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April 30, 1987

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SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
CONDUIT SUPPORT SPANS
SDAR: CP-85-19 (INTERIM REPORT)

Gentlemen:

On October 21, 1986, we notified you by our letter logged TXX-6017 of a deficiency regarding the use of a nonrepresentative sample in determining generic values for typical conduit span calculations which we deemed reportable under the provisions of 10CFR50.55(e). This is an interim report to provide additional technical information involving the deficiency and to status corrective actions implemented to date.

As previously noted in our letter logged TXX-6046, the deficiency involves previous design requirements and documents for safety related conduit and conduit supports for Units 1 and 2. Specifically, the deficiency concerns the yield stress (F_y) used to justify the span calculation reflected in the previous design.

During the Independent Assessment Program (IAP) conducted by Cygna, two major comments were noted on the derivation of the conduit allowable stress.

- a) The allowable stress values vary with the nominal size of the conduit. Using vendor test data (three to four tests for each size) the design specified the lowest yield stress or an imposed minimum yield stress value (33KSI) to obtain allowables for each conduit size. The issue observed by Cygna questioned the different allowable stress for each size and the lack of justification for the imposed minimum yield stress.
- b) The conduit used in CPSES installations is supplied by Triangle PWC and fabricated in accordance with ANSI C80.1, which contains no request for material conformance. Considering the supplier only processes and does not manufacture the material used in the conduits, and no certification is provided with the conduit as a rule, the test data represents only a general sample of conduit.

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These observations resulted in a concern that, in the event of a postulated seismic event, Category 1E conduits, which did not meet the required design criteria for yield stress, could have failed in a manner adverse to plant safety. Our current engineering effort is intended to assure the final basis for the conduit "yield stress" meets the criteria specified in the FSAR.

An expanded sample of available material test reports (MTR) for all conduit sizes has been reviewed. This review has indicated the number of MTRs used to establish the yield stress in the original design was too limited, and that the use of the lower test yield stress per conduit size is inappropriate. Based upon the completed evaluation of an expanded MTR sample, the design documents, 2323-S1-0910 for Unit 1, and 2323-S2-0910 for Unit 2, are currently scheduled for revision by July 31, 1987. At that point, additional corrective measures will be defined if required.

The conduit and conduit support systems are currently undergoing a 100% design verification. In addition to this deficiency, the cumulative effects of all CPRT design, construction and quality issues related to these systems are being evaluated per SDAR CP-85-34.

We anticipate submitting our next report on this issue no later than August 12, 1987.

Very truly yours,

W. G. Council
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By: *G. S. Keeley*
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JCH/mlh

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