TU ELECTRIC

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Ref. # 10CFR50.55(e)

William G. Counsil
Executive Vice President

January 20, 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 BASIS TORNADO (DBT) ANALYSIS FOR SAFETY RELATED-EQUIPMENT
SDAR: CP-87-64 (FINAL REPORT)

Gentlemen:

On August 24, 1987, we verbally notified your Mr. H. S. Phillips of a potentially reportable item involving the pressure relieving capacity of the tornado venting devices on Units 1 and 2. Specifically, the existing Design Basis Tornado (DBT) analysis does not include sufficient documentation to show conclusively that safety-related equipment is qualified for the differential pressures (negative pressure transient) expected during the DBT. Our last interim report, logged TXX-7077, was submitted on December 9, 1987. The analysis to evaluate the effects of these differential pressures on safety-related equipment is not expected to be completed for some time. Therefore, in order to notify your office in a timely manner, we are conservatively reporting this issue under the provisions of 10CFR50.55(e). The required information follows.

DESCRIPTION OF DEFICIENCY

The CPSES tornado venting system is designed to vent safety-related structures (except containment) to the atmosphere in the event of a tornado. As a result, the safety-related systems within these structures would be subjected to the negative pressure transients experienced during a tornado. Thus, the safety-related equipment in these affected system must be either designed or otherwise demonstrated to be capable of withstanding the expected differential pressures. At CPSES the effects of these negative pressure transients on safety-related equipment were not incorporated into the initial equipment design requirements.

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Gibbs & Hill conducted an analysis of the effects of these differential pressures on all safety-related electrical and I & C cabinets and safety-related HVAC ductwork (safety-related HVAC ductwork is discussed in SDAR: CP-87-69) in response to a 10CFR21 issue. On July 30, 1981, Gibbs & Hill verbally notified your Mr. Cliff Hale of a potential defect concerning the tornado venting systems under the provisions of 10CFR21. The results of the Gibbs & Hill analysis, documented in a report to the NRC, concluded that electric equipment cabinets are capable of withstanding the tornado design conditions and that HVAC ductwork required for safe shutdown will not rupture or collapse. The 10CFR21 investigation is further discussed in three NRC inspection reports (Docket Nos. 99900524/82-01, 99900524/82-02, and 99900524/82-03) with the final report closing the issue. Furthermore, in discussions between TU Electric personnel and Gibbs & Hill personnel in mid-1987, it was learned that in the course of the three NRC inspections, the vulnerability of safety-related equipment other than cabinets and ductwork to tornado effects was discussed. This potential concern was verbally addressed by Gibbs & Hill during the NRC inspections associated with this 10CFR21 issue.

Based on the above, we have reasonable cause to believe that these issues were addressed and that safety-related equipment can be expected to function as required during a DBT event. However, the lack of documentation to completely address all concerns precludes us from making any conclusive statements on this issue at this time and created the need to report this issue under the provisions of 10CFR50.55(e).

SAFETY IMPLICATIONS

Due to the lack of conclusive evidence indicating otherwise,we are conservatively assuming that this condition could have adversely affected safety of plant operations. Considering the length of time required to complete our evaluation and to facilitate a timely resolution of this issue, we are declaring this issue to be reportable under the provisions of 10CFR50.55(e).

CORRECTIVE ACTIONS

The corrective actions required to resolve this issue are listed below. These activities will be completed in a systematic manner to support resolution of this issue as well as to support design validation efforts for licensing activities.

1. Validate the existing tornado venting analysis to assure that the differential pressures to which safety-related equipment would be subjected in the event of a DBT are correct. The tornado venting analysis validation for all safety-related structures has been completed. The results of this analysis are being used to perform corrective action number 2.

2. Validate the component adequacy or operability of affected safety related equipment using the validated DBT differential pressures during the Post-Construction Hardware Validation Program (PCHVP). Non-conformance Reports (NCRs) will be written and dispositioned where the component installation is deficient. This activity is scheduled for completion by August 11, 1988.

Future procurement of safety related components will be in accordance with tornado design criteria delineated in Design Basis Document DBD-ME-009.

Very truly yours,

W. G. Counsil

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By: D. R. Woodlan

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