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August 12, 1994

William J. Cahill, Jr.
Group Vice President

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES) - UNIT 2
DOCKET NO. 50-446
OPERATION PROHIBITED BY TECHNICAL SPECIFICATION
LICENSEE EVENT REPORT 446/94-008-01

Gentlemen:

Enclosed is the Supplement 1 to the Licensee Event Report (LER) 94-008-00 for Comanche Peak Steam Electric Station Unit 2 "Entry into Technical Specification 3.0.3 due to High Levels on Two Safety Injection Accumulators."

Sincerely,

William J. Cahill, Jr.

By:
Roger D. Walker A08
Regulatory Affairs Manager

OB:bm
Enclosure

cc: Mr. L. J. Callan, Region IV
Ms. M. A. Miller, Region IV
Resident Inspectors, CPSES

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NRC FORM 365		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED OMB NO.3150-0104 EXPIRES: 4/30/92																																																																																																															
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Abstract (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																																																																																																																			
<p>On June 18, 1994, at approximately 4:58 p.m., the Comanche Peak Steam Electric Station (CPSES) Unit 2 was in Mode 3, during plant heatup to normal operating temperature and pressure.</p> <p>The Unit Supervisor (utility, licensed) identified that two Safety Injection (SI) Accumulators (EIIS:(ACC)(BQ)) had exceeded the Technical Specification allowable level limits of 61 percent (indicated level was identified as 62 percent). CPSES Unit 2 was placed into Technical Specification 3.0.3.</p> <p>The cause of the event was attributed to backleakage through the check valves (EIIS:(V)(AB)) in the Reactor Coolant System (RCS) (EIIS:(AB)).</p> <p>The immediate corrective actions were to drain the SI Accumulators to their normal level, and provide caution statements with respect to SI Accumulator fill to shift crews via shift orders.</p>																																																																																																																			

NRC FORM 366A LICENSEE EVENT REPORT (LER) TEXT CONTINUATION		U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO. 3150-0104 EXPIRES: 4/30/92 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.																
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Text (if more space is required, use additional NRC Form 366A's) (17)																		
I. DESCRIPTION OF THE REPORTABLE EVENT																		
A. REPORTABLE EVENT CLASSIFICATION Any operation or condition prohibited by Technical Specifications.																		
B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT On June 18, 1994, Unit 2 was in Mode 3, hot standby following its planned mid-cycle outage.																		
C. STATUS OF STRUCTURES, SYSTEMS, OR COMPONENTS THAT WERE INOPERABLE AT THE START OF THE EVENT AND THAT CONTRIBUTED TO THE EVENT Not applicable - there were no inoperable, systems, or components that contributed to the event.																		
D. NARRATIVE SUMMARY OF THE EVENT, INCLUDING DATES AND APPROXIMATE TIMES On June 18, 1994, at 4:58 p.m. CST, during plant heatup to normal operating temperature and pressure, the Unit Supervisor (utility, licensed) identified Safety Injection Accumulators (EIIS:(ACC)(BQ)) 2-02 and 2-04 above Technical Specifications (TS) allowable levels. The levels were noted to be approximately 62 percent. The Technical Specification allowable limits for the accumulators is 61 percent. The Accumulators were declared inoperable at 4:58 p.m., placing CPSES Unit 2 into the applicable action statement of Technical Specification 3.0.3 due to more than one Accumulator being declared inoperable.																		
E. THE METHOD OF DISCOVERY OF EACH COMPONENT OR SYSTEM FAILURE OR PROCEDURAL ERROR The Unit Supervisor (utility, licensed) identified the SI Accumulators were above the Technical Specifications allowable limits.																		
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.																		

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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 component failures associated with 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.

B. DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY

The Safety Injection Accumulators (EIIS:(ACC)(BQ)) were declared inoperable for approximately twenty-two (22) minutes.

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

The SI Accumulators are credited in the analyses of the large break Loss of Coolant Accident (LOCA) event described in FSAR Section 15.6.5. The Accumulators are provided to supply water to the reactor vessel during the blowdown phase of the LOCA and to refill the reactor vessel following the end of blowdown. The specifications on Accumulator Nitrogen (N₂ cover gas) pressure and water volume (level) are provided to ensure that an adequate supply of water is available at a sufficiently high pressure such that all event acceptance criteria, as specified in 10CFR50.46, are satisfied. The most relevant of these acceptance criteria is the calculated peak clad temperature (PCT).

Depending on the postulated break size, additional accumulator water capacity, over the volume assumed in the "base" analysis, could result in either a PCT benefit or penalty. For the smaller, less limiting, break sizes, additional accumulator water capacity typically results in a small PCT penalty; however, the calculated PCTs for these cases are well below

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the PCT calculated for the limiting case. For the limiting large break LOCA, additional accumulator water capacity results in a small PCT benefit. For all cases, the additional accumulator water capacity does not result in a calculated PCT greater than the limit specified in 10CFR50.46. Therefore, it can be concluded that the event did not adversely impact the safe operation of Unit 2 or the health and safety of the public.

IV. CAUSE OF THE EVENT

It was concluded that there was some backleakage through the Reactor Coolant System (RCS) check valves. Backleakage through the injection check valves during plant heatup has been experienced previously (reference TU Electric LER 50-446/93-010-00). However, simultaneous backleakage of all four accumulators has not been experienced. The backleakage appears to be greatest when a low differential pressure exists across the check valves, i.e., when the RCS is undergoing heatup to normal operating temperature and pressure.

Additional review indicates the demands of pressurizing the accumulators has challenged, in some cases, the capacity of the high pressure nitrogen gas bulk storage. Anticipating the shortage of nitrogen gas, the operators filled the SI Accumulators 2-02 and 2-04 levels of 60.2 percent and 60.6 percent respectively. Per discussions with the Operations staff, this action was taken to reduce the volume of nitrogen gas that would be required to pressurize the accumulators. The remaining accumulators 2-01 and 2-03 were filled to lower levels.

V. CORRECTIVE ACTIONS

The Unit Supervisor (utility, licensed) stopped Reactor Coolant System (EIIIS) heatup and commenced drain down of the accumulators.

To evaluate the backleakage issue, TU Electric engineering reviewed the Inservice Test (IST) data results. The IST leak rate testing was performed on the check valves during the recent mid-cycle outage for Unit 2, and the test results met the acceptance criteria. Additionally, the level increases for this event has been analyzed, and the calculated backleakage for this incident is also below the Technical Specification requirements.

Shift orders have been issued to caution the operators with respect to filling the SI Accumulators to the upper limits. Applicable plant procedures are

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being reviewed for possible enhancement to consider for backleakage during certain plant conditions, and for conserving nitrogen during accumulator filling if warranted.

VI. PREVIOUS SIMILAR EVENTS

There are other LERs which reported valve inleakage problems. However, these LERs address missed or incomplete surveillances, and the causes of the previous events are sufficiently different from the subject events, such that the corrective actions would have not prevented the subject event.

VII. ADDITIONAL INFORMATION

The items listed in the report are approximate and central standard time.