewatch Duties and Turnover Procedures," used for the establishment of fire watches, would be revised to ensure that an effective program was implemented. The licensee revised Procedure SO-0-38, but had not completed implementation of corrective actions due to Procedure SCP-14 not being revised.

In response to this violation, the licensee also stated that a memo would be issued to all personnel with unescorted access as an interim measure. The purpose of the memo was to make each individual aware of his/her individual responsibilities in maintaining fire barriers fully functional. The interim measure was to be taken until changes could be made to the appropriate procedures to establish permanent corrective action.

In followup on this violation, the NRC inspector noted that the licensee had not yet issued the memo. The failure to issue the memo that provided interim measures for ensuring nonfunctional fire barriers were provided appropriate attention is an apparent deviation from a commitment made to the NRC. (285/8524-01)

As detailed in NRC Inspection Report 50-285/87-20, the licensee has continued to experience problems in maintaining fire barriers in a functional status. These problems were discussed with licensee management during the exit interview.

- n. (Open) Unresolved Item 285/8710-05: Performance of a Calculation to Verify Sufficient Trisodium Phosphate Dodecahydrate (TSP) is Stored in Containment - This unresolved item was related to the performance of a calculation for verification that sufficient TSP was in place in containment. The calculation was to be performed to evaluate the discrepancy between the TS and the USAR as to the quantity of TSP needed in containment in the event that containment recirculation was initiated. Prior to plant startup in June 1987 the NRC inspector reviewed a preliminary calculation that verified the proper amount of TSP was stored in containment. At the time of the review, licensee personnel stated that a formal calculation would be completed in the near future (i.e., 2 or 3 weeks). The NRC inspector has requested at various times since review of the preliminary calculation, to review the final calculation; the licensee has not yet completed the formal calculation to verify the TSP in containment was adequate. This item remains open pending completion of the formal calculation by the licensee and a review of the results by NRC personnel.

### 3. Licensee Event Report (LER) Followup

Through direct observation, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective

action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with TS.

The LERs listed below are closed:

- 87-005      Unplanned actuation of the ventilation isolation actuation system (VIAS) via Radiation Monitor RM-061
- 87-006      Unplanned initiation of the containment pressure high signal (CPHS) during surveillance testing
- 87-020      Unplanned actuation of the VIAS via Radiation Monitor RM-050

A discussion of the closeout of each LER is provided below:

- a.    LER 87-005 reported inadvertent actuation of the VIAS during calibration of Radiation Monitor RM-061. The VIAS was initiated when the technician pushed RM-061 back into the monitor cabinet and a loose screw caused a momentary loss of signal. The loss of the signal caused initiation of the VIAS. All appropriate systems functioned normally. The technician tightened the screw and the VIAS cleared.

The licensee issued MO 871159 to check and tighten the screw terminations on the other process monitors. No other screws were found that were loose. In addition, during routine calibration activities, technicians verify that all connections are tight.

The NRC inspector reviewed the actions taken by the licensee. Based on the review, it appeared that the licensee had taken appropriate actions to correct the cause of the event and to prevent recurrence.

- b.    LER 87-006 reported the initiation of the containment pressure high signal (CPHS) during performance of a local leak rate test for the containment pressure sensing penetration. All appropriate safety equipment functioned normally. CPHS was initiated due to a contract technician error during performance of the pressure test. The technician inadvertently opened the sensor isolation valve prior to bleeding the test pressure off the sensing line. The technician failed to follow all notes and steps contained in the procedure being used. Upon becoming aware of the event, the technician bled the pressure off the sensing line to clear the CPHS.

The licensee instructed all contract and licensee technicians of the importance of ensuring all notes and steps of procedures were followed. The licensee committed in Violation 285/8710-04, which was related to an error in performance of a local leak rate surveillance test, to conduct training for contract and licensee personnel performing leak rate testing. This training should ensure that tests are performed properly during the next refueling outage.



The NRC inspector reviewed Procedure ST-CONT-3, "Type C Local Leak Rate Test," to verify that the proper instructions had been provided to the technicians. No problems were noted. The NRC inspector reviewed the actions taken by the licensee and it appeared that the actions were appropriate for correcting the problems related to this event and that the proposed training will prevent recurrence.

- c. LER 87-020 reported the unplanned actuation of the VIAS during plant startup. The VIAS was initiated due to a containment radiation high signal that was caused by an alarm on Radiation Monitor RM-050. All appropriate systems functioned normally during the VIAS. The licensee took immediate action and verified no particulate radiation was present in containment and no release occurred.

The licensee reviewed the cause of the initiation of the VIAS and noted that the setpoints for RM-050 had not been reset from the shutdown value to the operating value prior to commencing plant startup. To ensure that the setpoints were reset at the appropriate point during plant startups in the future, the licensee made a procedure change to require resetting of the setpoints at a reactor coolant system temperature of 395°F, the minimum temperature at which the hydrostatic test of the reactor coolant system may be performed during startup.

The NRC inspector reviewed the actions taken by the licensee and it appeared that appropriate actions were taken to ensure that no particulate radiation was released to the atmosphere. The NRC inspector reviewed Procedure OI-RC-3, "Reactor Coolant System Startup," and verified that a change had been issued to require the setpoints to be raised from the shutdown to operating values at 395°F. Based on the review performed by the NRC inspector, it appeared that the licensee had taken actions to prevent recurrence of this event.

- d. In May 1987, the licensee identified problems with the welds on the emergency feedwater storage tank (EFWST). In May 1987, a conference was held in the Region IV offices to discuss the problems associated with the EFWST welds and the licensee's planned corrective actions.

Four days after the meeting, the NRC inspector requested that an LER be submitted to the NRC detailing the problems found with the EFWST. Licensee personnel stated that an LER would be sent.

In September 1987, the NRC inspector requested a copy of the LER on the EFWST. Licensee personnel stated that the LER had not yet been issued. In addition, licensee personnel stated that the problems with the welds on the EFWST were not reportable under the requirements of 10 CFR Part 50.73; therefore, an LER was not issued within the 30-day requirement specified in Part 50.73. Subsequently,



the licensee issued LER 87-022, dated September 25, 1987, detailing the problems identified with the EFWST. The LER was issued as a voluntary report by the licensee.

When the NRC inspector reviewed the circumstances associated with this event, it appeared that a 30-day event report should have been initiated by the licensee. This item remains unresolved pending a review of the licensee's LER program to verify that the program properly implements the reporting requirements of 10 CFR Part 50.73. (285/8724-02)

No violations or deviations were identified.

4. Operational Safety Verification

The NRC inspectors conducted reviews and observations of selected activities to verify that facility operations were performed in conformance with the requirements established under 10 CFR, administrative procedures, and the TS. The NRC inspectors made several control room observations to verify the following:

- . Proper shift staffing
- . Operator adherence to approved procedures and TS requirements
- . Operability of reactor protective system and engineered safeguards equipment
- . Logs, records, recorder traces, annunciators, panel indications, and switch positions complied with the appropriate requirements
- . Proper return to service of components
- . MOs initiated for equipment in need of maintenance
- . Appropriate conduct of control room and other licensed operators
- . Management personnel toured the control room on a regular basis

No violations or deviations were identified.

5. Plant Tours

The NRC inspectors conducted plant tours at various times to assess plant and equipment conditions. The following items were observed during the tours:

- . General plant conditions, including operability of standby equipment, were satisfactory.

- . Equipment was being maintained in proper condition, without fluid leaks and excessive vibration.
- . Plant housekeeping and cleanliness practices were observed, including no fire hazards and the control of combustible material.
- . Performance of work activities was in accordance with approved procedures.
- . Portable gas cylinders were properly stored to prevent possible missile hazards.
- . Tag out of equipment was performed properly.
- . Management personnel toured the operating spaces on a regular basis.
- . The auxiliary feedwater pumps were not steam bound.

During plant tours, the NRC inspector noted the following:

- . A seismic support for a safety-related cable tray in Room 81 had been removed and not reattached. The support was attached to the tray but was not affixed to a structural member. The NRC inspector requested the licensee provide a drawing that would indicate whether or not the tray support should be installed to maintain seismic qualification of the tray. The licensee stated that a drawing showing the location of tray seismic supports did not exist. The licensee could not establish, prior to the end of this inspection period, whether or not the support was required for the cable tray. This item remains unresolved pending a review by the licensee to determine if the tray support is required and to establish why no drawing exists that shows the location of seismic supports for safety-related cable trays.  
(285/8724-03)
- . During a tour of the auxiliary building on September 21, 1987, the NRC inspector identified a problem where two large nitrogen compressed gas cylinders had been secured to a support for a safety-related pipe snubber. The snubber was attached to the recirculation line for the safety injection and containment spray pumps. The NRC inspector also noted that a large nitrogen bottle pressurized to 1600 psig was attached to a handrail, in the vicinity of safety-related equipment, with a 3/8-inch nylon rope; that 4 gas cylinders were tied in a group to a cylinder storage rack with a 3/8-inch nylon rope; and a welding cart containing an oxygen and acetylene compressed gas cylinder, without caps, was stored, unsecured in an area with safety-related equipment.

Criterion V of Appendix B to 10 CFR Part 50 states, in part, that activities affecting quality shall be prescribed by documented procedures of a type appropriate to the circumstances and shall be accomplished in accordance with these procedures.

Paragraph 1.0 of Section 6.4, "Housekeeping," of the licensee's Quality Assurance Plan (QAP) states, in part, that this plan section specifies the quality assurance requirements for housekeeping controls for protection of equipment. Paragraph 4.5 of QAP Section 6.4 states, in part, that instructions which implement this plan section shall be contained in the station standing orders.

Standing Order (SO) G-6, "Housekeeping," was issued to implement the requirements of QAP Section 6.4. Paragraph 3.3.4 of SO-G-6 states, in part, that gas cylinders shall be properly stored in the auxiliary building, with caps installed, unless in use or use is intended within a short period of time.

Contrary to the above, the licensee failed to properly store gas cylinders in the auxiliary building, as noted by the four examples discussed above, in that cylinders were secured to a safety-related seismic support; cylinders were secured using a 3/8-inch nylon rope, an unapproved storage method; and cylinders were left uncapped and unsecured in the auxiliary building. This is an apparent violation. (285/8724-04)

As documented in past inspection reports issued by the NRC resident inspector, the licensee has continued, over the last 6 months, to encounter problems with storage of gas cylinders in the auxiliary building. Early in this inspection period, the licensee issued a memo to the appropriate personnel to alert the individuals of the problems previously experienced with the storage of gas cylinders. It appears that issuance of the memo did not provide adequate corrective action to prevent recurrence of this problem. The licensee, upon notification by the NRC inspector, took actions to properly secure the gas cylinders.

Housekeeping in the auxiliary building continued to require additional licensee attention. Bags of miscellaneous material were stored in various locations. Room 59 was noted to have a large accumulation of bagged material.

During a tour of the plant on September 9, 1987, the NRC noted that the licensee had erected two temporary scaffolding sections adjacent to the EFWST. One section of scaffolding was a free-standing structure and the other section was attached to the EFWST instrumentation lines. The NRC inspector requested a copy of the safety evaluation that addressed the affect of the nonseismically installed scaffolding on the EFWST, should a seismic event occur. The licensee stated that a safety evaluation had not been performed and that no procedure existed to require an evaluation be done when erecting temporary scaffolding in safety-related areas.

The scaffolding was erected to facilitate work on the nitrogen supply line for the EFWST in accordance with Modification

Request (MR) FC-86-56. MR-FC-86-56 stated that scaffolding should be erected, as needed, to perform the modification work.

Criterion V of Appendix B to 10 CFR Part 50 states, in part, that activities affecting quality shall be prescribed by procedures of a type appropriate to the circumstances.

Paragraph 4.7.2 of Section 5.1, "Control of Plant Design and Modification," of the licensee's QAP states, in part, that appropriate procedures shall be used for modification activities.

Contrary to the above, the licensee failed to implement a procedure for control of the erection of temporary scaffolding in areas containing safety-related equipment; therefore, no evaluation was performed to address the potential affect of nonseismically installed scaffolding on safety-related equipment during a seismic event. This is an apparent violation. (285/8724-05)

The NRC inspector notified the licensee of the existence of the scaffolding on September 9, 1987. The licensee completed removal of the scaffolding on September 14, 1987.

During a plant tour on September 25, 1987, the NRC inspector noted that licensee personnel had stored tool boxes, large cabinets, small parts cabinets, and a small crane in the safety-related east and west switchgear rooms. In discussions with licensee personnel, it was determined that the electrical shop was being moved so the current shop facility could be expanded. When the move occurred, electricians had stored their tools and parts in the switchgear rooms. Upon notification by the NRC inspector, licensee personnel immediately removed all tools and parts from the switchgear rooms.

The NRC inspector discussed the need to ensure that unsecured objects were not stored in any safety-related areas with licensee management at the exit meeting.

#### 6. Safety-Related System Walkdowns

The NRC inspector walked down accessible portions of the following safety-related emergency diesel generator 1 and 2 systems to verify system operability. Operability was determined by verification of selected valve and switch positions. The systems were walked down using Procedures OI-DG-1, Revision 22; OI-DG-2, Revision 22; and the drawings noted below:

- . Fuel oil system (Drawing M-262, Revision 23)
- . Air start system (Drawing B120F07001, Revision 4)
- . Lubricating oil system (Drawing B120F03001, Revision 4)
- . Jacket cooling water system (Drawing B120F04002, Revision 1)

During the walkdowns, the NRC inspector noted that valves designated by procedure did not correspond correctly with the system drawings. Due to the nature of the errors, system safety and operability were not degraded; however, the NRC inspector expressed concern to the licensee that the errors were not internally found with 22 revisions existing to the operating procedures. Licensee personnel verified the errors and had them corrected immediately.

No violations or deviations were identified.

7. Monthly Maintenance Observations

The NRC inspectors reviewed and/or observed selected station maintenance activities on safety-related systems and components to verify the maintenance was conducted in accordance with approved procedures, regulatory requirements, and the TS. The following items were considered during the reviews and/or observations:

- . The TS limiting conditions for operation were met while systems or components were removed from service.
- . Approvals were obtained prior to initiating the work.
- . Activities were accomplished using approved MOs and were inspected, as applicable.
- . Functional testing and/or calibrations were performed prior to returning components or systems to service.
- . Quality control records were maintained.
- . Activities were accomplished by qualified personnel.
- . Parts and materials used were properly certified.
- . Radiological and fire prevention controls were implemented.

The NRC inspectors reviewed and/or observed the following maintenance activities:

- . Installation of Fire Door 1007-11 (MO 853356)
- . Troubleshooting of high temperature trip on Emergency Diesel Generator (EDG) No.2
- . Repair of pilot valve for radiator exhaust damper on EDG No. 2 (MO 874509)
- . Repair of the emergency diesel fuel oil storage tank level indicator (MO 874516)



- . Testing of a battery charger (MO 871643)

No violations or deviations were identified.

8. Monthly Surveillance Observations

The NRC inspectors observed selected portions of the performance of and/or reviewed completed documentation for the TS-required surveillance testing on safety-related systems and components. The NRC inspectors verified the following items during the testing:

- . Testing was performed by qualified personnel using approved procedures.
- . Test instrumentation was calibrated.
- . The TS limiting conditions for operation were met.
- . Removal and restoration of the affected system and/or component were accomplished.
- . Test results conformed with TS and procedure requirements.
- . Test results were reviewed by personnel other than the individual directing the test.
- . Deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

The NRC inspectors observed and/or reviewed the documentation for the following surveillance test activities. The procedures used for the test activities are noted in parenthesis.

- . Monthly test of an emergency diesel generator (ST-EST-6-F.2)
- . Local leak detection test of the personnel air lock (ST-CONT-2-F.1)
- . Pressurizer pressure channel check (ST-ESF-1-F.2)
- . Recirculation actuation logic test (ST-ESF-13-F.2)
- . Auxiliary feedwater valve alignment check (ST-FW-1-F.1)
- . Reactor coolant system low flow trip check (ST-RPS-3-F.2)

No violations or deviations were identified.

9. Radiological Protection Observations

The NRC inspectors verified that selected activities of the licensee's radiological protection program were implemented in conformance with the facility policies and procedures and in compliance with regulatory requirements. The activities listed below were observed and/or reviewed:

- . Health physics (HP) supervisory personnel conducted plant tours to check on activities in progress.

- . Radiation work permits contained the appropriate information to ensure work was performed in a safe and controlled manner.
- . Personnel in radiation controlled areas (RCA) were wearing the required personnel monitoring equipment and protective clothing.
- . Radiation and/or contaminated areas were properly posted and controlled based on the activity levels within the area.
- . Personnel properly frisked prior to exiting an RCA.

During a plant tour on September 11, 1987, the NRC inspector found a door to a very high radiation area unlocked. This matter was referred to a Region IV health physics specialist. The details of this item are provided in NRC Inspection Report 50-285/87-21.

No violations or deviations were identified.

10. In-office Review of Periodic and Special Reports

In-office review of periodic and special reports was performed by the NRC resident inspectors and/or the Fort Calhoun project inspector to verify the following, as appropriate:

- . Reports included the information required by appropriate NRC requirements.
- . Test results and supporting information were consistent with design predictions and specifications.
- . Determination that planned corrective actions were adequate for resolution of identified problems.
- . Determination as to whether any information contained in the report should be classified as an abnormal occurrence.

The NRC inspectors reviewed the following:

- . Refueling outage inservice inspection results, dated August 31, 1987
- . Cycle 10 fuel performance report, dated September 2, 1987
- . Refueling outage Type B and C local leak rate test summary, dated September 3, 1987
- . Monthly Operations Report, undated
- . August Monthly Operating Report, dated September 14, 1987

No violations or deviations were identified.

11. Review of 10 CFR Part 21 Program

A review of the licensee's program established to meet the requirements of 10 CFR Part 21 was performed. The review included the following elements:

- . Procedures have been established and are adequate to ensure proper implementation of 10 CFR Part 21 requirements.
- . Documentation required by 10 CFR Part 21 has been posted in areas where safety-related work activities are conducted.
- . Specification of the application of 10 CFR Part 21 requirements in applicable procurement documents.
- . Evaluation of self-identified deviation, condition, or circumstance was performed by the licensee for determination of reportability under the requirements of 10 CFR Part 21.
- . Evaluation by the licensee of a condition, deviation, or circumstance reported by vendors or suppliers to determine the affect of safe operation of the facility.
- . Verification that facility modifications were performed when the licensee's evaluation indicated that a modification was appropriate.

The NRC inspector reviewed the procedures established by the licensee to implement the requirements of 10 CFR Part 21. The documentation reviewed included Procedure SO-G-42, "Reporting of Defects and Noncompliance to the Nuclear Regulatory Commission," Revision 7; Procedure H-2, "Report of Defects and Noncompliance to the Nuclear Regulatory Commission," Revision 1; and Procedure QADP-19, "10 CFR 21, Reporting Defects and Noncompliances," Revision 3. Procedure SO-G-42 provides reporting instructions for individuals working in the Omaha offices, and Procedure QADP-19 provides the quality assurance department instructions for reporting defects. Based on the review of these procedures, it appeared that they adequately implement the evaluation and reporting requirements of 10 CFR Part 21.

The NRC inspector reviewed the postings required by 10 CFR Part 21 to verify the appropriate documents of the latest revision had been posted. The review included verification of postings at the plant site, Jones Street offices, and at the Brandeis building. The NRC inspector noted that the posting of 10 CFR Part 21 and the implementing Procedure (H-2) at the Brandeis building were not the current revision. The NRC inspector also noted that Section 206 of the Energy Reorganization Act of 1974 was not posted. During the previous review performed by the NRC inspector in January 1987, as documented in NRC Inspection Report 50-285/87-02, it was also noted that the material required to be posted by Part 21 was out of date. The licensee stated at that time that all posting would be updated.

Section 21.6 of 10 CFR Part 21 states, in part, that each entity subject to the regulations of this part, shall post current copies of the following documents where activities subject to this part are conducted. The documents include the regulations in this part, Section 206 of the Energy Reorganization Act (ERA) of 1974, and procedures adopted pursuant to the regulations in this part.

Section 7.6.2 of Procedure H-2, "Reporting of Defects and Noncompliance to the Nuclear Regulatory Commission," states, in part, that the following documents shall be posted in conspicuous places at the Fort Calhoun Station, Jones Street Station, and Generating Station Engineering offices: 10 CFR Part 21, Section 206 of the ERA of 1974, and Procedure H-2.

Contrary to the above, the licensee failed to post the latest revision of the Part 21 regulations and the licensee's implementing procedure, and failed to post Section 206 of the ERA at the Brandeis building (the Generating Station Engineering offices). This is an apparent violation. (285/8724-06)

The review performed in this area was not completed prior to the end of the inspection period. The review will be continued during a future inspection.

12. Followup on IE Information Notices and IE Bulletins Issued for Information Only

The NRC inspector reviewed the licensee's system established for processing IE Information Notices and IE Bulletins issued for information only. This review was performed to verify that the licensee had received the notices and bulletins; the notices and bulletins were distributed to the appropriate personnel for review; and that any actions determined to be appropriate during the review, had been taken.

The NRC inspector reviewed selected notices and bulletins issued during the latter part of 1986 and 1987 to verify appropriate action had been taken. No problems were noted by the inspector for those items reviewed.

No violations or deviations were identified.

13. Unresolved Item

An unresolved item is a matter about which more information is required in order to determine whether it is acceptable, a violation, or a deviation. Two unresolved items are discussed in paragraphs 2.d and 5.

<u>Item</u>	<u>Paragraph</u>	<u>Subject</u>
285/8724-02	3.d	Review of licensee's program to implement reporting requirements of 10 CFR Part 50.73

285/8724-03

5

Improperly installed seismic support for a safety-related cable tray

14. Diesel Generator Shutdown and Water Ingress Into the Instrument Air System

On September 23, 1987, Diesel Generator No. 2 (DG-2) shutdown due to high coolant temperature. Licensee investigation revealed that the air operated exhaust damper for the diesel generator radiator did not appear to have fully opened as designed. The cause of damper malfunction appears to be the presence of a sticky lime like residue which cause the air pilot valve to stick. It is significant that on July 6, 1987, water was introduced into the instrument air system flooding that portion of the system below the auxiliary building elevation 1025 feet. A separate inspection was conducted by the Region IV Resident Inspectors in preparation for an enforcement conference concerning both the DG-2 failure and the introduction of a significant quantity of water in the instrument air system. For further detail see NRC Inspection Report 50-285/87-27 and License Event Report 05000285-025.

15. Exit Interview

The NRC inspectors met with Mr. R. L. Andrews (Division Manager, Nuclear Production) and other members of the licensee staff at the end of this inspection. At this meeting, the NRC inspectors summarized the scope of the inspection and the findings.