



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

CPSSES-200302512
Log # TXX-03197
File # 10010

December 22, 2003

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSSES)
DOCKET NO. 50-446
CONDITION PROHIBITED BY TECHNICAL SPECIFICATIONS
LICENSEE EVENT REPORT 446/03-004-00

Gentlemen:

Enclosed is Licensee Event Report (LER) 03-004-00 for Comanche Peak Steam Electric Station Unit 2, "Containment Pressure Channel Inoperable Due to Random Electronic Failure."

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

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC,
Its General Partner

A handwritten signature in black ink that reads "Mike Blevins".

Mike Blevins

GLM/gm

Enclosure

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

IE22

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

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NRC FORM 366 (7-2001)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 07/31/2004 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.
LICENSEE EVENT REPORT (LER)		

Facility Name (1) COMANCHE PEAK STEAM ELECTRIC STATION UNIT 2	Docket Number (2) 05000446	Page (3) 1 OF 5
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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	05	03	03	004	00	12	22	03	N/A	05000
										05000

Operating Mode (9)	1	This report is submitted pursuant to the requirements of 10 CFR : (Check all that apply) (11)							
Power Level (10)	99		20.2201(b)	20.2203(a)(3)(i)	50.73(a)(2)(i)(C)	50.73(a)(2)(vii)			
		20.2201(d)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(A)				
		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)					
	20.2203(a)(2)(vi)	X 50.73(a)(2)(i)(B)	50.73(a)(2)(v)(D)	OTHER					
					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
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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
X	JE	CHA	W						

Supplemental Report Expected (14)

YES (If YES, complete EXPECTED SUBMISSION DATE)	X	NO	EXPECTED SUBMISSION DATE (15)	Month	Day	Year

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On November 5, 2003, Comanche Peak Steam Electric Station Unit 2 was in Mode 1, Power Operation, operating at approximately 99 percent power. At 0950 hours, Operations personnel discovered 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.

TXU Generation Company LP (TXU Energy) believes that this event was caused by a random electronic failure in a power supply circuit card for an ESFAS intermediate range containment pressure channel. Corrective actions include replacement of the failed power supply circuit card and installation of a deviation alarm.

All times in this report are approximate and Central Standard Time unless noted otherwise.

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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 5, 2003, Comanche Peak Steam Electric Station (CPSES) Unit 2 was in Mode 1, Power Operation, operating at approximately 99 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 November 5, 2003, CPSES Unit 2 was in Mode 1, Power Operation, operating at approximately 99 percent power following the Unit 2 seventh refueling outage. During routine control board [EIS:(NA)(MCBD)] observations, Operators (utility, licensed) in the Unit 2 Control Room noted that one of the four Engineered Safety Feature Actuation System (ESFAS) intermediate range containment pressure channels (channel 2-P-0935) [EIS:(JE)(CHA)] was reading approximately 0.7 psig low with respect to the other channels. At 0950, the channel was declared inoperable per Technical Specification (TS) 3.3.2. This TS requires that the 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. Review of the plant computer data indicated that the affected channel had been inoperable from 0530 on November 3, 2003 to 1042 on November 5, 2003, for a total of 53 hours and 12 minutes. This exceeded the TS completion time of 12 hours to be in Mode 3. Therefore, a reportable violation of Technical Specifications occurred.

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

Operations personnel (utility, licensed) discovered during routine control board observations and review of plant computer data that intermediate range containment pressure channel 2-P-0935 was inoperable.

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

Intermediate range containment pressure channel 2-P-0935 failed reading low (approximately 0.7 psig).

B. CAUSE OF EACH COMPONENT OR SYSTEM FAILURE

Intermediate range containment pressure channel 2-P-0935 failed reading low due to a degraded power supply circuit card. The failure of the power supply circuit card was determined to be a random electronic component failure.

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

Failure of intermediate range containment pressure channel 2-P-0935 affects the Safety Injection (SI), Containment Spray (CT), and Main Steam Line Isolation (MSLI) ESFAS functions.

D. FAILED COMPONENT INFORMATION

Manufacturer – Westinghouse
Model – NLP Card Group 2, serial number 803561

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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

Based on review of plant computer data, intermediate range containment pressure channel 2-P-0935 was found to have been inoperable from 0530 hours on November 3, 2003 until 1042 hours on November 5, 2003 (a total of 53 hours and 12 minutes).

C. SAFETY CONSEQUENCES AND IMPLICATIONS

The containment pressure sensing channels are necessary for the SI, MSLI, and 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" function.

During the 53 hours, 12 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.

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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.

IV. CAUSE OF THE EVENT

TXU Energy believes that this event was caused by a random electronic failure in a power supply circuit card for an ESFAS intermediate range containment pressure channel. Once per shift, the maximum deviation between operable intermediate range containment pressure channels is verified to be ≤ 3.0 psig. However, this verification was performed four times without the failed channel being discovered. This was due to the design of the indicating gauge on the Main Control Board not providing a large amount of resolution in the negative pressure region. This lack of resolution contributed to the failure to detect that the failed channel was reading approximately 0.7 psig low.

V. CORRECTIVE ACTIONS

The failed power supply circuit card was replaced. As a part of the CPSES Corrective Action Program, Engineering will add a computer alarm for channel deviation between the four intermediate range pressure loops. This alarm will allow Operators to more easily identify this type of channel failure.

VI. PREVIOUS SIMILAR EVENTS

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