September 28, 1992

Docket Nos. 50-445
and 50-446

Mr. William J. Cahill, Jr.
Group Vice President, Nuclear
TU Electric
400 North Olive Street, L.B. 81
Dallas, Texas 75201

Dear Mr. Cahill:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - COMANCHE PEAK STEAM ELECTRIC STATION, FINAL SAFETY ANALYSIS REPORT (FSAR) CHAPTER 8, AMENDMENTS 79 THROUGH 84 (TAC NOS. M77624, M81965, M83531, M83532)

The NRC staff has completed a review of Chapter 8 of your FSAR submittals through Amendment 84, in accordance with NUREG-0800, "Standard Review Plan." The staff's review identified a number of items which require further review or clarification in order to make a determination as to their acceptability. These items are listed as outstanding issues 1, 2, 7 and 8 in Supplement 25 to the Safety Evaluation Report (SSER 25) for CPSES. The attached enclosure contains requests for additional information regarding these outstanding issues.

The reporting requirements contained in this letter affect fewer than ten respondents, therefore OMB clearance is not required under Public Law 96-511.

We request your response to the enclosed items within 30 days of receipt of this letter to enable the staff to complete its review in a timely manner

Sincerely,

Original Signed By

Brian Holian, Senior Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosure:
Request for Additional
Information

cc w/enclosure:
See next page

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Honorable Dale McPherson
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P. O. Box 851
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ENCLOSURE

REQUEST FOR ADDITIONAL INFORMATION

FSAR AMENDMENTS - ELECTRICAL

COMANCHE PEAK STEAM ELECTRIC STATION, UNITS 1 AND 2

DOCKET NOS. 50-445 AND 50-446

1. Provide detailed descriptions of how the Comanche Peak cable installation configurations compare to the cable configurations used in Wyle Laboratory Test Report No. 47906-01. (It is noted that this test report was provided for Nine Mile Point Unit 2 Nuclear Power Generating Station.) The response should include addressing cable materials and construction, cable sizes, protective wraps and positioning of cables. State if the CPSES cable installation configurations are more or less conservative than those used in the test report and provide the basis for the stated selection (SSER 25 Outstanding Issue 1).

2. The evaluation performed by TU Electric for use of copper sheathed (CS) cable in lighting circuits inside the Comanche Peak containment buildings indicates that technical justification for use of this type cable is provided in Wyle Laboratory Test Report Number 53575. This report contains information relating to testing of CS cable for use at the South Texas Project. As indicated, the intent of the testing performed was to establish that a physical separation distance of 1 inch is adequate to protect Class 1E cables from a fault in a 3/C No. 8 AWG CS cable. In view of this background information, provide responses which address the items requested below (SSER 25 Outstanding Issue 2).

   (a) Information contained in the TU Electric evaluation and the Wyle Test Report indicates that during testing a fault current level of 325 amperes was applied to a 3/C No. 8 AWG CS cable. Further, it is indicated that this fault current level was used during testing because it is equivalent to the secondary (upstream) protective device long time trip setting. However, if the fault current quickly open-circuited the cable without ignition, it appears that a more demanding test for demonstrating the adequacy/acceptability of CS cable for the proposed physical separation application would be to apply a sustained current value greater than the primary protective device setting and substantially less than the secondary protective device setting. This being the case, provide a detailed discussion including technical bases which explains why the CS cable need not be tested in this manner.

(b) The testing as documented in the Wyle Test Report applied a fault level current to a 3/C No. 8 AWG CS cable. However, at the Comanche Peak Station, maximum CS cable size is documented as 4/C No. 10 AWG. Since this is the case, provide a discussion containing technical details which clearly supports how testing results obtained by testing a 3/C cable of one physical size and length are also applicable to a 4/C cable of a smaller physical size and any length.

3. The scope of the one-hour fire rated materials for Comanche Peak was expanded to include one-hour fire rated cables. It is documented that this cable is safety-related and has been qualified per the provisions of IEEE Standards 323-1974 and 383-1974 for being flame retardant. In addition, it is documented that this cable meets the requirements of ASTM E-119-1971 for fire resistance and therefore is considered equivalent to conventional cable enclosed within a one-hour fire barrier (e.g. Thermo-Lag). It is further concluded that the use of one-hour fire rated materials (i.e., Thermo-Lag and one-hour fire rated cable) are considered acceptable barriers for electrical separation and are considered equivalent to metal enclosed raceways with respect to protection from electrical failures. However, the only supporting information provided for these concluding statements is that this cable meets the ASTM E-119 requirements. As such, provide a description which includes technical bases and clearly explains why meeting the ASTM E-119 requirements makes this cable equivalent to metal enclosed raceways with respect to protection from electrical failures in fire safe shutdown systems power and control circuit applications (SSER 25 Outstanding Issue 2).

4. The FSAR information does not explicitly identify any evaluation criteria and bases to be used when cables extend above the Class 1E cable tray side rails but do not exceed the cable tray fill limits. Explicitly identify any evaluation criteria and bases to be used for such situations and provide a detailed description explaining why such a cable installation should be considered satisfactory and technically adequate (SSER 25 Outstanding Issue 7).

5. IEEE Standard 384-1974 states that the cable spreading area shall not contain high energy equipment such as switchgear, transformers, rotating equipment, or potential sources of missiles or pipe whip and shall not be used for storing flammable materials. Provide the technical bases used to determine that the non-Class 1E transformers located in the cable spreading room are low energy. If a fire should occur as a result of one of the transformers, describe in detail how this occurrence does not preclude safe shutdown of the station (SSER 25 Outstanding Issue 8).