APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Inspection Report: 50-298/94-17

License: DPR-46

Licensee: Nebraska Public Power District
P.O. Box 499
Columbus, Nebraska

Facility Name: Cooper Nuclear Station

Inspection At: Brownville, Nebraska

Inspection Conducted: June 6-10, 1994

Inspector: Anthony D. Gaines, Radiation Specialist

Approved: _____ 6/23/94
James H. Reese Chief, Facilities Inspection Programs Branch — Date

Inspection Summary

Areas Inspected: Routine, announced inspection of the radiological environmental monitoring program including audits and appraisals; changes; training and qualifications; implementation of the radiological environmental monitoring program; and the implementation of the meteorological monitoring program.

Results:

- Quality assurance audits were well planned, technically comprehensive, and performance based (Section 1.1).
- Good management oversight had been maintained for the radiological environmental monitoring program (Section 1.1).
- The radiological environmental monitoring program was stable with only minor changes (Section 1.2).
- A good training and qualification program had been maintained (Section 1.3).
- An excellent radiological environmental monitoring program had been maintained (Section 1.4).

- An excellent meteorological monitoring program had been maintained (Section 1.5).

Summary of Inspection Findings:

- Inspection Followup Item 298/9407-01 was reviewed but not closed (Section 2.1).

Attachment:

- Attachment - Persons Contacted and Exit Meeting

DETAILS

1 RADIOLOGICAL ENVIRONMENTAL MONITORING (84750)

The licensee's program was inspected to determine compliance with Technical Specifications 4.21, 6.1, 6.2, and 6.5; and agreement with commitments in Section XIII of the Updated Safety Analysis Report and the Offsite Dose Assessment Manual.

1.1 Audits and Appraisals

The inspector noted that Cooper Nuclear Station quality assurance staff had performed annual audits of the site radiological environmental monitoring program activities. The inspector noted that the audits of the site radiological environmental monitoring program had changed from annual to biennial. As a member of the Nuclear Procurement Issues Committee, the General Office quality assurance staff performed biennial audits of the vendor responsible for the analyses of environmental media samples.

The Cooper Nuclear Station quality assurance audit report for 1992 indicated that quality assurance audits were comprehensive and provided good program evaluation and management oversight.

The Nuclear Procurement Issues Committee vendor audit report dated September 3, 1992, was performed at the proper frequency and had been performed in accordance with approved procedures, audit schedules, plans, and predetermined checklists. Deficiencies noted by the audit were tracked by the licensee to ensure closure by the vendor.

The inspector determined that the quality assurance audits of the radiological environmental monitoring program had been performed by qualified auditors and a technical specialist who were knowledgeable in radiological environmental monitoring activities at nuclear power facilities. The inspector noted that identified deficiencies were corrected in a timely manner. The audits met the requirements of the Technical Specifications and agreed with the commitments of the Updated Safety Analysis Report.

The inspector reviewed surveillances performed since the last inspection of this area. The surveillances were good and reviewed pertinent items. The surveillance performed January 25, 1994, contained a very good comment. The comment informed the Cooper Nuclear Station environmental specialist of the availability of air samplers from the health physics department. The comment was in response to the loss of air sampler stations during the 1993 floods and the need for replacements.

1.2 Changes

The radiological environmental monitoring program was very stable. The program continued to be administered from the General Office in Columbus, Nebraska. Only minor changes in the organization, equipment, and the Offsite Dose Assessment Manual had been made since the last inspection of this area. A separate Atmospheric Sciences section was added at the General Office and an

environmental research intern position was added at the plant. During the floods in 1993, the licensee had five environmental air sampling stations flooded. The licensee did a good job of getting the stations back in working order. The licensee upgraded the electrical wiring at the air sampling stations that were destroyed by the 1993 floods and plans to upgrade the wiring at the remaining stations. The only changes to the Offsite Dose Assessment Manual were environmental sample locations.

1.3 Training and Qualifications

The inspector reviewed the training and the task qualification and certification records for the environmental research intern, who had been hired since the last inspection of this area. The inspector determined that the individual had completed all required training and was experienced and qualified to perform the assigned responsibilities. The individual was responsible for collection, preparation, storage, and shipping of environmental media samples. The individual had received on-the-job training and was well qualified. The inspector determined that the technical staff met the qualification requirements in the Technical Specifications and agreed with the commitments of the Updated Safety Analysis Report.

1.4 Implementation of the Radiological Environmental Monitoring Program

The licensee's General Office personnel were responsible for the administration of the radiological environmental monitoring program, including collection, documentation, preparation, storage, and shipment of environmental media samples. The environmental media samples and environmental thermoluminescent dosimeters were analyzed and processed by a contractor laboratory.

Procedures for the administration of the radiological environmental monitoring activities; sample collection, preparation, and shipment; reviewing sample analyses; interpreting results of sample analyses; and reporting results were written with sufficient detail to ensure compliance with the Technical Specifications and the Offsite Dose Assessment Manual.

The inspector determined from review of the Annual Radiological Environmental Reports for 1992 and 1993 that the sampling, monitoring and measurement frequencies, interpretation, the evaluation of data, and reporting requirements of the Technical Specifications and Offsite Dose Assessment Manual had been met. The inspector noted that the licensee had conducted the required annual land use censuses for 1992 and 1993 in accordance with the Technical Specifications and the results of the censuses were documented as required in the respective Annual Radiological Environmental Reports. No reportable occurrences or events relating to the radiological environmental monitoring program were identified during the period covered by this inspection.

The inspector inspected selected environmental media sampling stations associated with the radiological environmental monitoring program. The following types of sampling locations were inspected: airborne (particulate and iodine), broad leaf vegetation, milk, river water (upstream and

downstream), and thermoluminescent dosimeters. Several locations inspected were co-located with the Nuclear Regulatory Commission (thermoluminescent dosimeters) and the State of Nebraska (airborne and thermoluminescent dosimeters). The inspector verified that the required equipment at the selected locations was in place, operational, and calibrated. The inspector verified that the sampling locations were as described in the Offsite Dose Assessment Manual and the Annual Radiological Environmental Reports.

The inspector inspected the licensee's facilities, equipment, and supplies and determined that the facilities were appropriate for environmental sample receipt, storage, and preparation for shipment. Areas were sufficiently equipped and supplied with the necessary items to support the radiological environmental monitoring program.

The inspector reviewed the licensee's Offsite Dose Assessment Manual and determined that it contained the radiological environmental monitoring program information required by the Technical Specifications. The inspector noted that no changes had been made to the radiological environmental monitoring program except for the addition and deletion of thermoluminescent dosimeters, milk, and air sample locations listed in Appendix C of the Offsite Dose Assessment Manual.

The inspector reviewed the maintenance and calibration records for the radiological environmental monitoring program air samplers. Maintenance and calibration of the air samplers were being conducted in accordance with an approved procedure. The inspector noted that the frequency of calibration for the air samplers was semi-annually. A review of the calibration records indicated that the air sampler at station No. 1 had not been calibrated semi-annually in 1993. The inspector discussed this with the environmental specialist. The environmental specialist informed the inspector that the time the calibration was missed coincided with the work that was being performed to repair the flood damaged air sample stations. The specialist was without spare air samplers to replace the one at station number 1 and the station was being moved to a different location. The inspector observed that the missed calibration was an isolated incidence and was of low safety significance.

The licensee's contractor laboratory participated in the U.S. Environmental Protection Agency's Environmental Radioactivity Laboratory Intercomparison Program. The inspector verified that the results of the crosscheck comparisons were normally within the U.S. Environmental Protection Agency's acceptance criteria of three standard deviations of the known values.

1.5 Implementation of the Meteorological Monitoring Program

The inspector observed that the licensee maintained a 100-meter primary meteorological tower and a 10-meter auxiliary meteorological tower. Meteorological instrumentation was located at the 100-, 60-, and 30-meter levels on the 100-meter tower and at the 10-meter level on the 10-meter tower.

The meteorological instrumentation calibration procedures, daily channel checks, and semiannual calibration records indicated that the instrumentation was properly maintained, tested, and calibrated in agreement with the

recommendations of Regulatory Guide 1.23 and ANSI/ANS Standard 2.5-1984. Operations personnel were responsible for the channel checks and instrument and controls personnel were responsible for the calibrations.

The inspector noted that the meteorological instrumentation joint data recovery for atmospheric stability, wind speed, and wind direction exceeded the annual 90 percent as recommended in Regulatory Guide 1.23 and ANSI/ANS Standard 2.5-1984. Actual average joint data recovery for 1992 and 1993 was 98 percent and 96 percent, respectively. A summary of the meteorological data collected during the years of 1992 and 1993 was included in the Semiannual Radioactive Material Release Reports submitted for the respective second 6-month periods of 1992 and 1993 as required by the Technical Specifications.

1.6 Conclusions

The quality assurance audits and surveillances were well planned, technically comprehensive, and performance-based to provide good program evaluation and management oversight. The audits had been performed by qualified auditors and technical specialists.

Only minor changes had been made to the radiological environmental monitoring program since the last inspection of this area.

A good training and qualifications program had been maintained. A well qualified staff had been maintained to implement the radiological environmental monitoring program.

An excellent radiological environmental monitoring program had been maintained. Associated equipment was operational, properly calibrated, and well maintained. The annual land use census had been performed and documented as required. Annual Radiological Environmental Reports which contained the required information had been submitted in a timely manner.

A strong meteorological monitoring program was in effect. Meteorological instrumentation was maintained, tested, and calibrated properly in accordance with approved procedures.

2 FOLLOWUP (92904)

2.1 (Open) Inspection Followup Item 298/9407-01: Corrective Actions for Missing "O" Rings in High Range Kaman Monitors

This item was opened as an Inspection Followup Item in NRC Inspection Report 50-298/94-07, because the licensee had not finished their review of the incident. The licensee has since finished their review of the incident and issued Licensee Event Report 94-03. The licensee sent the NRC a reply to Inspection Followup Item 298/9407-01 dated May 3, 1994. In this reply, the licensee outlined their corrective actions for this incident. The inspector reviewed the corrective actions and noted that the corrective actions were in the process of being completed. In particular, the corrective actions which involved changes to procedures were in review and had not been finally

approved. Therefore, this item is still open and will be reviewed at a later date.

ATTACHMENT

1 PERSONS CONTACTED

1.1 Licensee Personnel

*M. F. Armstrong, Administrative Secretary
*R. L. Beilke, Acting Radiological Manager
*D. Bremer, Acting Operations Manager
*C. G. Chase, Environmental Specialist
*J. Christen, Environmental Research Intern
*G. Horn, Vice President Nuclear
H. Hasenkamp-Gibbs, Environmental Specialist
*C. Putnam, Senior Quality Assurance Specialist
*E. M. Mace, Senior Manager Site Support
R. J. McDonald, Chemistry Supervisor
*J. V. Sayer, Acting Plant Manager
*J. Skradski-Spires, Environmental Supervisor
*G. E. Smith, Quality Assurance Operations Manager
*V. L. Wolstenholm, Division Manager Quality Assurance

1.2 NRC Personnel

R. Kopriva, Senior Resident Inspector

*Denotes personnel that attended the exit meeting. In addition to the personnel listed, the inspector contacted other personnel during this inspection period.

2 EXIT MEETING

An exit meeting was conducted on June 10, 1994. During this meeting, the inspector reviewed the scope and findings of the report. The licensee did not identify as proprietary, any information provided to, or reviewed by the inspector.