

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Inspection Report: 50-482/92-23

Operating License: NPF-42

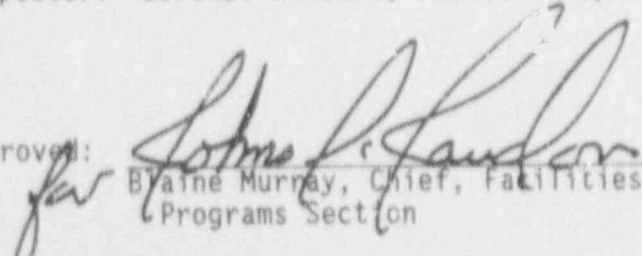
Licensee: Wolf Creek Nuclear Operating Corporation  
P.O. Box 411  
Burlington, Kansas 66839

Facility Name: Wolf Creek Generating Station

Inspection At: Burlington, Coffey County, Kansas

Inspection Conducted: August 10-14, 1992

Inspector: Lorenzo Wilborn, Radiation Specialist

Approved: 

Bryaine Murray, Chief, Facilities Inspection  
Programs Section

8/31/92  
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:

- The radiological environmental monitoring program staff had a low turnover rate (paragraph 1.2).
- A good training and qualifications program had been established (paragraph 2.2).
- Environmental monitoring quality assurance audits were well planned and technically comprehensive, and they provided a good program evaluation and management oversight (paragraph 3.2).
- An excellent radiological environmental monitoring program had been maintained. The annual land use censuses had been performed and documented. The annual radiological environmental monitoring operating

reports issued were of good quality, timely, and contained the required information (paragraph 4.2).

- A strong 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 Wolf Creek Generating Station to determine compliance with the requirements in Section 6 of the Technical Specifications and agreement with commitments in Chapter 13 of the Updated Safety Analysis Report.

#### **1.1 Discussion**

The inspector verified that the organizational structure of the staff and the designation of who was responsible for the implementation of the radiological environmental monitoring program, was as defined in the Technical Specifications and Updated Safety Analysis Report.

The inspector determined that the duties and responsibilities of the staff engaged in radiological environmental monitoring activities, that were specified in approved management control procedures, were being implemented. The inspector noted that there had been some changes regarding titles, duties, and responsibilities, but the level of management involvement and controls had not been adversely affected. The management controls including the changed scope of responsibilities appeared adequate for management oversight of the radiological environmental monitoring program. The management control procedures, which were reviewed, are listed in Attachment 2 to this inspection report.

The inspector noted during the review of staffing that there had been one resignation from the technical staff which was responsible for the implementation of the radiological environmental monitoring program. The vacated radiological environmental monitoring program coordinator position was filled in July 1991 by an individual recruited from the ranks of the environmental management group staff. The staffing was in accordance with licensee commitments.

#### **1.2 Conclusions**

The organizational structure and staffing of the radiological environmental monitoring program met Technical Specification requirements and Updated Safety Analysis Report commitments. The management controls were being implemented in accordance with approved procedures. During the period January 1990 to August 1992, the licensee's radiological environmental monitoring program staff had experienced a low turnover of technical personnel.

### **2 TRAINING AND QUALIFICATIONS (84750)**

The inspector reviewed the training and qualifications for the corporate and onsite groups responsible for implementing the radiological environmental monitoring program to determine compliance with the requirements in Sections 6.3 and 6.4 of the Technical Specifications and agreement with commitments in Section 13 of the Updated Safety Analysis Report.

## 2.1 Discussions

The inspector determined that a good training and qualification program had been established. The inspector verified that the individuals responsible for performing radiological environmental monitoring program activities had completed all of the required training and were experience qualified to perform their assigned responsibilities. The inspector determined that the collection, preparation, storage, and shipping of environmental media samples had been performed by well qualified staff. The supervisory and technical staff met the education and experience qualification requirements specified in the Technical Specifications and Updated Safety Analysis Report.

## 2.2 Conclusions

A good training and qualification program had been established. The collection, preparation, storage, and shipping of environmental media samples had been performed by well qualified staff.

## 3 QUALIFIED ASSURANCE AUDIT PROGRAM (84750)

The inspector reviewed the licensee's quality assurance audit program to determine compliance with the requirements in Section 6.5 of the Technical Specifications and agreement with commitments in Section 13.4 of the Updated Safety Analysis Report.

### 3.1 Discussion

The inspector determined that the quality assurance audit schedules for 1990, 1991, and 1992 had been established and adhered to for the radiological environmental monitoring program. Audit reports for 1990, 1991, and 1992 indicated that quality assurance audits were well planned, were technically comprehensive, and provided good program evaluation and management oversight. The inspector determined that the quality assurance audits of the radiological environmental monitoring program had been performed in accordance with approved procedures, audit schedules, plans, and checklists, by qualified auditors and assisted by qualified technical specialists. The inspector noted that identified deficiencies were corrected in a timely manner. The quality assurance audits of the radiological environmental monitoring program met the requirements of the Technical Specifications and Updated Safety Analysis Report. The quality assurance audits reviewed are listed in Attachment 2 to this report.

### 3.2 Conclusions

Environmental monitoring quality assurance audits were well planned, were technically comprehensive, and provided good program evaluation and management oversight.

## 4 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM (84750)

The inspector reviewed the licensee's radiological environmental monitoring program to determine compliance with the requirements in Sections 6.8.4.f

6.9.1.6, and 6.14 of the Technical Specifications and the Offsite Dose Calculation Manual.

#### 4.1 Discussion

The corporate technical services group was responsible for the overall administration of the radiological environmental monitoring program. The inspector noted that the onsite regulatory service group was responsible for the collection, preparation, and shipment of environmental media samples. Procedures for the administration of the radiological environmental monitoring; 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 Calculation Manual. The procedures reviewed are listed in Attachment 2 of this inspection report.

The inspector determined from the review of the annual radiological environmental monitoring reports for 1990 and 1991 that the sampling, monitoring and measurement frequencies, interpretation, and evaluation of data requirements and the reporting requirements specified in the Technical Specifications and Offsite Dose Calculation Manual had been met. The inspector noted that the licensee had conducted the annual land use censuses for 1990 and 1991 in accordance with the requirements of the Technical Specifications and the results of the censuses were documented as required in the respective annual radiological environmental operating reports. No reportable occurrences or events relating to the radiological environmental monitoring program were identified during the period covered by this inspection.

The inspector determined that the Offsite Dose Calculation Manual, Revision 8, dated December 4, 1991, contained the required radiological environmental monitoring program in accordance with the Technical Specification.

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 charcoal), deep down sediment, drinking water (upstream), fish, milk, broad leaf vegetation, shoreline sediment, subsurface water, surface water, and thermoluminescent dosimeters. Several locations inspected were collocated with the Nuclear Regulatory Commission (thermoluminescent dosimeters) and the State of Kansas (airborne and thermoluminescent dosimeters). The inspector noted that the required equipment at the selected sampling locations was in place, operational, and calibrated. The inspector verified that the sampling locations were as described in the Offsite Dose Calculation Manual and the annual radiological environmental operating reports.

The inspector determined that the licensee's 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.



#### 4.2 Conclusions

An excellent radiological environmental monitoring program had been implemented and maintained. The annual land use census had been performed and documented. Quality annual radiological environmental monitoring operating reports which contained the required information had been submitted in a timely manner.

#### 5 METEOROLOGICAL MONITORING PROGRAM (94750)

The inspector reviewed the meteorological monitoring program to determine compliance with the requirements in Section 3/4.3 of the Technical Specifications, agreement with commitments in Section 2.3 of the Updated Safety Analysis Report and the recommendations of Regulatory Guides 1.23, 1.70, and 1.97 and ANSI/ANS Standard 2.5-1984.

##### 5.1 Discussions

The inspector determined that the meteorological data monitoring and recording instrumentation at the 60-meter primary and 10-meter backup meteorological towers was operational and currently calibrated. The meteorological instrumentation calibration procedures and the instrumentation required daily channel checks and semiannual calibration records indicated that the instruments were being properly maintained, tested, and calibrated in compliance with Technical Specification requirements. The inspector noted that the meteorological tower instrumentation data recovery exceeded 90 percent as recommended in ANSI/ANS Standard 2.5-1984. Actual data recovery for 1990 and 1991 was 99 percent and 94 percent, respectively. The meteorological instrumentation calibration procedures reviewed are listed in Attachment 2 to this report.

##### 5.2 Conclusions

A strong meteorological monitoring program had been maintained. The primary and backup meteorological towers' instrumentation was being maintained, tested, and calibrated in accordance with approved procedures and in compliance with Technical Specification requirements. The meteorological towers' instrumentation supplied reliable meteorological data.

## ATTACHMENT 1

### 1 PERSONS CONTACTED

#### 1.1 Licensee Personnel

- \*J. A. Bailey, Vice President, Operations
- \*R. C. Hagan, Vice President, Nuclear Assurance
- \*O. L. Maynard, Director, Plant Operations
- \*T. M. Anselmi, Licensing Engineer
- \*R. S. Benedict, Manager, Quality Control
- \*A. B. Clason, Maintenance Engineer Supervisor
- \*T. F. East, Supervising Instructor, Chemistry
- \*R. D. Flannigan, Manager, Nuclear Safety Engineering
- \*D. E. Gerrelts, Manager, Instrument and Controls
- D. E. Haines, Senior Environmental Biologist
- \*J. D. Hartley, Chemistry Instructor
- \*S. A. Henry, Chemistry Supervisor
- \*R. Hobby, Environmental Biologist
- \*R. W. Holloway, Manager, Maintenance and Modification
- \*D. Jacobs, Supervisor, Mechanical Maintenance
- \*W. M. Lindsay, Manager, Quality Assurance/Acting Director, Quality
- \*T. S. Merrill, Manager, Radiation Protection
- \*K. J. Moles, Manager, Regulatory Services
- \*W. B. Norton, Manager, Technical Support
- \*G. J. Pendergrass, Supervisor Engineer-Results Engineering
- \*E. M. Peterson, Supervisor, Quality Assurance Audits
- \*C. E. Rich, Jr., Supervisor, Electrical Maintenance
- \*C. M. Sprout, Manager, System Engineering
- \*H. L. Stubby, Supervisor, Technical Training
- \*C. A. Swartzendruber, Manager, Technical Services
- J. L. Walton, Engineering Specialist II
- \*J. D. Weeks, Manager, Operations
- \*S. G. Wideman, Supervisor, Licensing
- \*M. G. Williams, Manager, Plant Support
- \*L. D. Young, Supervisor, Licensing

#### 1.2 NRC Personnel

- \*J. B. Nicholas, Senior Radiation Specialist
- \*P. C. Wagner, Reactor Inspector

Denotes personnel that attended the exit meeting.

### 2 EXIT MEETING

An exit meeting was conducted on August 14, 1992. 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.

## ATTACHMENT 2

### WOLF CREEK GENERATING STATION NRC INSPECTION REPORT 50-482/92-23 DOCUMENTS REVIEWED

1 PROCEDURES	TITLE	REV.	DATE
ADM-02-300	Surveillance Testing	18	12/91
KP-C205	Nuclear Services Training Program	6	5/91
	Procedure Change Notice No. 1	6	11/91
KP-RA210	Radiological Environmental Monitoring Program Administration	6	5/92
KP-RA210.1	Review of Radiological Environmental Laboratory Analysis	8	5/92
KP-RA210.2	Interpreting Results of Radiological Environmental Sample Analysis	4	6/91
KP-RA210.3	Reporting of Radiological Environmental Program Results	5	6/91
KP-RA211	Radiological Environmental Monitoring Program Implementation	4	5/92
KP-RA211.4	Collection, Preparation, and Shipment of Sediment Samples		5/92
KP-RA211.5	Collection of Direct Radiation Samples	2	5/92
KP-RA211.6	Collection, Preparation, and Shipment of Water Samples	3	5/92
KP-RA211.7	Collection, Preparation, and Shipment of Fruit and Vegetation Samples	2	5/92
KP-RA211.8	Collection, Preparation, and Shipment of Milk Samples	2	5/92



KP-RA211.9	Collection, Preparation, and Shipment of Airborne Particulate and Iodine Samples	1	5/92
KP-RA211.10	Population/Land Use Survey	3	5/92
KP-RA212	Radicalogical Environmental Monitoring Equipment Control and Calibration	2	6/91
KP-RA212.1	Calibration and Maintenance of Air Sampler Pumps	3	7/92

## Attachment 2 (cont')

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2	AUDIT REPORTS
WCNOC QA Audit TE:50140-K289,	"Environmental Radiological Protection and ODCM,"
8/90	
WCNOC QA Audit TE:50140-K325,	"Environmental (Radiological) Monitoring,
6/4-30/91	
WCNOC QA Audit TE:50140-K361,	"Radiological Environmental Monitoring Program,"
6/4-30/92	