

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Docket Nos.: 50-445  
50-446

License Nos.: NPF-87  
NPF-89

Report No.: 50-445/97-07  
50-446/97-07

Licensee: TU Electric

Facility: Comanche Peak Steam Electric Station, Units 1 and 2

Location: FM-56  
Glen Rose, Texas

Dates: March 24-27, 1997

Inspector: Gilbert L. Guerra, Jr., Radiation Specialist

Approved By: Blaine Murray, Chief, Plant Support Branch

ATTACHMENT: Supplemental Information

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## EXECUTIVE SUMMARY

Comanche Peak Steam Electric Station, Units 1 and 2  
NRC Inspection Report 50-445/97-07; 50-446/97-07

### Plant Support

- An excellent radiological environmental monitoring program was implemented in accordance with Offsite Dose Calculation Manual requirements (Section R1.1).
- An effective meteorological monitoring program was implemented (Section R1.2).
- Environmental monitoring stations were properly maintained with operable and calibrated equipment (Section R2.1).
- The meteorological towers were properly maintained with all instrumentation calibrated at the proper frequencies. Data recovery was greater than 90 percent (Section R2.2).
- Radiological environmental monitoring implementing procedures containing sufficient detail were used (Section R3.1).
- Personnel responsible for implementing the monitoring program were properly trained and qualified (Section R5.1).
- Adequate staffing was maintained, and management provided good support for the radiological environmental monitoring program (Section R6.1).
- Comprehensive audits were performed. The audits identified items for improvement and evaluated the performance and implementation of the radiological environmental monitoring program (Section R7.1).
- The Annual Radiological Environmental Operating and Annual Radioactive Effluent Release Reports were submitted in a timely manner. The reports contained the required information (Section R8.1).

## Report Details

### Summary of Plant Status

Units 1 and 2 were operating at power during the inspection. There were no operational occurrences that impacted the results of the inspection.

## IV. Plant Support

### **R1 Radiological Protection and Chemistry Controls**

#### **R1.1 Radiological Environmental Monitoring Program (84750)**

##### **a. Inspection Scope**

The inspector reviewed the radiological environmental monitoring program to determine compliance with the requirements in the Offsite Dose Calculation Manual.

##### **b. Observations and Findings**

The Offsite Dose Calculation Manual and appropriate procedures were used. These documents contained sufficient detail for conducting the radiological environmental monitoring program. The licensee had made minor changes to the Offsite Dose Calculation Manual for clarification of sample analysis frequencies. The inspector noted that the changes did not decrease the effectiveness of the Offsite Dose Calculation Manual. Environmental technicians were knowledgeable of the sampling procedures and the Offsite Dose Calculation Manual.

Licensee staffing was adequate and management controls were appropriate. All environmental sampling was conducted as required. Sample analyses were performed by an outside vendor. The annual land use census was performed as required. The licensee's annual reports were written and submitted to the NRC as required.

The inspector noted that the radiological environmental monitoring program was fully implemented in accordance with the requirements in the Offsite Dose Calculation Manual. Based on observations during this inspection and review of previous NRC findings in this program area, the inspector determined that performance continued to be excellent.

##### **c. Conclusions**

Overall, an excellent radiological environmental monitoring program was implemented in accordance with Offsite Dose Calculation Manual requirements.

**R1.2 Meteorological Monitoring Program (84750)**

**a. Inspection Scope**

The inspector reviewed the meteorological monitoring program to determine agreement with the recommendations in NRC Regulatory Guide 1.23 and compliance with the commitments in the Updated Final Safety Analysis Report, Section 2.3. Also, the inspector reviewed data collection and review procedures, and discussed the data results with licensee personnel.

**b. Observations and Findings**

The licensee utilized meteorological towers equipped with the required instrumentation. This instrumentation conformed to commitments documented in the Updated Final Safety Analysis Report, Section 2.3 and Regulatory Guide 1.23. Signals from the instrumentation were collected by the plant computer and displays of meteorological data were available to the operations staff and at the emergency facilities. Licensee procedures for the collection and review of meteorological data were used.

**c. Conclusions**

An effective meteorological monitoring program was implemented. The inspector determined that a proper data collection and review program was in place. The performance of the meteorological monitoring program satisfied the commitments of the Update Final Safety Analysis Report, Section 2.3 and agreed with the guidance contained in Regulatory Guide 1.23.

**R2 Status of Radiological Protection and Chemistry Facilities and Equipment**

**R2.1 Environmental Monitoring Equipment and Facilities (84750)**

**a. Inspection Scope**

The inspector visited selected environmental sampling stations to verify that stations were properly maintained and equipment was operable and properly calibrated. Sample preparation and storage facilities were inspected to verify that sufficient supplies and spare equipment were available.

**b. Observations and Findings**

The inspector observed the facilities used for environmental media sample storage and preparation. The sample preparation/storage area was equipped with the necessary spare equipment and supplies to perform the required radiological environmental monitoring program sampling activities.

The inspector toured the environmental sampling locations, which included sampling stations for the collection of air, broadleaf vegetation, milk, and water samples with an environmental specialist. The location of thermoluminescent dosimeters was also noted. The inspector noted that air sampler equipment in use was properly calibrated and operational. A timing device was used on each air sampler to track operation history. Samples were properly prepared for shipment to a vendor laboratory for analyses.

c. Conclusions

The licensee maintained sufficient supplies and spare environmental sampling equipment to perform the activities described in the Offsite Dose Calculation Manual. Environmental monitoring stations were properly maintained with operable and calibrated equipment.

R2.2 Meteorological Monitoring Equipment (84750)

a. Inspection Scope

The inspector observed the meteorological instrumentation at the meteorological towers and reviewed the associated calibration records to ensure that the meteorological instrumentation on the towers was operable, calibrated, and maintained in accordance with written procedures, the guidance in Regulatory Guide 1.23, and Updated Final Safety Analysis Report, Section 2.3.

b. Observations and Findings

The inspector toured the meteorological tower with licensee technicians responsible for performing periodic calibrations of the monitoring equipment on the towers. The licensee maintained a primary tower with monitoring instrumentation at the 10 and 60 meter levels, and a backup tower with instrumentation located at the 10 meter level. The instrumentation at these levels included wind speed, wind direction, and temperature sensing instrumentation. Instrumentation, including recording and transmitting equipment, was noted to be in good operating condition. Daily channel checks, physical inspections, and semi-annual calibrations were performed on the meteorological instruments.

The inspector noted that the instrumentation agreed with Regulatory Guide 1.23 recommendations and the licensee's Update Final Safety Analysis Report, Section 2.3. The inspector noted that all instrumentation was operable and properly calibrated. Calibration records indicated that the instrumentation was maintained properly and calibrations were performed at the proper frequencies. Daily channel checks were performed in accordance with operations procedure requirements. Operation of the meteorological towers resulted in data recovery rates of 93.8 percent for 1995, and 93.5 percent for 1996.

c. Conclusions

The meteorological towers were properly maintained with all instrumentation calibrated at the proper frequencies. Data recovery was greater than 90 percent.

**R3 Radiological Protection and Chemistry Procedures and Documentation**

**R3.1 Changes in the Offsite Dose Calculation Manual and Radiological Environmental Monitoring Implementing Procedures (84750)**

a. Inspection Scope

The inspector reviewed changes made to the Offsite Dose Calculation Manual and implementation procedures regarding the radiological environmental monitoring program.

b. Observations and Findings

Revisions 13 and 14 to the Offsite Dose Calculation Manual had been issued since the last inspection. The changes affecting the radiological environmental monitoring program were only to clarify sample analysis frequencies. The inspector noted that the changes did not result in a decrease of the effectiveness of the Offsite Dose Calculation Manual. The implementing procedures described the responsibilities for collection, documentation, and shipment of environmental media samples collected around the Comanche Peak site. The licensee's procedures were written with sufficient detail for conducting the required radiological environmental monitoring program activities. No concerns were identified in the review of the environmental procedures.

c. Conclusions

The licensee had made minor changes to the Offsite Dose Calculation Manual. However, these changes did not decrease the effectiveness of the radiological environmental monitoring program. Radiological environmental monitoring program implementing procedures containing sufficient detail were used.

**R4 Staff Knowledge and Performance**

a. Inspection Scope (84750)

The inspector observed and held discussions with personnel involved with the implementation of the radiological environmental monitoring program to determine their knowledge of environmental sampling and implementing procedures.

b. Observations and Findings

The inspector noted that good practices were used by the environmental specialist in maintaining sample integrity. All activities observed were conducted in an orderly fashion. The inspector noted that the licensee's staff knowledge of sampling procedures, the Offsite Dose Calculation Manual, and NRC requirements was excellent.

c. Conclusions

Licensee staff had an excellent understanding of the radiological environmental monitoring program, the Offsite Dose Calculation Manual, and regulatory requirements.

**R5 Staff Training and Qualification**

a. Inspection Scope (84750)

The training and qualification programs for the technical staff responsible for implementing the radiological environmental monitoring program were reviewed.

b. Observations and Findings

The licensee's training records revealed that the current staff implementing the radiological environmental monitoring program were properly trained and qualified. These individuals had several years of experience with Offsite Dose Calculation Manual requirements. The licensee stated that alternate/backup personnel would be trained to perform sampling required by the radiological environmental monitoring program. To this effect, the licensee was working on updating on-the-job-training and qualification card requirements. The licensee was making good progress in this effort.

c. Conclusions

Personnel responsible for implementing the monitoring program were properly trained and qualified.

**R6 Radiological Protection and Chemistry Organization and Administration**

**R6.1 Environmental Monitoring (84750)**

a. Inspection Scope

The organization, staffing, and assignment of the radiological environmental monitoring program responsibilities were reviewed.



b. Observations and Findings

Management of the radiological environmental monitoring program was performed by the radioactive materials control group of the radiation protection department. No significant changes in the organization were noted since the last inspection; however, the licensee expected changes to occur in the near future. Two individuals were responsible for the majority of the collection and preparation of the environmental samples, including the review of the sample analysis results and preparation of the annual reports. As a result of a planned future re-organization of the radiation protection department, other personnel are to be designated as having responsibilities in the radiological environmental monitoring program. These individuals would be trained in accordance with licensee procedures.

c. Conclusions

The present organization maintained adequate staffing and provided management support for implementing the radiological environmental monitoring program.

**R7 Quality Assurance in Radiological Protection and Chemistry Activities**

**R7.1 Audits (84750)**

a. Inspection Scope

Quality assurance audit reports concerning the radiological environmental monitoring and meteorological programs were reviewed for scope, thoroughness, and timely followup of identified deficiencies.

b. Observations and Findings

The inspector reviewed the results of audits performed by the licensee during 1995 and 1996. The inspector noted that audits were comprehensive, thorough, and provided management with the appropriate oversight of the radiological environmental monitoring program. Audit findings were corrected in a timely manner.

The licensee's contractor laboratory participated in an intercomparison program and results were forwarded to the licensee. Acceptable results were noted in the intercomparison data.

c. Conclusions

Thorough, comprehensive audits were performed. The audits identified items for improvement and evaluated the performance and implementation of the radiological environmental monitoring program. Audits were performed at the required frequency.



R8     **Miscellaneous Radiological Protection and Chemistry Issues**

R8.1   Annual Environmental Operating and Effluent Release Reports (84750)

a.     Inspection Scope

The inspector reviewed the annual reports concerning radiological environmental monitoring program activities to determine compliance with the requirements of Technical Specifications 6.9.1.3 and 6.9.1.4, and the Offsite Dose Calculation Manual. These documents were reviewed for omissions, obvious mistakes, anomalous measurements, observed biases, trends in the data, and laboratory inter-comparisons.

b.     Observations and Findings

Sampling results included in the 1994, 1995, and 1996 (draft) Annual Radiological Environmental Operating Reports indicated that sampling was performed as required. Discrepancies or missed samples were reported as required. The inspector noted that sampling, analyses, and reporting requirements were met. The annual land use censuses were conducted as required, and the results were included in the report.

The 1994 and 1995 Annual Radioactive Effluent Release Reports included meteorological data as required.

c.     Conclusions

The Annual Radiological Environmental Operating and Annual Radioactive Effluent Release Reports were submitted in a timely manner. The reports contained the required information.

**V. Management Meetings**

X1     **Exit Meeting Summary**

The inspector presented the results of the inspection to members of licensee management at the conclusion of the inspection on March 27, 1997. The licensee acknowledged the findings presented. No proprietary information was identified.

## ATTACHMENT

### SUPPLEMENTAL INFORMATION

#### PARTIAL LIST OF PERSONS CONTACTED

##### Licensee

S. Bradley, Radiation Protection Supervisor  
J. Curtis, Radiation Protection Manager  
E. Floyd, Staff Health Physicist  
B. Knowles, Radiation Protection Technician  
R. Ramsour, Radiation Protection Technician  
C. Welch, Senior Nuclear Specialist, Nuclear Overview  
C. Wilkerson, Senior Engineer, Regulatory Affairs

##### NRC

H. Freeman, Resident Inspector

In addition to the personnel listed above, the inspector contacted other personnel during this inspection.

#### INSPECTION PROCEDURE USED

IP 84750      Radioactive Waste Treatment, and Effluent and Environmental Monitoring

#### LIST OF DOCUMENTS REVIEWED

##### PROCEDURES

STA-714      Meteorological Monitoring Program, Revision 3, March 12, 1993

RPI-309      Routine Operation of the Meteorological Computer System, Revision 6, March 15, 1996

RPI-710      Radiological Environmental Monitoring Program, Revision 6, November 22, 1995

RPI-712      Radiological Environmental Sampling/Analysis Program, Revision 1, December 20, 1996

RPI-713      Collection, Preparation, and Shipment of Radiological Environmental Samples, Revision 1, December 20, 1996

RPI-714      Land Use Census, Revision 0, November 22, 1995

AUDITS

NOE-EVAL-95-000169 - "Effluent and Environmental Monitoring Program," August 16, 1995

NOE-EVAL-96-000141 - "Radwaste and Effluent/Environmental Monitoring Program," September 12, 1996

REPORTS

Annual Radioactive Effluent Release Reports - 1994, 1995, 1996 (draft)

Annual Radiological Environmental Operating Reports - 1994, 1995, 1996 (draft)

OTHER

Offsite Dose Calculation Manual, Revision 14

Radiation Protection department training records

Organizational Charts

Meteorological Tower Instrumentation Calibration Records