

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

Log # TXX-4518
File # 909.5
10010 clo

WILLIAM G. COUNSIL
EXECUTIVE VICE PRESIDENT

July 22, 1985

Trammell

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:

The following documents are provided to complete closure of all remaining concerns associated with automatic sprinkler suppression systems.

1. Table 1 - provides a complete listing, by fire area/zone, of the existing and planned compliance with NFPA code, and all suppression system deviations.
2. Deviation 13 - provides technical justification for general area suppression systems in five locations which do not meet all requirements of Appendix A Section IV C3(c) and Appendix R to 10CFR50 Section II.G.2.
3. Professional Loss Control, Inc. (PLC) Report "Engineering Justification for Automatic Sprinklers, Comanche Peak Steam Electric Plant, Texas Utilities Generating Company" Revision 3, May 27, 1985.

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

Sincerely,

8507250117 850722
PDR ADOCK 05000445
F PDR

W. G. Council

W. G. Council

BSD/grr
Attachment

c - S. B. Burwell
A. L. Vietti
C. Trammell

2002
1/1

TABLE 1

Fire Area/ Zone	Description of Area/Zone	Suppression Per Code	Suppression Upgrade Room #	Deviation	Remarks
AA 21a	CCW heat exchangers and corridor		175, 179, 180	1c, 2f	
AA 21b	Corridor	NFPA 13 (Partial)	207 (partial)	2g	Portions of area with no interactions
AA 21d	Corridor		226	2h	Portions of area with no interactions
AA 21f	Corridor		241 (corridor)	2a, 2e, 2i	Portions of area with no interactions
AA 153	Safety Chiller Equipment - Unit 1	NFPA 13			
EA 43	Air Compressor Area	NFPA 13 (Partial)	113 (partial)	2k	Portions of area with no interactions
EA 57	Battery Room Corridor			13	
SB 4	Corridors and Chemical Additive Tank Room	NFPA 13 (Partial)		2c, Rev. 1; 13	Area over renewable blocks is not sprinklered
SB 8	Sample Room and Corridors			2n, 13	
SB 15	Corridor and Containment Air Lock			13	
SB 144	Non-Radioactive Piping Penetration Area			2m, 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			

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 IIIG2.

DESCRIPTION A:

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

These fire zones are corridors which have a low hazard fixed combustible loading with a fire duration of less than ten minutes.

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

This fire zone is the non-radioactive piping penetration area which has a low hazard fixed combustible loading with a fire duration of less than ten minutes.

Passive and active fire protection is provided in fire zone SB144. 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. Water spray is also provided for two or more vertical adjacent cable tray runs. 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): 125
FIRE AREA: EA
FIRE ZONE: 57

This fire zone is a corridor which has a low hazard fixed combustible loading with a fire duration of less than ten minutes.

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.

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 loadings¹ (less than 10 minutes).
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 10 minute effective combustible loading does not present a significant hazard to the integrity of these of these barriers and thus safe shutdown as 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 station 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 to² ignition of any exposed IEEE qualified cables in trays.

The above described passive and multi-level active fire protection features satisfy the NRC "protection-in-depth" concept. The installation of a full area, ceiling level, automatic suppression system would not significantly enhance the fire protection provided by the current configuration.

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 Plant, Texas Utilities Generating Company", Revision 3, May 27, 1985.