

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-445/90-41  
50-446/90-41

Operating License: NPF-87  
Construction Permit: CPPR-127

Dockets: 50-445  
50-446

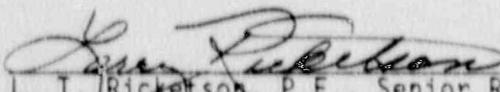
Licensee: TU Electric  
Skyway Tower  
400 North Olive Street, L.B. 81  
Dallas, Texas 75201

Facility Name: Comanche Peak Steam Electric Station (CPSES)

Inspection At: CPSES, Glen Rose, Somerville County, Texas

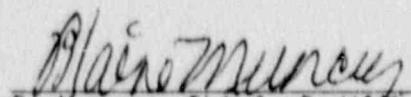
Inspection Conducted: October 15-19, 1990

Inspector:

  
L. T. Ricketson, P.E., Senior Radiation  
Specialist

11-16-90  
Date

Approved:

  
B. Murray, Chief, Radiological Protection and  
Emergency Preparedness Section

11/16/90  
Date

Inspection Summary

Inspection Conducted October 15-19, 1990 (Report 50-445/90-41; 50-446/90-41)

Areas Inspected: Routine, unannounced inspection of the licensee's radiation protection (RP) program including organization and management controls, training and qualifications external exposure controls, internal exposure controls, control of radioactive materials and contamination, and ALARA program.

Results: Within the areas inspected, no violations or deviations were identified. The RP department appeared to be adequately staffed for routine operational conditions. A heavy reliance was being placed on health physics contract personnel. Quality assurance (QA) audits were comprehensive, but surveillances have been infrequent. The training department appeared to have an adequate number of qualified instructors and sufficient resources for routine operations, and appeared to be providing good instruction. The licensee has state of the art dosimetry equipment and had adequate procedures

and controls for its use. Facilities for issue and decontamination of respiratory protection equipment were limited in size and controls and appeared to be inadequate to meet increased demands. Controls to and within the radiological controlled area (RCA) were implemented and functioning well. The ALARA organization had sufficient time to perform reviews of planned work and was integrated well into the maintenance organization, with ALARA representatives assigned to the work planning and work control group.

DETAILS

1. Persons Contacted

TU Electric

- \*H. Bruner, Senior Vice President
- \*A. B. Scott, Vice President, Nuclear Operations
- S. E. Bradley, ALARA Supervisor
- \*D. Bhatti, Issue Interface/QA
- R. Carver, Mechanical Maintenance Assistant Manager
- J. R. Curtis, Surveillance and Control Supervisor
- J. E. Emory, QA Auditor
- R. E. Fishencord, Radioactive Material Control Supervisor
- J. J. Kelley, Plant Manager
- \*T. A. Hope, Site Licensing
- G. D. Jones, Drilling Supervisor
- \*H. A. Marvray, Licensing
- \*D. McAfee, Manager
- F. P. Miller, QA Auditor
- R. Nickel, Instruments and Controls (I&C) Technician
- \*R. J. Price, RP Manager
- \*A. T. Reiter, RP Training Program Coordinator
- W. G. Westhoff, Quality Operations Manager

CASE

- \*E. F. Ottney, Project Manager

NRC

- \*D. N. Graves, Resident Inspector

\*Denotes those present at the exit meeting on October 19, 1990.

The inspector also interviewed other licensee and contractor employees in the RP, QA, training, and maintenance departments.

2. Organization and Management Controls

The inspector reviewed the licensee's organization and management controls to determine compliance with Technical Specification (TS) 6.2 and commitments in Chapter 12.5.1 of the Final Safety Analysis Report (FSAR).

The position of assistant RP manager was abolished and the individual who filled the position has been made the RP manager. The inspector confirmed with licensing representatives that an amendment to the FSAR was submitted to reflect the change in organization.

The RP department continues to use contract health physics technicians. Approximately 25 contractors were used to supplement the licensee's 43-member RP department. Licensee representatives stated that they plan to wait until they have evaluated the staff's needs during a major outage before determining the department's final staffing level.

The inspector reviewed position descriptions for RP manager, RP supervisor, health physicist, engineer (RP) and RP technician (Level I, Level II, senior, and lead). The inspector noted that the position descriptions were detailed in their coverage of the scope of duties and responsibilities.

The inspector reviewed a QA audit of the RP department. The audit (QAA-90-035) was performed July 30 through August 10, 1990, and appeared to be comprehensive. Technical expertise was supplied by corporate personnel. No deficiencies were identified; therefore, the timeliness of responses to findings could not be evaluated.

The inspector reviewed three QA surveillances performed March 12, 1990, involving radiation work permit (RWP)/general access permit (GAP) and access control, radioactive source transfer, and radiological surveys; and one performed June 13, 1990, involving the power ascension self assessment program. Licensee representatives stated that the number of surveillances performed to date was relatively low because there had been little activity involving the RP department. The inspector noted that, even though no surveillances of RP had been performed since June (two surveillances were performed involving radwaste), the last surveillance had multiple parts, consisting of observations of: radiological surveying and air sampling, area posting, shielding verification, access control activities, control of radiological work activities, control of access to high radiation areas, and review of radwaste shipping documents. The inspector noted that the licensee had not established a minimum number of surveillances to be performed annually nor established a program to pursue areas of potential improvement.

The inspector reviewed copies of radiological awareness reports which documented items of interest to RP. The inspector noted that these items were below the NRC reporting threshold, but were being trended for program improvement.

No violations or deviations were identified.

### 3. Training and Qualifications

The inspector reviewed the training program for RP workers and RP technicians and reviewed qualifications of RP technicians to determine compliance with TS 6.3 and 6.4 and 10 CFR 19.12.

The inspector observed portions of the respiratory protection training program. The inspector noted that the instructor refused admission to two students who had not met the required prerequisites. The instructor appeared adequately prepared, was knowledgeable of the subject material, and covered all the objectives listed in the student handout.

The inspector noted that the licensee's program allowed individuals to be exempt from the requirement of attending annual radiation worker training and/or respiratory protection training courses if they passed a challenge test with a score of 80 percent. (Normal passing score is 70 percent.) There was no limit to the number of times which an individual could successfully challenge the annual training. The inspector pointed out that individuals who were exempt from the training would not get the benefit of the discussions concerning current industry events. Licensee representatives stated that some departments do not allow their employees to be exempted from the training. They further stated that those individuals that were exempted were given handouts, in which current industry events were discussed.

The inspector reviewed the results of student feedback which is, by procedure, solicited every 2 months. The inspector noted that there were no records of student critiques between March and August 1990. Licensee representatives stated that the students may not have elected to comment on the training received, since the evaluations were not mandatory, and therefore, no records would exist for those items.

The inspector noted that the licensee's RP technician training course had been accredited by the Institute of Nuclear Power Operations and reviewed selected resumes of RP technicians and determined that they met qualification requirements.

No violations or deviations were identified.

#### 4. External Exposure Control

The inspector reviewed the licensee's external control program to determine compliance with TS 6.8 and the requirements of 10 CFR Parts 19.13, 20.101, 20.102, 20.105, 20.202, 20.401, and 20.408; and the commitments of Chapter 12.5 of the FSAR.

The inspector reviewed the dosimetry facilities and determined that the licensee used state of the art dosimetry equipment and conducted adequate quality control procedures. The licensee's dosimetry program has been accredited in all categories by the National Voluntary Laboratory Accreditation Program through July 1, 1991. An adequate supply of thermoluminescent dosimeters (TLDs) were available and provisions had been made for extremity monitoring and multiple badging during special situations.

The licensee imposed administrative radiation exposure limits and required all individuals receiving personnel monitoring to first pass radiation worker training.

The inspector reviewed personnel records and determined that the licensee obtained the radiation exposure histories of radiation workers and documented them on copies of NRC Form 4. The inspector noted that the forms had been properly verified and signed. Also included in the files of terminated individuals were copies of termination reports sent in accordance with 10 CFR 19.13 and 20.409.

No violations or deviations were identified.

5. Internal Exposure Control

The inspector reviewed the licensee's program for control of internal radiation exposure to determine compliance with TS 6.8 and the requirements of 10 CFR Parts 20.103, 20.201, and 20.401; and agreement with the commitments in Chapter 12.5.2 of the FSAR and the recommendations of Regulatory Guide (RG) 8.15, NUREG-0041, Industry Standards ANSI Z88.2-1980 and ANSI/GCA G-7.1-1989.

The inspector reviewed the whole body counting facility and noted that the licensee had one fast-scanning and one chair type whole body counter. The inspector interviewed licensee representatives concerning calibration and response checks of the whole body counters and determined that adequate procedures had been implemented.

During a review of records, the inspector noted that individuals classified as radiation workers had, on occasion, left the site without having had a whole body count performed. Licensee representatives stated that it was their intention to perform whole body counts on all individuals who had been issued a TLD, in accordance with Procedure STA-655. In order to supplement the normal out-processing procedures which require individuals to check with RP before leaving the site, RP representatives obtain a list of terminated badges from security and review it in an effort to identify individuals circumventing the normal procedure.

The inspector reviewed the licensee's respiratory protection program and noted that limited space was devoted to the storage area of respirators ready for issue. The inspector noted, too, that there was no positive control of the respirators themselves to ensure that they were issued to only qualified personnel and that the respirator decontamination area, near the entrance to the RCA, was not optimally located to prevent possible spread of contamination. Licensee representatives stated that an area in the fuel building was being readied for the decontamination and storage of respirators and that they were evaluating a plan whereby a vendor would supply and decontaminate respirators during high use periods such as outages. Licensee representatives further stated that respirator

users were required to present an exposure tracking card contained in the respirator bag to the RP technician covering the job, thus serving to ensure that only qualified individuals used respirators. Because of the lack of work being done in areas requiring respirators, the inspector did not have an opportunity to verify the effectiveness of the procedure.

The inspector reviewed air sampling procedures and survey results and observed the placement of continuous air monitors and determined that the licensee had an adequate air sampling program.

No violations or deviations were identified.

6. Control of Radioactive Material and Contamination, Surveys, and Monitoring

The inspector reviewed the licensee's program for surveying/monitoring and controlling radioactive materials to determine compliance with TS 6.8 and the requirements of 10 CFR Parts 19.12, 20.201, 20.203, 20.205, 20.207, 20.301, and 20.401; and agreement with the commitments in Chapter 12.5 of the FSAR and the recommendations of Industry Standards ANSI N323-1978.

The inspector interviewed the contract RP technicians assigned to work at the access to the RCA and determined that they were knowledgeable of the licensee's access control procedures and that a method was available for recording personnel exposure information from self-reading dosimeters should the computer system fail to function. The controls were adequate to prevent personnel not qualified as radiation workers from entering the area and were designed to ensure that individuals that were qualified were familiar with the latest revision of their respective GAP or RWP. The inspector reviewed current GAPs and RWPs and determined that they gave adequate instructions to the radiation workers. The inspector noted that the latest survey information was available and maps of the RCA displayed the locations of radiation areas, high radiation areas, an extremely high radiation area, contaminated areas, and airborne radiation areas. Each type of area was distinctly coded with a different color.

The inspector toured areas within the RCA and determined that they were properly posted and controlled as necessary. The inspector observed technicians as they performed radiation surveys on items being released from the RCA and noted that they used a combination of hand held friskers and cabinet tool monitors.

The inspector performed independent surveys of trash in trailers outside the RCA and determined that it did not contain radioactive materials.

The inspector observed that there was an adequate supply of portable survey instruments. The instruments were in calibration and were properly response checked before use.

The inspector reviewed the licensee's instrument calibration facility, now operated by the I&C department and determined that the calibration procedures used with RP instruments were still classified as RP procedures. I&C was responsible for calibrating portable radiation survey instruments, portal monitors, personnel contamination monitors, tool monitors, trash monitors, air samplers, continuous air monitors, and the digital radiation monitoring system. Calibrations were performed in accordance with industry standards.

No violations or deviations were identified.

7. Maintaining Occupational Radiation Exposure ALARA

The inspector reviewed the licensee's ALARA program to determine compliance with requirements of 10 CFR 20.1(c) and agreement with the commitments in Chapter 12.1 of the FSAR and recommendations of RGs 8.8 and 8.10.

The ALARA program consisted of a supervisor and three technicians. (An additional technician under the same supervisor was dedicated to the respiratory protection program.)

The inspector verified that an ALARA representative was assigned to the work planning organization to provide an early review of all maintenance work and design changes. The individual had the responsibility of determining if such jobs needed to be performed under GAPs or RWPs. A second ALARA representative was a part of the work control organization. The individual generated draft RWPs and was involved with the scheduling of work in the RCA. A third individual was primarily involved with construction work on Unit 2.

The inspector reviewed records of the ALARA committee and determined that an ALARA suggestion program was in place and had received 17 suggestions from various departments, thusfar, this year.

The licensee used a "modified" elevated pH program to reduce the amount of plateout in the primary system. Licensee representatives believed it was the reason for the relatively low number of "hot spots" in the plant.

The inspector reviewed a schedule for the upcoming, midcycle outage and noted that the cutoff date for submission of maintenance activities was in November 1990, which should allow adequate time for an ALARA review of all work to be conducted.

Total accumulated radiation dose was less than 1 person-rem.

No violations or deviations were identified.

8. Exit Meeting

The inspector met with the resident inspector and the licensee's representatives denoted in paragraph 1 at the conclusion of the inspection on October 19, 1990, and summarized the scope and findings of the inspection as presented in this report. The licensee did not identify as proprietary any of the materials provided to, or reviewed by, the inspector during the inspection.