



TXU Energy
Comanche Peak Steam
Electric Station
P.O. Box 1002 (E01)
Glen Rose, TX 76043
Tel 254 897 8920
Fax: 254 897 6652
lance.terry@txu.com

C. Lance Terry
Senior Vice President &
Principal Nuclear Officer

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

CPSES-200203917
Log # TXX-02182
File # 10010

December 5, 2002

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

**SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NO. 50-445
ACTUATION OF SPECIFIED SYSTEM:
EMERGENCY DIESEL GENERATOR
LICENSEE EVENT REPORT 445/02-003-00**

Gentlemen:

Enclosed is Licensee Event Report (LER) 02-003-00 for Comanche Peak Steam Electric Station Unit 1, "Auto start of the CPSES Unit 1 train B emergency diesel generator."

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

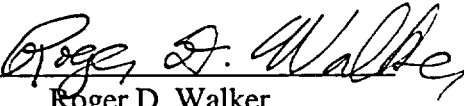
JB22

TXX-02182
Page 2 of 2

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

JDS/js

Enclosures

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

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 bjl1@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 1	Docket Number (2) 05000445	Page (3) 1 OF 5
---	--------------------------------------	---------------------------

Title (4)
AUTO START OF THE CPSES UNIT 1 TRAIN B EMERGENCY DIESEL GENERATOR

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	07	02	02	003	00	12	05	02	CPSES UNIT 2	05000446 05000	

Operating Mode (9)	6	This report is submitted pursuant to the requirements of 10 CFR (Check all that apply) (11)									
Power Level (10) 0		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)(vii)(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 Jeffrey LaMarca - System Engineering Smart Team 3 Manager	Telephone Number (Include Area Code) (254)897-6688
--	--

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)

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 October 07, 2002, at 0936, during testing of a 345 KV switchyard east bus relay, breaker tripping de-energized all Unit 1 6.9KV non-safeguards electrical busses and caused the Unit 1 6.9KV safeguards busses to transfer to the alternate power source. During the bus transfer to the alternate power supply, the Unit 1 train B emergency diesel generator (1-02) unexpectedly auto started.

At the time, Unit 1 was in Mode 6 with the reactor cavity water level > 23 feet above the vessel flange and core off-load in progress. Refueling communications were lost as a result of the power interruption, core off-load was suspended, and all switchyard work was halted. Non-safeguards plant power was restored at 1112 and core off-load resumed at 1319. Unit 2 remained at full power during this event and was unaffected. All times in this report are approximate and Central Daylight Time unless noted otherwise.

LICENSEE EVENT REPORT (LER)

Facility Name (1) COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1	Docket 05000445	LER Number (6)			Page(3) 2 OF 5
		Year 02	Sequential Number 003	Revision Number 00	

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

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

An event or condition that resulted in valid actuation of any system listed in 10CFR50.73 (b)(3)(iv)(B). Specifically, an emergency diesel generator automatically started.

B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT

On October 7, 2002, Comanche Peak Steam Electric Station (CPSES) Unit 1 was in Mode 6 with the reactor cavity water level > 23 feet above the vessel flange. Core off-load was in progress with approximately one third of the core off-loaded. Core decay heat was being removed by train B of the Residual Heat Removal system. Unit 2 remained at power throughout the event.

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 October 07, 2002, at 0936, during 345 KV switchyard east bus relay testing, an unexpected pickup of a relay contact occurred which tripped breakers resulting in de-energizing Unit 1 6.9KV non-safeguards electrical busses and caused the Unit 1 6.9KV safeguards busses to transfer to the alternate power source. The Unit 1 train B emergency diesel generator (EIS:(DG)) 1-02 unexpectedly auto started while, as designed, the bus re-energized to station transformer XST1. Both Spent Fuel Pool pumps and the operating Residual Heat Removal pump were tripped. The blackout sequencer (BOS) actuated which caused several components to load shed and others to auto re-start as designed. The fuel assemblies in transit were secured in safe locations and core alterations were stopped. The plant operators responded to the loss of normal power to the train B bus and restored equipment shed from the busses by the momentary undervoltage condition.

LICENSEE EVENT REPORT (LER)

Facility Name (1) COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1	Docket 05000445	LER Number (6)			Page(3) 3 OF 5
		Year 02	Sequential Number 003	Revision Number 00	

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

Residual Heat Removal (RHR) shutdown cooling was restored on the train B RHR pump at 0944 and Spent Fuel Pool cooling restored at 0946. The batteries normally providing backup DC power to the normal (non-safeguards) breaker controls were undergoing replacement at the time, complicating recovery of the non-safeguards busses. Normal plant power was restored at 1112 and core off-load resumed at 1319.

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

Control board indicators and alarms alerted the Reactor Operator (Utility, Licensed) that the train B emergency diesel generator 1EA2 (EIS:(DG)) auto started.

II. COMPONENT OR SYSTEM FAILURES

A. FAILURE MODE, MECHANISM, AND EFFECTS OF EACH FAILED COMPONENT

The emergency diesel generator auto start in response to the bus transfer was unexpected. Troubleshooting determined that the time delay relay 27-2X/1EA2 (EIS:(2)) was operating erratically.

B. CAUSE OF EACH COMPONENT OR SYSTEM FAILURE

Performance of multiple tests on the time delay relay 27-2X/1EA2 (EIS:(2)) determined that the time delay relay degraded to a point where repeatability was lost.

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

Not applicable -- No failures of components with multiple functions have been identified.

D. FAILED COMPONENT INFORMATION

Manufacturer: Tyco Electronics
Model No. E7012PA004
Agastat relay

LICENSEE EVENT REPORT (LER)

Facility Name (1) COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1	Docket 05000445	LER Number (6)			Page(3) 4 OF 5
		Year 02	Sequential Number 003	Revision Number 00	

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**

Train B Control Room HVAC shifted to emergency recirculation and the BOS actuated during this event. The BOS restarted the B train Station Service Water and Component Cooling Water pumps. Both Spent Fuel Pool pumps and the Residual Heat Removal pump were load shed and were restarted manually.

B. DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY

Not applicable -- No safety system was rendered inoperable

C. SAFETY CONSEQUENCES AND IMPLICATIONS

The blackout sequencer functions to reload the associated 6.9KV safeguards bus in a pre-established sequence following an overcurrent or undervoltage condition on the bus after the bus has been re-energized from the alternate power source or the emergency diesel generator. When the time delay relay 27-2X/1EA2 was slow to pick up, relay 27-2X1/1EA2 picked up and the train B emergency diesel generator started. When the bus re-energized, the BOS began the loading sequence. Even though the emergency diesel generator auto start was not anticipated, evaluation of the event concluded that all other systems operated as designed. Continued cooling of the fuel assemblies in the reactor vessel and in the spent fuel pools was maintained by the large mass of water in the reactor cavity and in the spent fuel pools, respectively. No observable temperature changes occurred in either the refueling cavity or the spent fuel pools. Based on this analysis it was concluded that this event did not adversely affect the safe operation of CPSES Unit 1 or the health and safety of the public.

IV. CAUSE OF THE EVENT

TXU Energy believes that the 27-2X/1EA2 relay was operating erratically, which allowed a second relay, 27-2X1/1EA2, to time out, and started the train B emergency diesel generator.

During testing of the circuitry associated with newly installed lock out relays in the switchyard, the normal supply breakers to safeguards busses 1EA1 and 1EA2 opened. When the voltage on the bus dropped below 2037 volts, time delay relay 27-2X/1EA2 began to time out in order to start a bus transfer to the alternate source. If this bus transfer completes too slowly, then relay 27-2X1/1EA2 is designed to pick up and start the train B emergency diesel generator. The time delay relay 27-2X/1EA2 was found to be operating erratically. TXU Energy believes the 27-2X/1EA2 relay was too

LICENSEE EVENT REPORT (LER)

Facility Name (1) COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1	Docket 05000445	LER Number (6)			Page(3) 5 OF 5
		Year 02	Sequential Number 003	Revision Number 00	

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

slow to pick up allowing the 27-2X1/1EA2 relay to time out as designed, and started the train B emergency diesel generator.

V. CORRECTIVE ACTIONS

The time delay relay 27-2X/1EA2 was replaced with a new relay. The new relay was recalibrated and is within design specifications. Additional relays in associated circuits were checked and found to be functioning within design requirements.

VI. PREVIOUS SIMILAR EVENTS

There have been other events involving the start of an emergency diesel generator. However, details/causes are sufficiently different from the event described in this LER such that the previous corrective actions could not have prevented this event.