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10CFR50.46

October 25, 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 logged TXX-96398, Dated June 28, 1996, from C.L. Terry to the NRC
2) Letter to C. Lance Terry, TU Electric, from Brian W. Sheron, Office of Nuclear Reactor Regulation, October 11, 1996.

Gentlemen:

The large break loss of coolant accident (LOCA) analyses for Units 1 and 2 were performed by TU Electric in accordance with approved methodologies. These methodologies relied on the Siemens Power Corporation (SPC) 1986 evaluation model supplemented by the 1991 version of TOODEE-2. TU Electric committed to revise the Unit 1 analysis prior to Cycle 6 operation and the Unit 2 analysis within three months following the end of the 1RF05 refueling outage (Reference 1). The revised analyses, based solely on the 1986 version of the SPC evaluation model, have been completed. A list of the resulting licensing basis peak clad temperatures (PCT) for the LOCA analyses is provided in the Attachment to this letter. TU Electric continues to satisfy the requirements of 10CFR50.46. The small break LOCA PCTs are bounded by the large break LOCA PCTs.

Background:

On October 11, 1996, TU Electric was informed (Reference 2) 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 NRC requested affected licensees to assess the impact of the model error and take whatever actions are required to assure compliance with 10CFR50.46.

Change NRC PDR Ltr & Encl w/out Prop

ENCLOSURE CONTAINS PROPRIETARY INFORMATION

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Discussion:

The error in the 1986 evaluation model has been characterized as non-physical behavior of the heat transfer coefficient for reflood rates between 1.0 and 1.77 inches/second. In the current LOCA analyses for CPSES Units 1 and 2, the minimum reflood rate prior to the time of PCT is computed to be 1.735 inches/sec.

TU Electric, SPC, the NRC, and other SPC fuel users met on October 16, 1996, to discuss this issue. Based on the information summarized in Enclosure 1 to this letter, the 1986 Large Break LOCA evaluation model incorporates heat transfer coefficients during the reflood which, when compared to measured data, demonstrate ample conservatism to justify its use to show compliance with the 10CFR50.46 criteria. Of particular interest are the comparisons between the Fuel Cooling Test Facility (FCTF) measured and computed heat transfer coefficients at a reflood rate of 1.74 inches/sec (similar to CPSES), which show a significant amount of conservatism in the computed heat transfer coefficients. For example, the time of occurrence of PCT for the limiting cases is approximately 40 seconds following the start of the reflood period. Through a review of Figures 3.3 and 3.4 of the enclosed SPC report, it is observed that the values of the heat transfer coefficient predicted at this time (~ 40 sec) with the FCTF correlation are in the conservative direction relative to the measured coefficients. In addition, relevant comparisons of the computed FCTF heat transfer coefficient with data points from the FCTF test are shown in Figures 3.7 and 3.8 of Enclosure 1. As can be observed, the computed heat transfer coefficient is clearly conservative relative to the measured coefficient.

Furthermore, the CPSES Unit 2, Cycle 2 large break LOCA analysis, with an F_Q limit of 2.32, was performed by Westinghouse based on their 1981 ECCS evaluation model. TU Electric informally applied the 1986 SPC methodology to CPSES Unit 2, Cycle 2 and concluded that a similar degree of conservatism exists relative to the Westinghouse analysis.

Results:

TU Electric has assigned a temporary assessment, with a reduced value of the total peaking factor (F_Q) limit, pending the resolution of the issue with the heat transfer model in the 1986 evaluation model. As described at the October 16, 1996, meeting, this assessment was performed using a reflood heat transfer coefficient no greater than that corresponding to a reflood rate of 1.77 inches/sec up through the time of PCT. This

adjustment is conservative and consistent with the methodologies approved by the NRC for use at CPSES. The additional conservatism in the heat transfer coefficient with this approach is identified in Figures 3.7 and 3.8. Based on this assessment, the results of which are summarized in the Attachment, the requirements of 10CFR50.46 continue to be satisfied.

Siemens Power Corporation (SPC) considers information contained in the Enclosure 1 to be proprietary. In accordance with the requirements of 10CFR2.790(b) for withholding of proprietary information from public disclosure, an Affidavit is provided as part of Enclosure 1. Correspondence with respect to the proprietary aspects of the supporting SPC Affidavit should be addressed to Siemens Power Corporation, Attention H. D. Hunt, 2101 Horn Rapids Road, P.O. Box 130, Richland WA, 99352-0130. Enclosure 2 provides a non-propriety version of the SPC report, Enclosure 1.

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

C. L. Terry

By: Roger D. Walker

Roger D. Walker
Regulatory Affairs Manager

JDS/grp
Attachment
Enclosures

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

Analysis/Evaluation	CPSES Unit 1		CPSES Unit 2	
	PCT (°F)	Total Peaking Factor (F_Q)	PCT (°F)	Total Peaking Factor (F_Q)
Limiting LOCA PCT (°F) [Large Break]	2055	2.42	2048	2.42
Temporary Assessment pending resolution of SPC issues with 1986 version of TOODEE-2	2112	2.40	2036	2.40

AFFIDAVIT

STATE OF WASHINGTON)
) ss
COUNTY OF BENTON)

I, H. D. Curet, being duly sworn, hereby say and depose:

1. I am the Manager, Product Licensing, for Siemens Power Corporation ("SPC"), and as such I am authorized to execute this Affidavit.

2. I am familiar with SPC's detailed document control system and policies which govern the protection and control of information.

3. I am familiar with the Siemens Power Corporation information in SEJ:96:021, "Justification for SPC 1986 LBLOCA Evaluation Model with Interim Adjustment for Non-Physical Behavior," referred to as "Document." Information contained in this Document has been classified by SPC as proprietary in accordance with the control system and policies established by SPC for the control and protection of information.

4. The Document contains information of a proprietary and confidential nature and is of the type customarily held in confidence by SPC and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in the Document as proprietary and confidential.

5. The Document has been made available to the U.S. Nuclear Regulatory Commission in confidence, with the request that the information contained in the Document will not be disclosed or divulged.

6. The Document contains information which is vital to a competitive advantage of SPC and would be helpful to competitors of SPC when competing with SPC.

7. The information contained in the Document is considered to be proprietary by SPC because it reveals certain distinguishing aspects of SPC licensing methodology which secure competitive advantage to SPC for fuel design optimization and marketability, and includes information utilized by SPC in its business which affords SPC an opportunity to obtain a competitive advantage over its competitors who do not or may not know or use the information contained in the Document.

8. The disclosure of the proprietary information contained in the Document to a competitor would permit the competitor to reduce its expenditure of money and manpower and to improve its competitive position by giving it valuable insights into SPC licensing methodology and would result in substantial harm to the competitive position of SPC.

9. The Document contains proprietary information which is held in confidence by SPC and is not available in public sources.

10. In accordance with SPC's policies governing the protection and control of information, proprietary information contained in the Document has been made available, on a limited basis, to others outside SPC only as required and under suitable agreement providing for nondisclosure and limited use of the information.

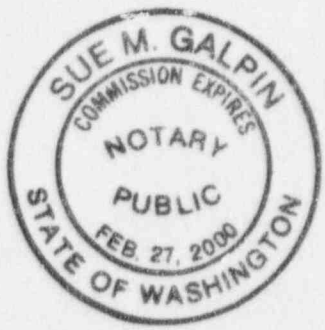
11. SPC policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

12. Information in this Document provides insight into SPC licensing methodology developed by SPC. SPC has invested significant resources in developing the methodology as well as the strategy for this application. Assuming a competitor had available the same background data and incentives as SPC, the competitor might, at a minimum, develop the information for the same expenditure of manpower and money as SPC.

THAT the statements made hereinabove are, to the best of my knowledge, information, and belief, truthful and complete.

FURTHER AFFIANT SAYETH NOT.

SUBSCRIBED before me this 23rd day of October, 1996.



Sue M. Galpin
NOTARY PUBLIC, STATE OF WASHINGTON
MY COMMISSION EXPIRES: 2/27/00

Enclosure 2 to TXX-96497