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TEXAS UTILITIES GENERATING COMPANY

SKYWAY TOWER • 400 NORTH OLIVE STREET, L.B. 81 • DALLAS, TEXAS 75201

September 25, 1984

Director of Nuclear Reactor Regulation
Attention: Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION
DOCKET NOS. 50-445 AND 50-446
SEPARATION BETWEEN CLASS 1E CIRCUITS
AND PUBLIC ADDRESS SYSTEM SPEAKER OR
AREA RADIATION MONITORING DETECTOR
WIRING

REF: (1) U.S. NRC Regulatory Guide 1.75,
Revision 1, dated January 1975
and entitled, "Physical
Independence of Electrical Systems"

Dear Sir:

Reference (1) forms part of the licensing basis for the Comanche Peak Steam Electric Station (CPSES). This regulatory guide accepts the separation criteria of IEEE Standard 384-1974 but allows that lesser separation distances may be used if an analysis is performed and submitted to justify these lesser distances. Lesser separation distances are being used at CPSES in several locations between Class 1E wiring and non-Class 1E Public Address System speaker cables and Area Radiation Monitoring detector cables. The required analysis is attached and is hereby submitted on the CPSES docket.

Sincerely,

John W. Beck

John W. Beck
Manager, Licensing

DRW/grr
Attachment

Distribution: Original plus 40 copies

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ATTACHMENT TO TXX-4315

Area Radiation Monitoring Detectors utilize Geiger-Muller Tubes and Ionization Chambers. These devices require very low currents but at high voltage levels. Since the power supplies need to supply 1 milliamp or less, they are designed to provide 2 watts under normal operating conditions and have a design limit of 5 watts. The power supply is not capable of igniting a shorted detector cable because of its "fold over regulation" characteristic which turns off even this low current flow. Therefore any damage will be limited to internal damage and will not be propagated to nearby Class 1E circuits.

The Public Address System speaker wire is a similar case with both low current and low voltage requirements (The National Electric Code recognizes such low power circuits under article 725's Class II wiring). The speaker amplifier is designed to provide a maximum of 12 watts at 14 VDC, which is not capable of igniting the circuit under a fault condition. Therefore any damage in speaker wire shall be limited to internal damage and will not be propagated to nearbly Class 1E circuits.