TUELECTRIC

William G. Counsil
Executive Vice President

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902.5
Ref. # 10CFR50.55(e)

February 4, 1988

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION
DOCKET NOS. 50-445 AND 50-446
DESIGN GROUNDWATER ELEVATION
SDAR: CP-88-23 (FINAL REPORT)

Gentlemen:

On January 21, 1988, we verbally notified your Mr. H. S. Phillips of a potentially reportable deficiency involving the design basis groundwater level at CPSES. Due to the nature and extent of the evaluation required to determine the effects of this issue on safety-related structures and systems, we are conservatively reporting this deficiency under the provisions of 10CFR50.55(e). The required information follows.

DESCRIPTION

During recent design validation efforts, site piezometer readings have been reviewed which indicate perched groundwater levels exceeding the design basis groundwater level (elevation 775 ft.) reported in the FSAR. The readings used in this review were documented prior to the start of excavation. Subsequent readings have continued to indicate water levels above elevation 775 feet. In addition, leakage in Category I buildings has been observed.

This condition was created by the excavation and backfill process associated with buried piping ductbanks and the Service Water Intake Structure when backfill was placed using pervious material. This arrangement allows surface runoff to be trapped in the pervious zone (backfilled area), thus raising the local water level (called perched water level) above the elevation 775 ft. mark.

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400 North Olive Street LB 81 Dallas, Texas 75201

SAFETY IMPLICATIONS

The effects of the leakage into Category I buildings is indeterminate at this time. Due to the nature and extent of the evaluation required to determine the impact on safety-related systems, we have conservatively determined this issue to be reportable under 10CFR50.55(e).

CORRECTIVE ACTION

We have completed an analysis to validate the design of Category I structures. This analysis assumed that the site groundwater level is at plant grade (elevation 810 ft.) for all Category I structures except the Service Water Intake (which assumed groundwater at elevation 780 ft, five (5) ft above design groundwater). Using these conservative assumptions all Category I structures were determined to meet design requirements.

Design modifications are required to prevent (or mitigate) leakage into Category I structures caused by surface runoff. These modifications will consist of waterproofing and leak collection systems, as appropriate.

In order to monitor and establish the plant area long-term groundwater table, a system of piezometers has been designed and is currently being installed.

The above corrective actions will be completed by December 31, 1988. An update on groundwater monitoring using the new piezometers will also be available at the site for your review at that time.

Very truly yours,

W. G. Counsil

By:
John W. Beck
Vice President,
Nuclear Engineering

RSB/grr

c-Mr. R. D. Martin, Region IV
Resident Inspectors, CPSES (3)