

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-298/84-25

Construction Permit: DPR-46

Docket: 50-298

Licensee: Nebraska Public Power District (NPPD)  
P. O. Box 499  
Columbus, Nebraska 68601

Facility Name: Cooper Nuclear Station (CNS)

Inspection At: Cooper Nuclear Station, Brownville, Nebraska

Inspection Conducted: November 26-30, 1984

Inspector: B. Elaine Murray 1/17/85  
for R. E. Baer, Radiation Specialist, Facilities Radiological Protection Section Date

Approved: B. Elaine Murray 1/17/85  
B. Murray, Chief, Facilities Radiological Protection Section Date

J. P. Jardon 1/25/85  
J. P. Jardon, Chief, Reactor Project Section A Date

Inspection Summary

Inspection Conducted November 26-30, 1984 (Report 50-298/84-25)

Areas Inspected: Routine, unannounced inspection of the licensee's radiation protection program during an extended outage including: audits and appraisals, changes, planning and preparation, training and qualifications, external exposure control, internal exposure control, control of radioactive material and contamination, and the ALARA Program. The inspection involved 42 inspector-hours onsite by one NRC inspector.

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

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DETAILS

1. Persons Contacted

NPPD

- \*P. V. Thomason, Division Manager, Nuclear Operations
- \*R. L. Beilke, Chemistry and Health Physics Supervisor
- \*C. R. Goings, Regulatory Compliance Specialist
  - K. Fike, Chemistry Technician
  - J. Kuttler, Health Physicist
  - P. Morris, ALARA Coordinator
- \*J. Sayer, Senior Technical Radiological Advisor
  - F. Schaaf, Construction Technical Supervisor
- \*D. A. Whitman, Technical Staff Manager
  - V. Wolstenholm, Quality Assurance Supervisor

Others

- R. H. Asay, Consultant, Radiological & Chemical Technology (RCT)
- C. Bull, Corporate ALARA Advisor, Chicago Bridge & Iron (CB&I)
- M. L. Lesinski, Consultant, RCT
- R. Pear, ALARA Specialist, CB&I
- J. A. Pritchard, ALARA/Safety Coordinator, CB&I
- B. Tabor, ALARA Specialist, Bartlett Nuclear Inc.
- D. Tanis, Project Manager, CB&I
- \*D. L. DuBois, Resident Inspector, USNRC

\*Denotes those present during the exit interview on November 30, 1984.

The NRC inspector also interviewed several other licensee and contractor employees including health physics, operations, maintenance, and construction personnel.

2. Licensee Action On Previously Identified Open Items

(Closed) Open Item (298/8220-02): ALARA Program - This item involved the lack of a formal ALARA program or an individual designated to develop a station ALARA program. The licensee had developed health physics procedure 9.1.1.2, "ALARA Program," Revision 0, December 29, 1983, developed the position description and designated an individual as ALARA coordinator, and had implemented the station ALARA program. This item is considered closed.

(Closed) Open Item (298/8416-02): Recirculation Piping Radiation Protection Plan - This item involved the lack of several health physics items not addressed in the draft plan. The licensee changed the recirculation piping radiation protection plan to address the areas of staffing, job briefings, contractor ALARA, special alpha and beta

radiation surveys, and other areas of concern expressed by the NRC inspectors. This item is considered closed.

3. Audits and Appraisals

The NRC inspector reviewed the licensee's internal audit program regarding health physics activities against the requirements of the Technical Specifications and Quality Assurance (QA) Manual.

The NRC inspector reviewed the in-house QA Audit No. 84-24 performed during the period November 6, through November 20, 1984, by the station QA department. One finding and five observations were identified by the auditors. The licensee had not yet responded to the finding at the time of this inspection.

The NRC inspector reviewed the Institute of Nuclear Power Operations evaluation performed during the weeks of July 11 and 18, 1984. This evaluation recommended improvements to the areas of training, safety practices, response to emergency needs, and planning for the recirculation pipe replacement program. The licensee had responded to these recommendations in a timely and acceptable manner.

No violations or deviations were identified.

4. Program Changes

The NRC inspector reviewed changes the licensee had made since the last inspection to the radiation protection organization, personnel, facilities, equipment, programs, and procedures.

The NRC inspector reviewed those procedures listed in Attachment A which had been recently revised or issued. The NRC inspector discussed with licensee representatives the desirability of denoting those sections of procedures which had been changed. The licensee representative stated that certain procedures include a method for highlighting changes and that they would consider this same method for the radiation protection procedures.

No violations or deviations were identified.

5. Planning and Preparation

The NRC inspector reviewed the effectiveness of planning and preparations which had been made to supplement the existing radiation protection staff, special training including mockups, availability of clothing and temporary shielding materials, provisions for the use and testing of engineering controls, and equipment availability to support the outage.

The NRC inspector noted the licensee had on occasion exceeded the 72 hour in any 7-day period recommendation contained in the NRC Policy Statement on nuclear power plant working hours for radiation protection technicians.

These deviations had been approved by plant management and two consecutive days of rest had been provided.

The licensee was in the process of adding four additional contract radiation protection technicians to support the outage.

No violations or deviations were identified.

6. Training and Qualifications of New Personnel

The NRC inspector reviewed the training provided by the licensee on plant specific procedures and the qualifications of contractor radiation protection personnel. All senior grade technicians met the requirements of the industry standard ANSI 18.1.

The NRC inspector discussed with licensee representatives that the criteria used to determine experience is based on 1 year being equivalent to either 40 weeks or 2,000 hours. The ANSI standard states that technicians in responsible positions (senior grade) shall have a minimum of 2 years experience in their speciality and should have 1 year of related technical training. The NRC accepts training as part of the 2-year requirement.

No violations or deviations were identified.

7. External Exposure Control

The NRC inspector reviewed the licensee's program for external exposure control including selective exposure histories, current copies of NRC Form 4 and 5, daily radiation exposure records, and the use of administrative controls to assure personnel did not exceed regulatory and administrative exposure limits.

The licensee uses vendor supplied TLDs for the official exposure record. The licensee had the vendor supply a dosimetry technician with the appropriate readout equipment to process TLDs from personnel who were approaching the upper levels of the administrative limits. All records reviewed indicated exposures had not exceeded the regulatory limits.

No violations or deviations were identified.

8. Internal Exposure Control

The NRC inspector reviewed the licensee's internal exposure control program to determine compliance with the requirements of 10 CFR Part 20.103 and the recommendations of NUREG 0041.

The NRC reviewed portions of the licensee's respiratory protection program including airborne radioactivity surveys, medical certification, individual mask fit testing, and respiratory protection training for station and contractor supplied personnel.

The licensee was routinely performing whole body counting on individuals prior to and upon completion of their work assignment at the site. The licensee had a trailer mounted whole body counter moved on site to supplement the station whole body counter.

The NRC inspector noted and discussed with licensee representatives that very little guidance for requiring whole body counting existed in station procedures when skin contamination was detected in the facial area. Procedure 9.1.8 states that bioassay and whole body counting will be performed as determined by the chemistry and health physics supervisor. Procedure 9.1.5, "Respiratory Program," and 9.1.6, "Personnel Decontamination," do not address this problem. The licensee stated that they would provide additional guidance for facial and nasal contamination.

No violations or deviations were identified.

9. Control of Radioactive Materials and Contamination

The NRC inspector reviewed the licensee's program for control of radioactive materials and contamination, surveys, monitoring, posting, and labeling to determine compliance with the requirements of 10 CFR Parts 20.203b, 20.203e, 20.203f, and 20.207 and the station Technical Specifications.

The NRC inspector discussed with licensee representatives that Technical Specification 6.3.4.A, "High Radiation Areas," as written is not consistent with the Updated Safety Analysis Report (USAR), Section XII.3.2, "Radiation Zoning and Access Control." The licensee stated they would review the Technical Specifications and USAR and make the appropriate change to meet the intent of Standard Technical Specifications wording and would also review other related sections of the Technical Specifications.

The NRC inspector noted that the licensee had moved several licensee owned rail box cars onsite and was utilizing them for the temporary storage of material being removed from the reactor drywell. All material was either boxed and/or wrapped in plastic.

No violations or deviations were identified.

10. Maintaining Occupational Exposures ALARA

The NRC inspector reviewed the licensee's ALARA program to determine compliance with the requirements of 10 CFR Part 20.1 and the recommendations of Regulatory Guides 8.8 and 8.10.

The licensee had established man-rem goals by job, and had estimated the total man-hours to complete all jobs during the outage. The licensee initiated a computerized dose tracking system which tracks the total man-rem and manhours expended on each job. Significant increases in man-rem expended over estimates were investigated and the reasons were

reviewed. These instances have been the result of more manhours needed, the job being performed prior to the system decontamination when it was originally scheduled after decontamination, and where drawings did not reflect the true floor level under equipment and modifications were required. The licensee had experienced some minor computer hardware problems with this system.

An ALARA committee had been established which consists of contractor and station ALARA and project management personnel. This committee meets once a week with formal meeting minutes taken. This committee reviews man-rem exposures, training, worker awareness, problem areas, and suggestions to improve the program.

No violations or deviations were identified.

11. Exit Interview

The NRC inspector met with licensee representatives at the conclusion of the inspection on November 30, 1984. The NRC inspector summarized the scope and findings of the inspection presented in this report.

Attachment A

<u>Procedure Number</u>	<u>Subject</u>
9.1.1.4	"Special Work Permit," Revision 13, October 9, 1984
9.1.2.1	"Radiation, Contamination, and Airborne Radioactivity Limits," Revision 14, September 18, 1984
9.1.5	"Respiratory Program," Revision 17, September 26, 1984
9.1.5.1	"Dynatech Model 264 Fit Test Booth Operation and Calibration Test," Revision 0, September 17, 1984
9.1.8	"Bioassay and Whole Body Counting," Revision 11, October 23, 1984
9.2.2	"Radiation Surveys," Revision 11, November 6, 1984
9.3.1.6.1	"Portable Alpha Meter Ludlem Modes 2," Revision 0, October 16, 1984
9.3.3.1	"Pocket Chamber Dosimeter Direct Reading," Revision 6, October 16, 1984
9.3.4.5	"Xetex 415B Digital Alarming Dosimeter," Revision 0, October 2, 1984
9.3.5	"Constant Air Monitors (CAM)," Revision 5, October 18, 1984
9.3.6.1	"Low Volume and High Volume Air Sampler Operation and Calibration," Revision 10, September 7, 1984
9.5.3.1	"Radioactive LSA Waste Shipment For Burial," revision 4, October 14, 1984
9.5.3.2	"Radioactive Material Shipment," Revision 2, October 23, 1984
9.5.3.5	"Dry Radioactive Waste Classification and Listing," Revision 1, September 25, 1984
9.6.1	"Monitoring For Industrial Gases," Revision 4, October 2, 1984
9.6.1.3	"MSA Carbon Monoxide Systems Operation and Calibration," Revision 3, October 2, 1984
9.6.5	"Eberline Model AMS-3 Beta Air Monitor," Revision 2, October 16, 1984
9.7	"CNS Environmental Program," Revision 6, October 16, 1984