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File # 10200  
Ref. # 10CFR50.73(a)(2)(ii)(B)

April 18, 1997

C. Lance Terry  
Group Vice President

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)  
DOCKET NOS. 50-445 AND 50-446  
CONDITION OUTSIDE OF DESIGN BASIS  
LICENSEE EVENT REPORT 445/97-002-00

Enclosed is Licensee Event Report (LER) 97-002-00 for Comanche Peak Steam Electric Station Units 1 and 2, "Invalid Assumption for Containment Spray Switchover from the Refueling Water Storage Tank."

Sincerely,

  
C. L. Terry

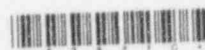
OB:ob  
Enclosure

cc: Mr. E. L. Merchoff, Region IV  
Mr. J. I. Tapia, Region IV  
Resident Inspectors, CPSES

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PDR ADOCK 05000445  
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NRC FORM 366  
(4-95)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104  
EXPIRES 4/30/98

## LICENSEE EVENT REPORT (LER)

(See reverse for required number of  
digits/characters for each block)ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY  
INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED  
ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO  
INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE  
INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR  
REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE  
PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND  
BUDGET, WASHINGTON, DC 20503.

Facility Name (1)

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1

Docket Number (2)

05000445

Page (3)

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Title (4)

INVALID ASSUMPTION FOR CONTAINMENT SPRAY SWITCHOVER FROM THE REFUELING WATER STORAGE TANK

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																			
0	3	1	9	9	7	9	7	-	0	0	2	-	0	0	0	4	1	8	9	7	N/A	0	5	0	0	0	4	4	6
Operating Mode (9)			This report is submitted pursuant to the requirements of 10 CFR 5. (Check one or more) (11)																										
1			20.2201 (b)			20.2203 (a) (2) (v)			50.73 (a) (2) (i)			50.73 (a) (2) (viii)																	
Power Level (10)			20.2203 (a) (1)			20.2203 (a) (3) (i)			50.73 (a) (2) (ii)			50.73 (a) (2) (x)																	
100			20.2203 (a) (2) (i)			20.2203 (a) (3) (ii)			X 50.73 (a) (2) (iii)			73.71																	
			20.2203 (a) (2) (ii)			20.2203 (a) (4)			50.73 (a) (2) (iv)			X OTHER 10CFR21																	
			20.2203 (a) (2) (iii)			50.36 (c) (1)			50.73 (a) (2) (v)			Specify in Abstract below																	
			20.2203 (a) (2) (iv)			50.36 (c) (2)			50.73 (a) (2) (vi)			or in NRC Form 366A																	

Licensee Contact For This LER (12)

Name

Fred W. Madden - Technical Support Manager

Telephone Number (Include Area Code)

(817)897-8901

Complete One Line For Each Component Failure Described in This Report (13)

Cause	System	Component	Manufacturer	Reportable To NPRDS	Cause	System	Component	Manufacturer	Reportable To NPRDS
				X					

Supplemental Report Expected (14)

X

YES  
(If yes, completed EXPECTED SUBMISSION DATE)

NO

EXPECTED  
SUBMISSION  
DATE (15)

Month	Day	Year
0	8	1
8	9	7

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

On March 19, 1997, at approximately 10:40 a.m. CST, a condition was identified where the time for Containment Spray switchover from the Refueling Water Storage Tank (RWST) to the containment sump could take longer than the time assumed in the supporting calculation; thus resulting in insufficient water to supply containment spray for this period of time at Comanche Peak Steam Electric Station (CPSES) Units 1 and 2. On March 19, 1997, a TU Electric engineer (utility, non-licensed), conservatively concluded that the postulated scenario for the analyzed time for containment spray switchover from the RWST to the sumps compared to the available volumes in the RWST was considered outside of the CPSES design basis.

TU Electric believes that the cause of this condition was a failure of contract engineering to verify the assumption of valve stroke times assumed in the design of the facility. Analysis of this condition has determined that the Containment Spray system remained operable. Corrective actions are being evaluated and TU Electric will submit a supplement to this report in 120 days.

This report also includes voluntary reporting data pursuant to the requirements of 10CFR21.

# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

## I. DESCRIPTION OF THE REPORTABLE EVENT

### A. REPORTABLE EVENT CLASSIFICATION

Any event or condition that resulted in the nuclear power plant being in a condition that was outside the design basis of the plant.

### B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT

On March 19, 1997, Comanche Peak Steam Electric Station (CPSES) Unit 1 was in Mode 1, Power Operation, at approximately 100 percent power and Unit 2 was in Mode 1, Power Operation, 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 March 19, 1997 at approximately 10:40 a.m. CST, while reviewing Refueling Water Storage Tank (RWST) (EIIS:(TK)(BE)) level setpoint calculations (see section VII for additional information) to determine if the setpoint could be lowered, an invalid assumption that the containment spray pump (EIIS:(P)(BE)) switchover from the RWST to the sumps would take about one minute was identified. Contrary to this assumption, plant drawings show the stroke time for the sump valves and the tank isolation valves to be 120 seconds. Therefore, considering operator response times, complete isolation of the RWST could take between 4 and 5 minutes.

On March 19, 1997 at approximately 1:30 p.m. CST, TU Electric engineering conservatively deemed that the postulated condition identified earlier represented a reportable condition. It was determined that this scenario represents a condition that is outside of the design basis of the plant and therefore requires a 1 hour notification pursuant to 10CFR50.72. At approximately 1:40 p.m. CST, on March 19, 1997, the NRC was notified of the event via the Emergency Notification System.

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

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

On March 19, 1997, a TU Electric engineer (utility, non-licensed) conservatively concluded that the postulated scenario for the analyzed time for containment spray switchover from RWST to the sumps compared to the available volumes in the RWST was considered outside of the CPSES design basis.

II. COMPONENT OR SYSTEM FAILURES

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

Not Applicable - No failed components or systems were identified for this event.

## B. CAUSE OF EACH COMPONENT OR SYSTEM FAILURE

Not Applicable - No failed components or systems contributed to this event.

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

Not Applicable - No failed components contributed to this event.

## D. FAILED COMPONENT INFORMATION

Not Applicable - No failed components contributed to 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.

# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

## B. DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY

Not Applicable - No safety system trains were inoperable as a result of this event.

## C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

TU Electric has determined that the identified sequence of events is a more limiting condition than the current analysis assumed in the licensing basis analysis. Analysis performed by TU Electric Engineering has shown the actual volume of the RWST to be sufficient to permit full opening of the sump isolation valves. Based on the system hydraulics, the sparger elevation, and the minimum containment water level at the end of injection, and the actual valve stroke times (the sump valves open in approximately 20 seconds and the RWST tank valves close in approximately 110 seconds) the pumps would be expected to begin taking suction from the sump prior to isolating the RWST. Pump suction would not be lost.

Due to the valve stroke times, the current emergency procedures caution the operator to stop any pump still taking suction from the RWST on receipt of the empty alarm. Therefore, containment spray flow might be stopped for several minutes. This condition is outside the current licensing basis and has the potential to increase the radiological consequences as calculated in the FSAR. However, any potential increase remains below the acceptance limits of the Standard Review Plan Section 15.6. Hence, this event did not impact the health and safety of the public.

## IV. CAUSE OF THE EVENT

The cause of this condition was the failure to identify these events as a credible scenario during the design of the facility by the contract engineer.

## V. CORRECTIVE ACTIONS

TU Electric is evaluating corrective actions and will submit a supplement to this report in 120 days.

# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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								05	OF	05	

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

## VI. PREVIOUS SIMILAR EVENTS

There have been other previous events which resulted in conditions outside of design basis. However, the causes of those events are sufficiently different than the subject event. Corrective actions taken for the previous events would not have prevented this event.

## VII. ADDITIONAL INFORMATION

RWST level setpoint calculations were being reviewed as a result of inconsistencies regarding steps in FSAR tables and the CPSES Emergency Response Guidelines associated with the switchover of the ECCS from the RWST to the Containment sump. Refer to NRC Inspection Report 50-445/(446)-97-16.

This report also includes voluntary reporting data pursuant to the requirements of 10CFR21.