

50-445/446



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20585-0001

March 8, 1999

Mr. C. Lance Terry
TU Electric
Senior Vice President & Principal Nuclear Officer
Attn: Regulatory Affairs Department
P. O. Box 1002
Glen Rose, TX 76043

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION, UNITS 1 AND 2 - REVIEW OF CALDON ENGINEERING TOPICAL REPORT ER 80P, "IMPROVING THERMAL POWER ACCURACY AND PLANT SAFETY WHILE INCREASING POWER LEVEL USING THE LEFM SYSTEM" (TACS NOS. MA2298 AND MA2299)

Dear Mr. Terry:

By letters dated July 17 (TXX-98180) and December 17, 1998 (TXX-98274), Texas Utilities Electric Company submitted Topical Report, ER-80P, "Improving Thermal Power Accuracy and Plant Safety While Increasing Operating Power Level Using the LEFM System." This topical report supports a proposed 10 CFR Part 50, Appendix K exemption request for Comanche Peak, Units 1 and 2. Enclosed is the staff's safety evaluation report approving Topical Report ER-80P. The review was limited to an evaluation of the use of ultrasonic flow meters (specifically a multipath, transit time, chordal, in-line spool piece mounted flow meter) replacing conventional venturi based feedwater flow measurement while maintaining uncertainties (including instrument error) within a specified accuracy.

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Based on its review of Topical Report ER-80P, the staff concludes that a transit time multipath, in-line mounted ultrasonic flow meter such as the leading edge flow meter (LEFM) is capable of providing improved thermal power measurement capability through improved feedwater flow measurement accuracy. The staff review of the LEFM confirmed that the measurement of reactor thermal power and related surveillance are consistent with the plant analysis assumptions and the associated uncertainties in the analysis, provided the calibration, installation and maintenance as outlined in Topical Report ER-80P and included in this safety evaluation are followed. Based on the above the staff finds that feedwater flow measurement using the LEFM can provide a thermal power measurement that will remain bounding within an uncertainty of $\pm 1\%$ of rated thermal power. This is premised on the assumption that no additional uncertainties beyond those included in Topical Report ER-80P are assumed to be included in the 10 CFR Part 50, Appendix K 102% thermal power margin requirement. The staff also finds that the methodology used to determine thermal power uncertainties should be the same as that used to determine current plant thermal power instrumentation uncertainty (venturi) when comparisons in improved thermal power measurement uncertainty are claimed. The staff, therefore, concludes that the use of the LEFM ultrasonic flow meter as described in ER-80P is acceptable.

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Mr. C. Lance Terry

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If you have any additional questions regarding this review, please contact me at
(301) 415-1038.

Sincerely,

A handwritten signature in black ink, appearing to read "John N. Hannon", written over a horizontal line.

John N. Hannon, Director
Project Directorate IV-1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-445 and 50-446

Enclosure: As stated

cc w/encl: See next page

Mr. C. Lance Terry

-2-

If you have any additional questions regarding this review, please contact me at (301) 415-1038.

Sincerely,

ORIGINAL SIGNED BY:

John N. Hannon, Director
Project Directorate IV-1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-445 and 50-446

Enclosure: As stated

cc w/encl: See next page

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Mr. C. Lance Terry
TU Electric Company

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Comanche Peak, Units 1 and 2

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