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March 23, 1990

William J. Cahill, Jr.
Executive Vice President

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
RELOAD ANALYSIS METHODOLOGY (CONTROL ROD SWAP METHODOLOGY)

Gentlemen:

As part of the TU Electric reload analysis program, a methodology has been developed for verifying control rod worth during startup physics tests by utilizing a "rod swap" technique. The TU Electric methodology will be applied to CPSES Unit 1, cycle 2, and subsequent cycles. The cycle 1 startup testing will be supported with analytical results provided by Westinghouse. However, Unit 1, cycle 1, control rod swap analyses have also been performed utilizing the TU Electric methodology, and the results of those analyses are presented in the attachment. The TU Electric results are being provided prior to startup testing, thereby putting in place a "blind prediction" to substantiate the reliability of the TU Electric methodology.

A steady state reactor physics methodology has been developed by TU Electric to be utilized in support of reload design, licensing, and operation of CPSES Units 1 and 2. The generalized methodology is documented in Report No. RXE-89-003-P and was transmitted for your review in letter TXX-89533, dated July 31, 1989. Included in that report are the results of pre-startup calculations for Comanche Peak Unit 1, cycle 1 using the TU Electric methodology.

After the issuance of Report No. RXE-89-003-P, TU Electric elected to incorporate the flexibility of utilizing Bank Exchange as an alternative method of measuring control rod worth during the startup testing of Comanche Peak Unit 1, cycle 1. In order to maintain such flexibility for reload cycles, TU Electric developed an analytical methodology to support control rod worth measurements using the control rod swap technique. The TU Electric control rod swap methodology is summarized in the attachment to this letter. This information complements that previously provided in Report No. RXE-89-003-P.

TU Electric is preparing a topical report addressing the calculation of control rod worth. That report will provide more detailed information with respect to analytical models as well as comparisons of calculated results to measurements utilizing the control rod swap method and the boron dilution method. A comparison of the attached calculated results to the measured result obtained from CPSES Unit 1, cycle 1 will be included.

D029 Add: NRR Chatterton 1/1 Ltr Encl 1 1

If you have any questions on this material please contact Mickey R. Killgore (214-812-8271) or Jimmy D. Seawright (214-812-4375) of my staff.

Sincerely,

William C. Gerfil, Jr.

By: John W. Beck
John W. Beck
Vice President,
Nuclear Engineering

JDS/vld
Attachments

c - CCS - CPSES/E06
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