TUELECTRIC

Log # TXX-96363
File # 10130
IR 96-04
Ref. # 10CFR2.201

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Group Vice President

May 28, 1996

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NO. 50-445 and 50-446
NRC INSPECTION REPORT NOS. 50-445/96-04 and 50-446/96-04
RESPONSE TO NOTICE OF VIOLATION

Gentlemen:

TU Electric has reviewed the NRC's letter dated April 26, 1996, concerning the inspections conducted by Messrs. A. Gody, Jr., Ms. V. L. Ordaz-Purkey, and Mr. H. A. Freeman on February 17 through March 30, 1996. Attached to the report was a Notice of Violation.

Via Attachment 1 TU Electric hereby responds to the specific Notice of Violation (445/96-04). Attachment 2 to this letter summarizes actions/evaluations being performed by TU Electric with respect to the apparent negative human performance trend. Should you have any comments or require additional information, please do not hesitate to contact Obaid Bhatty at (817)-897-5839 to coordinate this effort.

Sincerely,

C. L. Terry

OB:ob
Attachments

cc: Mr. L. J. Callan, Region IV
Ms. L. J. Smith, Region IV
Resident Inspectors

IE01

REPLY TO THE NOTICE OF VIOLATION

RESTATEMENT OF THE VIOLATION
(445; 446/9604-01)

Technical Specification 6.8.1 requires the licensee to establish, implement, and maintain procedures covering the activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Appendix A requires administrative procedures for component configuration control.

Station Administrative Procedure STA-605, ."Clearance and Safety Tagging," Revision 13, dated January 12, 1996, Section 6.11.1, required, in part, that equipment be placed in its required position.

Operations Work Instruction OWI-103, "Locked Component Listings and Deviation Control," Revision 8 dated November 7, 1994, stated, in part, that the shift manager, unit supervisor, and qualified operators ensure that a locked component that is repositioned or unlocked is done so in accordance with the requirements of Operations Department Administration Control 403 (ODA-403). Procedure ODA-403, "Operations Department Locked Component Control," Step 5.4, required, in part, that the shift manager or unit supervisor ensure that any locked component which is repositioned or unlocked is properly logged in the Locked Component Deviation Log.

Contrary to the above, the following four examples of failure to follow component configuration control procedures were identified:

1. On March 28, 1996, during the implementation of Clearance 2-96-00949 in Unit 2, operators closed the operating residual heat removal pump discharge isolation valve causing a partial loss of core decay heat removal flow rather than closing the safety injection pump discharge isolation valve specified on the clearance.

2. On March 28, 1996, during a release of Clearance X-95-1867, technicians and operators opened the wrong drawer in Switchgear 2EA1, Cubicle 3, resulting in an engineered safety features actuation.

3. On February 3, 1996, while implementing a clearance for Work Order 4-96-097125-00 to replace the Unit 1 reactor coolant pump seal water return filter, operators failed to follow System Operating Procedure SOP-103A, as required by the clearance order, which resulted in the discharge of 450 gallons of reactor coolant to the pressurizer relief tank and the containment sump.

4. On March 15, 1996, the unit supervisor authorized maintenance on the locked open positive displacement/centrifugal charging pump crosstie valve (Valve 2-8341) in Unit 2 without logging a deviation in the locked component deviation log. As a result, the positive displacement pump was operated for 63 minutes with its suction valve only partially open because operators did not recognize that the locked open tag left on the operator for Valve 2-8341 did not represent the actual valve position.

RESPONSE TO THE VIOLATION (445;446/9604-01)

TU Electric accepts the violation. TU Electric believes that even though these events [examples] contain a common contributing cause, i.e., less than adequate human performance, these examples individually or collectively do not represent a significant programmatic breakdown, which may or could impact safe operation of CPSES. Nonetheless, TU Electric has taken the apparent negative human performance trend issue seriously, and Attachment 2 to this letter addresses additional actions planned or completed to minimize negative human performance. The responses to each example, as requested are provided below.

EXAMPLE 1

1. Reason for Violation

Event description:

On March 27, 1996 at approximately 11:00 p.m., Comanche Peak Steam Electric Station (CPSES) Unit 2 was in Mode 6 and in its second refueling outage (2RF02). An Auxiliary Operator (AO) was assigned to perform clearances to support Train B Safety Injection System work activities. A pre-job briefing was performed. However, the briefings were not detailed since the clearances were not complex. One of the clearances included closing the discharge isolation valve on Unit 2 Safety Injection Pump 2-02 (valve 2-8921B). Interviews with the AO revealed that, on March 28, 1996, at approximately 12:27 a.m. the AO entered the room he believed the valve's remote operator was in. Since the enhanced valve label was loose, the AO believes that he verified the enhanced label with the valve number on the metal tag on the floor. After verifying that he [AO] was at the "8000" valve, he did not further verify that the number/noun name on the enhanced label matched the component listed on the clearance. The AO was at valve 2-8724B, which is the Residual Heat Removing Pump 2-02 discharge isolation valve and not the valve 2-8921B Safety Injection Pump 2-02 discharge isolation valve specified in the clearance documents. On March 28, 1996 at approximately 12:27 a.m., the AO began to close valve 2-8724B (he noted that the valve was

slightly difficult to close). At approximately 12:35 the control room operators noticed that letdown flow was slowly decreasing by a few gallons. The control room staff believed that this decrease may be due to Volume Control Tank pressure going up from approximately 14 to 21 psig Nitrogen Pressure, or due to a clogged filter. Another AO was dispatched to check the differential pressure (dp) across the filter, the AO reported that the dp was normal at 10 pounds. At approximately 12:38 Residual Heat Removal (RHR) to cold leg injection low flow alarm annunciated in the control room. The control room staff entered the applicable procedures and began preparations to start RHR pump 2-01 which was in standby. At approximately 12:48 RHR Pump 2-02 was stopped and RHR 2-01 was started, and the RHR flow was restored to normal. During the start of RHR 2-01, the AO performing the clearance realized that he had closed the wrong valve and reported the event to the control room.

TU Electric Analysis:

The AO did not adequately self verify that he was at the correct valve for his clearance. The enhanced label on the remote operator for valve 2-8724B was loose. This probably caused the operator to become distracted. Nonetheless, TU Electric's evaluation concluded that the clearance documents were not properly used to verify the correct nomenclature of the valve and proper self checking was not used to verify correct valve.

2. Corrective Steps Taken and Results Achieved

When the RHR Pump 2-02 flow to the Reactor Coolant system was decreased due to inappropriate AO actions, RHR Pump 2-01 was started and flow was restored to normal.

3. Corrective Actions Taken to Preclude Recurrence

Management's expectation with respect to self verification was reemphasized. Please refer to Attachment 2 for additional actions planned by TU Electric with respect to the apparent negative human performance trend.

4. Date of Full Compliance

TU Electric is in full compliance.

5. Additional Information

During this shutdown cooling mode of operation (Mode 5 with reactor coolant loops filled), only one RHR loop was required to remove the decay heat generated within the core. As prescribed by CPSES Technical Specification 3.4.1.4.1, the other RHR loop was operable. The values of the RHR injection flow to the cold legs, the reactor vessel level indications, and the hot and cold leg wide range

temperature indications retrieved from the plant computer, were reviewed. There was no significant change in the reactor vessel level. The level was well above the hot legs, from which the RHR pumps take suction in shutdown cooling mode, for the duration of the event. Due to the timely start of RHR pump 2-01, there were no significant changes in the RCS temperatures and, throughout the event, the RHR System remained capable of removing the decay heat generated in the reactor core. Thus, it is concluded that this event had no effect on the health and safety of the public.

EXAMPLE 2

1. Reason for Violation

Event Description:

On March 28, 1996, at approximately 5:30 a.m., CST with Unit 2 in Mode 6, Refueling, Electrical Maintenance personnel were restoring Potential Transformer (PT) fuses for the Startup Transformer (**XST1**) on Electrical Bus 2EA1 (train A). The Electrical Maintenance personnel inadvertently opened the Startup Transformer (**XST2**) fuse drawer. When the **XST2** PT fuse drawer was opened, the bus sensed an undervoltage condition and caused the Train A Blackout Sequencer (BOS) to actuate. The BOS resulted in the following equipment actuation: Train A Emergency Diesel Generator auto started and Train A Control Room HVAC shifted to emergency recirculation. An event or condition that results in an automatic actuation of any ESF, including the RPS, is reportable within 4 hours pursuant to the requirements of 10CFR50.72(b)(2)(ii). At approximately 6:36 a.m., on March 28, 1996, the Nuclear Regulatory Commission Operations Center was notified of the event via Emergency Notification System. Additionally, pursuant to the requirements of 10CFR50.73(a)(2)(iv), Licensee Event Report 446/96-004-00 was sent to the NRC on April 22, 1996.

TU Electric Analysis:

The subject event was caused due to inadvertent opening of the fuse drawer. TU Electric has concluded that self verification, direction and communication among the crews performing the fuse restoration was less than adequate, which resulted in opening an energized fuse drawer and subsequent BOS actuation.

2. Corrective Steps Taken and Results Achieved

Immediate actions were to reset Train A BOS and return the Emergency Diesel Generator to auto start status.

3. Corrective Actions Taken to Preclude Recurrence

Electrical Maintenance has provided a Lessons Learned for this event to be discussed with all groups that provide support activities to other groups such as Operations, with reemphasiss on management's expectation with respect to self verification. Additionally, the training department will incorporate this event into its continuing training for Electrical Maintenance. Please refer to Attachment 2 for additional actions planned by TU Electric with respect to the apparent negative human performance trend.

4. Date of Full Compliance

TU Electric is in full compliance.

5. Additional Information

Operability of the Engineered Safety Features Actuation System (ESF) is required to provide the overall reliability, redundancy, and diversity assumed available in the facility design, for the protection and mitigation of accident and transient conditions. The blackout sequencer (BOS) functions to reload the associated 6.9kv safeguards bus in a pre-established sequence following an undervoltage condition on the bus after the bus has been re-energized from the alternate power source or the emergency diesel generator. During the actuation occurring on March 28, 1996, no actual loss of power occurred and all components functioned as described in the FSAR, providing assurance that if the event had occurred at a more severe set of initial conditions, a source of power would have been available to all required safety systems.

On the basis that: (1) the BOS was not required to mitigate the consequences of an actual loss of power, and (2) all components operated as designed, the BOS actuation posed no threat to the health and safety of the public.

EXAMPLE 3

1. Reason for Violation

Event Description:

On February 2, 1996, CPSES Unit 1 was in Mode 4 with a heat up in progress. A work package to replace the Reactor Coolant Pump seal water return filter was presented to the Unit Supervisor. The Clearance Processing Center (CPC) Senior Reactor Operator (SRO) was not available at that time to process the package. The Unit Supervisor noted the Maintenance Tagout Permit had been reviewed and approved on day shift, and he directed an Auxiliary Operator (AO) to meet the Mechanical Maintenance personnel and support the filter change out. The AO reviewed the package and assumed that the Maintenance Tagout removed the filter from service.

The AO isolated and vented the filter. The Control room staff noted an increase in leakage in containment, and began investigating for a leak. The control room staff entered the applicable procedures. When notified of the containment leakage problem the AO noted that the inlet pressure to the filter was abnormally high and bypassed the filter. The leakage was caused by relief valve 1-8121 lifting and relieving to the pressurizer relief tank and the containment sump through drip traps in the relief header. A total of 450 gallons was inadvertently shifted to the sump with 150 gallons in the Pressurized Relief Tank.

TU Electric Analysis:

The Unit Supervisor did not brief the Auxiliary Operator prior to performing the Maintenance Tagout permit. On this crew the CPC SRO would have processed the work order, however the CPC SRO was not available when Mechanical Maintenance personnel came to the Control Room. The Unit 1 Unit Supervisor performed a review and determined the tagout was acceptable and contacted an Auxiliary Operator to meet maintenance to isolate the filter. A brief was not conducted because it seemed to be a simple job and a plant heatup was in progress. Additionally, The AO overlooked the special instruction on the Maintenance Tagout permit which stated "Remove the Filter from Service per SOP-103A Sect. 5.3.11 Prior to Placing Tags."
TU Electric concluded that proper self verification techniques were not used.

2. Corrective Steps Taken and Results Achieved

Immediate corrective actions were to enter applicable plant procedures for the initiating event, secure excessive letdown and stop the leak.

3. Corrective Actions Taken to Preclude Recurrence

Management's expectation with respect to adequate pre-job briefing and self verification has been reemphasized. Please refer to Attachment 2 for additional actions planned by TU Electric with respect to the apparent negative human performance trend.

4. Date of Full Compliance

TU Electric is in full compliance.

5. Additional Information

This event resulted in a loss of approximately 450 gallons from the Reactor Coolant System, and produced a leak rate of approximately 7 gpm. This leak rate exceeded the Technical Specification limit of 1 gpm, and the plant entered an action statement which required restoration to within the limits within 4 hours. This requirement was met and the statement exited within the 4 hour time period. The leak rate was well within system capability, and operator response was excellent in determination of the source of the leakage and restoring the plant. Based on the aforementioned, it can be concluded that the event did not adversely affect the safe operation of the plant or the health and safety of site personnel or the public.

EXAMPLE 4

1. Reason for Violation

Event Description:

On March 12, 1996, a work order was issued to replace elastomers and rework the unit 2 Positive Displacement Charging Pump(PDP)/ Centrifugal Charging Pump Suction crosstie valve 2-8341, as required. A clearance was hung to perform the work. The maintenance crew assigned to work on the valve noted that the valve had a 'locked open valve tag' on the remote operator. The maintenance crew discussed this issue with the CPC, and it was agreed among the groups (CPC and Maintenance) that the valve could be reworked by disconnecting the remote operator. The portion of work order which dealt with adjustment of the remote operator was revised as 'not applicable', since no work was performed on the remote operator. Therefore, removing the 'tag' was not required. Rework was performed on the valve, the valve was reassembled as required by the procedure, i.e., snugtight in close position, and the remote operator was reconnected to the valve. The work order was returned to the operations department to remove the clearance. During the Chemical and Volume Control System valve lineup the position of the valve was discussed. However, since the valve tag indicated that the valve was in lock open position, it was believed that the position of the valve was correct. The clearance was removed. The valve was in a partially open position with the locked open tag still attached. During startup of the PDP to establish seal injection there was no discharge pressure or flow indicated.

TU Electric Analysis:

The specific violation is cited against locked component control procedures, i.e., "the licensee did not control the locked component deviation which occurred when Valve 2-8341 was released for maintenance." TU Electric does not agree with NRC's causal assessment of this event. TU Electric concluded that the event occurred due to less than desired turnover of the equipment. TU Electric believes that, had the CPC removed the valve tag off the remote operator and had the maintenance workers notified the CPC that the valve will be snug tight, the event would have not occurred.

2. Corrective Steps Taken and Results Achieved

The remote operator was removed, the valve was opened and remote operator was reinstalled in open position.

3. Corrective Actions Taken to Preclude Recurrence

A lessons learned has been issued which enhances the current practice to remove the valve tag; as reminder that the valve should be checked and locked in its proper lineup position after the work is complete.

4. Date of Full Compliance

TU Electric is in full compliance.

5. Additional Information

The PDP portion of the system is a non-safety related system, the closed valve in the Safety Injection flowpath was of little or no significance because this particular safety injection flowpath is not used for core reactivity or temperature control.

ADDITIONAL RESPONSE TO NRC INSPECTION REPORT 50-445/96-04; 50-446/96-04

TU Electric has reviewed the NRC's letter dated April 26, 1996, concerning the inspections conducted by Mr. A. T. Gody, Jr., and other inspectors during the period of February 18 through March 30, 1996. The inspection report identified issues which may indicate an apparent negative human performance trend.

Although the individual examples are self identified, they do represent a departure from the level of performance that TU Electric management expects from Comanche Peak personnel.

A task team was formed on February 26, 1996, with the purpose to evaluate, provide insight and provide recommendations to management on recent personnel errors in 1996 and late 1995. The task team's scope was to: review corrective actions from past Human Performance Enhancement System (HPES) reports, determine how the Seven Steps of self verification (i.e., Stop, Locate, Touch, Verify, Anticipate, Manipulate and Observe) have been sponsored and implemented, and determine if there were common causes for the recent personnel errors. The task team's methodology utilized interviews of peers and supervision of personnel involved in the events, and reviews of past HPES reports and Personnel Error (PE) trend data. The task team concluded that:

> Previous HPES were effective for the affected department. Seven Steps is being sponsored and implemented by the work groups. For continued improvement in reduction of personnel errors, sponsorship and implementation of the Seven Steps will require heightened vigor. Therefore, it is concluded that the recent increase in PEs is probably only a temporary blip in the trend.

Notwithstanding, several actions are being planned or have been implemented by TU Electric management to minimize the adverse human performance trend. Some of these actions are stated below. TU Electric will keep the NRC resident inspectors informed of the progress of these activities as needed.

Nuclear Overview Department is currently performing evaluations on previous corrective actions. The objective of these evaluations is to provide adequate confidence that the corrective actions are being implemented.

A human performance workshop has been conducted by TU Electric senior management to develop innovative ways to minimize negative human performance.

Human performance lessons learned from other utilities (when available) will continue to be made available to department managers/supervisors as required.