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

**SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1**  
**DOCKET NUMBER NO. 50-445**  
**ENFORCEMENT DISCRETION FOR FEEDWATER ISOLATION**  
**VALVES (FIVS) AND ASSOCIATED BYPASS VALVES**

- REF: 1) NUREG-1600, "General Statement of Policy and Procedures for NRC Enforcement Actions," dated November 9, 1999
- 2) NRC Inspection Manual, Part 9900, "Operations - Enforcement Discretion," dated June 29, 1999
- 3) TXU letter logged TXX-00019, dated January 19, 2000, from C. L. Terry to the NRC
- 4) TXU letter logged TXX-00077, dated May 12, 2000, from C. L. Terry to the NRC

Gentlemen:

In accordance with the guidance provided by reference 1, TXU Electric requests that the Nuclear Regulatory Commission (NRC) exercise enforcement discretion to allow CPSES Unit 1 to remain in Mode 1, Power Operation, while one Feedwater Isolation Valve (FIV) is inoperable to perform repairs. Without the requested enforcement discretion, compliance with CPSES Technical Specification LCO 3.7.3 would require that TXU Electric initiate an unnecessary plant transient (i.e., shutdown of CPSES Unit 1).

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TXX-00106

Page 2 of 7

Reference 3 was a previous enforcement discretion that was requested for a similar condition for Unit 1. At the time that request was written it was anticipated that this was a non-recurring event and that a technical specification change was not necessary. Subsequently, it was found that the hydraulics of the other FIVs were potentially similarly affected at which time a License Amendment Request was initiated. The License Amendment Request (reference 4) has been submitted to the NRC.

The referenced section of the NRC Inspection Manual (reference 2) provides guidance on the information to be included in a request for enforcement discretion. The sections below are arranged to correspond to that guidance.

1. REQUIREMENT/REQUEST:

Limiting Condition for Operation (LCO) 3.7.3, Feedwater Isolation Valves (FIVs) and Associated Bypass Valves, requires, in part, that four FIVs and associated bypass valves be OPERABLE in Modes 1, 2, and 3. With one or more FIVs inoperable, the action to be taken is to close or isolate the FIV within 4 hours. Operating at power with one FIV inoperable would require a significant reduction in power or placing the unit in Mode 3, Hot Standby. TXU Electric requests that the NRC exercise enforcement discretion to not enforce compliance with LCO 3.7.3 Required Action A.1, "Close or isolate the FIV within 4 hours", unless maintenance activities to repair FIV 1-04 were to take longer than 24 hours.

2. CIRCUMSTANCES:

The main feedwater isolation valves are designed to use a nitrogen gas accumulator to ensure the valves stroke closed in the required time. A hydraulic system is used to hold the valve open during normal operation. Solenoid valves normally isolate the hydraulic chamber, and open upon receipt of a feedwater isolation signal to allow valve closure. However, due to small bypass leakages, the pressure in the hydraulic chamber slowly decreases over time. A hydraulic pump for each feedwater isolation valve is used to maintain the pressure in the hydraulic chamber sufficiently high to prevent inadvertent valve closure.

The hydraulic pump for 1-HV-2137, SG 1-04 Feedwater Isolation Valve (FIV 1-04), is not maintaining its prime due to air inleakage. When the pump is required to run to restore the pressure in the hydraulic chamber, the loss-of-prime condition causes the hydraulic pump to run continuously without increasing the actuator accumulator pressure. The failure of the hydraulic pump does not inhibit the valve from shutting

TXX-00106

Page 3 of 7

within the required time; therefore, operability is not impacted. Failure of the pump will result in a slow closure of FIV 1-04 and a potential plant transient.

A previous enforcement discretion was requested (reference 3) and granted for a similar condition for the hydraulic pump for FIV 1-03. While it was estimated that the repairs of the pump would require only 3 hours, requesting enforcement discretion was considered to be prudent as a precaution in the event of unanticipated circumstances. In fact, the repairs took longer than the TS 3.7.3 four hour Completion Time but less than the time allowed by the enforcement discretion. At the time that request was written it was anticipated that this was a non-recurring event. Based on the subsequent analysis of the failure, the root cause was determined to be the use of a seal material in the hydraulic pump that was not in accordance with vendor drawings and that was incompatible with the hydraulic fluid. This condition potentially exists in the other FIVs.

Repair of the hydraulic pump at power will require mechanically restraining FIV 1-04 open and replacing its hydraulic pump. During this time, FIV 1-04 will not be able to perform its function of feedwater isolation. The associated feedwater control valve is available, if necessary, to complete the feedwater isolation function.

### 3. SAFETY SIGNIFICANCE AND POTENTIAL CONSEQUENCES:

The primary safety function of the safety grade FIVs is to isolate main feedwater flow (MFW) to the secondary side of the steam generators following a high energy line break (HELB). Each FIV has a FIV Bypass Valve (FIBV) and a Feedwater Preheater Bypass Valve (FPBV) which are its associated bypass valves. The associated function of the Feedwater Control valves (FCVs) and their associated bypass valves (FCBVs) is to provide backup isolation of MFW flow to the secondary side break following an HELB. The FCVs and their associated bypass valves receive the same redundant isolation signals and have the same closure stroke time design requirements as the FIVs and their associated bypass valves; however, the FCVs do not meet the same safety grade requirements as the FIVs. Because the control valves are highly reliable and a seismic event is not assumed to occur coincident with a spontaneous break of safety related secondary piping, if a safety grade FIV fails to close on demand, the feedwater isolation function will be performed by the closure of the FCVs and associated bypass valves. The feedwater isolation function can also be completed through the automatic tripping of the main feedwater pumps. For high-energy secondary system breaks occurring in the main steam lines or in the MFW lines downstream of the FIVs and associated bypass valves, or FCVs and associated bypass valves, the completion of the feedwater isolation function terminates the addition of feedwater to an affected steam generator, limiting the mass and energy

TXX-00106

Page 4 of 7

releases for HELBs thus limiting the peak containment pressure and temperature, and reducing the RCS cooldown effects. Blowdown from a feedwater line break occurring upstream of the main feedwater check valves will be minimized by these check valves, and the resultant transient will be similar to a loss of main feedwater. These main feedwater check valves are included in the CPSES Inservice Testing Plan and are tested accordingly.

The Probabilistic Risk Assessment Group assessed the risk of performing the maintenance at power assuming the valve is unavailable to perform its intended function. Based on this assessment, it was concluded that the incremental increase in risk associated with performing the maintenance at power is not risk-significant.

In addition to the above considerations, there have been several industry studies on averted risk which are relevant to this CPSES submittal. These studies show that the risk of performing certain maintenance activities at power is less than the transition and shutdown risk even for more important components. Thus, the risks of remaining at power while repairs are being made to FIV 1-04 are considered to be less than those associated with transition and shutdown. In addition, there is a risk of a transient occurring if the valve is not repaired. Therefore, it can be concluded that to remain at power while repairs are made to FIV 1-04 is a prudent course of action.

#### 4. NO SIGNIFICANT HAZARDS CONSIDERATION:

TXU Electric has considered the criteria for assessing the potential of creating an unreviewed safety question or a significant hazards consideration with the exercising of enforcement discretion. In evaluating if discretion in enforcement constitutes a significant hazard the criteria of 10CFR50.92(c) is discussed below:

1. Do the proposed changes involve a significant increase in the probability or consequences of an accident previously evaluated?

Evaluations performed in the development of CPSES Technical Specification Section 3.7.3 allow for the valve to be inoperable for four hours. The time allowed was based on operating experience and the low probability of an event occurring during this time period. The additional twenty hours does not significantly increase the probability of the evaluated accident. The consequences of the accident are the same for the additional twenty hours as they are for the initial four hours.

2. Do the proposed changes create the possibility of a new or different kind of accident from any accident previously evaluated?

TXX-00106

Page 5 of 7

The proposed time extension does not create the possibility of a new or different kind of accident. The evaluations performed in the development of the CPSES Technical Specification Section 3.7.3 addressed this accident.

3. Do the proposed changes involve a significant reduction in a margin of safety?

The proposed time extension does not involve a significant reduction in the margin for safety. NUREG 1431 Standard Technical Specifications allows a main feedwater isolation valve or a main feedwater control valve (FCV) to be inoperable for seventy-two hours. This is based on the safety function of the FCVs to provide backup isolation of the main feedwater flow. CPSES addresses FCV operability requirements in the Technical Requirements Manual with a seven day completion time based on the same backup isolation of main feedwater flow function. Since a seismic event is not assumed to occur coincident with a spontaneous break of safety related secondary piping, loss of the non-safety grade FCVs is not assumed. The CPSES Technical Specification Section 3.7.3 Bases discusses the back-up function of the non-safety related FCV to terminate the flow to the steam generator. With 1-FCV-540 (FCV 1-04) operable during the additional twenty hours that FIV 1-04 is inoperable there is not a significant reduction in the safety margin and it is more conservative than NUREG 1431 requirements.

In summary, TXU Electric has determined that not closing the FIV until 24 hours instead of 4 hours does not involve a significant hazard consideration and will not be of potential detriment to the public health and safety.

5. ENVIRONMENTAL CONSEQUENCES:

The request only involves repairs and testing within the plant. These activities and their potential consequences are limited to the plant and will not result in any unplanned releases that could impact the environment.

6. COMPENSATORY ACTIONS:

During the period safety grade FIV 1-04 is not operable, the non-safety grade FCV in that line, 1-FCV-540, will be operable. 1-FCV-540 was stroke tested satisfactorily on October 25, 1999, and demonstrated the ability to close in under 5 seconds in accordance with CPSES TRM surveillance requirements. In addition, a walkdown will be performed by Operations personnel prior to performing the maintenance on FIV 1-04 to ensure that 1-FCV-540 is operating normally. CPSES has not

TXX-00106

Page 6 of 7

experienced steam generator level control problems during the startup transition when the FCV bypass valves are open and the FCVs are closed which would indicate that there is not gross leakage through the FCVs.

Briefings will be conducted with Unit 1 operations and maintenance personnel prior to the start of the maintenance activity on FIV 1-04 and the following information will be discussed: (1) actions to remove the mechanical restraint on FIV 1-04 and establish nitrogen pressure to close the valve within thirty minutes if needed to terminate flow to SG 1-04; (2) actions to manually close 1FW-0062, SG 1-04 Feedwater Header Isolation Valve, within thirty minutes if needed to terminate flow to SG 1-04; (3) the maintenance activity on FIV 1-04 will be controlled by an approved maintenance work order; and (4) no other risk significant activities will be in progress on Unit 1.

The on-shift operations crews will discuss and review the appropriate normal and emergency operating procedures prior to the maintenance activity including the manually tripping of the main feedwater pumps to prevent overflow of steam generators and the automatic trip of the main feedwater pumps on a safety injection.

7. DURATION:

The requested duration is based upon TXU Electric's best estimate of the time required to complete the repairs to FIV 1-04 and to perform the testing to return it to operable status. Based on the repair experience with FIV 1-03, it is estimated that the time required is 3 hours, and therefore TXU Electric requests that the duration of enforcement discretion be 20 hours (to allow for unexpected delays).

8. SORC REVIEW:

This activity has been reviewed and approved by the Station Operations Review Committee.

9. CRITERIA FOR EXERCISING ENFORCEMENT DISCRETION:

Reference 2 provides the criteria for exercising enforcement discretion for an operating plant as follows:

For an operating plant, the NOED is intended to (a) avoid undesirable transients as a result of forcing compliance with the license condition and, thus minimize potential safety consequences and operational risk or (b) eliminate testing, inspection, or system realignment that is inappropriate for the particular plant conditions.

TXX-00106

Page 7 of 7

This criteria reflects the NRC's policy as provided in reference 1.

Initiating a plant shutdown to comply with the subject Technical Specification would subject CPSES to an undesirable transient.

10. PROPOSED TECHNICAL SPECIFICATION CHANGES:

License Amendment Request (LAR-03) has been submitted to revise TS 3.7.3 to extend the allowed Completion Time for one or more FIVs inoperable from 4 hours to 72 hours. Approval of the proposed technical specification change is not required for the requested enforcement discretion. However, implementation of the change would make the enforcement discretion unnecessary.

CONCLUSION:

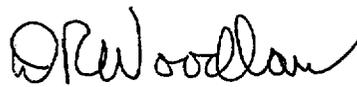
TXU Electric requests the NRC grant the requested enforcement discretion to provide the additional time necessary to complete the required repairs and testing to FIV 1-04 if unexpected delays are encountered. If there is a significant change in the circumstances associated with this exercising of enforcement discretion, TXU Electric will notify the NRC.

This communication contains no new licensing basis commitments regarding CPSES Unit 1.

Sincerely,

C. L. Terry

By:



D. R. Woodlan  
Docket Licensing Manager

BSD/bd

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