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Ref: 10 CFR 50.73(a)(2)(vii)

CPSES-200203957  
Log # TXX-02209  
File # 10200

December 30, 2002

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

**SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)  
DOCKET NO. 50-445  
INOPERABLE TRAIN/CHANNEL IN SAFETY RELATED SYSTEM  
LICENSEE EVENT REPORT 445/02-004-00**

Gentlemen:

Enclosed is Licensee Event Report (LER) 02-004-00 for Comanche Peak Steam Electric Station Unit 1, "Two Pressurizer Safety Valves Found With Unsatisfactory Lift Setpoints."

This communication contains no new licensing basis commitments regarding CPSES Units 1 and 2.

*IE 22*

A member of the **STARS** (Strategic Teaming and Resource Sharing) Alliance

Callaway • Comanche Peak • Diablo Canyon • Palo Verde • South Texas Project • Wolf Creek

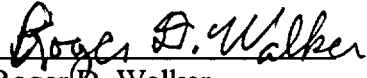
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Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC,  
Its General Partner

C. L. Terry  
Senior Vice President and Principal Nuclear Officer

By:   
Roger D. Walker  
Regulatory Affairs Manager

RJK/clc  
Enclosure

c - E. W. Merschoff, Region IV  
W. D. Johnson, Region IV  
D. H. Jaffe, NRR  
Resident Inspectors, CPSES

NRC FORM 366 (7-2001)			U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB NO. 3150-0104 EXPIRES 07/31/2004					
LICENSEE EVENT REPORT (LER)						Estimated burden per response to comply with this mandatory information collection request 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to <a href="mailto:hs1@nrc.gov">hs1@nrc.gov</a> , and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor and a person is not required to respond to, the information collection.					
Facility Name (1) <b>COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1</b>				Docket Number (2) <b>05000445</b>		Page (3) <b>1 OF 5</b>					
Title (4) <b>TWO PRESSURIZER SAFETY VALVES FOUND WITH UNSATISFACTORY LIFT SETPOINTS</b>											
Event Date (5)			LER Number (6)				Report Date (7)			Other Facilities Involved (8)	
Month	Day	Year	Year	Sequential Number	Revision Number	Month	Day	Year	Facility Name	Docket Numbers	
10	30	02	02	004	00	12	30	02	N/A	05000	
Operating Mode (9)		This report is submitted pursuant to the requirements of 10 CFR (Check all that apply) (11)									
5		20.2201(b)		20.2203(a)(3)(t)		50.73(a)(2)(i)(C)		X		50.73(a)(2)(vii)	
Power Level (10)		20.2201(d)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(A)				50.73(a)(2)(viii)(A)	
0		20.2203(a)(1)		20.2203(a)(4)		50.73(a)(2)(ii)(B)				50.73(a)(2)(viii)(B)	
		20.2203(a)(2)(i)		50.36(c)(2)(i)(A)		50.73(a)(2)(iii)				50.73(a)(2)(ix)(A)	
		20.2203(a)(2)(ii)		50.36(c)(1)(ii)(A)		50.73(a)(2)(iv)(A)				50.72(a)(2)(x)	
		20.2203(a)(2)(iii)		50.36(c)(2)		50.73(a)(2)(v)(A)				73.71(a)(4)	
		20.2203(a)(2)(iv)		50.46(a)(3)(ii)		50.73(a)(2)(v)(B)				73.71(a)(5)	
		20.2203(a)(2)(v)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(C)				OTHER	
		20.2203(a)(2)(vi)		X		50.73(a)(2)(i)(B)				Specify in Abstract below or in NRC Form 366A	
Licensee Contact For This LER (12)											
Name <b>SAILESH LAKDAWALA - ENGINEERING PROGRAMS MANAGER</b>							Telephone Number (Include Area Code) <b>(254)897-6528</b>				
Complete One Line For Each Component Failure Described in This Report (13)											
Cause	System	Component	Manufacturer	Reportable To EPIX		Cause	System	Component	Manufacturer	Reportable To EPIX	
				N							
Supplemental Report Expected (14)							EXPECTED SUBMISSION DATE (15)		Month	Day	Year
YES (If YES, complete EXPECTED SUBMISSION DATE)				X		NO					
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)											
<p>On October 5, 2002, the Pressurizer Safety Valves (PSVs) were removed from the system and shipped off-site to NWS Technologies for surveillance testing in support of the ninth refueling outage on Comanche Peak Unit 1. Testing was performed by the vendor using a procedure designed to comply with ASME/ANSI OM-1987 Part 1 and Westinghouse Owner's Group guidance, using saturated steam as the test medium. Two of the three PSVs failed their as-found lift tests with lift pressures below the Technical Specification (T/S) 3.4.10.1 setpoint of 2485 psig (plus or minus 1% range). These failures resulted in the determination that two independent trains were inoperable in a single safety related system designed to mitigate the consequences of an accident.</p> <p>TXU Energy believes that this event was a result of setpoint drift of a magnitude within the design requirements of the valves. The valves were returned to operable status using normal rework for these components with no further actions planned.</p>											

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		Year 02	Sequential Number 004	Revision Number 00	

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

**I. DESCRIPTION OF THE REPORTABLE EVENT****A. REPORTABLE EVENT CLASSIFICATION**

Any event where a single cause or condition caused at least one independent train or channel to become inoperable in multiple safety related systems or two independent trains or channels to become inoperable in a single safety related system designed to mitigate the consequences of an accident.

**B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT**

On October 30, 2002, Comanche Peak Steam Electric Station (CPSSES) Unit 1 was in Mode 5, making preparations for plant startup after refueling. The Reactor Coolant System (RCS)(EIIIS:(AB)) was at a temperature of approximately 85 degrees Fahrenheit and atmospheric pressure.

**C. STATUS OF STRUCTURES, SYSTEMS, OR COMPONENTS THAT WERE INOPERABLE AT THE START OF THE EVENT AND THAT CONTRIBUTED TO THE EVENT**

There were no inoperable structures, systems, or components that contributed directly to the event.

**D. NARRATIVE SUMMARY OF THE EVENT, INCLUDING DATES AND APPROXIMATE TIMES**

On October 5, 2002, the Pressurizer Safety Valves (PSVs) were removed from the system and were sent off-site to NWS Technologies for surveillance testing in support of the ninth refueling outage on Comanche Peak Unit 1. Testing was performed using a procedure designed to comply with ASME/ANSI OM-1987 Part 1 and Westinghouse Owner's Group guidance, using saturated steam as the test medium.

On October 6, 2002, the as-found lift of PSV 1-8010A was 2436 psig, which is 2.0% below the Technical Specification 3.4.10.1 setpoint of 2485 psig, which specifies a plus or minus 1% range. On October 7, 2002, the as-found lift of PSV 1-8010B was 2446 psig, which is 1.6% below the Technical Specification setpoint. PSV 1-8010C was found with an acceptable setpoint. Both of the unsatisfactory PSVs were reworked by the vendor and the as-left lift pressures were verified to be within Technical Specification limits. The PSVs were

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subsequently returned to CPSES by the vendor and reinstalled in the system.

On October 23, 2002, the PSVs were declared operable by the Shift Manager, based upon a review of the completed surveillance test packages. This review also identified the two as-found surveillance test failures, and the failures were then entered into the Corrective Action Program.

On October 30, 2002, the as-found surveillance testing failures were determined to have been caused by a single condition which caused two independent trains or channels to become inoperable in a single safety related system designed to mitigate the consequences of an accident, a reportable condition under 10CFR50.73(a)(2)(vii).

**E. THE METHOD OF DISCOVERY OF EACH COMPONENT OR SYSTEM FAILURE, OR PROCEDURAL OR PERSONNEL ERROR**

The PSVs were being tested to satisfy the requirements of the CPSES Inservice Testing Plan and to satisfy Technical Specification (TS) surveillance requirements. The unsatisfactory as-found lift setpoints were discovered as the result of this test.

**II. COMPONENT OR SYSTEM FAILURES**

**A. FAILURE MODE, MECHANISM, AND EFFECT OF EACH FAILED COMPONENT**

Not applicable - there were no component failures associated with this event.

**B. CAUSE OF EACH COMPONENT OR SYSTEM FAILURE**

Not applicable - there were no component failures associated with this event.

**C. SYSTEMS OR SECONDARY FUNCTIONS THAT WERE AFFECTED BY FAILURE OF COMPONENTS WITH MULTIPLE FUNCTIONS**

Not applicable - there were no failed components with multiple functions that affected this event.

**D. FAILED COMPONENT INFORMATION**

Not applicable - there were no component failures associated with this event.

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**III. ANALYSIS OF THE EVENT****A. SAFETY SYSTEM RESPONSES THAT OCCURRED**

Not applicable - no safety system responses occurred as a result of this event.

**B. DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY**

The PSVs were initially set to within Technical Specification limits on April 17, 2001, and were considered operable until they were determined to have been inoperable on October 23, 2002. Although the PSV lift set pressures were out of the Technical Specification range, the PSVs were still capable of fulfilling their safety function.

**C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT**

The PSVs operate to prevent the RCS from being pressurized above its Safety Limit of 2735 psig. Each PSV is designed to relieve 420,000 pounds per hour of saturated steam at the valve set pressure.

The adequacy of the PSVs to perform the overpressure protection function is demonstrated in the accident analyses by assuming that the valves do not fully open until the pressure has increased to 3% over the nominal set pressure. The potential adverse effects associated with premature PSV opening at pressures as low as 5% below the nominal set pressure, potentially resulting in interaction with the Pressurizer PORVs, have also been considered. The CPSES Unit 1 as-found PSV set pressures were within the analyzed range of +3/-5% about the nominal set pressure, therefore, the assumptions of the accident analyses remain valid. In addition, the actual relief capacities of the PSVs were not affected, and the PSVs would have fulfilled their overpressure protection function with the PSVs opening slightly lower than the set pressure.

In conclusion, although these Unit 1 PSVs did not meet the setpoint criteria required by the CPSES Technical Specifications by a narrow margin, the functional capacity of these PSVs was not affected. During the time period these PSVs were in service with the potential for set pressure drift, there were no plant events which challenged the PSVs. Based on the foregoing, it is concluded that the health and safety of the public was unaffected.

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**IV. CAUSE OF THE EVENT**

Based on a failure analysis evaluation, performed by CPSES Engineering Programs personnel based on experience with these valves, the root cause was determined to be setpoint drift. A specific cause of the setpoint drift could not be determined. The test results were within the 3% acceptance range of ASME/ANSI OM-1987 Part 1. Per past discussions with the valve vendor, deviations within this range are within the design requirements of the valve and do not indicate a material problem with the valves. This conclusion is further supported by the fact that the valves demonstrated satisfactory test results after adjustment.

**V. CORRECTIVE ACTIONS**

Maintenance was performed by the vendor on both PSVs before retesting in order to restore them to the required lift setpoints. On October 23, 2002, the required surveillances were completed satisfactorily, with all three PSVs being tested satisfactorily to state-of-the-art requirements identified through the Westinghouse Owners Group program.

**VI. PREVIOUS SIMILAR EVENTS**

Three previous similar events have been reported for CPSES pursuant to 10CFR50.73(a)(2)(vii), LER 445/91-026 on Unit 1, LER 446/94-018 on Unit 2, and LER 445/96-08 on Unit 1.

The initial event, LER 445/91-026, resulted from use of an inadequate test method, while the two subsequent events were a result of setpoint drift of a magnitude within the design requirements of the valves, similar to the current event.