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Ref: 10CFR50.73(a)(2)(iv)(A)

CPSES-200400191
Log # TXX-04004

February 20, 2004

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NO. 50-446
ACTUATION OF REACTOR PROTECTION SYSTEM
LICENSEE EVENT REPORT 446/03-005-00

Gentlemen:

Enclosed is Licensee Event Report (LER) 03-005-00 for Comanche Peak Steam Electric Station Unit 2, "Stroboscope Assembly Falls Into Rectifier Wheel Causing a Reactor Trip."

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

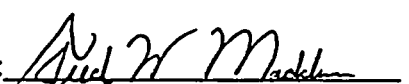
IE22

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC,
Its General Partner

Mike Blevins

By: 
Fred W. Madden
Nuclear Licensing Manager

GLM/gm

Enclosures

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

Enclosure to TXX-04004

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)	Docket Number (2)	Page (3)
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 2	05000446	1 OF 5

Title (4)
ACTUATION OF REACTOR PROTECTION SYSTEM

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
12	22	03	03	005	00	02	20	04	N/A	05000
										05000

Operating Mode (9): 1
Power Level (10): 99.5

This report is submitted pursuant to the requirements of 10 CFR : (Check all that apply) (11)

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)	X 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)	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	Telephone Number (Include Area Code)
Tim Hope - Regulatory Performance Manager	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)

On December 22, 2003, Comanche Peak Steam Electric Station (CPSES) Unit 2 was in Mode 1 operating at 99.5 percent power. At 0827 hours, during collection of voltage and current data readings from the operating 2-01 Main Generator rotor, a stroboscope lamp reflector assembly was inadvertently contacted, became dislodged, and migrated into the rectifier wheel. This caused a phase to phase fault in the Main Generator exciter which resulted in a Main Turbine trip followed by an automatic reactor trip.

TXU Generation Company LP (TXU Energy) believes that the cause of the event was improper reassembly of the stroboscope. Corrective actions include enhancing the work instructions for disassembly and reassembly of stroboscopes and issuing a Lessons Learned on this event to personnel that are regularly involved in Main Generator work.

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

LICENSEE EVENT REPORT (LER)

Facility Name (1)	Docket	LER Number (6)					Page(3)
		Year		Sequential Number		Revision Number	
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 2	05000446	03	—	005	—	00	2 OF 5

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

I. DESCRIPTION OF REPORTABLE EVENT

A. REPORTABLE EVENT CLASSIFICATION

Any event or condition that resulted in manual or automatic actuation of the Reactor Protection System (RPS) including reactor trip or reactor scram.

B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT

On December 22, 2003, Comanche Peak Steam Electric Station (CPSES) Unit 2 was in Mode 1, Power Operation, operating at 99.5 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 December 22, 2003, Comanche Peak Steam Electric Station (CPSES) Unit 2 was in Mode 1 operating at 99.5 percent power. At 0827 hours, a Meter and Relay Technician (utility, non-licensed) entered the Main Generator exciter house [EIIS: (TB)(IX)(ENCL)] to collect monthly voltage and current data readings from the operating 2-01 Main Generator rotor shaft. This activity requires a technician to use a hand-held probe for making contact with the Main Generator rotor shaft. The probe is constructed from a wooden dowel approximately four feet long with a metallic contact and meter leads affixed to one end. Following procedure instructions, the technician contacted the shaft with the probe and successfully acquired the voltage and current data.

Upon completing the task, the technician turned to exit the exciter house. As he turned he inadvertently struck the "A" stroboscope assembly with the probe. The "A" stroboscope is located on the rotating rectifier wheel [EIIS: (TB)(RECT)] air guide cover directly adjacent to the position from which the data is acquired. When the stroboscope assembly was struck, the lamp reflector separated from the stroboscope assembly, falling approximately eighteen inches and into the "A" (negative) rectifier wheel.

Contact between the lamp reflector, exposed circuit elements (fuses, diodes, and diode leads) of the rectifier wheel, and the rectifier wheel casing resulted in sparks and phase-to-phase faults. The phase-to-phase faults in the Main Generator exciter resulted in a Main Turbine trip followed by an automatic reactor trip on a "Turbine Trip >50% Power" signal. All control rods fully inserted, all Auxiliary Feedwater pumps [EIIS: (BA)(P)] automatically started as expected, and the unit was stabilized in Mode 3.

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

Operators (utility, licensed) in the Unit 2 Control Room received a "Turbine Trip >50% Power" alarm.

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.

LICENSEE EVENT REPORT (LER)

Facility Name (1)	Docket	LER Number (6)					Page(3)
		Year		Sequential Number		Revision Number	
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 2	05000446	03	—	005	—	00	4 OF 5

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

III. ANALYSIS OF THE EVENT

A. SAFETY SYSTEM RESPONSES THAT OCCURRED

The Reactor Protection System and The Auxiliary Feedwater System actuated during the event. The Unit 2 reactor automatically tripped on a "Turbine Trip >50% Power" signal, and all three Auxiliary Feedwater pumps automatically started on "Steam Generator Lo-Lo water level" signals.

B. DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY

Not applicable -- No safety system train was rendered inoperable.

C. SAFETY CONSEQUENCES AND IMPLICATIONS

This event is specifically bounded by the Final Safety Analysis Report (FSAR) accident analysis of the turbine trip presented in Section 15.2.3 of the CPSES FSAR. The analysis uses conservative assumptions to demonstrate the capability of pressure relieving devices and to demonstrate core protection margins. The event of December 22, 2003, occurred at 99.5 percent reactor power, and all safety related systems and components functioned as designed. There were no safety system functional failures associated with this event.

Based on the above, it is concluded that the event of December 22, 2003, 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 the cause of the event was improper reassembly of the stroboscope. The stroboscope lamp reflector is mounted to the rotating rectifier wheel air guide cover using four cap screws and retaining clips. Inspection of the "A" stroboscope assembly after this event revealed that all of the cap screws and retaining clips for the lamp reflector were loose, and the retaining clips were not oriented in their normal/design position. The personnel who reassembled the stroboscope did not ensure that the retaining clips were sufficiently tight and oriented as required.

LICENSEE EVENT REPORT (LER)

Facility Name (1)	Docket	LER Number (6)			Page(3)
		Year	Sequential Number	Revision Number	
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 2	05000446	03	005	00	5 OF 5

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

The work instructions for disassembly/reassembly of the stroboscope are generic and nondescript in nature. TXU Energy believes that this vagueness contributed to the personnel error which resulted in the stroboscope being reassembled incorrectly.

V. CORRECTIVE ACTIONS

Access to the Unit 1 and Unit 2 Main Generator exciter houses and monthly collection of rotor voltage and current data on the Unit 1 and Unit 2 Main Generator were suspended. The damaged components in the Unit 2 rectifier wheel were repaired/replaced and the "A" stroboscope assembly was reassembled correctly. The "B" stroboscope assembly was also found to be incorrectly assembled and it was subsequently assembled correctly. Both Unit 1 stroboscopes were inspected and found to be correctly assembled.

As a part of the CPSES corrective action program, the following actions will be taken to prevent recurrence:

1. The work instructions for disassembly and reassembly of stroboscopes will be enhanced.

2. Other turbine work instructions that may have a similar potential to cause a reactor trip will be reviewed, and enhancements will be implemented as appropriate.

3. To heighten awareness of this event, a Lessons Learned will be issued on this event to all personnel that are regularly involved in Main Generator work.

VI. PREVIOUS SIMILAR EVENTS

There have been other events which resulted in a turbine trip followed by an automatic reactor trip. However, the causes of those events were sufficiently different such that the previous corrective actions could not have prevented this event.