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October 16, 1995

C. Lance Terry  
Group Vice President

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES) - UNIT 2  
DOCKET NOS. 50-446  
CONDITION PROHIBITED BY THE PLANT'S TECHNICAL SPECIFICATIONS  
LICENSEE EVENT REPORT 446/95-003-00

Gentlemen:

Enclosed is Licensee Event Report (LER) 95-003-00 for Comanche Peak Steam Electric Station Unit 2, "Incomplete Surveillance to Confirm Turbine Driven Auxiliary Feedwater Pump (TDAFWP) Steam Admission Valves Open Stroke For a Black Out Signal (BOS)".

Sincerely,

A handwritten signature of C. L. Terry in cursive script.

C. L. Terry

ADQ/adq  
Enclosure

cc: Mr. L. J. Callan, Region IV  
Mr. D. F. Kirsch, Region IV  
Mr. T. J. Polich, NRR  
Resident Inspectors CPSES

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TESS

|   |        |             |   |   |                 |   |        |  |                               |   |  |
|---|--------|-------------|---|---|-----------------|---|--------|--|-------------------------------|---|--|
| <b>NRC FORM 366</b><br><small>(4-95)</small>  |        |             | <b>U.S. NUCLEAR REGULATORY COMMISSION</b> |   |                 | <b>APPROVED BY OMB NO. 3150-0104</b><br><b>EXPIRES 04/30/98</b><br><small>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.</small> |        |  |                               |   |  |
| <b>LICENSEE EVENT REPORT (LER)</b><br>(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 2   |        |             |   |   |                 | 05000446  |        | 1 OF 5   |                               |   |  |
| TITLE (4)   |        |             |   |   |                 |   |        |  |                               |   |  |
| INCOMPLETE SURVEILLANCE TO CONFIRM TURBINE DRIVEN AUXILIARY FEEDWATER PUMP (TDAFWP) STEAM ADMISSION VALVES OPEN STROKE FOR A BLACK OUT SIGNAL (BOS)   |        |             |   |   |                 |   |        |  |                               |   |  |
| 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 NUMBER                                 |  |
| 9   | 14     | 95          | 95  | -- 003 --   | 00              | 10  | 16     | 95   | CPSES UNIT 1                  | 05000445                                      |  |
|   |        |             |   |   |                 |   |        |  | FACILITY NAME                 | DOCKET NUMBER                                 |  |
|   |        |             |   |   |                 |   |        |  | N/A                           | 05000   |  |
| OPERATING MODE (9)  |        | 1           |   | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11) |                 |   |        |  |                               |   |  |
| POWER LEVEL (10)  |        | 100         |   | 20.2201(b)  |                 | 20.2203(a)(2)(v)  |        | <input checked="" type="checkbox"/> 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)(vi)   |                 |   |        |  |                               |   |  |
| LICENSEE CONTACT FOR THIS LER (12)  |        |             |   |   |                 |   |        |  |                               |   |  |
| NAME  |        |             |   |   |                 | TELEPHONE NUMBER (Include Area Code)  |        |  |                               |   |  |
| TONY MARVRAY MAINTENANCE ENGINEERING  |        |             |   |   |                 | 817-897-0831  |        |  |                               |   |  |
| 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<br>(If yes, complete EXPECTED SUBMISSION DATE).   |        |             |   |   |                 | <input checked="" type="checkbox"/> NO  |        | EXPECTED SUBMISSION DATE (15)                      |                               |   |  |
|   |        |             |   |   |                 |   |        | MONTH  |                               | DAY   |  |
|   |        |             |   |   |                 |   |        | YEAR   |                               |   |  |
| ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)  |        |             |   |   |                 |   |        |  |                               |   |  |
| <p>Technical Specification 4.7.1.2c.2) states "Each auxiliary feedwater pump and associated flow path shall be demonstrated OPERABLE: Verifying that each auxiliary feedwater pump starts...upon receipt of an Auxiliary Feedwater Actuation test signal."</p> <p>On September 14, 1995, it was determined that the existing surveillance test procedures did not include stroke open testing of the related TDAFWP (EIS.(p)(BA)) steam admission valves on the loss of offsite power (Black Out Sequence (BOS)) signal. The cause of this event was determined to be less than adequate procedure preparation in that the steam admission valve opening on a BOS signal had not been clearly identified as a TS requirement. Corrective actions included preparation of temporary procedures on September 15, 1995 and successful performance of these procedures on September 16, 1995 to show stroke open actuation of the TDAFWP steam admission valves on BOS signal. The related surveillance procedures will be revised before the next outage to include BOS signal stroke open actuation of the TDAFWP steam admission valves.</p> |        |             |   |   |                 |   |        |  |                               |   |  |

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

| FACILITY NAME (1)                             | DOCKET   | LER NUMBER (6) |            |          | PAGE (3) |
|---|----------|----------------|------------|----------|----------|
|   |          | YEAR           | SEQUENTIAL | REVISION |          |
| COMANCHE PEAK STEAM ELECTRIC STATION - UNIT 2 | 05000446 | 95             | -- 003 --  | 00       | 2 OF 5   |

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 operating condition prohibited by the Technical Specifications (T.S.).

### **B. PLANT OPERATING CONDITIONS BEFORE THE EVENT**

At time of discovery on September 14, 1995, both Comanche Peak Steam Electric Station (CPSES) Unit 1 and Unit 2 were in Mode 1, Power Operations.

### **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 September 14, 1995, during discussions between station personnel (utility, non-licensed) it was determined that actuation testing of the TDAFWP, per Technical Specification 4.7.1.2c.2), should include stroke open actuation of the steam admission valves on a BOS signal. The procedures which were designated to satisfy this surveillance requirement verified the pump start on Steam Generator Low-Low level only. An evaluation was performed to review plant data which was recorded during the most recent performance of the Diesel Generator 24 hour load run/loss of offsite power tests. This data failed to confirm that the TDAFWP steam admission valves stroked open on receipt of the BOS signal as the valves had been defeated for the test. The Control Room was immediately notified of this finding and both Unit 1 and Unit 2 TDAFWP's were declared inoperable. Temporary test procedures were written and performed to successfully demonstrate the stroke open actuation of the TDAFWP steam admission valves for both units on a BOS signal, which allowed both TDAFWP's to be declared operable.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

| FACILITY NAME (1)                             | DOCKET   | LER NUMBER (6) |            |          | PAGE (3) |
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|   |          | 95 --          | 003 --     | 00       |          |

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 OR PERSONNEL ERROR

Station personnel determined that surveillance testing of the TDAFWP steam admission valves stroke open on a BOS signal had not been clearly identified as a TS requirement.

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.

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

Not applicable.

## D. FAILED COMPONENT INFORMATION

Not applicable.

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

| FACILITY NAME (1)                             | DOCKET   | LER NUMBER (6) |            |          | PAGE (3) |
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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

## **III. ANALYSIS OF THE EVENT**

### **A. SAFETY SYSTEM RESPONSES THAT OCCURRED**

Not applicable - no safety systems responses occurred during this event.

### **B. DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY**

Unit 1 and 2 TDAFWP's were declared inoperable on September 15, 1995 at 0745 and declared operable on September 16, 1995 at 2102 and 2301, respectively, after successful completion of the required surveillance tests. (Inoperable time was approximately 38 hours for Unit 1 and 40 hours for Unit 2.)

### **C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT**

The Auxiliary Feedwater System (AFW) system is designed to provide a supply of high-pressure feedwater to the secondary side of the steam generators for reactor coolant heat removal following a loss of normal feedwater. In the event of a Loss of Offsite Power (LOOP), the TDAFWP is powered from steam supplied from either of two steam generators. Additionally, two Motor Driven Auxiliary Feedwater (MDAFW) pumps and associated valves are automatically sequenced onto emergency busses. (The CPSES Safety Analysis (FSAR Chapter 15) takes credit for AFW start on a SG LO-LO level signal. The associated surveillance test for SG LO-LO level verifies TDAFWP start on this signal.)

Subsequent testing demonstrated that both TDAFWP steam supply valves for both Unit 1 and Unit 2 actuated upon a BOS test signal. Also, a review of data from the most recent Train A and Train B DG 24 hour load tests verified that both MDAFW pumps for each unit had actuated upon receipt of the BOS signal. The incomplete surveillance had no impact on the AFW system ability to perform the required safety function in the event of a LOOP; therefore, the event had no impact on the health and safety of the public.

## **IV. CAUSE OF THE EVENT**

The cause of this event was determined to be less than adequate procedure preparation in that the requirement to test the steam admission valves for opening on a BOS signal had not been clearly identified as a TS requirement.



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

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

## **V. CORRECTIVE ACTIONS**

### **IMMEDIATE**

The control room was notified of this condition and both TDAFWP's were declared inoperable. Plant records were searched to verify that the MDAFW pumps had actuated during the last DG 24 hour load test. Temporary procedures were written and performed on September 16, 1995 and successfully demonstrated the actuation of the TDAFWP steam admission valves on the BOS signal.

### **ACTIONS TO PREVENT RECURRENCE**

TU Electric will revise the related surveillance test procedures to include testing of the BOS actuation circuitry. TU Electric will also revise the Master Surveillance Test List to include the BOS signal testing for surveillance requirement 4.7.1.2c.2). A sample of test procedures will be reviewed for similar TS surveillance requirement identification. TU Electric will also continue periodic review of TS requirement implementation.

## **VI. PREVIOUS SIMILAR EVENTS**

There have been other CPSES Licensee Event Reports that involved incomplete or missed surveillances involving procedure deficiencies (none of which involved a failure to identify the need to test a specific actuation signal input such as the BOS signal).

## **VII. ADDITIONAL INFORMATION**

None.