



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-4005**

October 23, 2003

Mr. M. R. Blevins, Senior Vice President  
and Principal Nuclear Officer  
TXU Energy  
ATTN: Regulatory Affairs  
Comanche Peak Steam Electric Station  
P.O. Box 1002  
Glen Rose, Texas 76043

**SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION - NRC INTEGRATED  
INSPECTION REPORT 05000445/2003003 AND 05000446/2003003**

Dear Mr. Blevins:

On October 4, 2003, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Comanche Peak Steam Electric Station, Units 1 and 2, facility. The enclosed integrated inspection report documents the inspection findings which were discussed on October 16, 2003, with Mr. J. Kelley and other members of your staff.

This inspection examined activities conducted under your licenses as they related to safety and compliance with the Commission's rules and regulations and with the conditions of your licenses. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection no findings of significance were identified. However, a licensee-identified violation which was determined to be of very low safety significance is listed in Section 4OA7 of this report. If you contest this noncited violation, you should provide a response within 30 days of the date of this inspection report, with the basis of your denial, to the U.S. Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator Region IV; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Comanche Peak Steam Electric Station.

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/reading-rm/adams.html> (the Public Electronic Reading Room).

TXU Electric

-2-

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

Sincerely,

/RA/

William D. Johnson, Chief  
Project Branch A  
Division of Reactor Projects

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

Enclosure:  
NRC Inspection Report 05000445/2003003 and 05000446/2003003  
w/attachment: Supplemental Information

cc w/enclosure:  
Roger D. Walker  
Regulatory Affairs Manager  
TXU Generation Company LP  
P.O. Box 1002  
Glen Rose, Texas 76043

George L. Edgar, Esq.  
Morgan Lewis  
1111 Pennsylvania Avenue, NW  
Washington, DC 20004

G. R. Bynog, Program Manager/  
Chief Inspector  
Texas Department of Licensing & Regulation  
Boiler Division  
P.O. Box 12157, Capitol Station  
Austin, Texas 78711

County Judge  
P.O. Box 851  
Glen Rose, Texas 76043

TXU Electric

-3-

Chief, Bureau of Radiation Control  
Texas Department of Health  
1100 West 49th Street  
Austin, Texas 78756-3189

Environmental and Natural  
Resources Policy Director  
Office of the Governor  
P.O. Box 12428  
Austin, Texas 78711-3189

Brian Almon  
Public Utility Commission  
William B. Travis Building  
P.O. Box 13326  
1701 North Congress Avenue  
Austin, Texas 78701-3326

Susan M. Jablonski  
Office of Permitting, Remediation and Registration  
Texas Commission on Environmental Quality  
MC-122  
P.O. Box 13087  
Austin, Texas 78711-3087

Technological Services  
Branch Chief  
FEMA Region VI  
800 North Loop 288  
Federal Regional Center  
Denton, Texas 76201-3698

TXU Electric

-4-

Electronic distribution by RIV:  
Regional Administrator (**BSM**)  
DRP Director (**ATH**)  
DRS Director (**DDC**)  
Senior Resident Inspector (**DBA**)  
Branch Chief, DRP/A (**WDJ**)  
Senior Project Engineer, DRP/A (**TRF**)  
Staff Chief, DRP/TSS (**PHH**)  
RITS Coordinator (**NBH**)  
Brian McDermott (**BJM**)  
CP Site Secretary (**vacant**)  
W. A. Maier, RSLO (**WAM**)

ADAMS: X Yes       No      Initials: \_wdj\_\_\_\_\_  
X Publicly Available    Non-Publicly Available    Sensitive   X Non-Sensitive

R:\\_CPSES\2003\CP2003-02RP-DBA.wpd

RIV:RI:DRP/PBA	PE:DRP/PBA	SRI:DRP/PBA	C:DRP/PBA
AASanchez	JMKeeton	DBAllen	WDJohnson
<b>E-WDJ</b>	<b>E-WDJ</b>	<b>E-WDJ</b>	<b>/RA/</b>
10/17/03	10/16/03	10/17/03	10/23 /03

OFFICIAL RECORD COPY

T=Telephone

E=E-mail

F=Fax

**ENCLOSURE**

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Dockets: 50-445, 50-446  
Licenses: NPF-87, NPF-89  
Report: 05000445/2003003 and 05000446/2003003  
Licensee: TXU Generation Company LP  
Facility: Comanche Peak Steam Electric Station, Units 1 and 2  
Location: FM-56, Glen Rose, Texas  
Dates: July 6 through October 4, 2003  
Inspectors: D. B. Allen, Senior Resident Inspector  
A. A. Sanchez, Resident Inspector  
J. M. Keeton, Project Engineer  
Approved by: W. D. Johnson, Chief, Project Branch A  
Division of Reactor Projects  
Attachment: Supplemental Information

Enclosure

## SUMMARY OF FINDINGS

Comanche Peak Steam Electric Station, Units 1 and 2  
NRC Inspection Report 05000445/2003003, 05000446/2003003

IR 05000445/2003003, 05000446/2003003; 07/06/2003-10/04/2003; Comanche Peak Steam Electric Station, Units 1 & 2; Integrated Resident Report.

This report covered a 3-month period of inspection by resident inspectors and a project engineer. One Green noncited violation was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process". Findings for which the Significance Determination Process does not apply may be Green or may be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self Revealing Findings

No findings of significance were identified.

B. Licensee Identified Violations

A violation of very low safety significance (Green) which was identified by the licensee was reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and the corrective action tracking number are listed in Section 40A7 of this report.

Enclosure

## REPORT DETAILS

### Summary of Plant Status

Comanche Peak Steam Electric Station (CPSES) Unit 1 operated at essentially 100 percent power for the entire report period.

Unit 2 began the report period at essentially 100 percent power. On July 9, 2003, at 1:09 a. m., the unit experienced a failure of Reactor Coolant Pump (RCP) 2-04, which subsequently resulted in a reactor trip. After the RCP 2-04 motor was repaired, Unit 2 was started up and synchronized to the grid at 12:14 p. m. on July 25, 2003. On July 26, 2003, Unit 2 achieved full power at 11:23 p. m. On October 4, 2003, at 11:27 a. m., Unit 2 entered Mode 3 to begin the planned refueling outage 2RFO7.

#### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

#### 1R04 Equipment Alignment

##### .1 Partial System Walkdown

###### a. Inspection Scope

The inspectors conducted partial walkdowns of the following three risk-significant systems to verify that they were in their proper standby alignment as defined by system operating procedures and system drawings. During the walkdowns, inspectors examined system components for materiel conditions that could degrade system performance. 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 mitigating system availability.

- Unit 1 Train A containment spray system in accordance with System Operating Procedure (SOP) SOP-204A, "Containment Spray System," Revision 13, while the Train B containment spray system was inoperable due to scheduled maintenance and testing on August 12, 2003
- Unit 2 Train A safety injection system in accordance with SOP-201B, "Safety Injection System," Revision 5, and appropriate attachments while the Train B safety injection system was inoperable due to scheduled maintenance and testing on September 3, 2003

Enclosure



- Unit 2 Train A residual heat removal system in accordance with SOP-102A, "Residual Heat Removal System," Revision 13, during outage on Train B residual heat removal system for routine planned surveillance on September 4, 2003

b. Findings

No findings of significance were identified.

.2 Detailed Semi-Annual Walkdown

a. Inspection Scope

The inspectors conducted a detailed semiannual inspection of the Unit 2, Train B station service water system using SOP-501B, "Station Service Water System," Revision 9, Technical Data Manual (TDM) TDM-901B, "Systems Data Throttled Valves/Flow Rates," Revision 5, and system drawings, to determine whether the system and its operating procedure were in accordance with the design and licensing bases of the system. Outstanding design issues were reviewed to determine if any impacted the system's ability to operate as designed. A thorough walkdown of the system was also performed September 23-26, 2003, to evaluate the system's materiel condition. The system engineer was interviewed as to the status of the system's open action items and issues in the system's health report.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Fire Area Tours

a. Inspection Scope

The inspectors assessed the licensee's control of transient combustible materials, the materiel condition and lineup of fire detection and suppression systems, and the materiel condition of manual fire equipment and passive fire barriers during tours of the following six risk-significant areas. The licensee's fire preplans and Fire Hazards Analysis Report were used to identify important plant equipment, fire loading, detection and suppression equipment locations, and planned actions to respond to a fire in each

of the plant areas selected. Compensatory measures for degraded equipment were evaluated for effectiveness.

- Fire Zone AA153/154 - Trains A and B safety chiller rooms on July 23, 2003
- Fire Zone 2SE16 - Unit 2 safeguards electrical equipment Room 2-96 on elevation 832' on July 31, 2003
- Fire Zone 1SA1 - Unit 1 Train B safeguards equipment areas on elevations 773', 790', and 810' on August 1, 2003
- Fire Zone 1SD9 - Unit 1 Train A switchgear room on August 21, 2003
- Fire Zone 1SG10 - Unit 1 Train A emergency diesel generator room on August 21, 2003
- Fire Zone 1SI012 - Unit 1 Train B emergency diesel generator room on August 21, 2003

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed a licensed operator training session in the control room simulator and attended the critique on September 8, 2003. The scenario involved reduced inventory operations, swapping residual heat removal pumps, loss of power to the operating residual heat removal pump, and a leak that required starting a safety injection pump to maintain level. Simulator observations included formality and clarity of communications, group dynamics, the conduct of operations, procedure usage, command and control, and activities associated with the emergency plan. The inspectors also observed the crew critique to verify that observations made by the crew were consistent with those of the evaluators.

The inspectors observed Just-In-Time Training in the control room simulator for the plant shutdown to begin refueling outage 2RF07 on October 2, 2003. The crew composition included operators from different crews for the specific purpose of performing the plant shutdown and other outage activities. The training included a

Enclosure

classroom briefing on the outage activities scheduled for the first day of the outage, including unloading and cooling the main turbine, reactor shutdown, boration and cooldown of the reactor coolant system. The inspector observed the simulator activities for proper implementation of operations procedures, monitoring and response to indications and alarms, coordination and communications between operators and support groups, and proper control of plant evolutions.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors independently verified that CPSES personnel properly implemented 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," for two equipment performance problems identified in the following Smart Forms (SMF):

- SMF-2002-000156-00
- SMF-2002-003022-00

The inspectors also independently verified that the corrective actions and responses were appropriate and adequate.

The inspectors reviewed whether the structures, systems, or components (SSCs) were properly characterized in the scope of the Maintenance Rule Program and whether the SSC failure or performance problem was properly characterized. The inspectors assessed the appropriateness of the performance criteria established for the SSCs where applicable.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed five selected activities regarding risk evaluations and overall plant configuration control. The inspectors discussed emergent work issues with work control personnel and reviewed the potential risk impact of these activities to verify that the work was adequately planned, controlled, and executed. The activities reviewed were associated with:

- Emergent repair of Control Rod Drive Motor Generator 2-02 coincident with scheduled maintenance associated with Train A Motor Driven Auxiliary Feedwater Pump 2-01 on July 30 - 31, 2003
- Emergent maintenance in the Station Service Water Pump 2-02 bay requiring pump shutdown and cascading inoperability of Train B equipment concurrent with scheduled maintenance on August 12, 2003
- Planned control room air conditioning systems modifications and overall plant configuration control that resulted in placing the units in Technical Specification 3.0.3 on August 20, 2003
- Emergent troubleshooting and calibration of offsite power source, Transformer XST1, which required transfer of all Unit 2 safety related buses to the alternate source, Transformer XST2, concurrent with scheduled maintenance on September 12, 2003
- Emergent 345kV switchyard activity for repairs to insulators on the Wolf Hollow line concurrent with scheduled turbine driven auxiliary feedwater maintenance on Unit 1, surveillance test of Unit 2 Train A residual heat removal pump and scheduled work in the service water intake structure on September 18, 2003

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Evolutions and Events

a. Inspection Scope

For the nonroutine events described below, the inspectors reviewed operator logs, procedure use, plant computer data, and applicable SMFs and interviewed operators to determine what occurred and to determine if the operator response was in accordance with plant procedures. When applicable the inspectors also attended Plant Event Review Committee meetings.

Enclosure

- On August 20, 2003, the inspectors observed control room activities related to shutdown preparations and restoration of systems required to exit the shutdown action statement when notified that both Unit 1 and Unit 2 were simultaneously in Technical Specification 3.0.3.
- On October 4, 2003, the inspectors observed control room activities during the Unit 2 shutdown prior to entering refueling outage 2RF07. The activities observed included the controlled reactor power reduction, shutdown of the Main Feedwater Pump 2A, both feedwater heater drain pumps and a condensate pump, cooldown of the main turbine by maintaining reactor power at approximately 25 percent and lowering turbine generator load to approximately 60 megawatts, and the manual reactor trip and stabilization of the plant in Mode 3 at normal reactor coolant system pressure and temperature. The inspector observed the communications between the operators, coordination of activities, response to alarms and changing indications, procedural use, management of reactivity, and overall command and control.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors selected eight operability evaluations conducted by CPSES personnel during the report period involving risk-significant systems or components. The inspectors evaluated the technical adequacy of the licensee's operability determination, determined whether appropriate compensatory measures were implemented, and determined whether or not other pre-existing conditions were considered, as applicable. Additionally, the inspectors evaluated the adequacy of the CPSES problem identification and resolution program as it applied to operability evaluations. Specific operability evaluations reviewed are listed below:

- Quick Turnaround Evaluation QTE-2003-001864-01-0, operability evaluation of Emergency Diesel Generator (EDG) 1-01 due to knocking from Cylinder 6R during OPT-214A on June 25, 2003
- Evaluation EVAL-2003-002412-01-00, operability evaluation of Unit 1 main turbine control valves test circuit breaker on August 18, 2003

Enclosure

- Quick Turnaround Evaluation QTE-2003-001922-01-00, operability evaluation of Auxiliary Feedwater Valve 2-FV-2181 whose valve/actuator coupler appeared to be misaligned on July 1, 2003
- Quick Turnaround Evaluation QTE-2003-002104-01-00, operability evaluation of Unit 2 Train B residual heat removal system after finding the controller for Flow Control Valve 2-FCV-0619 had both AUTO and MANUAL lights illuminated simultaneously on July 17, 2003
- Quick Turnaround Evaluation QTE-2003-002706-01-1, operability evaluation of Control Room Air Conditioning Units X-01, X-02, X-03 due to improper connection terminal lug size for the gauge of wire used to connect the crankcase oil heaters on September 12, 2003
- Quick Turnaround Evaluation QTE-2003-002815-01-0, operability evaluation of the Slave Relay 2-K611-A and the associated circuit to close Feedwater Isolation Valve (FWIV) 2-HV-2136, following a surveillance test OPT-406B, "Feedwater Isolation Blocking Circuit Test," Revision 3, in which the FWIV 2-HV-2136 started to close on September 22, 2003
- Evaluation EVAL-2003-002816-00, operability evaluation of the auxiliary feedwater penetration after main feedwater bypass valves opened and temperatures rose to 430° F, exceeding the 300° F limit, on September 22, 2003
- Evaluation EVAL-2003-002826-01-0, operability evaluation on environmentally qualified equipment due to insulation removal for ISI inspections in Room 2-062 on September 23, 2003

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds

a. Inspection Scope

During the week of September 8, 2003, the inspectors reviewed the cumulative effects of identified operator workarounds for potential of system misoperation, reliability, and availability. The inspectors evaluated the cumulative effects on multiple mitigating systems and the ability of the operators to respond in a correct and timely manner to plant transients and events.

Enclosure

In addition, compensatory actions for equipment problems, shift orders, and caution tags were reviewed to determine that CPSES personnel were identifying operator workarounds at an appropriate threshold and that the equipment problems were identified in the corrective action program.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing

a. Inspection Scope

The inspectors witnessed or reviewed the results of the postmaintenance tests for the following six maintenance activities:

- Completion of a permanent modification to the Control Room Air Conditioning Unit X-01 to reduce the vibrational noise generated during operation on July 18, 2003
- Replacement of the Unit 2 Train A motor driven auxiliary feedwater pump on July 18, 2003
- Overhaul, repair, and installation of the Unit 2 Safety Chiller 2-06 on July 23, 2003
- Routine calibration of pressure instrument, inspection of motor operated suction valve and testing of room fan cooler associated with Unit 2 Train A Motor Driven Auxiliary Feedwater Pump 2-01 followed by OPT-206B, "Train A Motor Driven Auxiliary Feedwater Pump 2-01", Revision 10, and OPT-450B, "Train A Safeguards Slave Relay K640 Actuation Test," Revision 8, on July 31, 2003
- Replacement of the Unit 2 Train A reactor trip breaker with the Unit 2 Train B bypass breaker on August 29, 2003
- Replacement of the Unit 2 Train A reactor trip breaker with a refurbished breaker that was initially removed on August 29, 2003, due to failure to close, on September 17, 2003

Enclosure

In each case, the associated work orders and test procedures were reviewed in accordance with the inspection procedure to determine the scope of the maintenance activity and determine if the testing was adequate to verify equipment operability.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

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

- Unit 1 turbine driven auxiliary feedwater pump surveillance test run in accordance with OPT-206A, "AFW System," Revision 23, performed on July 17, 2003
- Unit 1 Train B containment spray pump surveillance test run in accordance with OPT-205A, "Containment Spray System," Revision 11, performed on August 12, 2003
- Unit 1 Train A emergency diesel generator surveillance test run in accordance with OPT-214A, "Emergency Diesel Generator Operability Test," Revision 17, performed on August 29, 2003
- Unit 2 Train B residual heat removal pump surveillance test run in accordance with OPT-203B, "Residual Heat Removal System," Revision 10, performed on September 4, 2003
- Unit 1 turbine overspeed protection system surveillance test in accordance with OPT-217A, "Turbine Overspeed Protection System Test," Revision 10, performed on September 26, 2003

Enclosure



- Unit 2 Main Steam Safety Valves 2MS-0021, 2MS-0130, 2MS-0095, 2MS-0060, 2MS-0058, and 2MS-0024 set pressure testing in accordance with Maintenance Section-Mechanical Manual MSM-S0-8702, "Main Steam Safety Valve Testing," Revision 3, performed on September 30, 2003

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed the 2003 Dress Rehearsal Exercise conducted on September 10, 2003, with the Red team. Observations were conducted in the control room simulator and the technical support center and included the opportunities for emergency classification, offsite notification, and protective action recommendations during the scenario. This evaluation included reviewing the scenario and drill objectives, observing licensee performance in the emergency facilities, reviewing the licensee's critique, and discussing observations and the licensee's findings with the emergency preparedness manager.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

Barrier Integrity

a. Inspection Scope

The inspectors reviewed a sample of performance indicator data submitted by the licensee regarding the barrier integrity cornerstone to verify that the licensee's data was reported in accordance with the requirements of NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 2. The sample included data taken from chemistry surveillance logs and operations surveillance records, and the SMF database

Enclosure

for July 2002 through April 2003, for both Units 1 and 2 for the following performance indicators:

- Reactor Coolant System Specific Activity
- Reactor Coolant System Identified Leakage

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

1. Review of an Evaluation of the Smart Form System

a. Inspection Scope

During the weeks of August 18 and September 8, 2003, the inspectors reviewed Evaluation EVAL-2002-004212-01 that initiated a programmatic evaluation of the Smart Form system. This action stemmed from the NRC Inspection Report 50-445, 446/02-08 performed April-May 2003. That inspection identified several Smart Forms that were considered incomplete and/or lacked sufficient supporting documentation for an independent reviewer to come to the same conclusion. The inspectors reviewed the EVAL to determine that the CPSES problem identification activities were complete and accurate. The inspectors' reviews were performed to determine if CPSES personnel had completed, or planned to complete, the corrective actions in a timely manner, commensurate with the risk associated with the issue.

b. Findings and Observations

No findings of significance were identified.

2. Unit 1 Centrifugal Charging Pump 1-01 Gas Binding

a. Inspection Scope

The inspectors performed a detailed review of the licensee's evaluation for the gas binding of the Unit 1 Centrifugal Charging Pump 1-01, which occurred on December 7, 2002. The event was documented on Smart Form 2002-004242-00. The inspectors reviewed the smart form, had discussions with the system engineer, and discussed and analyzed the significance of this event with a regional Senior Reactor Analyst. The inspector's review also included proposed modifications and the

Enclosure

implementation of interim compensatory measures. For more discussion of the event and personnel performance to this nonroutine event see NRC Problem Identification and Resolution Inspection Report 50-445/2003-06; 50-446/2003-06 and the NRC Integrated Inspection Report 50-445/02-05; 50-446/02-05, respectively.

b. Findings and Observations

It was determined that this event had very low safety significance. The inspectors made this determination due to the fact that there were no performance deficiencies involved, no violation of NRC requirements, and no violation of CPSES technical specifications. Given that the safety function of the centrifugal charging pumps at the time of the event, which is to supply seal injection to the reactor coolant pumps, was not lost, the core damage frequency remained unchanged.

The inspectors continued to review the licensee's corrective action, interim and long term, and considered it appropriate and commensurate with the safety significance of the issue.

4OA3 Event Followup

.1 Unit 2 Reactor Trip Due to the Failure of Reactor Coolant Pump 2-04

a. Inspection Scope

On July 9, 2003, at 1:09 a. m., Unit 2 experienced an automatic reactor trip due to the RCP 2-04 motor breaker opening which resulted in low reactor coolant system flow. All safety systems functioned as designed without incident and operators stabilized the unit in Mode 3. The cause for the RCP 2-04 failure was determined to be a degradation of the stator insulation which resulted in a stator phase "B" to ground short in the motor. The inspectors responded to the site; reviewed operator logs, procedure use, and computer printouts; interviewed operators and the shift manager; and walked down the control boards. The licensee's posttrip review package was reviewed in accordance with the procedure Operations Department Administration Manual ODA-108, "Post RPS/ESF Actuation Evaluation," Revision 8.

b. Findings

No findings of significance were identified.

.2 (Closed) Licensee Event Report 445/02-003-00, Auto Start of the CPSES Unit 1 Train B Emergency Diesel Generator

Enclosure

On October 7, 2002, Emergency Diesel Generator 1-02 unexpectedly started as the result of the loss of the 345kV bus caused by switchyard testing activities. As the result of this event, the licensee issued Smart Forms 2002-003376-00 and 2002-003391-00 to address the unexpected start of Emergency Diesel Generator 1-02. Smart Form 2002-003391-00 included a root-cause analysis of the Agastat relay failures. This smart form identified that the relay failures could have been caused by aging and included developing plans to replace the relays. Details of this event and supplement 01 of the licensee event report were reviewed and the results of that review are documented in Section 4OA2c(2) of NRC Inspection Report 50-445/03-06;50-446/03-06. This licensee event report is closed.

.3 (Closed) Licensee Event Report 445;446/02-001-00, Condition Prohibited By Technical Specifications, Emergency Diesel Generators Inoperable While Paralleled To Offsite Power

On September 20, 2002, it was identified that an EDG should be declared inoperable while paralleled to an offsite power source because the single failure criterion of Institute of Electrical and Electronics Engineers Standard 379-1972 would not be satisfied. A scenario which includes safety injection actuation coincident with a loss of offsite power and failure of the emergency diesel generator output breaker to open on demand could result in the EDG under test to carry the loads of the opposite train and the location of the loss of voltage could prevent detection. The licensee determined that the Units 1 and 2 EDGs had been operated in parallel with offsite power on some occasions in the past for a time period greater than the completion time allowed to complete the required actions of Technical Specifications 3.8.1. The licensee determined the cause of the event was the uniqueness of the design and the operating restrictions of the CPSES electrical system not being clearly apparent. Corrective actions included revising the test procedures to declare the EDG inoperable while paralleled to the offsite power source. This violation is more than minor because it represents a failure to perform required actions of a Technical Specification. The violation is considered to have a very low safety significance (Green) using Appendix A, SDP Phase 1 of Manual Chapter 0609 because it affected only the mitigating system cornerstone and did not represent an actual loss of safety function. The enforcement aspects of the violation are discussed in Section 4OA7. This licensee event report is closed.

.4 (Closed) Licensee Event Report 445/03-001-00, Condition Prohibited By Technical Specifications, Unit 1 Train B Residual Heat Removal System Made Inoperable Due To Testing

On October 5, 2002, Train B of the residual heat removal system was unintentionally made inoperable during channel calibration testing of the Low Temperature

Enclosure

Overpressure Protection (LTOP) system. Technical Specification 3.9.6 required that both trains of residual heat removal system be operable for the existing plant conditions. This violation was initially discussed in NRC Inspection Report 50-445;446/02-05 and treated as unresolved item URI 50-445/02-05-01 until the risk significance could be determined. The unresolved item was closed in NRC Inspection Report 50-445;446/02-06 as a Green noncited violation because of its very low safety significance and because it had been entered into the corrective action program as SMF-2002-3317. This licensee event report is closed.

.5 (Closed) Licensee Event Report 445/03-002-00, Reactor Trip due to Loss of Main Feedwater

On March 16, 2003, both Unit 1 main feedwater pumps tripped on low suction pressure due to a trip of Condensate Pump 1-01. Operators manually tripped the Unit 1 reactor. The event and its causes and corrective actions were documented in SMF-2003-754 and the event was discussed in NRC Inspection Report 50-445;446/02-06. The licensee event report was reviewed and no findings of significance were identified. This event did not constitute a violation of NRC requirements. This licensee event report is closed.

.6 (Closed) Licensee Event Report 445;446/03-003-00, Reactor Trip on Units 1 and 2 due to Grid Disturbance

On May 15, 2003, a disturbance on the Comanche Peak - Parker 345kV transmission line approximately 4 miles from the CPSES switchyard resulted in a loss of the 345kV switchyard and subsequent reactor trip of both units. Protective relaying associated with the Comanche Peak - Parker line failed to trip Breaker 8040 to isolate the switchyard from the electrical fault. The event and its causes and corrective actions were documented in SMF-2003-1365 and the event was discussed in NRC Inspection Report 50-445;446/03-02. NRC Inspection Report 50-445;446/03-02 incorrectly described the cause of the grid disturbance as a lightning storm. The licensee ascribed the initiating event to bird contamination from a Blue Heron. The licensee event report was reviewed and no findings of significance were identified. This event did not constitute a violation of NRC requirements. This licensee event report is closed.

40A5 Other Activities

.1 National Nuclear Accrediting Board Final Accreditation Evaluation Report For TXU Energy's Comanche Peak Steam Electric Station

On August 13, 2003, the National Nuclear Accrediting Board renewed the accreditation of the following training programs for Comanche Peak Steam Electric Station:

Enclosure

- Instrument and Control Technician and Supervisor
- Electrical Maintenance Personnel and Supervisor
- Mechanical Maintenance Personnel and Supervisor
- Chemistry Technician
- Radiological Protection Technician
- Engineering Personnel

The inspector reviewed the final accreditation evaluation report for the above programs issued on August 15, 2003. No safety significant issues were identified.

.2 National Nuclear Accrediting Board Final Accreditation Evaluation Report For TXU Energy's Comanche Peak Steam Electric Station

On September 18, 2002, the National Nuclear Accrediting Board renewed the accreditation of the following training programs for Comanche Peak Steam Electric Station:

- Non-Licensed Operator (Plant Equipment Operator)
- Reactor Operator
- Senior Reactor Operator
- Shift Manager
- Shift Technical Advisor
- Continuing Training for Licensed Personnel

The inspector reviewed the final accreditation evaluation report for the above programs issued on October 1, 2002. No safety significant issues were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. J. Kelley, Vice President, Nuclear Engineering and Support, and other members of licensee management on October 16, 2003.

At the conclusion of this meeting, the inspectors asked the licensee's management whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee Identified Violations

Enclosure

The following violation of very low safety significance (Green) 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.

Technical Specification 3.8.1 requires, in part, two diesel generators capable of supplying the onsite Class 1E power distribution subsystems in Modes 1, 2, 3, and 4. LER 445;446/02-001-00 documented that on September 20, 2002, it was identified that an EDG should be declared inoperable while paralleled to the offsite source. The LER also documented that on some occasions in the past the Units 1 and 2 EDGs had been operated in parallel with offsite sources without the required actions of the Technical Specification being performed. Because this violation degraded only the mitigating system cornerstone and did not represent an actual loss of safety function, this violation is not more than of very low significance (Green). This violation has been entered into the corrective action program as SMF-2002-2566 (refer to Section 4OA3).

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

ATTACHMENT  
SUPPLEMENTAL INFORMATION  
KEY POINTS OF CONTACT

Licensee Personnel

M. Blevins, Senior Vice President & Principal Nuclear Officer  
R. Flores, Vice President Operations  
J. Kelley, Vice President, Nuclear Engineering and Support  
D. Moore, Director of Nuclear Engineering  
C. Terry, Senior Vice President & Principal Nuclear Officer  
R. Walker, Manager, Regulatory Affairs

NRC Personnel

NONE

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

NONE

Closed

50-445/02-003-00	LER	Auto Start of the CPSES Unit 1 Train B Emergency Diesel Generator (Section 4OA3)
50-445; 446/02-001-00	LER	Condition Prohibited By Technical Specifications, Emergency Diesel Generators Inoperable While Paralleled To Offsite Power (Section 4OA3)
50-445/03-001-00	LER	Condition Prohibited By Technical Specifications, Unit 1 Train B Residual Heat Removal System Made Inoperable Due To Testing (Section 4OA3)
50-445/03-002-00	LER	Reactor Trip due to Loss of Main Feedwater (Section 4OA3)
50-445; 446/03-003-00	LER	Reactor Trip on Units 1 and 2 due to Grid Disturbance (Section 4OA3)

Discussed

NONE



## LIST OF ACRONYMS

CFR	<i>Code of Federal Regulations</i>
CPSES	Comanche Peak Steam Electric Station
EDG	emergency diesel generator
ESF	engineered safety feature
EVAL	evaluation
FWIV	feedwater isolation valve
NEI	Nuclear Energy Institute
OPT	operability test
QTE	quick turnaround evaluation
RCP	reactor coolant pump
RHR	residual heat removal
SDP	significance determination process
SMF	smart form
SOP	system operating procedure
SSC	structures, systems, or components
TDM	technical data manual