

TUELECTRIC

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July 9, 1991

William J. Cahill, Jr.
Executive Vice President

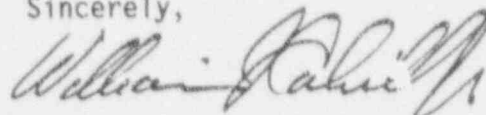
U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NO. 50-445
MANUAL OR AUTOMATIC ACTUATION OF ANY ENGINEERED SAFETY FEATURE
LICENSEE EVENT REPORT 91-019-00

Gentlemen:

Enclosed is Licensee Event Report 91-019-00 for Comanche Peak Steam Electric Station Unit 1, "Engineered Safety Features Actuation Due to Lightning Strike."

Sincerely,



William J. Cahill, Jr.

JAA/bm

c - Mr. R. D. Martin, Region IV
Resident Inspectors, CPSES (2)

JE22

NRC FORM 366		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED OMB NO. 3150-0104 EXPIRES: 4/30/92	
LICENSEE EVENT REPORT (LER)				ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC. 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC. 20503.	
Facility Name (1) COMANCHE PEAK - UNIT 1				Docket Number (2) 015101010415	Page (3) 1 OF 015
Title (4) ENGINEERED SAFETY FEATURE ACTUATION DUE TO LIGHTNING STRIKE					
Event Date (5)		LER Number (6)		Report Date (7)	
Month	Day	Year	Year	Sequential Number	Revision Number
06	09	91	91	0119	010
				Report Date (7) Month Day Year 07 09 91	
				Other Facilities Involved (8) Facility Names N/A Docket Numbers 0151010101 1 1	
				N/A 0151010101 1 1	
Operating Mode (9) 1 This report is submitted pursuant to the requirements of 10 CFR 5. (Check one or more of the following) (11)					
Power Level (10) 11010		20.402(b)		20.405(c) <input checked="" type="checkbox"/>	
		20.405(a)(1)(i)		50.73(a)(2)(iv)	
		20.405(a)(1)(ii)		50.73(a)(2)(v)	
		20.405(a)(1)(iii)		50.73(a)(2)(vi)	
		20.405(a)(1)(iv)		50.73(a)(2)(vii)(A)	
		20.405(a)(1)(v)		50.73(a)(2)(vii)(B)	
		20.405(a)(1)(vi)		50.73(a)(2)(viii)	
		20.405(a)(1)(vii)		50.73(a)(2)(ix)	
Licensee Contact For This LER (12)					
Name T. A. HOPE				Telephone Number 81117 819171-16131710	
Area Code 81117				Telephone Number 819171-16131710	
Complete One Line For Each Component Failure Described in This Report (13)					
Cause	System	Component	Manufacturer	Reportable To NPRDS	
Supplemental Report Expected (14)					Expected Submission Date (15)
<input type="checkbox"/> Yes (If yes, complete Expected Submission Date)					Month Day Year
<input checked="" type="checkbox"/> No					
Abstract (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)					
<p>At 1517 on June 9, 1991, power from the preferred offsite 345kV transmission line was momentarily lost when the transmission line breakers opened, and immediately reclosed, in response to a lightning strike. As a result of the momentary power loss, both safeguards buses transferred to the alternate power supply and both blackout sequencers operated. The Reactor Operator immediately responded to the event in accordance with appropriate procedures and the plant was stabilized at 100 percent power.</p> <p>Evaluation of this event concluded that all safety systems responded appropriately and no specific corrective actions were required. However, a design modification is being made to the switchyard to enhance the reliability of offsite power sources.</p>					

LICENSEE EVENT REPORT (LER) **TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC, 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC, 20503.

Facility Name (1)	Docket Number (2)	LER Number (6)			Page (3)		
COMANCHE PEAK - UNIT 1	01510101415	Year	Sequential Number	Revision Number	012	OF	015
		911	011	9			

Text (If more space is required, use additional NRC Form 366A's) (17)

I. DESCRIPTION OF THE REPORTABLE EVENT

A. REPORTABLE EVENT CLASSIFICATION

An event or condition that resulted in an automatic actuation of any Engineered Safety Feature (ESF) including the Reactor Protection System (RPS)(EIS:(JC)).

B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT

On June 9, 1991, Comanche Peak Steam Electric Station (CPSES) Unit 1 was in Mode 1, Power Operation, operating at 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

Not applicable - no structures, systems or components were inoperable at the start of the event that contributed to the event.

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

At 1517 on June 9, 1991, power from the preferred offsite 345kV transmission line (EIS: (FK)) was momentarily lost when the transmission line breakers (EIS: (BKR)(FK)) opened, and immediately reclosed, in response to a lightning strike. As a result of the momentary power loss, both safeguards buses (EIS: (EA)) transferred to the alternate power supply and both blackout sequencers (EIS:(34)(EA)) operated. The Reactor Operator (RO)(utility, licensed) immediately responded to the event in accordance with appropriate procedures. All safety systems responded as expected.

An event or condition that results in an automatic actuation of any ESF, including the RPS, is reportable within 4 hours under 10CFR50.72(b)(2)(ii). At 1651 on June 9, 1991, the Nuclear Regulatory Commission Operations Center was notified of the event via the Emergency Notification System.

At 1911 on June 9, 1991, with restoration procedures complete, the plant was stable in Mode 1, at 100 percent power.

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Text (if more space is required, use additional NRC Form 366A's) (17)

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

At 1517 on June 9, 1991, numerous alarms were received on the Main Control Board (EHS: (MCBD)(IB)). Subsequent discussion with the Transmission Dispatcher (utility, nonlicensed) revealed that the momentary loss of the preferred 345kV transmission line was due to a lightning strike on the line.

II. COMPONENT OR SYSTEM FAILURES

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

Not applicable - there were no component failures associated with this event.

B. CAUSE OF EACH COMPONENT OR SYSTEM FAILURE

Not applicable - there were no component failures associated with this event.

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

Not applicable - there were no failed components with multiple functions that affected this event.

D. FAILED COMPONENT INFORMATION

Not applicable - there were no component failures associated with this event.

III. ANALYSIS OF THE EVENT

A. SAFETY SYSTEM RESPONSES THAT OCCURRED

The following safety systems actuated automatically as a result of the event. The appropriate components within these systems operated as designed.

LICENSEE EVENT REPORT (LER) **TEXT CONTINUATION**

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Text (If more space is required, use additional NRC Form 306A's) (17)

Chemical and Volume Control (EIS: P1)
Component Cooling Water (EIS:(CC),
Station Service Water (EIS:(BI))
Control Room Heating, Venting, and Air Conditioning (EIS:(VI))
Safety Chilled Water (EIS:(KM))
Auxiliary Feedwater (EIS:(BA))
Emergency Diesel Generators (EIS:(DG)(EK))

B. DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY

Not applicable - there were no safety systems which were rendered inoperable due to a failure.

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

CPSES is interconnected to the offsite power transmission system via physically and electrically independent 138kV and 345kV switchyards. This transmission system ensures that sufficient power will be available to supply the safety-related equipment required for: 1) safe shutdown of the facility, and 2) the mitigation and control of accident conditions within the facility. During this event power was available to safety-related equipment. Consequently, it is concluded that this event did not result in a threat to the safe operation of CPSES Unit 1 or the health and safety of the public.

IV. CAUSE OF THE EVENT

IMMEDIATE CAUSE

The immediate cause of this event is a lightning strike on the preferred offsite 345kV transmission line.

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V. CORRECTIVE ACTIONS

A. IMMEDIATE

The RO responded appropriately and in accordance with the appropriate procedures.

B. CORRECTIVE ACTIONS TO PREVENT RECURRENCE

Immediate Cause

Lightning strike on the preferred offsite 345kV transmission line.

Corrective Action

Evaluation of this event concluded that all safety systems responded appropriately and no specific corrective actions are required. However, as discussed below, actions are being taken to reduce the susceptibility of CPSES to this type of event.

VI. PREVIOUS SIMILAR EVENTS

LER 90-028 involved a lightning strike on containment (EIIS:(NH)), control rod (EIIS: (ROD)(AA)) insertion into the core, and subsequent reactor trip. LEF 91-013 involved the loss of the preferred offsite 345kV transmission line due to an accumulation of bird droppings on the transmission line insulators. In response to these type of problems, a design modification is being made to the CPSES switchyard to enhance the reliability of offsite power sources. Currently startup transformers XST2 (EIIS:(XMFR)(EB)) and 1ST (EIIS:(XMFR)(EA)) are fed directly from the 345kV transmission line. Following the modification these transformers will be fed directly from the switchyard buses, and as a result transmission line faults will have no effect on the transformers.

VII. ADDITIONAL INFORMATION

The times listed in the report are approximate and Central Daylight Time.