

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-445/88-07
50-446/88-06

Construction Permits: CPPR-126
CPPR-127

Dockets: 50-445
50-446

Licensee: TU Electric
40C North Olive, L.B. 81
Dallas, Texas 75201

Facility Name: Comanche Peak Steam Electric Station (CPSES)

Inspection At: CPSES Site, Glen Rose, Texas

Inspection Conducted: February 1-5, 1988

Inspector:

J. Blair Nicholas
J. B. Nicholas, Senior Radiation Specialist
Facilities Radiological Protection Section

2/20/88
Date

Approved:

Blaine Murray
B. Murray, Chief, Facilities Radiological
Protection Section

2/29/88
Date

Inspection Summary

Inspection Conducted February 1-5, 1988 (Report 50-445/88-07; 50-446/88-06)

Areas Inspected: Routine, unannounced preoperational inspection of the licensee's radiological environmental monitoring program (REMP) including organization and management controls, training and qualifications, and implementation of the REMP.

Results: Within the areas inspected, no violations or deviations were identified. One previously identified open item is closed in paragraph 2. Two new open items are discussed in paragraphs 6 and 7.

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DETAILS1. Persons ContactedTU Electric

- *A. B. Scott, Vice President, Nuclear Operations
- *M. D. Bever, Supervisor, Quality Assurance (QA) Audits
- M. R. Blevins, Manager, Technical Support
- R. W. Borden, Chemistry/Environmental Technician
- D. M. Bozeman, Chemistry/Environmental Manager
- G. J. Brown, Chemistry/Environmental Technician
- *J. D. Bull, Environmental Supervisor
- C. D. Curry, Senior Chemistry/Environmental Technician
- *R. D. Delano, Licensing Engineer
- *E. T. Floyd, Radiation Protection Technician
- *W. G. Hartshorn, Supervisor, QA Operations Start Up Surveillance
- *N. S. Harris, Senior QA Surveillance Technician
- *D. L. Hubbard, Supervisor, Nuclear Operations Training
- *G. J. Laughlin, Supervisor, Instruments and Controls (I&C) Support
- *P. A. Leyendecker, Supervisor, Site Surveillance
- *W. I. Melton, Executive Assistant to Vice President of Nuclear Operations
- *D. M. McAfee, Manager, QA
- R. Rasmussen, Supervisor, I&C Computer Group
- *E. J. Schmitt, Radiation Protection Manager
- *J. C. Smith, Plant Operations
- *B. W. Wieland, I&C Manager

NRC

- *H. H. Livermore, NRC Senior Lead Inspector
- *S. D. Bitter, NRC Resident Inspector, CPSES

*Denotes those present during the exit interview on February 5, 1988.

2. Followup on Previous Inspection Findings (92701)

(Closed) Open Item (445/8504-01; 446/8503-01): Meteorological Equipment Space Parts Inventory - This item was identified in NRC Inspection Report 50-445/85-04; 50-446/85-03 and involved the lack of adequate spare parts to maintain meteorological tower operability. The NRC inspector reviewed the licensee's inventory of meteorological equipment and procedures for maintaining on hand an adequate supply of spare components for preventive maintenance or replacement to keep at a minimum a single channel operation of all meteorological equipment. The licensee's corrective actions resolved the NRC's concerns. This item is considered closed.

3. Open Items

An open item is a matter that requires further review and evaluation by the NRC inspector or licensee. Open items are used to document, track, and ensure adequate followup on matters of concern to the NRC inspector. The following open items were discussed with the licensee during the exit interview on February 5, 1988, and are identified in paragraphs 6 and 7 of this report.

<u>Open Item</u>	<u>Description</u>
445/8807-01; 446/8806-01	Environmental Air Sampler Calibration
445/8807-02; 446/8806-02	Meteorological Instrumentation Reliability

4. Organization and Management Controls (83522)

The NRC inspector reviewed the licensee's organization, staffing, identification and correction of program weaknesses, audits and appraisals, communication to employees, and documentation and implementation of the chemistry/environmental section (C/ES) to determine adherence to commitments in Chapter 13 in the Final Safety Analysis Report (FSAR) and the requirements in Section 6.2 in the draft Technical Specifications (TS).

The NRC inspector verified that the organizational structure of the C/ES was as defined in the FSAR and draft TS. Management control procedures and position descriptions were reviewed for the assignment of responsibilities for the management and implementation of the REMP. The NRC inspector verified that the administrative control and program implementing responsibilities specified in procedures were being implemented. Selected documents listed in Attachment 1 to this report were reviewed.

The NRC inspector reviewed the staffing of the C/ES and determined the section was fully staffed including a supervisor, a senior chemistry/environmental technician, and two chemistry/environmental technicians. All of the C/ES staff except for the senior chemistry/environmental technician are new to their positions and responsibilities since the previous NRC inspection of this area in February 1985. The NRC inspector noted that the C/ES personnel turnover had been approximately 75 percent in the past 36 months.

The C/ES staffing was determined to be in accordance with licensee commitments.

No violations or deviations were identified.

5. Training and Qualifications (83523)

The NRC inspector reviewed the licensee's training and qualification program for C/ES personnel responsible for implementing the REMP including: education and experience, adequacy and quality of training, employee knowledge, qualification requirements, new employees, Institute of Nuclear Power Operations (INPO) accreditation, and audits and appraisals to determine adherence to commitments in Chapter 13 in the FSAR and the requirements in Sections 6.3 and 6.4 in the draft TS.

The NRC inspector reviewed the education and experience of the present C/ES staff and verified that they met the required qualifications specified in the FSAR and draft TS. It was determined that the licensee had an adequately qualified staff to conduct the REMP.

The NRC inspector reviewed the licensee's training program for C/ES personnel including a review of training procedures, personnel training records, and qualification cards. The NRC inspector found that the licensee's training program was being implemented and documented in accordance with CPSES procedures. Selected documents listed in Attachment 1 to this report were reviewed.

No violations or deviations were identified.

6. Radiological Environmental Monitoring Program (80521)

The NRC inspector reviewed the licensee's REMP to determine adherence to the requirements in Sections 3/4.12, 6.8, and 6.9.1.6 in the draft TS.

The NRC inspector reviewed the licensee's procedures for implementation of the preoperational REMP. The procedures for the administration of the REMP and collection and shipment of radiological environmental samples to meet draft TS requirements were written with sufficient detail to ensure TS compliance. Selected procedures and documents listed in Attachment 1 to this report were reviewed.

The NRC inspector reviewed the annual preoperational radiological environmental monitoring reports for 1984, 1985, and 1986 and determined that the sampling and analysis requirements specified in the draft TS had been met. A review of current REMP activities verified that the radiological effluent technical specifications (RETS) as proposed in NUREG-0472, "Radiological Effluent Technical Specifications for Pressurized Water Reactors," were being implemented. The NRC inspector reviewed the annual land use censuses which were conducted in 1984, 1985, and 1986 and performed out to a radius of 5 miles from the plant.

The NRC inspector reviewed the licensee's draft Offsite Dose Calculation Manual (ODCM) dated December 1987 and the draft Radioactive Effluent and Environmental Monitoring Manual (REEM) dated October 1987 and determined that both documents appeared to contain the required information in accordance with the draft TS and were being submitted to the NRC Office of Nuclear Reactor Regulation for approval.

The NRC inspector reviewed selected REMP sample logs, laboratory receipt forms, and data reports for 1986 and 1987.

The NRC inspector inspected the following types of sampling stations: airborne, surface/drinking water, ground water, direct radiation (thermoluminescent dosimeters, TLD), milk, and broad leaf vegetation. The required equipment at the selected sampling stations was in place and operational at the time of the inspection. During the inspection of the various environmental sampling stations, the NRC inspector verified that the locations were as described in the licensee's environmental manual procedures and Table 6.1 of the draft REEM and Table 3.1 of the draft ODCM.

The NRC inspector reviewed the calibration program for the REMP air samplers. The air sampler flow indicators have normally been calibrated annually by the I&C department per I&C Manual Procedure, INC-405, Air Sampler Flow Indicator Calibration," Revision 1, dated September 22, 1982. Environmental Manual Procedure, ENV-201, "Collection, Preparation, Storage, and Shipment of Air Samples," Revision 3, dated May 13, 1987, requires that during the weekly collection of the air particulate filter and charcoal absorber samples that the air sampler calibration sticker be checked to assure that the air sampler is in current calibration. The procedure does not define current calibration or the frequency of calibration, nor does the calibration sticker on the air samplers indicate the calibration due date. However, it has been the practice of the licensee, since 1982, to annually calibrate the air sampler flow indicators in conjunction with preventive maintenance on the air samplers. During the inspection of the air sampling stations, the NRC inspector noted that 5 of the 10 air samplers which were in service had not been recalibrated within the last 12 months. Further investigation concluded also that 2 of the 3 air samplers which were out-of-service as replacements had not been recalibrated within the last 12 months. The licensee had not established a required calibration frequency for the environmental air sampler flow indicators and had not placed the 13 air samplers on the measuring and test equipment (M&TE) listing for maintenance and calibration. This observation was discussed with the licensee during the inspection and at the exit interview on February 5, 1988. The licensee agreed to revise the necessary procedures to establish a required calibration frequency, add the 13 air samplers and calibration requirements to the M&TE list, and replace the 5 air samplers in the field which had not been recalibrated within the last 12 months with more recently calibrated air samplers as soon as possible. This is considered an open item (445/8807-01; 446/8806-01) pending licensee resolution.

The NRC inspector reviewed the licensee's environmental TLD program. The licensee had an approved procedure for the placement, collection, preparation, and shipment of environmental TLDs to the offsite contractor

laboratory for processing. The NRC inspector compared the licensee's TLD results to the NRC TLD results for collocated TLD sites for 1985 and 1986 and noted satisfactory agreement between the results.

No violations or deviations were identified.

7. Meteorological Monitoring Program (80521)

The NRC inspector reviewed the licensee's meteorological monitoring program (MMP) to determine adherence to commitments in Chapter 2.3.3 in the FSAR, the requirements in Section 3/4.3.3.3 in the draft TS, and the recommendations of Regulatory Guides (RG) 1.23 and 1.97 and American National Standards Institute (ANSI/ANS) Standard 2.5-1984.

The NRC inspector reviewed the primary and backup meteorological towers' data monitoring and recording equipment, instrument calibration procedures, and calibration records. It was verified that the two meteorological towers' instrumentation was being calibrated semiannually by I&C technicians and daily channel checks of instrumentation operation and validity of data were being performed by a health physics technician assigned to determine meteorological instrumentation data recovery reliability. The NRC inspector discussed with the licensee the recommendation of ANSI/ANS 2.5-1984 and RG 1.23 to perform a reliability test to document a joint meteorological instrumentation data recovery for atmospheric stability, wind speed, and wind direction to be at least 90 percent for an annual period prior to plant operation. The NRC inspector reviewed the licensee's unedited joint recovery meteorological data for the period July through December 1987 and noted that the joint recovery of data had been determined to be approximately 88 percent. Edited joint frequency meteorological data for January 1988 indicated a recovery of 97.5 percent. A similar concern had been identified as an open item in NRC Inspection Report 50-445/84-06; 50-446/84-03 and was closed in NRC Inspection Report 50-445/84-43; 50-446/84-17. However, since the licensee has not demonstrated, since 1984, at least a 12-consecutive-month joint data recovery of greater than 90 percent and documented this test during the station preoperational phase, this is again considered an open item (445/8807-02; 446/8806-02) pending completion of a documented study showing at least a 12-consecutive-month joint recovery of meteorological data of greater than 90 percent.

No violations or deviations were identified.

8. Quality Assurance Program (80521)

The NRC inspector reviewed the licensee's QA surveillance and audit programs to determine adherence with commitments in Chapters 13.4 and 17.2 in the FSAR and requirements in Section 6.5.2.8 in the draft TS.

The NRC inspector reviewed selected QA surveillance and audit procedures, surveillance and audit schedules for 1986 and 1987, and the qualifications of surveillance technicians and auditors. Surveillances and audit reports

of QA activities performed during 1984, 1985, 1986, and 1987 in the areas related to the REMP were reviewed for scope to ensure thoroughness of program evaluation. The NRC inspector noted that the QA surveillances and QA audits were designed to determine compliance with the draft TS and REMP procedures. The NRC inspector reviewed surveillance and audit plans, checklists, and findings and confirmed that the identified findings were reviewed by licensee's management and that responses and corrective actions to findings had been completed and documented in accordance with QA procedures. The NRC inspector determined that the surveillances and audits were performed by qualified personnel knowledgeable in REMP activities. Selected documents and procedures listed in Attachment 1 to this report were reviewed.

No violations or deviations were identified.

9. Facilities, Equipment, and Supplies (80521)

The licensee collects and ships REMP samples to an offsite contractor laboratory for analysis. The NRC inspector inspected the facilities, equipment, and supplies that are used by the licensee for preparation of REMP samples for shipment. The facilities, equipment, and supplies appeared to be adequate to perform the REMP requirements.

No violations or deviations were identified.

10. Contractor Activities (80521)

The licensee uses a contractor laboratory to perform analyses of REMP samples. The licensee's program for oversight of contractor activities and the quality control of analytical measurements by the contractor were reviewed to verify adherence to the requirements in Sections 3/4.12 and 6.9.1.6 in the draft TS and agreement with the recommendations of RG 4.15.

The licensee performs vendor audits triannually with annual evaluations to retain current status on the approved vendors list. The NRC inspector reviewed the audit performed on the licensee's contractor laboratory in March 1985 and verified that the contractor had been approved for the required analyses and placed on the current approved vendors list.

The licensee's contractor laboratory participates in the U.S. Environmental Protection Agency's (EPA) Environmental Radioactivity Laboratory Intercomparison Program. The NRC inspector reviewed the licensee's contractor laboratory's results of the cross-check sample analysis comparisons for 1984, 1985, and 1986 as published in the annual REMP reports and found most of the laboratory's results were within the EPA's acceptance criteria of three standard deviations of the known EPA values.

No violations or deviations were identified.

11. Reportable Occurrences (80521)

The NRC inspector reviewed the licensee's licensee event reports and the 1984, 1985, and 1986 annual environmental monitoring reports for reportable occurrences dealing with the REMP to determine adherence to the reporting requirements in Section 6.9.1.6 in the draft TS. No reportable occurrences or events relating to the REMP were identified during the inspection.

No violations or deviations were identified.

12. Exit Interview

The NRC inspector met with the NRC operations resident inspector and the licensee representatives denoted in paragraph 1 at the conclusion of the inspection on February 5, 1988. The NRC inspector summarized the scope of the inspection and discussed the inspection findings and two open items as presented in this report.

ATTACHMENT

COMANCHE PEAK STEAM ELECTRIC STATION

NRC Inspection Report: 50-445/88-07; 50-446/88-06

Documents Reviewed

	<u>Title</u>	<u>Revision</u>	<u>Date</u>
1.	<u>Station Administration Manual</u>		
	STA-101, Nuclear Operations Organization	5	07/14/87
	STA-402, Station Quality Surveillance Program	6	07/01/85
	STA-608, Control of Measuring and Test Equipment	10	09/03/86
	STA-624, Administrative Control of the Offsite Dose Calculation Manual and Process Control Manual	0	12/10/85
	STA-714, Meteorological Monitoring Program	0	03/11/86
2.	<u>Chemistry/Radiochemistry Manual</u>		
	CHM-101, Chemistry/Radiochemistry Administrative Control	6	05/13/87
	CHM-103, Chemistry and Environmental Shipping of Samples	1	12/16/86
	CHM-106, Chemistry and Environmental Section Organization and Responsibilities	1	06/19/86
3.	<u>Environmental Manual</u>		
	ENV-200, Radiological Environmental Sampling/Analysis Program	0	Not Issued
	ENV-201, Collection, Preparation, Storage, and Shipment of Air Samples	3	05/13/87
	ENV-202, Collection, Preparation, Storage, and Shipment of Fish Samples	2	04/16/86
	ENV-203, Collection, Preparation, Storage, and Shipment of Vegetation Samples	2	04/16/86
	ENV-204, Placement, Collection, Preparation, and Shipment of Thermoluminescent Dosimeters	3	04/16/86
	ENV-205, Collection, Preparation, and Shipment of Surface, Ground, and Drinking Water Samples	2	04/16/86

	ENV-207, Collection, Preparation, and Shipment of Aquatic Sediment	2	04/16/86
	ENV-208, Collection, Preparation, and Shipment of Milk Samples	2	04/16/86
	ENV-210, Land Use Census	2	11/27/84
	ENV-701, Environmental Radiological Monitoring Program	2	11/14/86
4.	<u>Health Physics Manual</u>		
	HPI-710, Radiological Environmental Monitoring Program	0	12/02/87
5.	<u>Instruments and Controls Manual</u>		
	INC-101, I&C Maintenance Program	4	07/19/85
	INC-107, I&C Scheduled Calibration Maintenance Program	0	07/11/85
	INC-405, Air Sampler Flow Indicator Calibration	1	09/22/82
	INC-7682X, Channel Calibration Primary 60m Tower Wind Speed Channel 4117	3	09/08/87
	INC-7683X, Channel Calibration Primary 10m Tower Wind Speed Channel 4118	3	09/08/87
	INC-7684X, Channel Calibration Backup 10m Tower Wind Speed Channel 4128	3	09/08/87
	INC-7685X, Channel Calibration Primary 60m Tower Wind Direction Channel 4115	3	12/28/87
	INC-7686X, Channel Calibration Primary 10m Tower Wind Direction Channel 4116	3	12/28/87
	INC-7687X, Channel Calibration Backup Tower 10m Wind Direction Channel 4126	3	12/28/87
	INC-7688X, Channel Calibration Air Delta Temperature "A" Primary 60m Tower Channel 4119	3	12/28/87
	INC-7689X, Channel Calibration Primary Tower Air Delta Temperature "B" Channel 4120 and Ambient Temperature Channel 4123	3	12/28/87

INC-4920X, Channel Calibration Sigma Computer "B" Channel 4136-1	1	12/28/87
INC-4921X, Channel Calibration Sigma Computer "C" Channel 4130-1	1	12/08/87
INC-4923X, Channel Calibration Backup Tower Air Ambient Temperature Channel 4134	1	12/08/87
INC-4925X, Channel Calibration Dew Point Backup Tower Channel 4135	1	09/08/87
INC-4926X, Channel Calibration Precipitation Primary Tower Channel 4129	1	12/28/87
INC-4928X, Channel Calibration Dew Point Primary Tower Channel 4131	1	12/28/87
INC-4929X, Channel Calibration Precipitation Backup Tower Channel 4125	1	12/28/87
6. <u>Training Manual</u>		
TRA-303, Chemistry and Environmental Section Training Program	4	09/11/86
TRA-310, Environmental Training Program	0	01/22/88
7. <u>Quality Assurance Surveillances and Audits</u>		
NQA-3.07, Quality Assurance Audit Program	0	10/05/87
NQA-3.23, Surveillance Program	0	10/05/87
Quality Surveillance Report 84-013, Environmental Radiological Monitoring, dated March 30, 1984		
Quality Surveillance Report 85-013, Environmental Radiological Monitoring Program, dated May 6, 1985		
Surveillance Activity Summary - 87009, Environmental Radiological Surveillance of collectable air, milk, and water samples, dated January 20, 1987		
Surveillance Activity Summary - 87038, Benthic Survey of Square Creek Reservoir, dated April 9, 1987		

Surveillance Activity Summary - 87054, Verification of Land Use Census Plotting on Radial Maps, dated May 7, 1987

Surveillance Activity Summary - 87062, I&C - Meteorological System, dated June 8, 1987

Surveillance Report No. OS-87-0009, Collection, Preparation, Storage and Shipment of Fish Samples, dated October 23, 1987

Surveillance Report No. OS-87-0010, Instrumentation and Control Channel Calibration Air Delta Temperature "A", Primary 60 Meter Tower, dated October 26, 1987

Surveillance Report No. OS-87-0028, Site Meteorological Monitoring Program, dated December 12, 1987

Surveillance Report No. OS-88-0002, Primary 10 Meter Tower Wind Direction Calibration, dated January 13, 1988

Surveillance Report No. OS-88-0009, Primary 10 Meter Tower Dew Point Calibration, dated January 28, 1988

Quality Assurance Audit TUG-86-15, Environmental Monitoring Program, conducted June 23-27, 1986

Quality Assurance Audit TUG-87-15, Environmental Monitoring Program, conducted June 24 through July 2, 1987

Quality Assurance Audit TEL-1, Teledyne Isotopes-Westwood, New Jersey, conducted March 28-29, 1985

Approved Vendors List

8. Comanche Peak Steam Electric Station Annual Environmental Radiation Monitoring Reports

1984 Annual Report
1985 Annual Report
1986 Annual Report

9. Other Documents

Radioactive Effluent and Environmental Monitoring
Manual, dated October 1987

Offsite Dose Calculation Manual, dated
December 1987