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Ref: 10CFR50.73(a)(2)(i)(B)

CPSES-200302511
Log # TXX-03194
File # 10010

December 23, 2003

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NO. 50-446
CONDITION PROHIBITED BY TECHNICAL SPECIFICATIONS
LICENSEE EVENT REPORT 446/03-003-00

Gentlemen:

Enclosed is Licensee Event Report (LER) 03-003-00 for Comanche Peak Steam Electric Station Unit 2, "Spray Additive System Inoperable Due to Mispositioned Valves."

This communication contains the following new commitments which will be completed as noted:

Commitment Number
27303

Commitment
The applicable Operations procedures will be revised as required to provide additional information on the operation of "knocker" type valves.

27304

Operations will also provide training during the upcoming training cycle on the specifics of this event.

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JE22

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The commitment number is used by TXU Generation Company LP for the internal tracking of CPSES commitments.

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC,
Its General Partner



Mike Blevins


GLM/gm

Enclosure

c: B. S. Mallett, Region IV
W. D. Johnson, Region IV
M. C. Thadani, NRR
Resident Inspectors, CPSES

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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 bjs1@nrc.gov, 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) COMANCHE PEAK STEAM ELECTRIC STATION UNIT 2							Docket Number (2) 05000446			Page (3) 1 OF 6				
Title (4) CONDITION PROHIBITED BY TECHNICAL SPECIFICATIONS														
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				
11	02	03	03	003	00	12	23	03	N/A	05000				
Operating Mode (9)		This report is submitted pursuant to the requirements of 10 CFR : (Check all that apply) (11)												
1		20.2201(b)			20.2203(a)(3)(i)			50.73(a)(2)(i)(C)		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)				
77		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)			50.73(a)(2)(v)(D)		Specify in Abstract below or in NRC Form 366A				
Licensee Contact For This LER (12)														
Name Tim Hope - Regulatory Performance Manager							Telephone Number (Include Area Code) 254-897-6370							
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 November 2, 2003, Comanche Peak Steam Electric Station Unit 2 was in Mode 1, Power Operation, operating at approximately 77 percent power. At 0934 hours, Operations personnel discovered that two valves in the Containment Spray system were mispositioned. With these valves mispositioned, the Spray Additive system was determined to have been inoperable for a period of time longer than allowed by the Technical Specifications.</p> <p>TXU Generation Company LP (TXU Energy) believes that the cause of this event was the lack of specific training and procedural guidance for verifying the status of valves with a remote "knocker" operating mechanism. This type of valve has a Roto-Hammer impactor and bridle fitted to the valve stem. Corrective actions include verification of the position of other similar valves, Operations procedure revisions, and training of Operations personnel on the specifics of this event.</p> <p>All times in this report are approximate and Central Standard Time unless noted otherwise.</p>														

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

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

Any operation or condition prohibited by the plant's Technical Specifications.

B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT

On November 2, 2003, Comanche Peak Steam Electric Station (CPSES) Unit 2 was in Mode 1, Power Operation, operating at approximately 77 percent power following the Unit 2 seventh refueling outage.

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 were inoperable at the start of the event that contributed to the event.

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

On October 21, 2003, CPSES Unit 2 was in Mode 6, Refueling Operation, during the Unit 2 seventh refueling outage. Plant Equipment Operators (utility, non-licensed) removed clearance 2-03-01277, which involved placing two Containment Spray system valves (2CT-0030 and 2CT-0034) [EIS:(BE)(V)] in the open position. The sequence outlined for removing the clearance was to first release 2CT-0030 and 2CT-0034 locally in the closed position and then, at the remote operator [EIS:(BE)(VOP)], place the two valves in the open position.

One of the Plant Equipment Operators (PEO 1) released valves 2CT-0030 and 2CT-0034 locally in the closed position and the other Plant Equipment Operator (PEO 2) performed the independent verification. Then, at the remote operator location, PEO 1 attempted to manipulate the valves to the open position, but noticed that the tee handle did not move much. PEO 1 stopped and questioned PEO 2 about this unanticipated condition. PEO 2 checked the valves locally to verify their open position status and recognized that the valves had a "knocker" type operating mechanism. Valves 2CT-0030 and 2CT-0034 have a Roto-Hammer impactor and bridle fitted to the valve stem, and Operations personnel typically refer to this type of mechanism as a "knocker." Remote operation for these type valves is performed using a tee handle, and the handle normally rotates about 180 degrees before engaging the "knocker" mechanism.

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At the local position, PEO 2 attempted "knocking" the valves in the open direction, but felt some resistance and convinced himself the valves were in their open position. Both PEOs then incorrectly stasured valves 2CT-0030 and 2CT-0034 position as open on clearance 2-03-01277. It should be noted that PEO 1 had not previously remotely operated a valve with a "knocker" mechanism.

On October 24, 2003, CPSES Unit 2 was in Mode 5, Cold Shutdown, during the Unit 2 seventh refueling outage. A Plant Equipment Operator (PEO 3) performed Section 8.1 of procedure OPT-205B, "Train B Containment Spray System Valve Position Verification." At the remote operator for 2CT-0030 and 2CT-0034, the PEO 3 noticed a gap between the open indication and the positioner. Using a tee handle, the PEO 3 moved the remote operator ¼ to ½ turns, felt some resistance, and convinced himself that the valve was open and incorrectly stasured valves 2CT-0030 and 2CT-0034 as open. It should be noted that PEO 3 also had not previously remotely operated a valve with a "knocker" mechanism.

On October 26, 2003 at 0610, CPSES Unit 2 changed from Mode 5, Cold Shutdown, to Mode 4, Hot Shutdown.

On November 2, 2003 at 0900, CPSES Unit 2 was in Mode 1, Power Operation, operating at approximately 77 percent power. A Plant Equipment Operator (PEO 4) was performing Section 8.1 of procedure OPT-205B, Section 8.1 "Train B Containment Spray System Valve Position Verification." At the remote operator location for valves 2CT-0030 and 2CT-0034, the PEO 4 noticed that the valve position indication looked different than indicators he had seen on the other valves being verified. Using a tee handle, PEO 4 attempted to close valve 2CT-0034, but no movement was observed. PEO 4 then attempted to open valve 2CT-0034 and observed some movement. PEO 4 locally checked the valves and noticed that the valves had a "knocker" type operating mechanism. Because of the unanticipated condition, PEO 4 contacted the Control Room and at 0934 valves 2CT 0030 and 2CT-0034 were determined to be in the closed position and the Spray Additive system was declared inoperable. With valves 2CT-0030 and 2CT-0034 closed, one of the four chemical eductor [EIS:(BE)(EDR)] flow paths was isolated which rendered the Spray Additive system inoperable. Operations personnel (utility, licensed) opened valves 2CT-0030 and 2CT-0034 and at 1005 the operability of the Spray Additive system was restored. It should be noted that PEO 4 had previously operated valves with a "knocker" mechanism.

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

A Plant Equipment Operator (utility, non-licensed) discovered during the performance of a Containment Spray System Valve Position Verification procedure that two valves in the Containment Spray system were mispositioned.

II. COMPONENT OR SYSTEM FAILURES**A. FAILURE MODE, MECHANISM, AND EFFECTS OF EACH FAILED COMPONENT**

Not applicable – No component or system failures were identified during this event.

B. CAUSE OF EACH COMPONENT OR SYSTEM FAILURE

Not applicable – No component or system failures were identified during this event.

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

Not applicable – No component or system failures were identified during this event.

D. FAILED COMPONENT INFORMATION

Not applicable – No component or system failures were identified during this event.

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 Spray Additive system was inoperable from 0610 hours on October 26, 2003 until 1005 hours on November 2, 2003 (a total of 171 hours and 55 minutes).

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C. SAFETY CONSEQUENCES AND IMPLICATIONS

The Containment Spray (CT) System is an Engineered Safety Feature (ESF) system specifically designed to mitigate the consequences of a loss-of-coolant accident (LOCA), a main steam line break, or feedwater line break inside the Containment. Also, the CT System has a chemical addition system. The Spray Additive system is used to raise pH in the containment sumps to a level more conducive to absorption and retention of radioactive iodine. Raising the pH in the sumps also reduces corrosion of components located in Containment following an accident condition, which minimizes hydrogen production.

The CT System has two redundant trains, with each train provided with two 50 percent capacity pumps. Each pump has a chemical eductor which uses the CT pump discharge pressure as the motive force to deliver sodium hydroxide to the suction of the CT pump. The sodium hydroxide solution is stored in one chemical additive tank which supplies both trains.

If a LOCA or high energy line break were to occur in the containment and the HI-3 containment pressure was reached, the CT system would automatically transfer to the injection mode of operation. The chemical additive tank motor operated outlet valves would open and the chemical eductors would begin pulling the concentrated chemicals from the tank and injecting them into the suction of its associated pump. Once the low level is reached in the chemical addition tank, the chemical addition tank motor operated outlet valves would close, terminating the chemical injection. The sodium hydroxide addition may continue during the recirculation phase.

During this condition, one chemical eductor was inoperable due to the closure of valves 2CT-0034 and 2CT-0030. Had an actual event occurred while the two valves were closed which required the Spray Additive system to perform the safety function described above, the other three chemical eductors and flow paths were operable and available to allow the injection of the sodium hydroxide solution at sufficient levels to fulfill the system safety function. Therefore, there were no safety system functional failures associated with this event.

Based on the above analysis it was concluded that this event did not adversely affect the safe operation of CPSES Unit 2 or the health and safety of the public.

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IV. CAUSE OF THE EVENT

TXU Generation Company LP (TXU Energy) believes that the cause of this event was the lack of specific training and procedural guidance for verifying the status of valves with a remote "knocker" operating mechanism.

V. CORRECTIVE ACTIONS

Upon discovery, Operations personnel immediately opened valves 2CT-030 and 2CT-034, restoring the Spray Additive system to an operable status. Shift Operations issued a Lessons Learned to Shift Operations personnel outlining the specifics of this event and immediate notification to department personnel was made by adding an entry into the Shift Orders. Also, a position verification lineup was performed on similar remotely operated "knocker" valves in Units 1 and 2 to confirm that the valves were in the correct position. No other mispositioned valves were identified.

The applicable Operations procedures will be revised as required to provide additional information on the operation of "knocker" type valves. Operations will also provide training during the upcoming training cycle on the specifics of this event.

VI. PREVIOUS SIMILAR EVENTS

There have been no previous similar events in the last three years.