

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-285/85-15

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: July 1-August 31, 1985

Inspector: L A Yandell  
L. A. Yandell, Senior Resident Reactor Inspector

9/19/85  
Date

Approved: J. E. Martin  
J. E. Martin, Chief, Project Section B,  
Reactor Projects Branch

10/1/85  
Date

Inspection Summary:

Inspection Conducted July 1-August 31, 1985 (50-285/85-15)

Areas Inspected: Routine, unannounced inspection of licensee action on previous inspection findings, operational safety verification, preparation for refueling, surveillance testing, maintenance activities, Technical Specification implementation, and followup of IE Bulletins. The inspection involved 205 inspector-hours onsite by one NRC inspector, of which 40 were offshift hours.

Results: Within the seven areas inspected, three violations were identified (failure to establish document control procedures - paragraph 2; failure to meet licensing requirements - paragraph 3; and failure to implement Technical Specification surveillance requirements - paragraph 7).

## DETAILS

### 1. Persons Contacted

R. L. Andrews, Division Manager, Nuclear Production  
\*W. G. Gates, Manager, Fort Calhoun Station  
R. L. Jaworski, Section Manager, Technical Services  
J. K. Gasper, Manager, Administrative Services  
T. J. McIvor, Manager, Supervisor, Technical  
J. J. Fisicaro, Supervisor, Nuclear Regulatory and Industry Affairs  
J. E. Lechner, Test Engineer  
K. C. Hyde, Test Engineer  
R. J. Mueller, Supervisor, I&C and Electrical Field Maintenance  
R. C. Kellogg, Supervisor, Mechanical Technical Services  
B. R. Livingston, Manager, Engineering Services  
R. A. McKee, Records Coordinator  
M. E. Eidem, Manager, Mechanical Engineering  
P. M. Surber, Section Manager, Generation Station Engineering  
L. T. Kusek, Supervisor, Operations  
G. L. Roach, Supervisor, Chemical & Radiation Protection  
F. K. Smith, Plant Chemist  
B. A. Schmidt, Chemical & Radiation Protection Technician  
J. J. Fluehr, Supervisor, Station Training  
M. R. Christensen, Training Instructor  
R. A. Johansen, Test Engineer  
R. R. Johnston, Senior Programmer  
D. J. Munderloh, Licensing Engineer  
A. L. Richard, Corporate Quality Assurance

\*Denotes attendance at the exit interviews.

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

- a. (Open) Unresolved Item 285/8115-04, "Drawing Update." The regional NRC inspector noted that the licensee "had a long history of problems . . . with the timeliness of drawing revision." The licensee had stated that an organizational change was proposed so that "a more efficient use of drafting personnel could be realized." This matter was examined again in December 1983 (NRC Inspection Report 285/83-29), and a large backlog of drawing revisions still existed because of the extensive drawing update effort in progress, (see discussions in NRC Inspection Report 285/81-15, paragraph 3 and 285/85-05, paragraph 2.d). By Letter LIC-82-368 dated November 19, 1982, the licensee informed the NRC that "the drawing update would be complete two months following the 1984 refueling outage." As discussed in NRC Inspection Report 285/85-05 and

Licensee Memo GSE-FC-84-675, the drawing update effort is completed and the licensee has revised plant modification control procedures to ensure timely update of drawings.

Standing Order G-21, "Station Modification Control," Section 5.8.5, requires that "interim updated P&ID's and EM's detailing all applicable changes have been provided to the control room (two sets) and the office area (one set)." This review by the System Acceptance Committee ensures that these drawings are updated and available for use in a timely manner. The NRC inspector has spot checked the control room documents on various occasions and verified that these revised drawings were available prior to the plant accepting the system modification. In addition, Section 6.1 of Standing Order G-21 has been revised to indicate that "design documents affected by a modification will normally be updated by Generation Station Engineering (GSE) within 12 weeks following receipt of a Modification Completion Report." The NRC inspector reviewed the GSE drawing control system and noted that all design changes/drawing updates are tracked and prioritized. The NRC inspector determined that about 50 percent of the drawing updates were not being completed within 12 weeks, but recognized that the licensee considers this a "normal" turnaround period that may be modified by work load and priority. Since the important control room documents (P&IDs and EM drawings) were being updated in a timely fashion as part of the SAC review, the NRC inspector considered this position acceptable provided that the remaining marked up (interim) mechanical and electrical prints were available for use in the plant files. The NRC inspector reviewed the plant files and determined that the licensee failed to provide a drawing control system that identifies changes in progress to a specific drawing and to make the interim drawings available to the craftsman. At the time of the inspection completed design change packages (with the associated interim drawings) were kept in cabinets in the office area and were not part of the plant print files as required by the SAC review in Standing Order G-21, Step 5.8.5, Item 6. These interim drawings are the only prints available containing current information for use by plant personnel during the update of the design document by GSE. This failure to establish procedures for control of interim drawings is an apparent violation against 10 CFR 50, Appendix B, Section IV, "Document Control," which requires that "measures . . . be established to control the issuance of documents, such as . . . drawings, including changes thereto, which prescribe all activities affecting quality. These measures shall assure that documents, including changes, . . . are distributed to and used at the location where the prescribed activity is performed." (285/8515-01)

This violation was previously transmitted with with Notice of Violation by NRC letter of August 12, 1985.

- b. (Closed) Open Item 285/8304-01, "Fire Brigade Leader." The regional NRC inspector identified that the shift supervisor was assigned as the fire brigade leader in the plant response organization. The licensee



initiated action to increase the number of qualified personnel on each shift and to "assign the responsibilities of fire brigade leader to someone other than the shift supervisor when they are available." The number of qualified personnel on each shift was increased and the licensee recently completed fire brigade training that provided other personnel to assume the responsibilities as fire brigade leader. Administrative Procedure G-28, "Station Fire Protection Plan," has been revised to designate the Licensed Equipment Operator - Nuclear as the fire brigade leader. This item 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 observations 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 maintenance order status and the tag-out log, and by verifying selected safety-related tag-outs. The NRC inspector observed several shift turnovers.
- 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

During one of the plant tours the NRC inspector noted that bottle storage inside the auxiliary building was not in conformance with the

requirements of Standing Order G-6, "Housekeeping," and these discrepancies were discussed with the plant manager. The licensee initiated action to correct these deficiencies, and to remove unnecessary and improperly stored bottles from the auxiliary building.

- 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:
  - . Raw Water System (partial) per Checklist RW-1-CL-A
  - . 120V AC Electrical Distribution per Checklist EE-4-CL-A
  - . High Pressure Safety Injection System per Checklist SI-1-CL-A.
  - . Low Pressure Safety Injection System per Checklist SI-1-CL-B
  - . Safety Injection Tanks and Leakage System per Checklist SI-1-CL-C
  - . Containment Spray System per Checklist CS-1-CL-A
  - . Auxiliary Feedwater per Checklist FW-1-CL-A
  - . Engineered Safeguards Controls per Checklist ES-1-CL-A
- d. The NRC inspector observed portions of Containment Purges 85029, 85030, 85031, and 85035, reviewed the discharge permits, and noted the following:
  - . The X/Q log was maintained, the readings were within limits, and the shift supervisor review was performed
  - . When the limiting X/Q was exceeded, the release was terminated and the applicable data recorded
  - . VIAS was tested using RM 061 or RM 062
  - . 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 and the alert setpoints had been reset based on activity levels
  - . The required auxiliary building exhaust fans were operating

- . OI-VA-1, Section IV.G was 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 required approvals were obtained when the release was extended for one day
  - . The permit was reviewed and signed off properly, and the termination time was established
- e. The NRC inspector observed portions of Discharge Permit 85105 for "B" Monitor Tank. The NRC inspector verified that a tank sample had been taken and analyzed, that all radiological and chemical discharge limits were satisfied in the discharge tunnel, that the tank had been recircled for 30 minutes prior to sampling, that the functional tests for HCV-691 and HCV-692 were performed using RM-055, and that the maximum release rate was established. It was noted by the NRC inspector that the required start/stop times and initial/final totalizer readings were recorded and that Section IV.B of OI-WDL-3 was attached to the completed discharge permit.
- f. The licensee received word from Region IV on July 8, 1985, that all six license candidates (four RO and two SRO) passed. On August 22, Mr. R. D. Martin, Region IV Regional Administrator, visited Omaha to participate in a dinner honoring the successful candidates and to present them with their NRC license certificates. Mr. Martin also met with OPPD management earlier that afternoon and toured Fort Calhoun Station the following day. Items discussed with the licensee during this visit included OPPD's efforts to improve SALP category 3 areas in security and training, emergency preparedness, OPPD's plans regarding a plant specific simulator, and NUREG-1154 (Davis Besse incident).
- g. On July 24, 1985, the annual emergency preparedness drill was conducted at the Fort Calhoun Station. A team of NRC inspectors and contract personnel were onsite and at the EOF for the exercise. The NRC inspector acted as an observer in the control room, attended the licensee's critique, and participated in the NRC critique/exit interview. The detailed discussion and evaluation of the exercise will be contained in NRC Inspection Report 285/85-16.
- h. Mr. E. J. Tourigny, the NRR Project Manager for the Fort Calhoun Station, visited the site for meetings with the resident inspector and a tour of the facility. While inspecting the UF6 storage area with Mr. Tourigny, the NRC inspector observed that two cans of paint with "flammable" markings, two open paint buckets, and assorted paint trays, rollers, and brushes were within the area boundaries. This is an apparent violation against US NRC License SMC-1420 and



paragraph A-2 of the supplement dated February 26, 1982 (LIC-82-051), which states that the "proposed storage locations will be maintained free of combustible materials." (285/8515-02)

A review of the key log by the NRC inspector indicated that general maintenance personnel had been in the UF6 storage area on July 11-12, 1985. The NRC inspector also noted that guards had made routine security checks during the previous few days and had failed to bring this situation to the attention of the plant management. The shift supervisor initiated action that afternoon to have this flammable material removed from the storage area and the NRC inspector verified the following morning that this was accomplished.

- i. An initial planning meeting for the outage inspection program to be conducted during the 1985 refueling outage was held at the Jones Street office on July 29-30, 1985. Representatives from I&E headquarters in Washington, DC received various licensee materials related to administrative and technical procedures, QA programs, and the outage work schedule. The full NRC outage inspection team had their first meeting with the licensee on August 19, 1985, to perform the pre-outage review. The tentative schedule for the remaining portion of the inspection program is as follows:

- . September 16-27, 1985, Outage Design Inspection
- . November 4-15, 1985, Installation Inspection
- . December 7-13, 1985, Pre-Operational Readiness Inspection

No other violations or deviations were identified.

#### 4. Preparation for Refueling

In preparation for the refueling outage that starts in September of this year, the licensee received 44 new fuel bundles onsite during July. The NRC inspector inspected the shipping containers while they were still on the trailers and noted that the seismic detectors mounted on the containers were not tripped and that the tiedowns were secure. The NRC inspector observed the offloading and unpacking of some of the containers, and witnessed the receipt inspection performed on Bundles LA-14, LA-15, LA-16, LA-17, and LA-23. During the inspection the following was noted:

- . A qualified fuel receipt inspector was present
- . HP requirements were satisfied and required surveys (swipes and dose readings) were taken
- . The fuel vendor representative was present
- . Form FC-224, "Radiological Survey Diagram," was being kept on each fuel bundle
- . A qualified operator was operating the crane

- . Special Procedure SP-NFR-1, Rev. 9, "Fuel Receipt Procedures," was reviewed and found to be the current revision, the prerequisites were signed off, and Form A-2, "Fuel Receiving Record Container Report," was being maintained current
- . The qualification records of two new fuel receipt inspectors were completed and signed off properly
- . Communications between FH-12 and the fuel receipt area were established
- . Survey equipment used was in calibration

Following unloading of the new fuel, the NRC inspector observed the loading of the empty containers and verified that swipe surveys were taken and counted prior to releasing the trailer from the site.

No violations or deviations were identified.

5. Surveillance Testing

The NRC inspector witnessed portions of the following surveillance tests:

- . ST-ESF-1, F.2 (Monthly) Pressurizer Pressure Channel Check
- . ST-RPS-3, F.2 (Monthly) Reactor Coolant Low Flow Trip Check
- . ST-ISI-CVCS-1, F.1 (Quarterly) CVCS Category B Valve Exercising Test
- . ST-ESF-6, F.2 (Monthly) Diesel Generator Check - Appendix A
- . ST-RPS-12, F.2 (Monthly) Axial Power Distribution Channel Test
- . ST-ESF-11, F.1 (Monthly) Steam Generator Pressure Channel Check
- . ST-ISI-CC-3, F.1 (Quarterly) and F.2 (Annual) Component Cooling Water Pump Inservice Testing

No violations or deviations were identified.

6. Maintenance Activities

- a. Maintenance Order (MO) 852133, "HIC Shipping Cask." Maintenance support was required for loading and securing the HICs into the shipping cask. The NRC inspector reviewed the MO for proper approvals, and verified that the prerequisites were signed off. RWP-166 was assigned to this job, and the NRC inspector verified that the engineer assigned to the job was present, that QC signoffs were observed, and that HP coverage was provided.
- b. Preventive Maintenance on SI-2A. The NRC inspector observed that the annual changeout of bearing oil was performed using



Procedure MP-EE-8, "General Electric 8000 Series Horizontal Induction Motors." The NRC inspector verified that the proper revision was used, that the initial conditions were signed off, and that qualified personnel were assigned to the job. At the same time, breaker maintenance was performed using Procedure PM-EE-3.2, "Types AK-2-25 and AK-2-50 Circuit Breaker." The NRC inspector reviewed the procedure and verified that the prerequisites were signed off. Tag-Out 85-480 was verified to be correctly hung and it was noted that the pink copy of the tag-out sheet was signed off by the craftsman.

- c. MO 851416, "Component Cooling Water Pump AC-3C." This MO was written to changeout the bearings and the NRC inspector observed the taking of measurements on the installed set of bearings. It was noted that the MO was filled out and approved by the shift supervisor, that QC was to witness work done and operability of the pump, that Tag-Outs 85-492 and 85-493 were issued to cover this work, and that Technical Specifications 2.2 and 2.3 were identified as applicable. The NRC inspector observed assembly of the pump and performance of Surveillance Test ST-ISI-CC-3, F.1, "Component Cooling Water Pump Inservice Test," to verify operability.
- d. MO 855187, "HCV 269-1, Makeup Water Header Isolation Valve." It was determined that a failed diaphragm on the air operator prevented the valve from being operated for a CVCS surveillance test. The NRC inspector was present when the problem was discovered and observed the processing of the MO and the maintenance procedure that was prepared for PRC approval. QA/QC signoffs were present and the required spare parts were made available from the storeroom. The NRC inspector reviewed the safety evaluation (FC-154) and observed the final testing and signoff of the surveillance test after the valve repair was completed.
- e. MO 852375, "Component Cooling Water Pump AC-3C." Increased vibration readings called for the motor to be removed for balancing. The MO was reviewed for completeness and the NRC inspector noted that Surveillance Test ST-ISI-CC-3, F.1 was to be performed (vibration portion only), that QC was required to verify operability, and that the IRD readings were to be forwarded to QA for review. The rotor was removed and sent to a company in Omaha for balancing. The rotor was reinstalled and aligned and ST-ISI-CC-3, F.1 was performed. Pump vibration was acceptable but the motor readings did not improve. The vibration data was forwarded to plant engineering for evaluation and AC-3C was "yellow-tagged" for use only in an emergency. As a followup the NRC inspector learned that the licensee determined to rebalance the rotor and the coupling together as a unit. This was accomplished and the NRC inspector noted that the surveillance test was performed successfully and the restrictive tag on pump operation was removed.

- f. SRDCO 85-23, "Waste Gas Header Moisture Drain." The NRC inspector observed work on this modification in Room 16 of the auxiliary building and noted the following items in the work package:
- . Form H, "Pre-Installation Modification Control." QA and PRC signoffs were present and purchasing data was listed
  - . The green QA Material Conformance tags
  - . Form FC-154, "Safety Evaluation"
  - . Form FC-379, "ALARA Review Checklist," filled out and approved
  - . PRC approved procedure with QA/QC prerequisites signed off and the approved drawing list attached
  - . Flame Cutting & Welding Permit
- g. MO 851993, "Reactor Protective System." On June 21, 1985, a low steam generator level trip occurred on "A" Channel. Level Instrument A/LI-904 read normal and the voltage on Trip Unit No. 5 read normal. The trip cleared after a few minutes without the cause being determined, and the licensee elected to keep the MO open. The NRC inspector reviewed the MO for completeness and noted that QA/QC signoffs were present, that Technical Specification 2.15 applied, and that the outage was established by the shift supervisor. On July 11, 1985, a PRC approved maintenance procedure was used to check Trip Unit No. 5's power supply and function. Trip Unit Nos. 4 and 5 were swapped to isolate the problem but no conclusions were drawn and the MO remained open. On August 25, 1985, the alarm was received again and remained energized. The source of trouble was traced to the power supply and a new one was installed immediately. The NRC inspector observed the troubleshooting in progress and noted that current drawings were present at the jobsite. The repairs were completed and the channel verified operable by performance of Surveillance Test ST-RPS-6, F.2, "Steam Generator Level Channels Test."
- h. MO 852902, "Valve HCV-746B." Valve HCV-746B was giving both open and shut indication when the valve was in the open position. The NRC inspector reviewed the approved MO and went with the craftsmen to investigate the problem. It was noted that appropriate safety and HP precautions were taken, and it was determined that the limit switch needed adjustment. The NRC inspector observed this being done and witnessed the performance of Surveillance Test ST-ISI-VA-1, F.1, "Ventilating Air, Category A, Valve Exercising Test," to verify operability of the valve indication.
- i. MO 853009, "Charging Pump CH-1A." The operators determined that CH-1A was experiencing excessive packing leakage while operating. The NRC inspector reviewed the MO and verified that the applicable Technical Specification was identified, that Tag-Out 85-590 was assigned to this work, and that Surveillance Test ST-ISI-CVCS-3, F.1,

"CVCS Pump Test," was required to verify operability. It was noted that Maintenance Procedure MP-CH-1, "Inspection and Repair of Charging Pumps," was used to perform this work, that RWP-209 was assigned to this job, and that QC signoffs were present.

No violations or deviations were identified.

7. Technical Specification Implementation

Amendment No. 87 to the Fort Calhoun Technical Specifications was issued on April 29, 1985, and incorporated "new Technical Specifications addressing the operability and surveillance requirements for the new Toxic Gas Monitoring System." Item No. 29 of Table 3-3 established the frequencies for various surveillance functions to be performed. The NRC inspector reviewed Surveillance Test ST-TGM-1, "Toxic Gas Monitors," which was initially issued on June 18, 1985, to establish procedures to perform these required surveillances. It was noted that each specific surveillance identified in Item 29 of Table 3-3 was incorporated into ST-TGM-1. The NRC inspector determined on July 15, 1985, that the licensee failed on each shift to "read, compare, and compare readings on the ppm gauge on each Toxic Gas Monitor . . . and enter readings on Form FC-71." This failure to implement Technical Specification surveillance requirements is an apparent violation against Table 3-3, Item 29.a of the Technical Specifications which requires that "comparison of readings from redundant channels" be done on a shift basis. (285/8515-03) The NRC inspector verified later that week that Form FC-71, Sheet 42 was revised on July 16, 1985, to incorporate Item 29.a of Table 3-3 of the Technical Specifications per Surveillance Test ST-TGM-1, F.1.

Amendment No. 89 was issued on May 24, 1985, and incorporated new Technical Specifications that required the licensee to "implement and maintain a program to ensure the capability to obtain and analyze a reactor coolant sample and containment atmosphere sample under accident conditions." The specific requirements were contained in Section 5.15, "Post-Accident Radiological Sampling and Monitoring." The NRC inspector reviewed the following documents to ensure that programs have been established to provide the post-accident sampling capability described in Section 5.15, Items 1 through 4:

- . CMP 3.10, "Determination of Radioactive Particulate and Radioactive Iodine in Air Samples"
- . OI-PAP-11, "Airborne Radioiodine Monitoring System Procedure for Post-Accident Monitoring of Radioiodine in the Control Room"
- . CMP 2.6, "Gaseous Effluent Monitoring"
- . OI-PAP-7, "Procedure for Monitoring the Gaseous Effluent Releases Via the Auxiliary Building Ventilation Duct Pathway"
- . OI-SL-2, "Post-Accident Sampling System (PASS)"



CP-LAB-19, "Canberra Jupiter Ge-Li System"

The NRC inspector interviewed the Supervisor, Station Training and reviewed the training records pertaining to operation of the PASS to verify that each shift chemist was qualified to draw a sample under post-accident conditions.

In conjunction with a request from the Region IV office, the NRC inspector observed the licensee operate the PASS. Prior to this demonstration, the licensee indicated that the post-accident samples specified in NUREG 0737, Section II.B.3 are not to be drawn concurrently and that the normal mode rather than accident mode would be used to draw the samples so that the recirculation would return to the Volume Control Tank rather than the Reactor Coolant Drain Tank.

- . The liquid isotopic analysis was performed in accordance with OI-SL-2, Step V.D.2. It took approximately 1 hour and 10 minutes to draw the sample and analyze it. Another 10 minutes would be needed during an accident condition to dilute the sample, which was not done during this demonstration. When questioned by the NRC inspector regarding the failure of sample values, the licensee indicated that I&C personnel would be called in and about 1 hour would be allowed for this corrective maintenance.
- . The containment grab sample was obtained in accordance with OI-SL-2, Step V.F (grab sample) because the Ge-Li detector was inoperable at the time. The NRC inspector observed the PASS automatic sequence, went with the technician to the AI-100 area to observe him pull the flask, and observed the counting of the sample. It took approximately 40 minutes to obtain the sample and 10 minutes for counting. An additional 10 to 15 minutes were needed to print the results but this did not interfere with operation of the PASS.
- . The dissolved gas sample was obtained in accordance with OI-SL-2, Step V.B and Table I (Form FC-398). The sample was obtained in about 1 hour and the calculation on FC-398 was performed in about 15 minutes.
- . The same sample obtained for dissolved gas was used to determine boron concentration. The sample was injected into the ionchromatograph and repairs had to be performed on the pump before results could be obtained. Total sample and analyses time was approximately 2 hours and 40 minutes. The NRC inspector reviewed the graphical results which showed reactor coolant boron at 174 ppm when the actual plant sample that day was 204 ppm.

No other violations or deviations were identified.

8. Followup of IE Bulletins

IE Bulletin 84-03, "Refueling Cavity Water Seal." The licensee responded to the NRC in Letter LIC-84-408 dated November 27, 1984, and provided an

evaluation of the potential for, and the consequences of, a refueling cavity water seal failure. The reactor cavity water seal at the Fort Calhoun Station is significantly different from the one that failed. It utilizes silicon rubber gasket rings in four concentric grooves, compressed by a stainless steel ring bolted into place to form the seal rather than an inflatable pneumatic seal. The NRC inspector reviewed the OPPD response and the analysis done in response to IE Information Notice 84-93, "Potential for Loss of Water From the Refueling Cavity," and INPO Significant Operating Experience Report (SOER) 85-1, "Reactor Cavity Seal Failure." The Fort Calhoun Station's refueling cavity seal is not susceptible to the catastrophic failure experienced at Haddam Neck because of the bolted down stainless steel ring and the two compressed gasket rings at each pressure boundary. These gasket rings are replaced after every use, and the failure of a gasket ring would restrict leakage below the capacity of the sump pumps. Alarms are provided to indicate a reduction of the water level of the refueling cavity and spent fuel pool. These alarms, coupled with visual surveillance of the spent fuel pool and refueling cavity levels, and the monitoring of sump levels and sump pump operation provide prompt indication of a problem with the refueling cavity seal.

Based on this review, it appears that the licensee's response to this bulletin is adequate.

9. Exit Interview

The NRC inspector met with the Plant Manager on July 30 and September 4, 1985, to summarize the scope and findings of the inspection.