

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

Log # TXX-4534
File # 909.5
10010

WILLIAM G. COUNSIL
EXECUTIVE VICE PRESIDENT

August 14, 1985

Director of Nuclear Reactor Regulation
Attention: Mr. Vincent S. Noonan, Director
Comanche Peak Project
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
AUTOMATIC SPRINKLER SUPPRESSION SYSTEMS

Dear Mr. Noonan:

Texas Utilities letter TXX-4518 dated July 22, 1985 provided information concerning automatic sprinkler suppression systems. Items 1 and 2 of this letter supercede items 1 and 2 of the referenced letter.

1. Table 1 (Attachment 1) provides a complete listing of the fire area/zones that have suppression systems (per 10CFR50, Appendix R, or the Standard Review Plan 9.5.1, Branch Technical Position APCSB 9.5-1, Appendix A) and comply, or partially comply, with the NFPA code.
2. Deviation 13 (Attachment 2) provides technical justification for general area suppression systems in ten locations which do not meet all requirements of Appendix A Section IV C3(c) and Appendix R to 10CFR50 Section II.G.2.

Should you have any questions in this matter, please contact this office.

Very truly yours,

W. G. Council

W. G. Council

By: *John W. Beck*
John W. Beck
Vice President

BSD/grr
Attachments

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ATTACHMENT 1 TO TXX-4534

TABLE 1

Fire Area/ Zone	Description of Area/Zone	Suppression Per Code	Deviation	Remarks
AA 21b	Corridor	NFPA 13 (Partial)	2g, 13	Portions of area with no interactions
AA 21f	Corridor	NFPA 13 (Partial)	2a, 2e, 2i, 13	Portions of area with no interactions
AA 153	Safety Chiller Equipment - Unit 1	NFPA 13		
SB 15	Corridor and Containment Air Lock	NFPA 13 (Partial)	13	
SF 19	Filter Storage Area	NFPA 13		
SG 10a	Diesel Generator Room - Train A	NFPA 13		
SH 11	Day Tank Enclosure - Train A	NFPA 15		
SI 12a	Diesel Generator Room - Train B	NFPA 13		
SJ 13	Day Tank Enclosure - Train B	NFPA 15		
SK 17a	Feedwater Penetration Area	NFPA 13 (Partial)	5d	Room 100a is sprinklered in accordance with NFPA 13. Room 100 is covered by deviation 5d.
SK 17b	Main Steam Penetration Area	NFPA 13		
SK 17c	Platform over Main Steam Penetration Area	NFPA 13		
WA 103	Diesel Engine Driven Fire Pump Room	NFPA 15		
WB 104	Service Water Intake Structure	NFPA 13		

ATTACHMENT 2 TO TXX-4534

DEVIATION: 13

EXCEPTION: The general area sprinkler suppression system does not meet the requirements of Appendix A Section IV C 3(c) and Appendix R to 10CFR50 Section III.G.2.

DESCRIPTION A: BUILDING: Auxiliary
ELEVATION: 790'
ROOM(S): 175, 179 and 180
FIRE AREA: AA
FIRE ZONE: 21a

BUILDING: Auxiliary
ELEVATION: 810'
ROOM(S): 207
FIRE AREA: AA
FIRE ZONE: 21b

BUILDING: Auxiliary
ELEVATION: 831'
ROOM(S): 226
FIRE AREA: AA
FIRE ZONE: 21d

BUILDING: Auxiliary
ELEVATION: 854'
ROOM(S): 241
FIRE AREA: AA
FIRE ZONE: 21f

BUILDING: Safeguard
ELEVATION: 790'
ROOM(S): 70 and 71
FIRE AREA: SB
FIRE ZONE: 4

BUILDING: Safeguard
ELEVATION: 810'
ROOM(S): 79 and 82
FIRE AREA: SB
FIRE ZONE: 8

BUILDING: Safeguard
ELEVATION: 831'
ROOM(S): 94
FIRE AREA: SB
FIRE ZONE: 15

BUILDING: Safeguard
ELEVATION: 831'
ROOM(S): 88
FIRE AREA: SB
FIRE ZONE: 144

These fire zones are corridors and rooms which have a low hazard fixed combustibile loading of less than 20,000 BTU/ft².

Passive and active fire protection is provided in these fire zones. The fire area containing the fire zone is separated from other plant areas by a three-hour rated fire barrier. Essential cables and associated non-safety circuits of one redundant safe shutdown train are enclosed in a one-hour fire rated envelope system. An area-wide early warning smoke detection system is installed throughout the fire zone. A partial area automatic sprinkler system mounted below cable trays and obstructions provided with reduced area per sprinkler coverage is installed.

DESCRIPTION B: BUILDING: Electrical & Control
ELEVATION: 792'
ROOM(S): 125
FIRE AREA: EA
FIRE ZONE: 57

This fire zone is battery room corridor which has a low hazard fixed combustibile loading with a combustibile loading less than 20,000 BTU/ft².

Passive and active fire protection is provided in fire zone EA57. The fire area containing this fire zone is separated from other plant areas by a three-hour rated fire barrier. Essential cables and associated non-safety circuits of one redundant safe shutdown train are enclosed in a one-hour fire rated envelope system. An area-wide early warning smoke detection system is installed throughout the fire zone. A full area automatic sprinkler system mounted below cable trays and obstructions provided with reduced area per sprinkler coverage is installed.

DESCRIPTION C: BUILDING: Electrical & Control
ELEVATION: 792'
ROOM(S): 113
FIRE AREA: EA
FIRE ZONE: 43

This fire zone is an air compressor room which has a low hazard effective combustibile loading of less than 20,000 BTU/ft².

Passive and active fire protection is provided in fire zone EA43. The fire area containing this fire zone is separated from other plant areas by a three-hour rated fire barrier. Essential cables and associated non-safety circuits of one redundant safe shutdown train are enclosed in a one-hour fire rated envelope system. An area-wide early warning smoke detection system is installed throughout the fire zone.

EVALUATION:

An equivalent level of protection to that of BTP CMEB 9.5-1 is provided as follows:

Passive fire protection features in each zone are provided consisting of:

1. Low effective combustible loadings (less than 20,000 BTU/ft²). Additional cables may be pulled in some areas during construction of Unit 2. Because of this construction, the exact combustible loading cannot be specified at this time. However, in any area where the effective combustible loading exceeds or will exceed 20,000 BTU/ft², sprinkler coverage will be installed above the affected cable trays in accordance with BTP CMEB 9.5-1 sections C.5.b and C.6.c.
2. Fire areas containing the fire zones of interest are separated from other plant areas by three hour fire barriers.
3. One train of redundant essential raceways in each fire zone is enclosed in a one-hour rated fire barrier or separated by 20 feet.

The less than 20,000 BTU/ft² effective combustible loading does not present a significant hazard to the integrity of these barriers and thus safe shutdown is assured. The combination of these passive features reduces the probability of propagation of an exposure fire thus limiting its severity and enabling rapid control.

Active fire protection is also provided in each fire zone. Where there are significant concentrations of combustibles (i.e., 4 or more stacked horizontal raceways or two or more adjacent vertical raceways), specific raceway suppression is provided for each cable tray. The installed area-wide early warning smoke detection system assures a rapid response by the plant fire brigade to extinguish the fire using available manual hose stations and portable extinguishers. An automatic sprinkler system mounted below cable trays and obstructions is provided with reduced area per sprinkler coverage to effectively control floor level exposure fires. An analysis of postulated worst case floor level exposure fires demonstrates that these sprinklers will actuate prior to ignition of any exposed IEEE qualified cables in trays.²

The above described passive and multi-level active fire protection features satisfy the NRC "protection-in-depth" concept. Based on this evaluation, it is Texas Utilities Generating Company's position that partial coverage sprinkler systems for the above listed areas provides a level of protection

equivalent to Section C.5.h of BTP CMEB 9.5-1. A deviation is therefore requested.

1. Effective Combustible Loading = Calculated fixed combustibles less the combustibles associated with exposed cable trays that are protected by water spray suppression.
2. Professional Loss Control, Inc. (PLC) Report, "Engineering Justification for Automatic Sprinklers, Comanche Peak Steam Electric Plan, Texas Utilities Generating Company", Revision 3, May 27, 1985.