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TU ELECTRIC

March 31, 1992

**William J. Cahill, Jr.**
*Group 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
RESPONSE TO NRC REQUEST FOR ADDITIONAL
INFORMATION - STATION BLACKOUT SAFETY EVALUATION

REF: 1) TU Electric letter logged TXX-901008 from William J. Cahill, Jr. to the NRC, dated November 5, 1990

2) TU Electric letter logged TXX-91426 from William J. Cahill, Jr. to the NRC, dated November 22, 1991

Gentlemen:

In Reference 1, TU Electric submitted to the NRC, the CPSES Station Blackout (SBO) submittal pursuant to 10CFR50.63, "Loss of All Alternating Current Power." Reference 2 was a supplemental response, as a result of additional NRC questions. In addition, Reference 2 states that equipment required to cope with an SBO is safety-related and included in the CPSES QA program; except for the turbine stop valves, which are surveilled and maintained per the CPSES Technical Specifications. TU Electric provides the following clarification of this statement. In addition to the turbine stop valves, indication for equipment required to cope with an SBO is non-safety related. However, administrative controls are in place which require control board walkdowns on a shift basis. The CPSES FSAR Chapter 15 analysis also takes credit for this instrumentation.

In a letter dated February 27, 1992, the NRC issued the CPSES SBO Safety Evaluation for Unit 1. The Staff concluded that additional information is required to assess TU Electric's conformance to the SBO rule.

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Specifically, the Staff requested that TU Electric provide, in writing, within 30 days, a detail description of the control room temperature analysis. In addition, the Staff requested that TU Electric provide confirmation regarding CPSES implementation of the NRC recommendations identified in the Safety Evaluation. The recommendations addressed the following:

(1) Temperature analyses for dominant area of concerns.

(2) Proposed UPS inverter room design modification.

(3) QA and surveillances for SBO equipment.

(4) EDG reliability program.

Attached is the CPSES temperature analysis for the control room. TU Electric intends to submit a dual Unit SBO response. A preliminary review of Units 1 & 2 indicates that the proposed UPS inverter room design modification, as noted in the Unit 1 SBO submittal, is not required. Therefore, the commitment to implement the proposed design modification in a refueling outage at least 120 days after receipt of the NRC's Safety Evaluation, is no longer appropriate. To allow time to complete the dual Unit SBO response, TU Electric hereby proposes to implement the proposed design modification during the second refueling outage, following NRC approval. However as part of the dual Unit SBO submittal, TU Electric will assess the necessity of the proposed design modification and implementation schedule, if required. In addition, TU Electric will ensure that documentation is available which addresses the NRC recommendations in thu above areas.

Sincerely,

William J. Cahill, Jr.

VPC/gj
Attachment

c - Mr. R. D. Martin, Region IV
Resident Inspectors, CPSES (2)
Mr. T. A. Bergman, NRR
Mr. B. E. Hollan, NRR

# CPSES Control Room Temperature Analysis

The results of the CPSES control room temperature analysis indicates that the maximum temperature during a four hour SBO would be 120.5 degrees F. The following provides additional discussion of the major assumptions of the analysis.

- An initial temperature of 80 degrees F was assumed. This is the maximum normal control room temperature per FSAR Table 9.4-2.

- The heat load due to control room personnel was not considered. The major sources of heat load are energized equipment and lighting. The sensible heat gain from control room personnel at the onset of an SBO is 4130 BTUH, based on 16 people at 80 degrees F (Ebasco calculation X-EB-304-1). The initial personnel heat load represents 1.1% of the equipment heat load during an SBO. Therefore, based on the above, the contribution of personnel heat load to the overall control room temperature was considered negligible.

- Both Unit 1 and Unit 2 share a common control room. Unit 2 is still in the construction phase. However, the Unit 1 control room heatup analysis assumed all equipment (i.e. both Units) in the common control room area to be running.

- The control room net volume free air, which excludes areas occupied by equipment, was calculated to be 261,802 cubic ft (Calculation 3-D-2, #27).

- No mechanical equipment or piping heat was added.

- The surrounding outside temperatures of 193 degrees F (black roof), 125 degrees F, and 120 degrees F were assumed.

- The surrounding concrete was used as a heat sink. Credit was taken for the free flow of air through the false ceiling that has an 5 inch "shake space" around the perimeter and "egg crate" material over the control room horseshoe area.

- A thermal conductivity for concrete of 0.854 (BTU/hr-ft-F) was assumed. This value represents the thermal conductivity for concrete as assumed in CONTEMPT-LT 26. However, the containment analysis was reevaluated using a different computer code, LOCTIC, in lieu of CONTEMPT-LT 26. The current value of thermal conductivity for concrete (0.80 BTU/hr-ft-F), as specified in FSAR Table 6.2.1-8, reflects the thermal property of concrete assumed in LOCTIC (see SSER 22, Section 6.2.1.1).

- No credit was taken for the heat sink capacity of the massive metal seismic ceiling supports.