TU ELECTRIC

C. Lance Terry
Group Vice President

Log # TXX-97173
File # 10200
Ref. # 10CFR50.73(a)(2)(ii)(B)

August 15, 1997

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 445/97-002-01

REF.: TU Electric Letter logged TXX-97097 dated April 18, 1997 to the NRC (Licensee Event Report 445/97-002-00)

Via the above referenced letter TU Electric reported a condition outside the design basis with respect to invalid assumption for containment spray switchover. Enclosed is supplement 1 to the aforementioned letter; 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

C. L. Terry

By: Roger D. Walker

Roger D. Walker
Regulatory Affairs Manager

OB:ob
Enclosure

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

IE22

Enclosure to TXX- 97173

NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

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

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.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Facility Name (1)	Docket Number (2)	Page (3)
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1	05000445	01 OF 05

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
03	19	97	97	- 002 -	01	08	15	97	CPSES UNIT 2	05000446
									N/A	05000

Operating Mode (9): 1

Power Level (10): 100

This report is submitted pursuant to the requirements of 10 CFR §: (Check one or more) (11)

20.2201 (b)	20.2203 (a) (2) (v)	X 50.73 (a) (2) (i)	50.73 (a) (2) (viii)
20.2203 (a) (1)	20.2203 (a) (3) (i)	50.73 (a) (2) (ii)	50.73 (a) (2) (x)
20.2203 (a) (2) (i)	20.2203 (a) (3) (ii)	50.73 (a) (2) (iii)	73.71
20.2203 (a) (2) (ii)	20.2203 (a) (4)	50.73 (a) (2) (iv)	OTHER
20.2203 (a) (2) (iii)	50.36 (c) (1)	50.73 (a) (2) (v)	Specify in Abstract below or in NRC Form 366A
20.2203 (a) (2) (iv)	50.36 (c) (2)	50.73 (a) (2) (vii)	

Licensee Contact For This LER (12)

Name	Telephone Number (Include Area Code)
Duerk J. Reimer - Technical Support Manager	(254)897-0681

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
				N						

Supplemental Report Expected (14)

YES (If yes, completed 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 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. 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. TU Electric is revising calculations, including level setpoints as appropriate, and the FSAR to reflect the capability to complete containment spray switchover without interruption of flow. Although the current emergency operating procedures should result in switchover without interruption of flow under realistic scenarios, the procedures are being revised to assure the operator can complete the switchover without interruption of flow under design basis accident conditions including the worst single active failure.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

Facility Name (1)	Docket	LER Number (6)			Page (3)	
		Year	Sequential Number	Revision Number		
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1	05000445	97	002	01	02 OF	05

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.

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

Facility Name (1)	Docket	LER Number (6)									Page (3)		
		Year			Sequential Number			Revision Number					
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1	05000445	9	7	.	0	0	2	.	0	1	04	OF	05

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. The FSAR states that containment spray switchover begins on receipt of the RWST empty alarm. Analysis performed by TU Electric Engineering and Westinghouse has shown the actual volume of the RWST to be sufficient to permit full opening of the sump isolation valves and full closure of the RWST isolation valves without stopping the spray pumps. 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 less than 20 seconds and the RWST tank valves close in less than 120 seconds) the RWST would be isolated prior to loss of pump suction.

Due to the precaution (in accordance with the FSAR) to stop ECCS pumps still taking suction from the RWST on receipt of the empty alarm, the current emergency procedures caution the operator to stop any pump still taking suction from the RWST on receipt of the empty alarm to assure the pumps are not damaged. The current procedure starts the containment spray switchover on level indication prior to receipt of the empty alarm; however, under worst DBA conditions and assumptions, calculations do not assure this transfer can be completed prior to the empty alarm. Therefore, containment spray flow might be stopped for several minutes while the ECCS and spray transfer is being completed with stopped pumps. TU Electric believes that calculations and setpoints can be revised to demonstrate that switchover can be completed without stopping the containment spray pumps in the event of loss of coolant accident. Under worst case design basis accident scenarios, this condition is outside the current licensing basis and has the potential to increase the radiological consequences as calculated in the FSAR due to the temporary stopping of the spray pumps. However, any potential increase is expected to remain below the acceptance limits of the Standard Review Plan Section 15.6 and 10CFR100 as reflected in the SER and SSER 22 for CPSES. Hence, this event did not impact the health and safety of the public.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

Facility Name (1)	Docket	LER Number (6)			Page (3)
		Year	Sequential Number	Revision Number	
COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1	05000445	97	002	01	05 OF 05

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

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 revising calculations, including level setpoints as appropriate, and the FSAR to reflect the capability to complete containment spray switchover without interruption of flow. Although the current emergency operating procedures should result in switchover without interruption of flow under realistic scenarios, they are being revised to assure the operator can complete the switchover without interruption of flow under design basis accident conditions.

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.