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

November 3, 2000

EA-00-160

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: NRC'S COMANCHE PEAK STEAM ELECTRIC STATION INSPECTION REPORT NO. 50-445/00-07; 50-446/00-07

Dear Mr. Terry:

On October 7, 2000, the NRC completed an inspection at your Comanche Peak Steam Electric Station, Units 1 and 2, facility. The enclosed report documents the inspection findings which were discussed with you and other members of your staff.

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 determined that one issue of very low significance (green) occurred. This issue was a violation of NRC requirements and has been entered into your corrective action program. In addition, the NRC identified a second violation of NRC requirements which was classified at Severity Level IV (EA-00-160). These violations are being treated as noncited violations (NCVs) consistent with Section VI.A of the Enforcement Policy. If you deny these NCVs, you should provide a response, with the basis for your denial, within 30 days of the date of this inspection report, 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; 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 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).

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

Docket Nos.: 50-445
50-446
License Nos.: NPF-87
NPF-89

Enclosure:
NRC Inspection Report No.
50-445/00-07; 50-446/00-07

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket Nos.:	50-445 50-446
License Nos.:	NPF-87 NPF-89
Report No.:	50-445/00-07 50-446/00-07
Licensee:	TXU Electric
Facility:	Comanche Peak Steam Electric Station, Units 1 and 2
Location:	FM-56 Glen Rose, Texas
Dates:	August 20 through October 7, 2000
Inspectors:	A. Gody, Senior Resident Inspector S. Schwind, Resident Inspector L. Ricketson, Senior Health Physicist C. Johnson, Senior Reactor Inspector C. Clark, Reactor Inspector J. Blair Nicholas, Ph.D., Senior Health Physicist
Approved By:	J. I. Tapia, Branch Chief, Reactor Project Branch A

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 No. 50-445/00-07; 50-446/00-07

IR05000445-00-07, 05000446-00-07; on 08/20-10/07/2000; TXU Electric; Comanche Peak Steam Electric Station, Units 1 & 2; Integrated Resident & Regional Inspection Report; Initiating Events & Barrier Integrity (configuration management), Human Performance (other).

The inspection was conducted by resident inspectors and Region IV inspectors. The inspection identified one green finding. The significance of issues is indicated by their color (green, white, yellow, or red) and was determined by the significance determination process (SDP) in NRC Inspection Manual Chapter 0609. Findings for which the SDP do not apply are indicated by "no color" and/or by the severity level of the applicable violation.

Cornerstone: Initiating Events & Barrier Integrity

- Green. On July 25, 2000, the inspector noted that the Unit 1 reactor operator logs contained a note which allowed the pressurizer relief tank pressure to be maintained at 0 psig provided it was purged with nitrogen once a quarter. The inspector found that on August 30, 1994, a procedure change incorporated this note and removed a requirement to maintain a minimum of 1 psig pressure in the tank. The change was considered an administrative change only and no technical justification was provided. The change in minimum operating pressure was a change to the facility that increased the probability of developing an explosive mixture of hydrogen and oxygen in the pressurizer relief tank which was not an analyzed condition for the facility. Technical Specification 6.8.1; Regulatory Guide 1.33, Revision 2, Appendix A; and plant administrative procedures required a determination of technical adequacy for this material change. This violation of Technical Specifications is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy. The issue was placed into the licensee's problem identification and resolution program as Smart Form SMF-2000-001693-00 (Section 1R12.1).

Cross-cutting Issue: Human Performance

- No color. On October 27, 1999, a plant equipment operator trainee was directed and allowed by a qualified plant equipment operator to perform the helium compensation calibration of the hydrogen recombiner in the waste gas holdup system without direct supervision. As a result, the calibration was performed incorrectly. Technical Specification 5.4.1.a requires, in part, that written procedures be established, implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Regulatory Guide 1.33, Appendix A, Section 1.b, requires procedures for authorities and responsibilities for safe operation. Section 6.15, of Operations Department Administrative Manual Procedure ODA-102, Conduct of Operations, Revision 17, stated, in part, "Whenever trainees operate equipment, a qualified operator shall observe the trainee . . ." and "When a Trainee is performing any equipment operation or control manipulation, the qualified personnel shall observe the necessary indication as if he performed the task himself using all required self verification techniques."

The failure of a qualified radwaste equipment operator to directly observe a radwaste equipment operator trainee operating equipment and performing the helium compensation calibration of the hydrogen recombiner is a violation of Technical Specification 5.4.1.a. The NRC determined that this was a willful violation of Operations Department Administrative Procedure ODA-102 requirements. This Severity Level IV violation is being treated as a noncited violation and was entered in the licensee's corrective action program as Smart Form SMF-1999-002891-00 (Section 4OA5).

Report Details

Summary of Plant Status

Unit 1 operated at approximately 100 percent power for the majority of the report period. On September 23, 2000, operators reduced Unit 1 power to approximately 65 percent to isolate and repair Heater Drain Pump 1-02 suction expansion joint after it developed a leak. Following repairs and testing, Unit 1 was returned to 100 percent power on September 25, 2000.

Unit 2 operated at approximately 100 percent power for the majority of the report period. On September 19, 2000, Unit 2 reactor coolant system boron concentration decreased to zero and the unit began a gradual coast down. On September 30, 2000, Unit 2 was shutdown for the fifth scheduled refueling outage.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1RO4 Equipment Alignment (71111.04)

.1 Partial System Walkdown

a. Inspection Scope

The inspectors conducted partial inspections of the following risk-significant systems to verify that they were in their proper standby alignment. In addition, the inspectors evaluated the effectiveness of the licensees problem identification and resolution program in resolving issues which could increase event initiation frequency or impact mitigation system availability.

- Unit 1, Train B containment spray system
- Unit 2, Train A diesel generator

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 licensees 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 1, Train A Emergency Diesel Generator Room (Room 1-084) and Equipment Room 1-099B (Fire Area 1SG010)
- Unit 1 Safeguards Building 790' Corridor (Fire Area 1SB004)
- Unit 2, Containment Access Corridor (Fire Area 2SB015)
- Unit 2, Train B Switchgear Room (Fire Area 2SE018)

b. Findings

No findings of significance were identified.

.2 Annual Fire Drill (71111.05)

a. Inspection Scope

The inspector observed the plant fire brigade during a fire drill on September 12, 2000, to assess its ability to fight fires. Observations focused on the material condition and availability of fire fighting equipment as well as its proper use by the fire brigade. In addition, the fire drill scenario required assistance from the Glen Rose Volunteer Fire Department so the inspector was able to evaluate the coordination between the plant staff and an offsite emergency response organization.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection Activities, Unit 2 (71111.08)

a. Inspection Scope

The inspector reviewed the following areas: (1) nondestructive examination procedures, (2) training and qualification/certifications records for welders and contractor L-II and L-III nondestructive examiners certifications, (3) relief request relating to the inservice inspection program, and (4) radiographic film for Welds Nos. TUX-1, 2, 3, and 4 (Penetration 2-MIII-017).

The inspector observed the following nondestructive examination activities: A dye penetrant and ultrasonic examination of steam generator Number 1 hot- and cold-leg Welds 4 and 5 (reactor coolant reducing elbow to steam generator nozzle and steam generator nozzle to elbow); Visual Examination (VT-3) of steam generator Number 1 structural supports. The inspector also witnessed the calibration of instrumentation for the ultrasonic examination of Steam Generator 1 channel head to tubesheet weld, and the functional test of Mechanical Snubbers CT-2-051-408-C72KA and SI-2-306-426-C42K.

The inspector evaluated the effectiveness of the licensee's corrective action process to identify and correct problems related to inservice inspection activities. In this effort, the inspector reviewed SmartForms and the subsequent associated corrective actions. The Smart Forms reviewed are listed in Attachment 1.

b. Findings

No issues of significance were identified.

1R12 Maintenance Rule (71111.12)

.1 Maintenance Effectiveness

a. Inspection Scope

The resident 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.

On July 25, 2000, the inspector reviewed a number of Unit 1 and 2 logs and interviewed operators to identify potential plant problems. One potential problem was reflected in the Unit 1 reactor operator log sheet. Operations Work Instruction OWI-104-22, Note 4, stated, "If unable to increase or maintain PRT [Pressurizer Relief Tank] pressure due to leakage, then the first Sunday of each quarter purge the PRT for 15 minutes per [Standard Operating Procedure] SOP-109A, Step 5.5.2 to maintain PRT gas space concentration less than 4% hydrogen and 2% oxygen. Log the evolution and time conducted in the comments section. Under these conditions with quarterly purging implemented a PRT pressure reading of 0 psig may be considered satisfactory." The inspector noted that the PRT was designed to operate between 1 and 5 psig and that because of excessive leakage, the Unit 1 PRT had been operated at 0 psig since August 1994 to minimize the frequency of containment venting.

b. Findings

Background

On January 1, 1991, Operations, Notification, and Evaluation (ONE) Form 91-0003 was written to document that the Unit 1 PRT would not stay pressurized with nitrogen. On August 30, 1994, OWI-104-22 was changed to effectively reduce the minimum operating pressure of the PRT to 0 psig to minimize the amount of nitrogen released inside containment and subsequently reduce the frequency of containment venting.

Maintenance Rule, Licensing and Design Bases Considerations

The inspector questioned the licensee if the PRT was within the scope of their maintenance rule program. The licensee stated that the PRT was a component in their maintenance rule program as part of the reactor coolant system (RCS). The inspector noted that although the PRT was not actually part of the RCS pressure boundary, it could in the extreme, potentially affect the ability to maintain RCS pressure if a significant explosion were to occur and therefore concluded that the licensee's maintenance rule classification of the PRT was appropriate.

Final Safety Analysis Report Section 5.4.11 "Pressurizer Relief Discharge System," indicated that the nitrogen gas blanket controlled the atmosphere in the tank. It further indicated that provisions were made to periodically analyze the gas in the tank for hydrogen and oxygen.

Licensee Design Basis Document DBD-ME-250, Revision 7 stated, "A nitrogen gas blanket should be maintained in the tank to exclude air and prevent the formation of an explosive hydrogen-oxygen mixture. The gases in the tank must be sampled routinely."

Inadequate Procedure Change and Safety Screen

On January 7, 1994, the operations department initiated two procedure change recommendations using Operations Department Administrative Procedure (ODA) 207, "Procedure Change/Improvement Recommendation," Revision 5. Also on January 7, 1994, the operations department submitted a request for a technical evaluation (TE) on reducing the minimum PRT operating pressure to 0 psig. The inspector found that TE 94-000026 was initiated on January 7, 1994, but could not administratively link it to either the OWI 104-22 or the SOP-109A procedure change recommendations. The first procedure change recommendation involved a reduction of the minimum PRT operating pressure to 0 psig which was administratively incorporated in OWI 104-22 on August 10, 1994. The second procedure change recommendation also involved a reduction of the minimum PRT operating pressure to 0 psig in System Operating Procedure SOP-109A, "Pressurizer Relief Tank." The recommended change to SOP-109A was never incorporated. Also, TE 94-000108 was submitted by the operations support department on January 26, 1994. The condition description of TE 94-000108 stated, "Can PRT pressure be maintained at 0 psig as suggested by the attached ODA-207 or is a material change needed?" The inspector noted that the ODA-207 referred to was the recommendation to change SOP-109A and that the specific question in the TE was never answered.

Technical Specification 6.8.1, "Procedures and Programs," stated, in part, that written procedures be established , implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2. Appendix A of Regulatory Guide 1.33, Revision 2, recommends that procedures be established for power operations. Accordingly, Station Administrative Procedure STA-205, "Changes to Procedures," Revision 9, required the procedure change be screened in accordance with STA-707, "10 CFR 50.59, Safety Evaluations," and controlled by STA-202, "Administrative Control of CPSES Nuclear Engineering and Operations Procedures."

STA-202, Revision 23, Section 6.2.7.2, states, “The Technical Reviewer shall confirm technical adequacy and administrative compliance.” Contrary to STA-202, the technical reviewer did not confirm the technical adequacy of the change in minimum operating pressure of the Unit 1 PRT to 0 psig for a change in OWI 104-22. The inspector found that the change was incorporated as an administrative change only. Operating the PRT at 0 psig increased the probability of developing an explosive environment within the PRT. The licensee’s belief that the change was administrative in nature was reflected in the overall justification for the 10CFR50.59 Screen described in Section III, “Changes are in accordance with approved design documents, and are purely administrative. Safety, Design, and Licensing Documents are not impacted.”

This violation of Technical Specification 6.8.1, is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy (NCV 50-445/0007-01). The issue was placed into the licensee's problem identification and resolution program as Smart Form SMF-2000-001693-00.

Inadequate Tank Sampling

As described above, both the design and licensing bases stated that the PRT was periodically sampled. If the licensee sampled the PRT, they would be able to confirm that the quarterly purge with nitrogen was effective in proving that an explosive mixture of hydrogen and oxygen had not developed. The inspector noted that since the plant analyses never considered the affects of a hydrogen explosion in the PRT, it was important to ensure an explosive mixture never developed. During interviews with operators and chemistry technicians, the inspector found that the Unit 1 and 2 PRTs are typically only sampled during preparations for outages. Furthermore, since the sample and nitrogen pressurization lines are the same, with the Unit 1 PRT operating at 0 psig it was not possible to draw a sample from the Unit 1 PRT. Therefore, contrary to the plant design and licensing bases, no verification of an inert PRT atmosphere during plant operations was routinely conducted as stated in the plant design and licensing bases.

Inadequate Corrective Maintenance

ONE Form 91-0003, discussed above, was closed on March 3, 1993, because work requests were written to inspect steam traps suspected of leaking on both Unit 1 and 2 PRTs. The inspector found a letter from the vendor, Duncan Controls Company, dated March 17, 1993, which stated, “I’m confident that the nitrogen leak is due to a low pressure metal seat. Suggest you try a soft seat.” The inspector reviewed the work requests for Unit 1 and found that they were subsequently closed to work orders which stated, “PRT does not maintain N2 pressure. Suspect N2 is leaking through steam traps. Need to disassemble steam trap and inspect main valve disc/seat interface.” A review of the closed work orders dated October 28, 1993, revealed that the mechanics inspected the main valve seat/disc interface and found no problems other than a slight coating of rust film which was subsequently wiped off, no changes were made to the seat material.

As described above, Technical Evaluation 94-000108, was used to support changes to Procedure OWI 104-22. This evaluation referenced several other work requests for the

Unit 1 steam traps which were again subsequently closed to work orders. These work orders, implemented in March 1995, indicated that the seat and disc were both replaced. The inspector could not confirm that the vendor recommended soft seat was used. After questioning the licensee, the inspector found that the vendor recommended soft seats had been purchased but placed in the warehouse under the same stock number as the hard seats. Therefore, a review of the work order would not reveal which seat had been installed. No engineering approval of the vendor recommended soft seat design could be found.

Significance

The inspector noted that in order to have an explosion within the PRT, an environment consisting of at least 4 percent hydrogen and 2 percent oxygen would need to exist in addition to an ignition source. The Unit 1 PRT was leaking and had been operated at 0 psig since August 1994. Routine containment vents occur when pressure reaches about 1 psig, which occurs every two to three days. This resulted in a cyclical change in containment pressure approximately 20 to 30 times every quarter. The inspector concluded that this cyclic pressure change would ensure that air entered the PRT. Since the PRT collects leakage from pressurizer and reactor coolant system safeties and power operated relief valves, hydrogen is expected. A slightly leaking relief valve would exacerbate the accumulation of hydrogen. Although the Unit 1 pressurizer safety Valve C may have been leaking since about November 1999, there was no definite indication that this was happening even though PRT level had been gradually increasing throughout the cycle.

The inspector used the significance determination process to ascertain that the issue was considered to be of very low safety significance. The low significance of the issue was primarily due to a lack of an ignition source in the PRT. Since a hydrogen explosion inside the PRT was not analyzed, the inspector could not assess the potential damage that would occur if an explosion were to take place.

.2 Periodic Evaluation Reviews

a. Inspection Scope

The inspector reviewed the licensee's reports documenting the performance of the last two maintenance rule periodic effectiveness assessments. These periodic evaluations covered a 19-month period from January 1, 1998, through July 31, 1999, and a 18-month period from July 1, 1996, through December 31, 1997. These two periodic evaluations were prepared as required by 10 CFR 50.65(a)(3).

The licensee’s conclusions with regard to balancing structure, system, and component reliability and unavailability, and activities associated with placement of the same in Categories (a)(1) and/or (a)(2) were examined. This examination of periodic evaluation conclusions was performed by reviewing maintenance rule implementation for a selection of structures, systems and components in five systems (service water, component cooling water, safety injection, auxiliary feedwater, and auxiliary building heating, ventilation and air condition system).

b. Findings

No findings of significance were identified.

.3 Effectiveness of Maintenance Rule Program

b. Inspection Scope

The inspector reviewed the 1ST quarter fiscal year 2000 system status records, maintenance rule functional failure determinations, performance criteria, movement of functional groups between Maintenance Rule Categories (a)(1) and (a)(2), Maintenance Rule (a)(1) goals and monitoring plans for five systems. The five systems selected for review were the service water system, component cooling water system, safety injection system, auxiliary feedwater system, and the auxiliary building heating, ventilation and air condition system. The inspector reviewed a sample of the work orders issued since the last refueling outages for Units 1 and 2, a sample of the corrective action documents (Smart Forms) issued since May 15, 1998, and unit control room logs for the 1ST quarter of fiscal year 2000 for both units to verify that the licensee was identifying issues related to structures, systems and components at an appropriate threshold and entering them in the corrective action program.

c. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work (71111.13)

.1 Unscheduled 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, Train A containment spray pump bearing oil cooler cleaning
- Special test of safety-related motor-operated Valve 2-HV-4575

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 Nonroutine Plant Evolutions and Events (71111.14)

a. Inspection Scope

The inspectors reviewed operator logs, plant computer data, strip charts, and conducted direct observations of one nonroutine plant evolution and an event to assess human performance. These activities are described below.

On September 24, 2000, the Unit 1 Heater Drain Pump 1-02 developed a leak on an expansion joint which necessitated a reduction in reactor power to approximately 65 percent to complete repairs. The inspector observed control room operators during portions of the power reduction and repair activities.

On September 30, 2000, the inspector reviewed and observed a special test of a Unit 2 steam generator power operated atmospheric relief valves with the unit operating at power.

b. Findings

No 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 pre-existing 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.

- Restricted service water flow to the Unit 1, Train containment spray pumps 1-01 and 1-03 bearing oil coolers

- Reactor coolant pump under frequency time response test errors (Smart Form 2000-002224-00)

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspectors reviewed the licensee's list of identified operator workarounds and other previously identified degraded conditions on equipment not considered operator workarounds to assess their cumulative effects on the ability of operators to respond to plant transients.

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20)

a. Inspection Scope

The inspectors evaluated licensee Unit 2 outage activities to ensure that risk was considered in developing the outage schedule, plant configuration was controlled in consideration of facility risk, mitigation strategies were developed and properly implemented, and Technical Specification requirements were implemented to maintain the appropriate defense-in-depth. Specific outage activities reviewed and/or observed by the inspectors included:

- Residual heat removal system fill, vent, and boration
- Boron thermal regeneration system fill, vent, and boration
- Refueling bridge crane load cell testing
- Defense-in-depth and mitigation strategy review
- Refueling outage schedule review
- Unit shutdown and cooldown

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors evaluated the adequacy of periodic testing of following important nuclear plant equipment including aspects such as preconditioning; the impact of testing during plant operations; the adequacy of acceptance criteria including test frequency and test equipment accuracy, range and calibration; procedure adherence; record keeping; the restoration of standby equipment; test failure evaluations; jumper control (if applicable); and the effectiveness of the licensee's problem identification and correction program. The following surveillance test activities were observed by the inspectors:

- Unit 2, Train B safety injection pump quarterly surveillance
- Unit 1, Train B emergency diesel generator monthly surveillance test
- Unit 1 turbine driven auxiliary feedwater pump surveillance

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspector observed the licensee's staff performance during an emergency response exercise conducted on August 30, 2000. Observations were conducted in the control room simulator and the emergency operations facility and focused on emergency classifications, offsite notifications, and protective action recommendation development activities. The inspector also attended the postexercise critique to compare observations against those of the licensee to determine if they were adequately identifying performance problems.

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 involved in high dose rate and high exposure jobs during the most recent refueling outage. No high exposure jobs or work in high radiation areas was performed during the inspection. Independent radiation surveys of selected work areas within the radiologically controlled area were conducted. The following items were reviewed and compared with regulatory requirements:

- ALARA program procedures
- 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 Refueling Outage 2RF04 radiation work permit packages which resulted in the highest collective doses and the corresponding radiation work permit packages for the upcoming Refueling Outage 2RF05
- Use of engineering controls to achieve dose reductions
- Hot spot tracking and reduction program
- Plant source term data, including source term control strategy
- Declared pregnant worker dose monitoring controls
- Licensee audits and assessments focusing on the ALARA program
- Selected corrective action documentation involving ALARA since the last inspection in this area

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors conducted a review of the licensee's Unit 1 and Unit 2 initiating events performance indicator data for the first and second quarter of 2000, to determine its accuracy and completeness.

b. Findings

No findings of significance were identified.

4OA5 Other

a. Inspection Scope

The inspector reviewed the Office of Investigation Case OI 4-1999-063 report issued May 8, 2000.

b. Findings

On October 27, 1999, a qualified plant equipment operator directed and allowed a plant equipment operator trainee to perform the helium compensation calibration of the hydrogen recombiner in the waste gas holdup system without direct supervision. The

plant equipment operator trainee performed the helium compensation calibration of the hydrogen recombiner incorrectly. At that time, the plant equipment operator trainee was not "radwatch station" qualified to conduct an unsupervised helium compensation calibration of the hydrogen recombiner.

During the performance of the helium compensation calibration of the hydrogen recombiner, the unsupervised radwaste equipment operator trainee installed an incorrect helium compensation calibration factor which resulted in a nonconservative hydrogen concentration indication by the hydrogen recombiner. This error was identified by operations personnel performing the Technical Requirements Manual required channel check of the waste gas system hydrogen recombiner during the next shift. This channel check was required once per 24 hours prior to and during waste gas holdup system operation. During the time interval (approximately 10 hours) between the performance of the helium compensation calibration of the hydrogen recombiner and the identification of the incorrect helium compensation calibration factor, the hydrogen recombiner was not operated.

Technical Specification 5.4.1.a requires, in part, that written procedures be established, implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Regulatory Guide 1.33, Appendix A, Section 1.b, requires procedures for authorities and responsibilities for safe operation. To comply with this requirement, the licensee implemented Operations Department Administrative Manual Procedure ODA-102, "Conduct of Operations, Revision 17, which specifies elements of operations training. Specifically, Section 6.15, of Procedure ODA-102, Conduct of On-the-Job Training, stated, in part, "Whenever trainees operate equipment, a qualified operator shall observe the trainee . . ." Additionally, Section 6.15 stated, in part, "When a Trainee is performing any equipment operation or control manipulation, the qualified personnel shall observe the necessary indication as if he performed the task himself using all required self verification techniques."

In this case, the trainee had been trained and signed off on performing the helium compensation calibration, but was not "radwatch station qualified." As such, the trainee was not qualified to conduct an unsupervised helium compensation calibration of the hydrogen recombiner. During the NRC's review of this case, other qualified radwaste operators stated that they were confused about the applicability and implementation of Section 6.15 of Procedure ODA-102. Although this confusion existed, no other instances were identified where trainees were inappropriately allowed to perform equipment operations or control manipulations in violation of plant procedures.

The failure of a qualified radwaste equipment operator to directly observe a radwaste equipment operator trainee operating equipment and performing the helium compensation calibration of the hydrogen recombiner was a violation of Technical Specification 5.4.1.a. Based on the qualified operator's training and experience, the NRC determined that this violation was committed willfully. This Severity Level IV violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation was in the licensee's corrective action program as Smart Form SMF-1999-002891-00 (50-445;-446/0007-02).

40A6 Management Meetings

.1 Exit Meetings

The inspectors presented the inspection results to Mr. C. Lance Terry and other members of licensee management during various exit meetings on August 23, September 1, September 28, October 6, and October 12, 2000. The licensee acknowledged the findings presented.

The inspectors informed the licensee that the quote in Section 1R12.1 from Design Basis Document DBD-ME-250, Revision 7, which was labeled “proprietary information,” and asked if they had any objection to it being in the inspection report. The licensee informed the inspector that they had no objection to the quote. The inspectors asked whether any other materials examined during the inspection should be considered proprietary. No other proprietary information was identified.

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, Vice President, Nuclear Operations
D. Moore, Operations Manager
R. Flores, System Engineering Manager
S. Ellis, Shift Operations Manager
C. Cutton, Shift Manager
W. Morrison, Operations Support Manager
G. Merka, Regulatory Affairs
T. Payne, Results Engineer
O. Bhatty, Principal Nuclear Analyst
J. Hair, Resident Authorized Nuclear Inservice Inspector
B. Mays, Engineering Programs Manager
P. Passalugo, Inservice Inspection Coordinator
J. Ragan, Site Nondestructive Examiner, Level III
D. Reimer, Technical Support Manager
J. Blaikie, ALARA Coordinator, Radiation Protection
S. Bradley, Technical Support Supervisor, Radiation Protection
J. Curtis, Manager, Radiation Protection
J. Goodrich, ALARA Technician, Radiation Protection
G. Wiechering, ALARA Technician, Radiation Protection
R. Walker, Manager, Regulatory Affairs

NRC

G. Good, Chief, Plant Support Branch, Division of Reactor Safety
S. Schwind, Resident Inspector

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

50-445/0007-01	NCV	Inadequate procedure change involving the minimum operating pressure for the Unit 1 pressurizer relief tank
50-445; 446/0007-02	NCV	Failure to properly conduct training of a plant equipment trainee

DOCUMENTS REVIEWED

Procedures

Station Administrative Manual Procedures:

STA-421, “Initiation and Processing of SMARTFORMS,” Revision 8
STA-422, “Disposition of SMARTFORMS Identifying Potential Adverse Conditions,” Revision 15
STA-604, “Configuration Risk Management and Work Scheduling,” Revision 3
STA-606, “Control of Maintenance and Work Activities,” Revision 25
STA-744, “Maintenance Effectiveness Monitoring Program,” Revision 2

Work Control Instruction Manual Procedure:

WCI-203, “Weekly Surveillances / Work Scheduling," Revision 13

Guides:

“Maintenance Effectiveness Monitoring Program,” Revision 2
“Maintenance Effectiveness Monitoring Desktop Instruction,” Revision 4
“Performance Criteria Guideline for Monitoring Maintenance Effectiveness,” Revision 5
“Goal Setting and Monitoring Guide,” Revision 2
“Maintenance Preventable Functional Failure Guide,” Revision 4
“Structural Monitoring Inspections,” Revision 1

System Health Report:

“Comanche Peak Unit 1 Unit 2 System Status,” 1ST Quarter FY00

Maintenance Rule Periodic Effectiveness Assessment Reports:

LT-200001358, “Maintenance Rule Periodic Effectiveness Assessment,” dated 10/11/1999
ER-SYS-009, “Maintenance Rule Periodic Effectiveness Assessment,” dated 06/12/1998

Nuclear Overview Department Evaluation Reports:

EVAL-2000-030, “Performance of Failure Analysis,” 06/26/2000 through 07/10/2000
EVAL-2000-018, “Evaluation of Toolpouch Work,” 03/15/2000 to 4/03/2000
EVAL-1999-022, “Preventative Maintenance Program,” 06/04/99 to 06/16/99
EVAL-1999-021, “Work Package Closure,” 04/29/99 to 05/05/99

System Engineering Management Overview Program Reports:

SEMOP-7, “Maintenance Rule Implementation (Database update requests),” dated 8/09/00
SEMOP-6, “Maintenance Rule Implementation (Goals for (a)(1)SSC’s),” dated 8/17/00
SEMOP-5, “Maintenance Rule Implementation (Trending),” dated 7/03/00

SEMOP-24, “Maintenance Rule Implementation (Expert Panel Activities),” dated 12/03/99
SEMOP-4, “Maintenance Rule Implementation (Equipment Failures & System Performance),” dated 8/04/00

Smart Forms:

2000-002050, -002030, -001826, -001602, -001536, -001247, -001016, -001033, -000998, -000989, -000594, -000094, -000059, -000053

1999-003398, -003168, -002304, -002306, -002181, -002136, -002157, -002094, -002061, -001782, -001705, -001514, -001440, -001418, -001364, -001354, -001092, -000779, -000095

1998-002228

Control Room Logs:

Unit 1, December 20, 1999 (1201) through April 3, 2000 (1047)
Unit 2, December 20, 1999 (1400) through March 25, 2000 (1753)

Other Procedures:

WPS CP-201	Welding Procedure Specification	Revision 10
WPS CP-301	Welding Procedure Specification	Revision 11
WPS CP-315	Welding Procedure Specification	Revision 06
TX-ISI-210	Ultrasonic Examination Procedure for Welds In Ferritic Steel Vessels	Revision 04
WDP-9.2	Qualification And Certification Of Personnel In Nondestructive Examination	Revision 02
QAPM 9.1	Qualification And Certification Of NDE Personnel	Revision 07
QAP 9.1	Certification Of NDE Personnel Issued for Use In Accordance With The 1989 Edition Of ASME Section XI, Appendix VII Requirements Addendum APPVII	Revision 01

Drawings

BRP-AF-2-SB-027, Revision CP-2
SK-0003-00-000021-01-00, Revision 00

Other Smart Forms:

SMF-1999-000472-01
SMF-1999-000632-00
SMF-1999-000988-00
SMF-1999-000961-00
SMF-1999-001125-00
SMF-1999-001140-00
SMF-1999-001932-00
SMF-1999-002598-00
SMF-1999-002777-00
SMF-1999-002952-00
SMF-1999-003054-00
SMF-1999-003064-00
SMF-2000-002468-00

Relief Requests:

CPSES Unit 2 Relief Request D-1: The requirement for visual examination of 100 percent of the weld length as described in Table IWD-2500-1, Examination Category D-A, Item No. D1.20.

CPSES Unit 2 Relief Request E-2: The requirement for visual examination of 100 percent of the containment surface areas as described in Table IWE-2500-1, Examination Category E-A, Item No. E1.11 of the 1998 Edition of ASME Section XI, Subsection IWE per CPSES Relief Request E-1.

Work Orders:

WO 1-98-121380-00, Unit 1: Replace isolation valve 1MS-0672.

WO 2-98-122075-00, Unit 2: Replace CP2-Aforbo-02 for MDAFWPS to address flow noise in suction line.

WO 2-98-122322-00, Unit 1: Replace throttle valve 1SI-8822C IAW DM 97-059 and DCN 12531.

WO 4-97-108143-00, Unit 2: Containment isolation penetration 2-MIII-017 is to be modified to allow its use for depressurization of containment during ILRT.

WO 4-98-118449-00, Unit 1: Relocate upstream orifice and replace valve with nozzle check valve during 1RF07.

Miscellaneous Documents:

Engineering report ER-CS-014, Snubber Operability," Revision 0.

SSI-A-005, Qualification And Certification Of Nondestructive Examination Personnel, Revision 17

Radiographic film for Welds TUX-1, 2, 3, and 4 (Penetration 2-MIII-017)

Ultrasonic calibration record for Reactor Coolant SG1 channel head to tubesheet weld

Radiation Work Permits

2215 Scaffolding in the RCA
2400 Steam Generator Eddy Current
2600 Refueling

Audits and Assessments:

EVAL-1999-035	Radiation Protection Program
EVAL-1999-043	Radworker Practices
EVAL-2000-041	Radiation Protection Program

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	**Radiation Safety**	**Safeguards**
·Initiating Events	·Occupational	·Physical Protection
·Mitigating Systems	·Public	
·Barrier Integrity		
·Emergency Preparedness		

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. Inspection findings will be evaluated according to their potential significance for safety, using the significance determination process, 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 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.