FIRESAFETY

APPLICATION CRITERIA FOR TELEPHONE EQUIPMENT BUILDINGS

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1. GENERAL

1.01 This section outlines application criteria for the 760-600 series Firesafety Practices for telephone equipment buildings. The applicable ACP's (AT&T Communications Practices) are identified and the firesafety recommendations are presented according to building size.

1.02 This section is being reissued to reflect the most recent refinements of the Firesafety Practices.

1.03 These recommendations are based, in general, on the Fire Codes of the NFPA (National Fire Protection Association) and the Model Building Codes; in particular the Uniform Building Code Type II N construction for buildings less than 15,000 sq. feet and Type III N construction for buildings less than 500 sq. feet.

1.04 Where local, state, or OSHA (Occupational Safety and Health Act) regulations require higher degrees of protection, the legislated criteria should be followed.

1.05 A telephone equipment building is any building which has dedicated areas to house telephone equipment, and whose operation loss is service affecting (loss of network or service to customers). Telephone equipment areas are those spaces which contain switching equipment (all types) and associated support facilities; e.g., batteries, dc power plants, standby engines, distributing frames, and cable entrance facilities. There are other areas which, because of their critical nature, shall be **treated** as telephone equipment space. These spaces house equipment such as network service accounting-related computer based systems; e.g., DPC (Data Processing Center), BPC (Bill Print Center), CBC (Customer Billing Center), etc. Customer service systems such as TSPS (Traffic Service Position System) operator console areas, DA (Directory Assistance) operator console areas, repair service and assignment bureaus, test boards, etc., and control centers such as SCCs (Switching Control Center), and BOCCs (Building Operations Control Center), should be **treated** as telephone equipment spaces **except** for interior finishes and furnishings which may be treated as a nonequipment space (Section 760-610-200 AC). However, those customer service systems which have the capability of remoting their service to another location need not be treated as equipment space. Whenever customer service systems are located within equipment areas, they shall adhere to the finishes and furnishing requirements for telephone equipment spaces.

1.06 Telephone equipment buildings are classified as "Business Occupancies" in the Model Building Codes and as "Special Purpose Industry" by the NFPA Life-Safety Code.

1.07 **This section is based on the AT&T Communications Firesafety Policy and applies to both new and existing facilities**. However, there may be cases in existing buildings where it is impractical to retrofit some of the sections; therefore, sound engineering judgment should be exercised in these cases to ensure the **intent** of the sections is achieved.

2. FIRESAFETY PRACTICES

2.01 Tables A and B summarize application criteria and supporting documentation for the engineering considerations of firesafety for telephone equipment buildings. The basic philosophy of these criteria is to provide a sound basis for fire protection in all equipment buildings. However, since the larger buildings generally have more complicated fire problems, have a higher potential for fires, and represent a larger investment and service commitment, these facilities require additional attention which is reflected in the firesafety requirements presented in Tables A and B.

3. SITE SELECTION

3.01 The firesafety sections that should be considered in the selection of sites are indicated in Tables A and B.

4. FINISHES/FURNISHINGS

4.01 The firesafety considerations to be followed in the selection of interior finishes and furnishings in telephone equipment buildings are listed in Tables A and B.

5. CAFETERIA/KITCHEN

5.01 The fire protection considerations necessary for minimizing fire hazards in cafeteria/kitchen cooking areas are listed in Tables A and B.

6. STANDBY ENGINES

6.01 The firesafety measures to be employed in connection with the installation of standby engines are described in the sections listed in Tables A and B.

7. BUILDING CONSTRUCTION PRACTICES

7.01 The firesafety sections that are intended to minimize the possibility of fire as well as the hazard of potential fire in buildings under construction are given in Tables A and B.

8. TELEPHONE EQUIPMENT INSTALLATIONS

8.01 The sections which outline the firesafety measures that shall be adhered to during the period of installation, modification, and/or removal of central office equipment are listed in Tables A and B.

9. TYPES OF CONSTRUCTION

9.01 Building construction sections pertaining to firesafety are given in Tables A and B and are discussed in the following paragraphs.

(a) Equipment buildings with an ultimate gross area of less than 15,000 square feet shall be of LC (Limited Combustible) construction, i.e., constructions in which columns, piers, beams, girders, joists, trusses, floors and floor-ceiling assemblies, roof and roof-ceiling assemblies, walls, and/or partitions are of noncombustible materials but do not provide a 1-hour rating.

(b) Equipment buildings with an initial gross area in excess of 15,000 square feet shall be of FR (fire-resistive) construction.

(c) The square foot limitations for new buildings as outlined in (a) and (b) are intended as guidelines for establishing design parameters. If, however, the initial building is under 15,000 square feet but the **growth** factor is such that the ultimate square footage will be beyond 25,000 square feet, the building shall be of FR construction.

10. EGRESS/ACCESS

10.01 The sections to be followed for the arrangement, method, and means of access and egress from telephone equipment buildings are listed in Tables A and B.

11. COMPARTMENTATION

11.01 The sections for interior compartmentation to reduce the likelihood of serious spread of fire within a telephone building are given in Tables A and B and are discussed below.

(a) Equipment buildings should not have interior compartmentation, unless required by local law.

(b) Above grade CEFs (Cable Entrance Facilities), which are generally not associated with the larger buildings, i.e., ultimately less than 25,000 square feet, do not require compartmentation.

(c) Whenever compartmentation is provided for CEFs, Section 919-240-610, Cable Entrance Facility System Design, should be reviewed for gas venting requirements.

12. FIRESTOPPING

12.01 All fire-rated floor and wall penetrations shall be firestopped, and cable runs shall be protected as outlined in the sections listed in Tables A and B.

13. EXPOSURE PROTECTION

13.01 The recommended procedures for protecting against exposure fires entering and spreading through telephone buildings are contained in the sections listed in Tables A and B.

14. HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS

14.01 The fire protection procedures required in heating, ventilating, and air conditioning systems of telephone equipment buildings are contained in the sections listed in Tables A and B.

15. SMOKE CONTROL

15.01 New equipment buildings of three levels with an ultimate gross area of more than 25,000 square feet require a smoke control and evacuation system as outlined in the sections listed in Tables A and B.

16. PORTABLE FIRE EXTINGUISHERS

16.01 Portable extinguishers of the appropriate type and number are required in all equipment buildings. Refer to the applicable sections listed in Tables A and B.

16.02 A pair of KS-22240 Fire Resistant Gloves (or equivalent) should be provided in a KS-8439 container (or equivalent) located at the main entrance of each central office equipment area. These gloves are intended for use after the extinguishment of a fire to separate bundles of wires in order to put out any burning embers.

17. SUPPRESSION SYSTEMS

17.01 The suppression system sections to be considered for firesafety in equipment buildings are discussed in the following paragraphs and in Tables A and B.

17.02 The use of automatic suppression systems (sprinklers, Halon 1301) is not recommended for telephone equipment areas. Sprinklers may be used in other parts of telephone equipment buildings such as office areas and storerooms, depending on local code provisions. Sprinklers **are** recommended in **below-grade** building storage, receiving-loading docks, maintenance shops, and other nonequipment areas involving a concentration of combustible materials. An alternate to sprinklers, in some cases, may be smoke detection if local codes permit.

17.03 The Halon 1301 systems should only be considered in special circumstances such as when firesafety, protection of vital customer services, and/or major potential revenue loss suggest its use in specific areas. For these individual cases, all factors and costs must be examined to arrive at a supportable decision. Design consideration for such systems should be in accordance with Section 760-640-400 AC.

18. DETECTION SYSTEMS

18.01 The sections related to the installation of EWFDS (Early Warning Fire Detection Systems) in equipment buildings are listed in Tables A and B.

18.02 The EWFDS shall be installed in all telephone equipment areas and should be considered for administrative areas of equipment buildings.

18.03 Application of EWFD in small equipment buildings is not always justifiable for a number of reasons, e.g., nature of the facility, remoteness of site, or weather conditions. Existing alarms, low and high temperature, as well as equipment failure alarms may provide the necessary warning of troubles within these buildings. To properly evaluate the desirability for EWFD installation in small equipment buildings, the following guidelines have been established:

(a) Each location should be evaluated on the basis of an effective response to a fire alarm.

(b) Could an employee verify a fire alarm condition within a reasonable period of time? Specifically, would the equipment be destroyed or severely damaged before an employee could reach the building? How would local weather conditions affect this response?

(c) Would the local fire department be able to respond more quickly than an employee? Would the fire department accept the termination of the fire alarm at their facilities? What is their history on response to fire alarms? Is the fire department paid or volunteer?

18.04 The critical nature of equipment in the building may warrant the installation of EWFD even though the response time may not be the most desirable. EWFD may be used in these cases to activate an exhaust fan. This would minimize equipment contamination from smoke, as a result of a smoldering fire. Many small smoldering fires have a tendency to extinguish themselves, thus leaving smoke as the major problem source.

18.05 TSPS and DA areas, or other similar type facilities, which are occupied continuously require EWFD only when they are within an equipment building.

19. ENGINEERING PROVISIONS FOR THE FIRESAFETY PLAN

19.01 The sections describing the engineering provisions for the administration of the Firesafety Plan are listed in Tables A and B.

19.02 A **Fire Command Station** and **Communications System** are required in all *multistory equipment buildings with greater than 100,000 square feet **and** normally occupied by 100 or more people. *Fire* **Protection Floor Plans** and **Signs** are required in all multistory equipment buildings either greater than 25,000 square feet **or** normally occupied by 100 or more people.

*Note: Multistory is defined as any building or structure having floors used for human occupancy located either more than 6 (six) stories or 75 feet above the lowest level accessible to a fire vehicle.

TABLE A

BUILDING CATEGORY APPLICATION CRITERIA

FIRESAFETY PRACTICES	GROSS SQUARE FEET						
	0-500	500-1500	1500-3000	3000-15,000	15,000-25,000	25,000-100,000	100,000
1. Site Selection	*	*	*	*	*	*	*
2. Finishes Furnishings	*	*	*	*	*	*	*
3. Kitchen Cafeteria	*	*	*	*	*	*	*
4. Standby Engines	*	*	*	*	*	*	*
5. Bldg Construction Practices	*	*	*	*	*	*	*
6. Telephone Eqpt Installation	*	*	*	*	*	*	*
7. Exposure Protection	*	*	*	*	*	*	*
8. Type of Construction (See Para. 9.)	LC*	LC*	LC	LC FR*	FR*	FR*	FR*
9. Egress Access	*	*	*	*	*	*	*
10. Compartmentaion	NA	* (Except CEFs & Power Rooms)	*	*	*	*	*
11. Firestopping	*	*	*	*	*	*	*
12. HVAC Systems	*	*	*	*	*	*	*
13. Smoke Control	NA	NA	NA	NA	NA	*	*
14. Portable Extinguisher	*	*	*	*	*	*	*
15. Suppression System (See Para. 17 and Fig. 1.)	*	*	*	*	*	*	*
16. Detection System (See Para. 18.)	*	*	*	*	*	*	*
17. Engineering Provisions for Firesafety Plan (See Para. 19.)	NA	NA	NA	NA	NA	*	*

* See Support Documentation in Table B.

TABLE B

SUPPORT DOCUMENTATION

CATEGORY	SECTION NO.	SECTION TITLE
1. Site Selection	760-610-100	Considerations Related to Site Selection
2. Finishes/Furnishings	760-610-200	Considerations for Interior Finishes and Furnishings
3. Kitchen/Cafeteria	760-610-300	Considerations for Cafeteria(s)/Kitchen(s)
4. Standby Engines	760-610-400	Considerations for Standby Engines
5. Building Construction Practices	760-620-100	Fire Protection During Construction
6. Telephone Equipment Installation	760-620-200	Considerations During Central Office Equipment Installation and Removal
7. Exposure Protection	760-630-100	Protection Against Exposure Fires
8. Egress/Access	760-630-300	Egress/Access Requirements
9. Compartmentation	760-630-400	Compartmentation
10. Firestopping	760-630-410	General Firestopping Considerations for Floor and Wall Penetrations and Protection of Cable Runs
11. HVAC Systems	760-640-100	Considerations for Heating, Ventilating, and Air-Conditioning Systems
12. Smoke Control	760-640-110	Considerations for Smoke Control Systems
13. Portable Extinguishers	760-640-200	Distribution of Portable Extinguishers
14. Suppression Systems	760-640-300 760-640-310 760-640-320 760-640-400	General Considerations for Suppression Systems Standpipe and Hose Systems Considerations for Pumps for Fire Service Design Considerations for Halon Flooding Systems
15. Detection Systems	760-650-100	Fire Detection Systems
16. Engineering Provisions for the Firesafety Plan	760-660-100	Engineering Provisions for the Firesafety Plan