APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report No. 50-285/92-02

Operating License No. DPR-40

Licensee: Omaha Public Power District (OPPD)
444 South 16th Street Mall
Mail Stop 8E/EP4
Omaha, Nebraska 68102-2247

Facility Name: Fort Calhoun Station (FCS)

Inspection At: FCS Site, Fort Calhoun, Washington County, Nebraska

Inspection Conducted: January 27-31, 1992

Inspector: A. D. Gaines, Radiation Specialist
Facilities Inspection Programs Section

Approved: _____ 2/19/92
E. H. Murray, Chief, Facilities Inspection Programs Section — Date

Inspection Summary

Inspection Conducted January 27-31, 1992 (Report No. 50-285/92-02)

Areas Inspected: Routine, announced inspection of the radiation protection program including: organization and management controls; training and qualifications of personnel; and maintaining occupational exposures ALARA.

Results: Within the areas inspected, no violations or deviations were identified.

Management provided excellent support for the radiation protection program. A good radiological occurrence report program had been implemented. Comprehensive quality assurance audit and surveillance programs had been established. The Radiation Protection Department's response to audit findings were timely and technically correct.

A well trained and qualified radiation protection staff had been maintained. No problems were identified with radiological protection training.

An effective ALARA program had been implemented. Person-rem exposures were low as were personnel contamination events. The ALARA program continues to look for ways to reduce person-rem exposures and personnel contamination events.

DETAILS

1. PERSONS CONTACTED

*W. C. Jones, Senior Vice President
*W. G. Gates, Division Manager, Nuclear Operations
*R. L. Andrews, Division Manager, Nuclear Services
A. D. Bilau, Supervisor, Radioactive Waste Operations
A. G. Christensen, Supervisor, Radiation Protection Operations
*O. J. Clayton, Supervisor, Emergency Planning
*G. Cook, Supervisor, Station Licensing
*J. K. Gasper, Manager, Training
R. Haug, Supervisor, Chemistry and Radiation Protection Training
R. P. Hodgson, Coordinator, Radiological Operations
*R. L. Jaworski, Manager, Station Engineering
*L. T. Kusek, Manager, Nuclear Safety Review
*D. L. Lovett, Supervisor, Radiation Protection
*W. W. Orr, Manager, Quality Assurance (QA)/Quality Control
*T. L. Patterson, Manager, Fort Calhoun Station
*R. L. Phelps, Manager, Design Engineering
*H. J. Sefick, Manager, Security Services
*R. W. Short, Manager, Nuclear Licensing
*F. K. Smith, Manager, Chemistry
K. E. Steele, Coordinator, Radiation Work Permit (RWP) Surveillance and ALARA
M. A. Tesar, Supervisor, Technician and Radiation Training
M. Uhland, Supervisor, Radiation Orientation and Emergency Preparedness
S. B. Warren, Supervisor, Radiological Health and Engineering

NRC

*R. P. Mullikin, Senior Resident Inspector
*K. V. Azua, Resident Inspector

The inspectors also interviewed other licensee and contract personnel.

*Denotes those persons that attended the exit interview conducted January 31, 1992.

2. ORGANIZATION AND MANAGEMENT CONTROLS (83750)

The inspector reviewed the licensee's organization and management controls to determine compliance with Technical Specification 5.2 and agreement with commitments in Chapter 12 of the Updated Safety Analysis Report (USAR).

The inspector reviewed the changes that occurred in the Radiation Protection Department during 1991. As discussed in the previous SALP, the previous Supervisor, Radiation Protection (Radiation Protection Manager), had changed jobs and is now a supervisor in the maintenance department. Two Radiation Protection Department supervisors left OPPD for employment at other utilities. One of the supervisory positions was filled from outside OPPD. The Supervisor, Radiation Protection position, along with the other supervisory

position, was filled from within the Radiation Protection Department. The inspector reviewed the qualifications of the new Supervisor, Radiation Protection, and determined that he met the recommendations of Regulatory Guide 1.8.

The inspector determined that staffing for the radiation protection program was maintained at a sufficient level. The inspector noted that the licensee was a few contract radiation protection technicians short of their staffing goal for the upcoming outage. The inspector discussed with the licensee the short supply of contract radiation protection technicians which apparently is the result of the number of industry refueling outages that are scheduled for early 1992. The inspector expressed concern that this may cause the licensee some problems with maintaining an appropriate number of contract technicians to support the 1992 refueling outage. The licensee stated that they were aware of this possibility and would be monitoring the situation.

The inspector reviewed selected Radiological Occurrence Reports (ROR) and determined the RORs provided sufficient documentation of the events and outlined appropriate measures to prevent recurrence. The inspector reviewed the corrective actions of Radiological Occurrence Report 91-080. This report involved an operator and a system engineer entering a high radiation area on a radiation work permit that did not permit entry into a high radiation area. This report had been reviewed by the resident inspectors and identified as a noncited violation in NRC Inspection Report 50-285/91-24.

The inspector reviewed the Root Cause Analysis Report for ROR 91 080 and the recommended corrective actions. The report was under review by another group and therefore was not final. The licensee had already implemented prompt and adequate corrective actions. The inspector determined that the draft Root Cause Analysis Report and corrective actions already implemented adequately addressed the problem. The licensee stated that the report would be finalized, and additional corrective actions would be implemented.

Selected quality assurance audits and surveillances were reviewed. Audits and surveillances were determined to be comprehensive and the audit teams included technical experts. The audits identified several significant findings. The radiation department had responded to the findings with timely, corrective actions.

The inspector reviewed selected radiation protection procedures. The procedures provided sufficient guidance and were easy to understand.

Conclusion

A good radiological occurrence report program had been implemented. Comprehensive quality assurance audit and surveillance programs had been established. The Radiation Protection Department's response to audit findings were timely and technically correct.

3. TRAINING AND QUALIFICATIONS OF PERSONNEL (83750)

The inspector reviewed the training program for radiation protection (RP) workers and RP technicians and the qualifications of RP technicians to determine compliance with Technical Specifications 5.3 and 5.4 and 10 CFR 19.12; and agreement with commitments in Chapter 12 of the USAR and the recommendations in Regulatory Guides 8.8, 8.10, 8.13, 8.27, and 8.29.

The inspector reviewed resumes of selected, contract RP technicians and determined that the individuals met qualification requirements. The licensee used a good screening examination to aid in the selection of perspective contract RP technicians. The inspector reviewed the examinations and determined that they were adequate screening tools.

The inspector observed training sessions for General Employee Training II, Radiation Protection Procedures, and Practical Factors. The instructors were well prepared, knowledgeable, and made good presentations. The Practical Factors class incorporated a video on dress out requirements for the use of multiple layers of protective clothing and the use of double step off pads. This was in response to an ALARA committee recommendation on contamination control (dated August 1, 1990). The inspector also noted that the Radiation Protection Procedures class incorporated the findings of Radiological Occurrence Report 91-080. This was one of the corrective actions the licensee had already implemented from the Root Cause Analysis Report discussed in paragraph 2 above.

Training records of selected personnel were reviewed, and the inspector determined that personnel had completed annual retraining. The inspector concluded that the training department maintained well qualified instructors to present radiation protection training.

The inspector noted that a very high percentage (94 percent of those eligible) of the radiation protection technicians were registered by the National Registry of Radiation Protection Technologists (NRRPT). The licensee supported the professional advancement of the individual with a program of special training.

Selected lesson plans and examinations were reviewed. The lesson plans were excellent and examinations were tested adequately for required knowledge.

The inspector reviewed the: "Training Program Configuration Management Process," which incorporates plant procedure changes, industry events, licensee event reports, and design modification packages. This program was determined to be an effective training procedure.

Conclusion

A well trained and qualified radiation protection staff had been maintained. No problems were identified with radiological protection training.

4. MAINTAINING OCCUPATIONAL EXPOSURES ALARA (83750)

The inspector reviewed the licensee's program to maintain occupat ›al exposure ALARA to determine compliance with requirements of 10 CFR 20.1(c) and agreement with the recommendations of Regulatory Guides 8.8 and 8.10.

The inspector reviewed the licensee's 1991 ALARA goals and selected ALARA packages. Total plant exposure for 1991 was approximately 52 person-rem which was under the goal of 75 person-rem. Fifty-five personnel contaminations were identified, which was less than the established goal of 90 for 1991. ALAR' packages were reviewed and considered to be of good quality, and they included adequate checklists, estimates of projected man-hours, radiation survey information, radiation exposure projections, post job evaluations, and lessons learned from previously completed jobs.

The inspector noted that the licensee had painted the auxiliary building, removed a dead leg on a pipe in the "B" steam generator bay which had radiation survey readings of approximately 1000 roentgen per hour on contact, and had an effective "hot spot" identification and reduction program. Improvements that were being evaluated and implemented to help the ALARA program in exposure reduction and tracking included a "surrogate tour" (which consists of a series of thousands of detailed photographs of the interior of the plant stored on a laser disc), real time electronic dosimetry system, and the use of remote cameras for certain job evolutions.

The inspector concluded that the ALARA program was properly staffed. ALARA personnel prepared radiation work permits, reviewed design changes, reviewed procedure changes, and reviewed maintenance work requests projected to exceed 1 rem, cumulative exposure.

The ALARA suggestions program received 33 suggestions in 1991. Many of the suggestions were implemented, and some were under evaluation. Based on a review of work and ALARA documents, the inspector concluded that good quality radiation work permits and ALARA procedures were maintained.

Conclusion

An effective ALARA program had been implemented. Person-rem exposures were low as were personnel contamination events. The ALARA program continues to look for ways to reduce person-rem exposures and personnel contamination events.

10. EXIT INTERVIEW

The inspector met with licensee representatives denoted in paragraph 1 at the conclusion of the inspection on January 31, 1992, and summarized the scope and findings of the inspection as presented in this report. The licensee did not identify as proprietary any of the materials provided to, or reviewed by, the inspector during the inspection.