



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064**

January 31, 2001

Mr. C. L. Terry
TXU Electric
Senior Vice President & Principal Nuclear Officer
ATTN: Regulatory Affairs Department
P.O. Box 1002
Glen Rose, Texas 76043

**SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION - NRC INSPECTION
REPORT 50-445/00-09; 50-446/00-09**

Dear Mr. Terry:

On January 13, 2001, the NRC completed an inspection at your Comanche Peak Steam Electric Station, Units 1 and 2. The enclosed report documents the inspection findings which were discussed with you and other members of your staff on December 15, 2000 and January 22, 2001.

This inspection examined activities conducted under your license as they relate to safety and compliance with the commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the NRC has determined that one violation of NRC requirements occurred. This violation has been entered into your corrective action program and is discussed both in the summary of findings and in the body of the enclosed inspection report. This violation is being treated as a noncited violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy. If you contest this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, and the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001 and the NRC Resident Inspector at Comanche Peak Steam Electric Station, Units 1 and 2, facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

TXU Electric

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Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA/

Joseph I. Tapia, Chief
Project Branch A
Division of Reactor Projects

Dockets: 50-445
50-446
Licenses: NPF-87
NPF-89

Enclosure:
NRC Inspection Report
50-445/00-09; 50-446/00-09

cc w/enclosure:
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Only inspection reports to the following:
 Scott Morris (**SAM1**)
 NRR Event Tracking System (**IPAS**)
 CP Site Secretary (**LCA**)
 Dale Thatcher (**DFT**)

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Dockets: 50-445
50-446

Licenses: NPF-87
NPF-89

Report Nos.: 50-445/00-09
50-446/00-09

Licensee: TXU Electric

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

Location: FM-56
Glen Rose, Texas

Dates: November 26, 2000, through January 13, 2001

Inspectors: A. T. Gody, Senior Resident Inspector
S. C. Schwind, Resident Inspector
M. P. Shannon, Senior Health Physicist
D. B. Allen, Senior Project Engineer
L. M. Willoughby, Project Engineer

Approved By: J. I. Tapia, Branch Chief, Project Branch A
Division of Reactor Projects

ATTACHMENTS:

Attachment 1: Supplemental Information

Attachment 2: NRC's Revised Reactor Oversight Process

SUMMARY OF FINDINGS

Comanche Peak Steam Electric Station, Units 1 and 2
NRC Inspection Report 50-445/00-09; 50-446/00-09

IR 05000445-00-09, IR 05000446-00-09; on 11/26/2000-01/13/2001; TXU Electric; Comanche Peak Steam Electric Station; Units 1 & 2. Integrated Resident and Regional Report; Occupational Radiation Safety.

The inspection was conducted by resident inspectors and regional office inspectors. The inspection identified one noncited violation in the area of Occupational Radiation Safety. The significance of findings is indicated by their color (green, white, yellow, or red) and was determined by the Significance Determination Process (SDP) in Inspection Manual Chapter 0609. Findings for which the SDP does not apply are indicated by "no color" and/or by the severity level of the applicable violation.

Cornerstone: Occupational Radiation Safety

- No color. On December 12, 2000, the inspector identified that radiation protection personnel failed to perform a radiological survey of an area above the waste monitoring tank room on elevation 790 foot of the auxiliary building prior to a worker entering the area. 10 CFR 20.1501(a), states, in part, each licensee shall make or cause to be made, surveys that are reasonable under the circumstances to evaluate radiation levels, concentrations or quantities of radioactive material, and the potential radiological hazards. The failure to perform a radiological survey of the above area was a violation of 10 CFR 20.1501(a). This violation is being treated as a noncited violation and is in the licensee's corrective action program as Smart Form 2000-3407.

The significance of this violation was determined to be more than minor because there was a credible impact on a worker's radiation safety; however, it did not affect the cornerstone since there were no actual consequences and monitoring devices remained operable (Section 2OS2).

Report Details

Summary of Plant Status

Both units operated at approximately 100 percent power for the entire report period.

1 REACTOR SAFETY

Cornerstones: Initiating Events, Mitigation Systems, Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

The inspector reviewed the licensee's administrative and abnormal operating procedures associated with freezing weather preparations and walked down various risk-significant systems potentially susceptible to freezing. The inspector assessed whether adequate measures had been completed or contingency plans were in place to deal with freezing weather conditions which could be experienced during the winter months including a discussion with the heating, ventilation, and air conditioning system engineer.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

.1 Partial System Walkdown

a. Inspection Scope (71111.04)

The inspectors conducted partial inspections of the Unit 2, instrument air systems to verify that they were in their proper standby alignment. In addition, the inspectors evaluated the effectiveness of the licensee's problem identification and resolution program in resolving issues which could increase event initiation frequency or impact mitigation system availability.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Routine Fire Area Walkdowns

a. Inspection Scope

The inspectors toured the following areas to assess the licensee's control of transient combustible materials, the material condition and lineup of fire detection and suppression systems, the material condition of manual fire equipment and passive fire barriers, and evaluated the effectiveness of compensatory measures for degraded equipment:

- Unit 2, Train A emergency core cooling system rooms
- Units 1 and 2, steam generator blow down room
- Unit 1, Trains A and B residual heat removal pump and heat exchanger rooms

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule (71111.12)

.1 Maintenance Rule Functional Failure Review

a. Inspection Scope

The inspectors independently verified that the licensee properly implemented 10 CFR 50.65, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," for the following equipment performance problems.

- Centrifugal charging pump mechanical oil pump coupling issue
- Air-operated valve diaphragm failures
- Electrohydraulic control system failures

The inspectors review focused on whether the structures, systems, or components (SSC's) that experienced problems were properly characterized with respect to the scope of the program, whether the SSC failure or performance problem was properly characterized, the adequacy of the licensee's significance classification for the SSC, the appropriateness of the performance criteria established for the SSC (if applicable), and the adequacy of corrective actions for SSC's classified in accordance with 10 CFR 50.65 a(1) as applicable.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work (71111.13)

.1 Planned Work Activities

a. Inspection Scope

The inspectors conducted routine daily reviews of ongoing scheduled maintenance conducted both shutdown and at power to determine if the licensee properly considered risk in the development and implementation of planned maintenance.

- Daily plan-of-the-day and work implementation review, Units 1 and 2
- Unit 1, Train A residual heat removal maintenance and testing on December 7, 2000
- Unit 2, Train A containment spray system work and testing on December 11, 2000
- Unit 1, Train A centrifugal charging pump maintenance and testing on December 12, 2000
- Unit 2, Train A containment spray system retest on December 12, 2000
- Unit 1, Train A turbine-driven auxiliary feedwater pump steam admission valve maintenance and testing on December 14, 2000
- Risk review of operator error regarding inadvertent opening of Unit 2 pressurizer power-operated relief valve on January 2, 2001

b. Findings

No findings of significance were identified.

.2 Emergent work activities

a. Inspection Scope

The inspectors evaluated the effectiveness of the licensee's risk assessment for the following emergent at-power work.

- Unit 1, down power and temporary repair of Feedwater Heater 1A steam leak on December 15, 2000
- Unit 1 electrohydraulic control system troubleshooting and repair on December 19, 2000

When the need for emergent work was identified on risk-significant structures, systems, or components the inspectors verified that the licensee took appropriate steps to plan

and control the resulting activities including the acceptability of any necessary compensatory actions and contingency plans when applicable.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions (71111.14)

.1 (Closed) Licensee Event Report 445/00-002-00, missed Technical Specification surveillance

a. Inspection Scope

The inspector attended the station operations review committee meeting. The inspector reviewed licensee corrective actions and investigation regarding a Technical Specification surveillance which was inadvertently omitted from the reactor operator logs on November 19, 2000. This Technical Specification violation was reported to the NRC as Licensee Event Report (LER) 445/00-002-00 on December 11, 2000, and constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section IV of the NRC Enforcement Policy.

b. Findings

No findings of significance were identified.

.2 Inadvertent operation of a Unit 2 pressurizer power-operated relief valve

a. Inspection Scope

The inspector interviewed the operator who inadvertently opened Unit 2 power-operated relief Valve 2-PCV-0455A during restoration from channel testing of Pressure Transmitter 2-PT-0405 on January 2, 2001. In addition, the inspector reviewed the licensee's corrective action documents, immediate operator actions, the plant response, and management response to the noted increase in personnel errors over the past month.

b. Findings

Regulatory aspects of the issue are addressed in Section 4OA7 of this report. No additional findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors selected operability evaluations conducted by the licensee during the report period involving risk-significant systems or components to review. The inspectors

evaluated the technical adequacy of the licensee's operability determination, verified that appropriate compensatory measures were implemented, and verified that the licensee considered all other preexisting conditions, as applicable. Additionally, the inspectors evaluated the adequacy of the licensee's problem identification and resolution program as it applied to operability evaluations. Specific operability evaluations reviewed are listed below.

- Excessive leakage past containment isolation thermal relief Valve 2-RC-0036 (Smart Form 2001-000003-01-00)
- Unit 2 containment pressure Transmitter 2-PT-0936 time response test failure (Smart Form 2000-003324-00)
- Unit 1 containment isolation Valve 1-HV-4166 and thermal relief Valve 1-PS-0501 leakage (Smart Form 2000-003175-00)

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspector witnessed or reviewed the results of postmaintenance testing for the following maintenance activities:

- Unit 1, Train A residual heat removal pump motor breaker work and lockout relay functional test on December 7, 2000
- Unit 2, Train A containment spray pump oil cooler/strainer work and residual heat removal pump motor oil replacement on December 12, 2000
- Unit 1, Train A centrifugal charging pump oil pump work and coupling inspection on December 12, 2000
- Unit 1, turbine-driven auxiliary feedwater pump turbine steam admission Valve 1-HV-2452 diaphragm replacement on December 14, 2000 (Smart Form 2000-003420-00)
- Unit 1, Train B solid state protection system card replacement on January 8, 2001
- Unit 1, pressurizer sample line containment isolation thermal relief Valve 1-PS-501 testing on January 10, 2001
- Unit 1, motor-driven auxiliary feedwater pump shaft sleeve nut inspection on January 11, 2001

In each case, the associated work orders and test procedures were reviewed to determine the scope of the maintenance activity and determine if the test adequately tested components affected by the maintenance. The Updated Final Safety Analysis Report, Technical Specifications, and Design Basis Documents, were also reviewed to determine the adequacy of the acceptance criteria listed in the test procedures.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors evaluated the adequacy of the periodic testing of selected plant equipment. The review included aspects such as preconditioning, the impact of testing during plant operations, the adequacy of acceptance criteria, procedure adherence, record keeping, the restoration of equipment to standby status, and the test results satisfied the acceptance criteria and Technical Specification surveillance requirements. The following surveillance test activities were observed and evaluated:

- Unit 1, Train B emergency diesel generator operability test
- Unit 1, Train A residual heat removal pump operability and system leakage tests
- Unit 2, Train B emergency diesel generator operability test

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed the Units 1 and 2 annunciator out-of-service logs to ascertain if the licensee established the appropriate compensatory actions and conducted the proper technical evaluations for temporary plant modifications to the annunciator systems. The inspectors also reviewed the licensee's installation of a temporary chemical injection system for the service water system.

b. Findings

No findings of significance were identified.

2 RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS2 ALARA Planning and Controls (71121.02)

a. Inspection Scope

The inspector interviewed radiation workers and radiation protection personnel throughout the radiologically controlled area and conducted independent radiation surveys of selected work areas. The following items were reviewed to determine whether the licensee had an adequate program to maintain occupational exposures as low as is reasonably achievable (ALARA):

- ALARA program procedures
- Nuclear Overview Department Evaluation Reports (EVAL -2000-041 and -043)
- Processes used to estimate and track exposures
- Plant collective exposure history for the past 3 years, current exposure trends, and 3-year rolling average dose information
- Three radiation work permit packages from the outage work activities which resulted in the highest personnel collective exposures during the inspection period
- Use of engineering controls to achieve dose reductions including temporary shielding
- Individual exposures of selected work groups (mechanical maintenance, and operations)
- Hot spot tracking and reduction program
- Plant related source-term data, including source-term control strategy
- Radiological work planning
- A summary of ALARA related corrective action reports written since September 1, 2000, were reviewed. Ten of these corrective action reports were reviewed in detail.
- Declared pregnant worker dose monitoring controls
- Job site inspections and ALARA control. No work was performed in high exposure or high radiation areas during this inspection. Therefore, this aspect of the above procedure could not be evaluated.

b. Findings

During a tour of the radiologically controlled area on December 12, 2000, the inspector observed a ladder leading to an area above the waste monitoring tank room located on elevation 790 foot of the auxiliary building. No radiological information was attached to the ladder. The licensee investigated this issue and determined that a radiation worker entered the area to operate a valve after contacting radiation protection personnel. However, a survey of the area was not performed prior to the worker entering the area. During discussions with radiation protection management, the inspector was informed that certain overhead areas throughout the radiologically controlled area had been evaluated and determined not to contain radioactivity; however, from a review of this list, the inspector determined that the overhead area in question had not been previously evaluated. The licensee performed a survey of the area later that day; radiation levels were 0.5 millirems per hour and contamination levels were less than 1000 disintegrations per 100 centimeters squared.

10 CFR 20.1501(a) states, in part, each licensee shall make or cause to be made, surveys that are reasonable under the circumstances to evaluate radiation levels, concentrations or quantities of radioactive material, and potential radiological hazards. The failure to perform a survey prior to a worker entering an area was a violation of 10 CFR 20.1501(a). This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Smart Form 2000-3407 (50-445;446/0009-01).

The significance of this violation was determined to be more than minor because not surveying an area prior to a worker entering an area was a credible impact on a worker's radiological safety; however, it did not affect the cornerstone since there were no actual consequences and monitoring devices remained operable.

4 OTHER ACTIVITIES

40A6 Management Meetings

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. C. Lance Terry, and other members of licensee management at exit meetings held on December 15, 2000, and January 22, 2001. The licensee acknowledged the findings presented.

The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

40A7 Licensee Identified Violations. The following finding of very low significance was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as a noncited violation (NCV).

NCV Tracking Number

Requirement Licensee Failed to Meet

(1) NCV 50-446/0009-02

Technical Specification 5.4.1 states that written procedures shall be established, implemented, and maintained as recommended in Regulatory Guide 1.33. Contrary to Procedure INC-7756B, "Channel Calibration of Reactor Coolant Wide Range Pressure and Residual Heat Removal Isolation Valve Interlock Test, Channel 0405," on January 2, 2001, the reactor operator placed 2-PCV-455A (pressurizer PORV) in the open position, which was an inappropriate position for Mode 1 power operations. Reference Smart Form 2001-000011-00.

ATTACHMENT 1

PARTIAL LIST OF PERSONS CONTACTED

Licensee

C. Terry, Senior Vice President, Principal Nuclear Officer
J. Kelley, Vice President, Nuclear Engineering and Support
M. Blevins, V.P., Nuclear Operations
D. Moore, Operations Manager
R. Flores, System Engineering Manager
S. Ellis, Shift Operations Manager
C. Cotton, Shift Manager
W. Morrison, Operations Support Manager
G. Merka, Regulatory Affairs
B. Mays, Engineering Programs Manager
D. Reimer, Technical Support Manager
J. Blaikie, Health Physicist
S. Bradley, Supervisor, Health Physics
J. Curtis, Manager, Radiation Protection
D. Wilder, Manager, Radiation and Industrial Safety
C. Wilkerson, Senior Licensing Engineer

NRC

B. Baca, Health Physicist

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

50-445;446/0009-01	NCV	Failure to survey (Section 2OS2)
50-446/0009-02	NCV	Inadvertent operation of a Unit 2 pressurizer power operated relief valve (Section 4OA7)

Closed

50-445/00-002-00	LER	Technical Specification Surveillances not adequately documented due to personnel error (Section 1R14.1)
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DOCUMENTS REVIEWED

Procedures

RPI-601, "Radiological Surveillance and Posting," Revision 18
RPI-606, "Radiation Work and General Access Permits," Revision 9
RPI-607, "ALARA Planning," Revision 4
RPI-608, "Control of Temporary Shielding," Revision 6
STA-651, "ALARA Program," Revision 8
STA-656, "Radiation Work Control," Revision 10
STA-657, "ALARA Job Planning/Briefing," Revision 8

ALARA Work Packages

RWP 2000-2201, "Pressurizer Work"
RWP 2000-2301, "Grating Clamp Replacement"
RWP 2000-2600, "Refueling"

Corrective Action Reports

Smart Forms 2000 -2427, -2485, -2505, -2694, -2704, -2712, -2808, -3053, -3314, and -3354

ATTACHMENT 2

NRC'S REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

Radiation Safety

- Occupational
- Public

Safeguards

- Physical Protection

To monitor these seven cornerstones of safety, the NRC used two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Using the significance determination process, inspection findings will be evaluated according to their potential significance for safety and assigned colors of GREEN, WHITE, YELLOW, or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, or RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and the inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.