



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

CPSES-200500005
Log # TXX-05002

January 21, 2005

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 446/04-003-00

Gentlemen:

Enclosed is Licensee Event Report (LER) 04-003-00 for Comanche Peak Steam
Electric Station Unit 2, "Containment Pressure Channel Inoperable Due to a
Secondary Ground."

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

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

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

JE22

TXX-05002

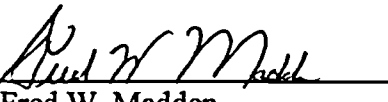
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Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC,
Its General Partner

Mike Blevins

By: 
Fred W. Madden
Director, Regulatory Affairs

GLM

Enclosures

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

NRC FORM 366 (6-2004)				U.S. NUCLEAR REGULATORY COMMISSION				APPROVED BY OMB NO. 3150-0104 Estimated burden per response to comply with this mandatory 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 and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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 an 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.											
LICENSEE EVENT REPORT (LER)																			
Facility Name (1) COMANCHE PEAK STEAM ELECTRIC STATION UNIT 2												Docket Number (2) 05000446				Page (3) 1 OF 6			
Title (4) CONTAINMENT PRESSURE CHANNEL INOPERABLE DUE TO A SECONDARY GROUND																			
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	23	04	04	003	00	01	21	05	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)					
100		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 Specify in Abstract below or in NRC Form 366A					
		20.2203(a)(2)(vi)				X 50.73(a)(2)(i)(B)				50.73(a)(2)(v)(D)									
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									
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 23, 2004, Comanche Peak Steam Electric Station Unit 2 was in Mode 1, Power Operation, operating at approximately 100 percent power. On November 23, Engineering personnel determined that one of the four Engineered Safety Feature Actuation System (ESFAS) intermediate range containment pressure channels had been inoperable for a period of time longer than allowed by the Technical Specifications.</p> <p>TXU Generation Company LP (TXU Power) believes that this event was caused by a secondary ground in the junction box associated with the pressure transmitter. Corrective actions include cleaning and rerouting the affected cable shield wire and identification and inspection of any other potential similar conditions.</p> <p>All times in this report are approximate and Central Standard Time unless noted otherwise.</p>																			

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		Year	Sequential Number	Revision Number	
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 2	05000446	04	003	00	2 OF 6

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 23, 2004, at the time of discovery for this reportable event, Comanche Peak Steam Electric Station (CPSES) Unit 2 was in Mode 1, Power Operation, operating at approximately 100 percent power.

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 to the event.

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

On August 5, 2004, CPSES Unit 2 was in Mode 1, Power Operation, operating at approximately 100 percent power. At 0755 hours, Operators in the Unit 2 Control Room received a computer point deviation alarm on one of the four Engineered Safety Feature Actuation System (ESFAS) intermediate range containment pressure channels (channel 2-P-0935) [EHS:(JE)(CHA)]. At that time, the channel was found to be reading approximately 2.0 psig low with respect to the other channels. Over the next 25 hours, channel 2-P-0935 acted erratically and failed to track the other three containment pressure channels. The channel deviations during this time ranged from approximately 5.0 psig low to approximately 1.0 psig low.

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

On August 6, 2004, at 0900 hours Engineering was contacted for assistance in troubleshooting the deviation problem with channel 2-P-0935. At that time, Engineering suggested that a Channel Operational Test (COT) be performed to ascertain the channel's operability. The COT established that the bistable set points for the High 1, High 2, and High 3 activations were well within the calibration range. However, upon restoration of the loop from the COT, channel 2-P-0935 did not return to a normal reading when compared to the other containment pressure channels. At 1030 hours, the channel was left in bypass and Technical Specification (TS) 3.3.2. Condition D was entered. This TS requires that an inoperable channel be placed in bypass or trip within 6 hours or the affected Unit must be in Mode 3 within 12 hours and Mode 4 within 18 hours.

Troubleshooting activities by Maintenance personnel on August 6, 2004 lead to the discovery of a grounded shield wire condition in the junction box associated with the pressure transmitter [EHS:(JE)(CHA)(PT)]. At 1506 hours this condition was corrected and the loop was restored to service, with normal containment pressure indications.

On August 10, 2004, Engineering began an evaluation to determine if channel 2-P-0935 had been inoperable while the grounded shield wire condition existed. On November 23, 2004, Engineering completed the evaluation and determined that channel 2-P-0935 had been inoperable from 0755 on August 5, 2004 to 1506 on August 6, 2004, for a total of 31 hours and 11 minutes. This exceeded the TS completion time of 12 hours to be in Mode 3. Therefore, a reportable violation of Technical Specifications occurred.

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

Engineering personnel (utility, non-licensed) determined that channel 2-P-0935 had been inoperable for longer than allowed by TS.

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

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

Engineering determined that intermediate range containment pressure channel 2-P-0935 was inoperable from 0755 hours on August 5, 2004, until 1506 hours on August 6, 2004 (a total of 31 hours and 11 minutes).

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

C. SAFETY CONSEQUENCES AND IMPLICATIONS

The containment pressure sensing channels are necessary for the Safety Injection (SI), Main Steam Line Isolation (MSLI), and Containment Spray (CT) ESFAS functions. For the SI and MSLI functions, three of the channels are used with a 2 out of 3 logic. For the CT function, four channels are employed with a 2 out of 4 logic. The additional redundancy is added for system reliability due to the CT function being an "energize to trip" design.

During the 31 hours and 11 minutes that channel 2-P-0935 was inoperable, no event occurred that required the SI or MSLI actuations on high containment pressure. Had the SI and MSLI actuations been necessary, it is highly likely that the 2 out of 2 logic would have been satisfied. Even though the trip function is not single failure proof in this configuration, these channels are highly reliable with little history of failure. In addition, the SI or MSLI actuations could have been initiated from other diverse indications, such as low pressurizer pressure or low compensated steam line pressure.

If a parameter is used only for input to the protection circuits, three channels with a 2 out of 3 logic are sufficient to provide the required reliability and redundancy. If one channel fails in a direction that would not result in a partial function trip, the function is still operable with a 2 out of 2 logic. Therefore, the CT function would still have been satisfied with a 2 out of 3 logic, including the potential for a single failure of one channel.

As discussed above, no event requiring a SI, MSLI, or CT actuation actually occurred. The SI and MSLI functions are backed up by other diverse indications that would have initiated equivalent mitigative functions. Finally, it is highly likely that any required SI, MSLI, and CT actuations would still have occurred, even with the inoperable channel. Therefore, no safety system functional failures occurred.

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

IV. CAUSE OF THE EVENT

TXU Power believes that this event was caused by a secondary ground in the junction box associated with the pressure transmitter. The expansion anchors, securing the junction box to the reactor building wall, were found to be exuding a white, mineral-rich liquid from the concrete. This liquid had over time dripped on the cable shield at the bottom of the junction box. The built up mineral deposits produced a current path to ground, essentially causing the shield for one of the cables to be grounded at both ends. This caused a grounding loop, which lead to the intermittent erroneous indications.

V. CORRECTIVE ACTIONS

This condition was corrected and the loop was restored to service, with normal containment pressure indications. Per the CPSES Corrective Action Program, Engineering will review other potential locations where this condition may exist and inspect those locations for the existence of this condition as appropriate.

VI. PREVIOUS SIMILAR EVENTS

There has been one other reportable event in the last three years involving channel 2-P-0935 being inoperable (see Unit 2 LER 2003-004-00). However, the cause of that event (random electronic failure) was sufficiently different from the event described in this LER such that the previous corrective actions could not have prevented this event.