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 10CFR50.36

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 & Principal Nuclear Officer

May 24, 1999

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

**SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
 DOCKET NOS. 50-445 AND 50-446
 SUBMITTAL OF LICENSE AMENDMENT REQUEST 99-002
 RELOCATION OF CYCLE SPECIFIC PARAMETERS**

Gentlemen:

Pursuant to 10CFR50.90, TXU Electric (formerly TU Electric) hereby requests an amendment to the CPSES Unit 1 Operating License (NPF-87) and CPSES Unit 2 Operating License (NPF-89) by incorporating the attached changes into the CPSES Units 1 and 2 Technical Specifications. These changes apply equally to CPSES Unit 1 and Unit 2.

TXU Electric proposes to remove several cycle-specific parameter limits from the Technical Specifications. These parameter limits will be added to the Core Operating Limits Report. The relocation of the parameter limits allows for the available operating and analytical margins to be used in the most efficient manner. In addition, the core safety limit curves will be replaced with safety limits more directly applicable to the fuel and fuel cladding fission product barriers. The proposed change will result in resource savings for TXU Electric and the NRC by eliminating license amendment requests now required to change the values of these parameters. The proposed change is consistent with the intent of Generic Letter (GL) 88-16, which provides guidelines for the removal of cycle-specific parameter limits from the Technical Specifications, and WCAP 14483, "Generic Methodology for Expanded Core Operating Limits Report," as approved by the NRC.

This LAR requests approval of the specification changes only. Changed Bases pages are provided for information. Bases changes will be made in accordance with TS 5.5.14, Bases Control Program.

Attachment 1 is the required affidavit. Attachment 2 provides a detailed description of the proposed changes, a safety analysis of the proposed changes and TXU Electric's

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determination that the proposed changes do not involve a significant hazard consideration. Attachment 3 provides a markup of the Improved Technical Specifications (ITS). Only ITS pages are provided since the ITS will be implemented approximately three month prior to the requested date below (scheduled for July, 1999).

Historically, TXU Electric has re-analyzed the RCS Flow, N-16 overtemperature trip setpoints, and applicable changes for the Safety Limit Curves for each cycle of operation and requested changes to the Technical Specifications on a cycle specific basis, as appropriate. In lieu of cycle specific changes for Unit 1 Cycle 8 operation, TXU Electric is requesting approval for removal of these cycle specific parameters in accordance with the NRC approved methodology described in WCAP 14483. TXU Electric requests an approval date of October 1, 1999, for this proposed license amendment, consistent with the planned Unit 1 return to power operation for cycle 8, with implementation of the Technical Specification changes to occur within 30 days after NRC approval.

In accordance with 10CFR50.91(b), TXU Electric is providing the State of Texas with a copy of this proposed amendment.

Should you have any questions, please contact Mr. J. D. Seawright at (254) 897-0140.

Sincerely,

C. Lance Terry

C. Lance Terry

By: *Roger D. Walker*

Roger D. Walker

Manager Regulatory Affairs

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- Attachments:
1. Affidavit
 2. Description and Assessment
 3. Affected Technical Specifications pages as revised by all approved license amendments

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ATTACHMENT 2 to TXX-99113
DESCRIPTION AND ASSESSMENT

DESCRIPTION AND ASSESSMENT

I. BACKGROUND

TXU Electric proposes to remove several cycle specific parameter limits from the Technical Specification (TS) and to add these limits to the Core Operating Limits Report (COLR). The content of the current COLR was primarily based on the Westinghouse determination of what plant specific parameter limits should be in the COLR to support reload analyses using their methodologies. TXU Electric has largely replaced the need for Westinghouse reload methodologies through the development and subsequent NRC approval of TXU Electric reload methodologies. Part of the desirability of performing in-house reload analyses is the ability to perform trade-offs between operating margins and analytical design margins, whenever appropriate, to optimize the economic performance of the plant while maintaining the required margin of safety. The removal of these parameter limits from the TS and their addition to the COLR improves the efficiency of this process. In addition, the core safety limit curves will be replaced with safety limits more directly applicable to the fuel and fuel cladding fission product barriers.

The removal of these limits from the TS is consistent with the guidance provided in Generic Letter (GL) 88-16, "Guidance for Technical Specification Changes for Cycle-Specific Parameter Limits" (Reference 1) and WCAP 14483, "Generic Methodology for Expanded Core Operating Limits Report," (Reference 2) as approved by the NRC in Reference 3. The limits presented in the COLR may be modified, provided the requirements of Specification 5.6.5 are met (i.e., the modifications are determined using NRC-approved methodologies and meet all applicable limits of the plant safety analysis). The proposed changes result in resource savings for TXU Electric and the NRC by eliminating the periodic license amendment requests that would be required for changes to the values of these cycle specific parameters.

II. DESCRIPTION OF TECHNICAL SPECIFICATIONS CHANGE REQUEST

The affected Technical Specifications are:

- 1) 2.0, "Safety Limits (SLs)"

The proposed changes replace the Reactor Core Safety Limits figures (Figures 2.1.1-1a and 2.1.1-1b), with fuel integrity limits (i.e. DNBR limit and peak fuel centerline temperature limit). In addition, the corresponding BASES section was revised to include a discussion on the revised descriptions of the SLs.

2) 3.3.1, "Reactor Trip System Instrumentation Setpoints"

The proposed changes remove all numerical values pertaining to the overtemperature N-16 and overpower N-16 reactor trip setpoints and add appropriate referrals to the COLR.

3) 3.4.1, "RCS pressure temperature and flow from Nucleate Boiling (DNB) Limits"

The proposed changes insert an appropriate reference to the COLR and the original minimum Reactor Coolant System (RCS) flow limits, based on the original flexibility for steam generator tube plugging of Westinghouse 4-loop plants, into the LCO and Surveillance Requirements. The changes also remove the cycle specific RCS temperature, pressure, and flow limits specified in LCO and Surveillance Requirements. The Technical Specifications BASES sections are revised accordingly.

4) 5.6.5, "Core Operating Limits Report"

The proposed changes modify Specification 5.6.5a by adding the removed parameter limits to the list of items contained in the COLR (new items 9 and 10)), including a reference to the implementing Technical Specifications.

SUMMARY

In summary, TXU Electric proposes to revise the CPSES ITS Technical Specifications and some of the related BASES sections by replacing the safety limit curves with more appropriate specifications protecting the safety limits and by removing several cycle-specific parameter limits from the Technical Specifications, and adding appropriate parameters to the list of parameter limits in the COLR. The parameter limits are:

- the Reactor Trip System Instrumentation Trip Setpoints for the overtemperature N-16 and overpower N-16 reactor trip functions, and,
- the Reactor Coolant System (RCS) temperature, pressure and flow.

III. ANALYSIS

Recognizing that the accident analyses may change from cycle-to-cycle, the NRC issued Generic Letter (GL) 88-16 which provides guidelines for the removal of cycle-specific limits of selected parameters from the Technical Specifications. In order to remove cycle-specific limits, the Generic Letter requires: (1) the addition

of the definition of a named formal report that includes the cycle-specific parameter limits that have been established using NRC-approved methodology and are consistent with all applicable limits of the safety analysis, (2) the addition of an administrative reporting requirement to submit the formal report on cycle-specific parameter limits to the Commission for information, and (3) the modification of individual technical specification sections to note that the cycle specific parameters shall be maintained within the limits provided in the defined formal report. In January of 1999, the NRC approved (Reference 3) the use of a Westinghouse topical report, WCAP 14483, "Generic Methodology for Expanded Core Operating Limits Report," (Reference 2) for removal of additional cycle specific parameters.

TXU Electric has previously defined the Core Operating Limits Report (COLR), in Specification 1.10, as the appropriate formal report for cycle-specific parameter limits. Appropriate administrative controls requiring the use of NRC-approved methodology and providing the reporting requirements for the COLR have also been previously defined in Specification 5.6.5. Section II above and Attachment 3 describe the modifications to the specific affected Technical Specification and Basis Conditions, including appropriate references to the COLR.

The cycle-specific nature of the parameter limits to be removed is discussed below:

A. Reactor Core Safety Limits

The reactor core safety limits, as shown in Figures 2.1.1-1a and 2.1.1-1b, define a region of acceptable reactor operation. This region is defined by combinations of reactor power, Reactor Coolant System (RCS) average temperature, and pressurizer pressure. The acceptable pressurizer pressures are bounded by the pressurizer pressure - high and the pressurizer pressure - low reactor trip setpoints. The region of acceptable core power is plotted as a function of RCS average temperature and pressure and is bounded by the most restrictive of the following limits:

- the overpower N-16 reactor trip setpoint;
- the combination of pressure, temperature and power which results in a calculated Departure from Nucleate Boiling Ratio (DNBR) equal to the DNBR design limit (referred to as DNBR limit lines);
- the combination of pressure, temperature and power which results in boiling at the exit of the reactor vessel (referred to as vessel exit or hot leg boiling lines).

As discussed in Reference 3, these figures are not a complete representation of the reactor core safety limits, but are intended to provide the relationship between the process variables that are available to the operator and the DNBR design basis safety limit. To better represent the safety limits requirement, it is proposed to delete Figures 2.1.1-1a and 2.1.1-1b and replace the reference to the figure in the Technical Specifications with the actual safety limits of DNBR and peak fuel centerline temperature, thereby more clearly addressing the requirements of 10CFR50.36.

TXU Electric currently uses two DNB correlations. As specified in Technical Specification 5.6.5b, Items 10 and 11, the TUE-1 DNB correlation is used for most non-LOCA event analyses. The W-3 correlation is used for the DNBR evaluation of the steam line break event (Technical Specification 5.6.5b, Item 17). As fuel designs from the various vendors are used, different DNB correlations may be used. All correlations will be listed in Technical Specification 5.6.5b. To minimize future changes to Technical Specification 2.1.1, a generic statement is provided to require compliance with the DNBR limit for the correlation(s) used for a specific core design. The specified correlations would remain in compliance with Technical Specification 5.6.5b.

The proposed Technical Specification 2.1.1.2 would limit the fuel centerline temperature to 4700°F, as required by Technical Specification 5.6.5b, Items 9 and 14.

B. Overtemperature N-16 and Overpower Reactor Trip Setpoints

The overtemperature N-16 and overpower N-16 reactor trip setpoints are justified through the accident analyses performed for each reload in accordance with Technical Specification 5.6.5b, Item 14. The overpower N-16 setpoint is calculated to ensure that the fuel centerline temperature safety limit is met. The overpower N-16 reactor trip function setpoint also sets an upper limit on the range of reactor powers that the overtemperature N-16 reactor trip function must provide DNB protection.

As described in Technical Specification 5.6.5b, Item 9, the overtemperature N-16 reactor trip setpoints are developed to initiate a reactor trip prior to point that the DNBR safety limit would be exceeded. An additional requirement is that a reactor trip signal must be initiated before vessel exit boiling conditions are reached. The cycle-specific conditions at which the DNBR safety limit or the vessel exit boiling criterion would be exceeded are dependent on the calculated axial power distributions representative of that specific cycle, as well as several limits presented in the COLR, including the RCS flow rate (proposed) and the nuclear enthalpy rise hot channel

peaking factor ($F_{\Delta H}$). In addition, these conditions are also dependent on the DNB correlation and the associated DNBR limit used for a specific core configuration. The use of a particular DNB correlation and DNBR design limit must be in accordance with the requirements of Technical Specification 5.6.5b; however, several different correlations and limits may be approved for use. Thus, depending on the fuel design and the methodology used to analyze a specific core design, the assumptions on the RCS flow, and the maximum nuclear enthalpy rise hot channel factor, a cycle specific overtemperature N-16 reactor trip setpoint may be required.

As previously described, the overtemperature N-16 setpoint is calculated such that a reactor trip is initiated before conditions are reached which would violate the reactor core safety limits. In addition, an $f_1(\Delta q)$ trip reset function is provided in the N-16 setpoint equation (currently in Note 1 of Table 3.3.1-1) to account for axial power shapes which are more severe than those shapes considered in the development of the core safety limits. Therefore, changes in the conditions at which the core safety limits may be exceeded must be accompanied by a revision to the overtemperature N-16 setpoint equation. Separate from changes to the core safety limits, a revised core configuration may also result in axial power shapes which require a revision to the $f_1(\Delta q)$ trip reset function.

C. RCS Pressure, Temperature and Flow

Values of the RCS pressure, temperature and flow are specified in Specification 3.4.1. These are cycle specific values based on the total RCS flow (i.e., the sum of all four loop flows) and includes an allowance of 1.8% for the uncertainty associated with the measurement of the RCS flow. The proposed changes also insert into the Technical Specifications a minimum value of the RCS flow. The cycle-specific value presented in the COLR is required to be greater than or equal this minimum value. The minimum value selected for the CPSES units, 389,700 gpm, was the licensed value in the original CPSES, Unit 1, Technical Specifications, but was later increased to make more effective use of the available operating and analytical margins.

D. Administrative Controls

Consistent with the requirements of GL 88-16, the Administrative Controls section of the Technical Specifications has been revised to ensure that the removed parameter limits are contained in the COLR, and that those limits are established using NRC-approved methodology and are consistent with all applicable limits of the safety analysis.

E. Summary

The limits on the parameters which are removed from the Technical Specifications and added to the COLR must be developed or justified using NRC-approved methodologies. All accident analyses, performed in accordance with these methodologies, must meet the applicable, NRC-approved limits of the safety analysis. The removal of parameter limits from the Technical Specification and their addition to the COLR does not obviate the requirement to operate within those limits. Furthermore, any changes to these limits must be performed in accordance with Specification 5.6.5c. If any of the applicable limits of the safety analyses are not met, prior NRC approval of the change is required, just as is the case for a license amendment request. For the more routine modifications, where NRC-approved methodologies and limits of the safety analysis remain applicable, the potentially burdensome and lengthy process of amending the Technical Specifications may be avoided. These changes are essentially administrative and the required level of safety is maintained.

IV SIGNIFICANT HAZARDS CONSIDERATIONS ANALYSIS

TXU Electric has evaluated whether or not a significant hazards consideration is involved with the proposed changes by focusing on the three standards set forth in 10CFR50.92(c) as discussed below:

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

The proposed changes remove cycle-specific parameter limits from the Technical Specifications, add them to the list of limits contained in the Core Operating Limits Report (COLR), and revise the Administrative Controls section of the Technical Specifications. The proposed changes also insert the original minimum RCS flow limits into the Technical Specifications. The changes do not, by themselves, alter any of the parameter limits. The changes are administrative in nature and have no adverse effect on the probability of an accident or on the consequences of an accident previously evaluated. The removal of parameter limits from the Technical Specifications does not eliminate the requirement to comply with the parameter limits.

The parameter limits in the COLR may be revised without prior NRC approval. However, Specification 5.6.5c continues to ensure that the parameter limits are developed using NRC-approved methodologies and that applicable limits of the safety analyses are met. While future changes to the COLR parameter limits could result in event consequences which are either slightly less or slightly more severe than the consequences for the same event using the present parameter

limits, the differences would not be significant and would be bounded by the requirement of specification 5.6.5c to meet the applicable limits of the safety analysis.

Based on the above, addition of the minimum RCS flow limit into the Technical Specifications, removal of the parameter limits from the Technical Specifications and the addition of the described limits in the COLR, thus allowing revision of the parameter limits without prior NRC approval, has no significant effect on the probability or consequences of an accident previously evaluated.

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

The proposed changes add the minimum RCS flow limit into the Technical Specifications, remove certain parameter limits from the Technical Specifications and add these limits to the list of limits in the COLR, thus removing the requirement for prior NRC approval of revisions to those parameters. The changes do not add new hardware or change plant operations and therefore cannot initiate an event nor cause an analyzed event to progress differently. Thus, the possibility of a new or different kind of accident is not created.

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

The margin of safety is the difference between the acceptance criteria and the associated failure values. The proposed changes do not affect the failure values for any parameter. Through the accident analyses, all applicable limits (i.e., relevant event acceptance criteria as described in the NRC-approved analysis methodologies) are shown to be satisfied; therefore, there is no impact on event acceptance criteria. Because neither the failure values nor the acceptance criteria are affected, the proposed change has no effect on the margin of safety.

Based on the above evaluations, TXU Electric concludes that the activities associated with the above described changes present no significant hazards consideration under the standards set forth in 10CFR50.92(c) and, accordingly, a finding by the NRC of no significant hazards consideration is justified.

V. ENVIRONMENTAL EVALUATION

The removal of these limits from the TS is consistent with the guidance provided in Generic Letter (GL) 88-16, "Guidance for Technical Specification Changes for Cycle-Specific Parameter Limits" (Reference 1) and WCAP 14483, "Generic Methodology for Expanded Core Operating Limits Report," (Reference 2) as approved by the NRC in Reference 3. The limits on the parameters which are removed from the Technical Specifications and added to the COLR must be developed or justified using NRC-

approved methodologies. All accident analyses, performed in accordance with these methodologies, must meet the applicable, NRC-approved limits of the safety analysis. These changes are essentially administrative and do not change the type or quantity of effluents released offsite, nor will these changes increase individual or cumulative occupational radiation exposure. Based on the preceding evaluation, these changes do not involve a significant hazards consideration.

TXU Electric has evaluated the proposed changes and has determined that the changes do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion set forth in 10CFR51.22(c)(9). Therefore, pursuant to 10CFR51.22(b), an environmental assessment of the proposed change is not required.

VI. REFERENCES

1. Generic Letter 88-16 "Guidance for Technical Specification Changes for Cycle-Specific Parameter Limits," October 4, 1988
2. WCAP 14483, "Generic Methodology for Expanded Core Operating Limits Report," November 1995
3. NRC letter from Thomas H. Essig to Mr. Andrew Drake, (Westinghouse Owner's Group), dated January 19, 1999