

Log # TXX-96517
File # 10010
10CFR50.46

November 29, 1996

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)
DOCKET NOS. 50-445 AND 50-446
10CFR50.46 NOTIFICATION AND REPORTING INFORMATION

- REF: 1) Letter to C. L. Terry, TU Electric, from
Brian W. Sheron, Office of Nuclear Reactor Regulation,
October 11, 1996
2) Letter logged TXX-96497, Dated October 25, 1996, from
C. L. Terry to the NRC

Gentlemen:

The large break loss of coolant accident (LOCA) analyses for Units 1 and 2 were performed by TU Electric in accordance with the approved TU Electric methodology. This methodology relied on the Siemens Power Corporation (SPC) 1986 evaluation model. On October 11, 1996, TU Electric was informed (Reference 1) by the NRC of an unacceptable error in the large break LOCA evaluation model used in the analysis of both CPSES Units 1 and 2. The error was characterized as non-physical behavior of the reflood heat transfer coefficient for reflood rates between 1.0 and 1.77 inches/second. The NRC requested affected licensees to assess the impact of the model error and take whatever actions were required to assure compliance with 10CFR50.46.

In response to this request, TU Electric performed a temporary assessment, using guidelines agreed upon, at the October 16, 1996, meeting. The assumptions and results of this temporary assessment are documented in Reference 2.

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On November 20, 1996, after a preliminary review of Reference 2, the NRC concluded that an assumption used in that temporary assessment was no longer acceptable. In that phone call the NRC recommended a revised assessment using a code modification involving a straight line interpolation on the reflood heat transfer coefficient for flooding rates in the range of concern. TU Electric then requested and the NRC agreed to a linear interpolation between 1.0 and 1.74 inches/second. The value of 1.74 inches/second was justified by TU Electric and agreed upon by the NRC on the basis of a comparison between the correlation-calculated value and experimental data points at 1.74 inches/second shown in Figure 3.7 of an Attachment to Reference 2.

As a result of this conversation, the NRC requested TU Electric to revise its temporary assessment in the manner agreed upon in the November 20, 1996 phone call between TU Electric and the NRC staff. The resulting PCTs and corresponding F_0 values of that preliminary revised assessment using the interpolation end points of 1.0 and 1.74 inches/second were reported to the NRC on the November 22, 1996, phone call. After some discussion, TU Electric and the NRC mutually concluded that the end point of 1.74 inches/second, while theoretically appropriate, resulted in excessive PCT reduction. The NRC then accepted the TU Electric proposal to use an intermediate point between 1.77 and 1.74 inches/second such that PCT reduction with respect to the base case of Reference 2 would be less than 50°F. The analysis initially concluded that the interpolation between 1.0 and 1.74 inches/second showed a reduction in PCT of approximately 195°F. However, the final analysis resulted in a reduction in PCT of 42°F in Unit 1 and an increase in PCT of 24°F in Unit 2.

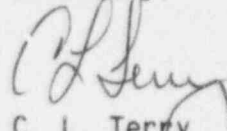
Thus, a new revised temporary assessment has been performed using a code modification that does a straight line interpolation on the reflood heat transfer coefficient for flooding rates between 1.0 and 1.74 inches/second. This new revised temporary assessment demonstrates compliance with 10CFR50.46 and Appendix K thereto, pending the resolution of the issue with the heat transfer model in the Siemens 1986 evaluation model.

Based on this latest assessment, a list of the resulting licensing basis peak clad temperatures (PCT) for the LOCA analyses is provided in Attachment 1 to this letter. Additionally, Attachment 2 provides plant specific information from the TOODEE2 hot rod heatup calculations regarding the calculated peak clad temperature. TU Electric continues to satisfy the requirements of 10CFR50.46 and Appendix K thereto. The small break LOCA PCTs are bounded by the large break LOCA PCTs.

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Please contact Dr. W. G. Choe at (214) 812-4371 or Mr. J. D. Seawright at (817) 897-0140 if you have any questions in this regard.

Sincerely,



C. L. Terry

JDS/grp
Attachments

c - Mr. L. J. Callan, Region IV
Mr. T. J. Polich, NRR
Mr. J. I. Tapia, Region IV
Resident Inspector, CPSES

CPSES Units 1 and 2
Limiting Peak Clad Temperatures

<u>Analysis/Evaluation</u>	<u>CPSES Unit 1</u>		<u>CPSES Unit 2</u>	
	<u>PCT (°F)</u>	<u>Total Peaking Factor (F₀)</u>	<u>PCT (°F)</u>	<u>Total Peaking Factor (F₀)</u>
Limiting LOCA PCT (°F) [Large Break]	2055	2.42	2048	2.42
Revised Temporary Assessment pending resolution of SPC issues with 1986 version of TOODEE-2	2013	2.42	2072	2.42

