TU ELECTRIC

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September 16, 1994

C. Lance Terry
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 446/94-013-00

Gentlemen:

Enclosed is the Licensee Event Report (LER) 94-013-00 for Comanche Peak Steam Electric Station Unit 2 "Four Main Steam Safety Valves Were Declared Inoperable When They Failed Their Technical Specification Setpoint Surveillance Testing (T/S 4.0.5)."

Sincerely,

C. L. Terry

DWS:tg

ENCLOSURE

cc: Mr. L. J. Callan, Region IV
Mr. D. D. Chamberlain, Region IV
Resident Inspectors, CPSES

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Enclosure to TXX-94246

NRC FORM 366 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.

LICENSEE EVENT REPORT (LER)

Facility Name (1)	Docket Number (2)	Page (3)
COMANCHE PEAK-UNIT 2	0 5 0 0 0 4 4 6	1 OF 6

Title (4)

FOUR MAIN STEAM VALVES WERE DECLARED INOPERABLE WHEN THEY FAILED THEIR TECHNICAL SPECIFICATION SETPOINT SURVEILLANCE TESTING (T/S 4.0.5)

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 Names	Docket Numbers
									N/A	0 5 0 0 0
0 8	1 7	9 4	9 4	- 0 1 3	- 0 0	0 9	1 6	9 4	N/A	0 5 0 0 0

Operating Mode (9): 3

Power Level (10): 0 0 0

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

20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	50.36(c)(2)	X 50.73(a)(2)(vii)	Other (Specify in Abstract below and in Text, NRC Form 366A)
20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

Licensee Contact For This LER (12)

Name	Area Code	Telephone Number
W. G. Guldemond, System Engineering Manager	8 1 7	- 8 9 7 - 8 7 3 9

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, complete Expected Submission Date) ☒ No

Expected Submission Date (15): Month | Day | Year

Abstract (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On August 17, 1994, the Main Steam Safety valves (MSSVs) (EIIS:(RV)(SB)) were tested in accordance with the approved procedure. Four of twenty valves tested had lift settings outside the plus or minus 1 percent setpoint tolerance stated in CPSES Technical Specifications. The cause was determined to be a drift in the setpoints.

The lift setpoints observed do not indicate a material problem with the valves. The test results were within the 3 percent criteria requirement for valve testing per Part 1 of ASME/ANSI OM-1987. Discussions with the valve vendor concluded that deviations within this range do not call into question the condition or functionality of the valves. This conclusion is supported by the fact that the valves demonstrated satisfactory test results after adjustment.

I. DESCRIPTION OF THE REPORTABLE EVENT

A. REPORTABLE EVENT CLASSIFICATION

Any event where a single cause or condition caused at least one independent train or channel to become inoperable in multiple safety related systems or two independent trains or channels to become inoperable in a single related system.

B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT

On August 17, 1994, Comanche Peak Steam Electric Station (CPSES) Unit 2 was in Mode 3, Hot Standby.

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 directly to the event.

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

On August 17, 1994, surveillance testing of five Main Steam line code valves, in accordance with Technical Specification 4.7.1.1, was scheduled to be conducted. During testing of valve 2MS-0021, the setpoint was found to be outside the acceptance criteria (low). This required the testing of two additional valves per ASME/ANSI OM-1987.

An additional valve, 2MS-0129 (one of the original five), was also found to be outside the acceptance criteria (high) resulting in two additional valves to be tested.

One of the additional valves 2MS-0023 required to be tested, was found to be outside the setpoint acceptance range (low). When 2MS-0023 was found to be outside the acceptance range, specification required that the remaining valves to be tested. Of the remaining valves tested, one additional valve (2MS-0132) was found to be outside the setpoint acceptance range (low).

A total of twenty valves were tested and four valves were found to have setpoint outside the TS acceptance range.

Lift setpoints were adjusted in accordance with the test procedure and all subsequent tests were satisfactory.

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

The MSSVs were being tested to satisfy Technical Specification surveillance and inservice testing requirements. The unsatisfactory lift setpoints were discovered as the result of this test.

II. COMPONENT OR SYSTEM FAILURES

A. FAILED COMPONENT INFORMATION

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

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

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

C. CAUSE OF EACH COMPONENT OR SYSTEM FAILURE

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

D. 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.

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

While four MSSVs were found with setpoints outside the Technical Specification allowable values, analysis of the surveillance testing lift setpoints revealed that all MSSVs were capable of performing their safety function. It was not possible to determine how long the valves' setpoint were outside specified values. The valves in question were last tested satisfactorily on March 20, 1993.

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

1. As Found Setpoint Below Nominal Setpoint

The operability of the MSSVs ensures that the Main Steam System (EIIS:(SB)) pressure will be limited to 110 percent of its design pressure during the most severe anticipated system operational transient. In all but one of the Final Safety Analysis Report (FSAR) Chapter 15 accident analyses, it is assumed that the MSSVs lift at the lowest set pressure, plus 3 percent allowance for accumulation effects. Therefore, the one to two percent reduced MSSV lift pressure does not adversely affect the conclusions of these FSAR Chapter 15 accident analyses with respect to overpressure protection of the secondary system.

The one exception is the evaluation of the steam releases used to assess the radiological consequences following a turbine trip/loss of load event. The methodology used for this assessment assumed the set pressure for the lowest MSSV to be 15 percent less than the lowest setpoint, corresponding to the blowdown characteristics of the valve. The integrated steam release was then calculated and rounded up to the nearest 10,000 pounds-mass. The difference between the integrated steam release and the one to two percent reduced MSSV lift pressure is within the round up error. Furthermore, the Steam Generator (EIIS:(SG)(SB)) activity levels at the time of this event were less than the minimum detectible limits, and less than the activity levels assumed in the FSAR Chapter 15 accident analysis. Therefore, it is expected that the one to two percent reduced MSSV lift pressure would have no effect on this accident analysis.

2. As Found Setpoint Above Nominal Setpoint

In each of the accident analyses performed for Unit 2, it is assumed that the MSSVs open "instantaneously" at 1221 psig, which is the nominal set pressure of the lowest MSSV, plus 3 percent allowance for accumulation. In addition, the auxiliary feedwater system flow requirements are based on being able to supply adequate auxiliary feedwater at this same pressure (1221 psig). The open setpoint of 2MS-0129 was found to be 1213 psig. Because the as-found setpoint was less than 1221 psig, the assumptions of the accident analyses remain valid.

Based on the discussion above it is concluded that this event did not adversely affect the safe operation of CPSES Unit 2 or the health and safety of the public.

IV. CAUSE OF THE EVENT

A specified cause of the observed setpoint drift could not be determined. The valve manufacturer indicated that the setpoint changes do not indicate a material problem with the valves. The test results were within the 3 percent acceptance range of Part 1 of ASME/ANSI OM-1987. Per a discussion with the valve vendor, deviations within this range are acceptable, and are not cause for concern over condition of the valve. This conclusion is further supported by the fact that the valves demonstrated satisfactory test results after adjustment.

V. CORRECTIVE ACTION

On August 18, 1994, the required surveillances were completed satisfactorily.

A review of NPRDS information for this model relief valve indicates that the observed setpoint changes are not uncommon.

VI. PREVIOUS SIMILAR EVENTS

There has been one other TU Electric Licensee Event Report LER 445/91-024-00 which reported MSSVs setpoints deviating from Technical Specification allowables. However, the root cause which, for the previous event, was a procedural anomaly was sufficiently different such that the corrective action taken for the previous LER would have not prevented this event.