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**TU ELECTRIC**

December 18, 1992

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 Group Vice President

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)  
 DOCKET NOS. 50-445 AND 50-446  
 ADVANCE FSAR SUBMITTAL - THERMO-LAG UPGRADE TO SAFETY  
 RELATED CONDUITS

Gentlemen:

The attachment to this letter provides an advance CPSES FSAR submittal to facilitate NRC Staff review of the subject area in support of licensing Unit 2. The attachment is organized as follows:

1. A description/justification of each change.
2. A copy of the revised FSAR pages (changes are indicated in the margin by the word "Draft").

The attached material is scheduled to be incorporated in CPSES FSAR Amendment 87 which is currently scheduled for December 18, 1992. If you have any questions regarding this submittal, please contact Mr. Carl Corbin at (214) 812-8859.

Sincerely,

William J. Cahill, Jr.

By: J. S. Marshall  
 J. S. Marshall  
 Generic Licensing Manager

CBC/tg  
 Attachment

c - Mr. C. L. Wilhoan, Region IV  
 Mr. T. A. Bergman, NRR  
 Mr. B. E. Holian, NRR  
 Resident Inspectors, CPSES (2)

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Prefix Page  
(as amended)

Group Description

3.10B-7

3 Documents the use of damping values of 4% and 7% SSE for Thermolag upgrade to safety related conduits.  
Addition :

The use of 4% and 7% damping values for safety related conduits with Thermolag is based on the following:  
(1) The structural supports and clamp supports for safety related Train A and B conduit systems with Thermolag are shown to have the characteristics of a bolted structure and are therefore subjected to the Regulatory Guide 1.61 damping values of 4% (OBE) and 7% (SSE) for bolted structures; (2) A number of other nuclear facilities have used 4% and 7% damping values in their evaluations of safety related conduit systems similar to those systems found at CPSSES; and, (3) Representative test data, conservatively interpreted, for CPSSES Train C conduits and unistrut supports provide evidence that 7% damping is achievable. These results can then be extended to the safety related conduit systems for justifying the use of higher damping values for specific cases.

Change Request Number : SA-92-822.

Commitment Register Number : NL-7554

Related SER : 3.10 SSER :1 3.10

SER/SSER Impact : No

The types of cable trays used are: ladder type with or without tray covers and solid bottom type with or without covers. Trays are supported on structural steel frames anchored to the ceilings, walls, or floors, and braced transversely and longitudinally.

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Under normal conditions of loading and support spacing, trays and their supports may have natural frequencies which are lower than 33 Hz; therefore, they are required to sustain amplified accelerations, and are designed for the peak values of the floor response spectra at the applicable support elevation, unless a frequency analysis is performed to justify the use of lower acceleration values.

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For the qualification of trays, maximum equivalent static loads for SSE are determined from the peaks of floor response spectra curves corresponding to 7% damping, unless a frequency analysis is performed to justify the use of lower acceleration values and are based on the full mass of the tray (weight of the tray plus cable). Suppliers are required to determine by static testing on representative trays of each type being used, the strength of the trays in each of the three principal directions of load application, and to compare the equivalent static loads in each direction with the respective strengths of the trays. The results are combined using an interaction formula to account for the simultaneous application of dead load and earthquake excitation in the three principal directions.

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Supports for the Seismic Category I electrical cable tray and conduit system are designed to resist the gravity and seismic loads imposed on them by the cable trays and/or conduits. The design of the supports is generally based on the peak values of the applicable floor response spectra, unless a frequency analysis is performed to justify the use of lower acceleration values. Floor response spectra corresponding to 7% and 4% dampings for the SSE and OBE, respectively are used for the design of cable tray support systems. For the design of conduit supports, floor response spectra corresponding to 3% and 2% dampings for the SSE and OBE, respectively are used. For Thermolag upgrade to safety related conduits, damping values of 4% and 7% for the OBE and SSE are used, consistent with Regulatory Guide 1.61 for bolted structures.

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