APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Inspection Report: 50-298/92-17

Operating License: DPR-46

Licensee: Nebraska Public Power District
P.O. Box 499
Columbus, Nebraska 68602-0499

Facility Name: Cooper Nuclear Station

Inspection At: Cooper Nuclear Station Site, Brownville, Nebraska
General Office, Columbus, Nebraska

Inspection Conducted: August 31 through September 4, 1992

Inspector: Lorenzo Wilborn, Radiation Specialist

Approved: Blaine Murray 9/21/92
Blaine Murray, Chief, Facilities Inspection Programs Section — Date

Inspection Summary

Areas Inspected: Routine, announced inspection of the radiological environmental monitoring organization and management controls, training and qualifications of radiological environmental monitoring personnel, the environmental monitoring quality assurance audit program, the radiological environmental monitoring program, and the meteorological monitoring program.

Results:

- A stable technical staff and good management oversight had been maintained for the radiological environmental monitoring program (paragraph 1.2).
- A good training and qualification program had been maintained (paragraph 2.2).
- Quality assurance audits were well planned, technically comprehensive, and performance based (paragraph 3.2).
- An excellent Radiological Environmental Monitoring Program had been maintained (paragraph 4.2)

- An excellent meteorological monitoring program had been maintained (paragraph 5.2).

Summary of Inspection Findings:

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

Attachments

- Attachment 1 - Persons Contacted and Exit Meeting
- Attachment 2 - Documents Reviewed

DETAILS

1 ORGANIZATION AND MANAGEMENT CONTROLS (84750)

The inspector reviewed the organization management controls, staffing, and assignment of radiological environmental monitoring program responsibilities for Cooper Nuclear Station to determine compliance with the requirements in Section 6.1 of the Technical Specifications and agreement with commitments in Section XIII of the Updated Safety Analysis Report.

1.1 Discussion

The inspector verified that the organization responsible for radiological environmental monitoring program was consistent with the Technical Specification requirements and Updated Safety Analysis Report commitments.

The environmental compliance staff located at the General Office in Columbus, Nebraska, was responsible for the overall administration of the radiological environmental monitoring program. The onsite health physics staff had been responsible for collection, documentation, and shipment of the radiological environmental samples until about February 1991 when an environmental specialist position was created and assumed the collection, documentation, and shipping responsibilities. The environmental specialist is an environmental affairs staff position but is located onsite at Cooper Nuclear Station and the incumbent reports to onsite management staff. The management oversight of the radiological environmental monitoring appeared strengthened by this change of responsibilities.

1.2 Conclusions

During the period April 1990 to August 1992, a stable technical staff and good management oversight for the radiological environmental monitoring program were maintained. The organizational structure and assignment of administrative control responsibilities for the management and implementation of the radiological environmental monitoring program satisfied the Technical Specification requirements and agreed with the commitments of the Updated Safety Analysis Report.

2 TRAINING AND QUALIFICATIONS (84750)

The inspector reviewed the training and qualifications for the General Office and onsite personnel responsible for implementing the radiological environmental monitoring program to determine compliance with the requirements in Section 6.1.4 of the Technical Specifications and agreement with commitments in Section XIII of the Updated Safety Analysis Report.

2.1 Discussion

The inspector reviewed the employee training and the task qualification and certification records for the staff responsible for the radiological environmental monitoring program. The inspector determined that the staff had completed all required training and were experienced and qualified to perform

their assigned responsibilities. The staff responsible for collection, preparation, storage, and shipping of environmental media samples had received on-the-job training and was well qualified. The inspector determined that the supervisory and technical staff met the qualification requirements in the Technical Specifications and agreed with the commitments of the Updated Safety Analysis Report.

2.2 Conclusions

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

3 QUALITY ASSURANCE AUDIT PROGRAM (84750)

The inspector reviewed the licensee's quality assurance audit program to determine compliance with the requirements in Section 6.2.7.h of the Technical Specifications and agreement with commitments in Section XIII of the Updated Safety Analysis Report.

3.1 Discussion

The inspector noted that Cooper Nuclear Station Quality Assurance staff performed annual audits of the site radiological environmental monitoring program activities and as a member of the Nuclear Procurement Issues Committee, the General Office Quality Assurance staff performed biennual audits of the vendor responsible for the analyses of environmental media samples.

The Cooper Nuclear Station Quality Assurance Audit Reports for 1990 and 1991 indicated that Quality Assurance Audits were comprehensive and provided good program evaluation and management oversight.

The General Office Quality Assurance Audit Report for 1990, a cooperative effort between Nebraska Public Power District and Philadelphia Electric Company with both supplying auditors and technical specialist, indicated the audit had been performed in accordance with approved procedures, audit schedules, plans, and predetermined checklists.

The inspector determined that the Quality Assurance Audits of the Radiological Environmental Monitoring Program had been performed by qualified auditors and 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 Quality Assurance Audits reviewed are listed in Attachment 2 to this report.

3.2 Conclusions

The Quality Assurance Audits 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 specialist.

4 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM (84750)

The inspector reviewed the licensee's Radiological Environmental Monitoring Program to determine compliance with the requirements in Sections 3/4.21.F, 3/4.21.G, and 6.5.1.E of the Technical Specification and the Offsite Dose Assessment Manual.

4.1 Discussion

The licensee's General Office personnel was 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 analysis; interpreting results of sample analysis; and reporting results were written with sufficient detail to ensure compliance with the Technical Specifications and the Offsite Dose Assessment Manual. The procedures reviewed are listed in Attachment 2 to this report.

The inspector determined from review of the Annual Radiological Environmental Reports for 1990 and 1991 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 1990 and 1991 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, fish (downstream), milk, river water (upstream and downstream), sediment, and thermoluminescent dosimeters. Several locations inspected were colocated 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. Areas were sufficiently equipped and supplied with the necessary chemicals, reagents, and expendable supplies to support the radiological environmental monitoring program.

The inspector reviewed the licensee's Offsite Dose Assessment Manual and Determined that it contained the required 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 broad leaf vegetation 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 procedure reviewed is listed in Attachment 2 to this report.

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.

4.2 Conclusion

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. Quality Annual Radiological Environmental Reports which contained the required information had been submitted in a timely manner.

5 METEOROLOGICAL MONITORING PROGRAM (84750)

The inspector reviewed the licensee's Meteorological Monitoring Program to determine compliance with the requirements in Section 6.5.1.F.2.c of the Technical Specifications and agreement with the recommendations of Regulatory Guides 1.23 and 1.97 and ANSI/ANS Standard 2.5-1984.

5.1 Discussion

The inspector observed that the licensee maintained a 100-meter tower and a 10-meter auxiliary 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 2.5-1934.

Operations personnel were responsible for the channel checks and instrument and controls personnel were responsible for the calibrations. The procedures reviewed are listed in Attachment 2 to this report.

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 joint data recovery for 1990 and 1991 was 95 percent and 94 percent, respectively. A summary of the meteorological data collected during the years of 1990 and 1991 was included in the Semiannual Radioactive Material Release Reports submitted for the respective second 6-month periods of 1990 and 1991 as required by the Technical Specifications.

5.2 Conclusion

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

ATTACHMENT 1

1 PERSONS CONTACTED

1.1 Licensee personnel

*J. M. Meacham, Site Manager
**L. G. Kuncl, Division Manager, Environmental and Advanced Technology
**M. Bennett, Nuclear Licensing Engineer
*L. E. Bray, Regulatory Compliance Specialist
*C. G. Chase, Environmental Specialist
M. A. Dena Nuclear Licensing Supervisor
*R. L. Gardner, Plant Manager
**H. C. Hasenkamp, Environmental Specialist
**D. G. Luce, Environmental Supervisor
**W. R. Muhring, Environmental Manager
**R. Nyffeler, Environmental Supervisor
**D.P. Robinson, Quality Assurance Manager
*J. V. Sayer, Radiological Manager
**J. Skradski-Spires, Environmental Specialist
*G. Smith, Quality Assurance Manager
G. R. Smith, Nuclear Licensing and Safety Manager

1.2 NRC Personnel

R. Kopriva, Senior Resident Inspector

*Denotes personnel that attended the exit meeting at Cooper Nuclear Station site on September 1, 1992.

**Denotes personnel that attended the exit meeting at the General Office in Columbus, Nebraska, on September 4, 1992.

2 EXIT MEETING

Exit meetings were conducted at the Cooper Nuclear Station site on September 1, 1992, and at the General Office in Columbus, Nebraska, on September 4, 1992. During these meetings, the inspector summarized the scope and findings of the inspection. The licensee did not identify as proprietary, any information provided to, or reviewed by the inspector.

ATTACHMENT 2
COOPER NUCLEAR STATION
NRC INSPECTION REPORT 50-298/92-07
DOCUMENTS REVIEWED

1 PROCEDURES	TITLE	REV.	DATE
	Sampling Manual	20	6/92
EP-1	Cooper Nuclear Station Radiological Environmental Monitoring Program	9	4/91
EP-1.1	Cooper Nuclear Station - Environmental Air Sampling and Pump Calibration	0	12/91
EP-1.3	Cooper Nuclear Station - Land Use Census	0	3/89
EP-7.1	Monitoring the Meteorological System	3	5/92
EP-7.6	Producing the Semiannual Report	0	5/92
EP-7.7	Producing the Annual Meteorological Report	0	5/92
I&C-14.3.3	Meteorological Maintenance Procedure	3	1/92
I&C-14.3.4	Translator Module Calibration	1	2/92
I&C-14.3.8	Wind Speed and Wind Direction Transmitter Maintenance	2	11/90
	Nuclear Procurement Issues Committee - Joint Audit Procedure	5	1/92
	Nuclear Procurement Issues Committee - Member Audit Procedure	2	4/91
	Nuclear Procurement Issues Committee - Joint/Member Audit Checklist	2	1/92
QAP-900	Quality Assurance Plan - Chemistry, Health Physics and Environmental Monitoring	10	2/88
QAP-900(E)	Quality Assurance Audit Checklist	6	10/90
2 AUDIT REPORTS			
CNS QA Audit 91-21: "Environmental Monitoring," 9/23/91 - 10/22/91			
CNS QA Audit No. 90-22: "Environmental Radiation Monitoring," 10/5-17/90			
Vendor QA Audit No. VA-N-2953: "Teledyne Isotopes - Westwood, New Jersey," 9/10-12/90			