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FIRESAFETY

APPLICATION CRITERIA FOR ELECTRONIC DATA PROCESSING BUILDINGS

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1. GENERAL

1.01 This section outlines application criteria for the 760-600 series firesafety practices for Electronic Data Processing (EDP) buildings.

1.02 This section is being updated to add firesafety requirements under compartmentation, suppression systems and detection systems for EDP buildings. Whenever this section is reissued, the reason(s) for reissue will be listed in this paragraph.

1.03 The recommendations in this section are based, in general, on the National Fire Protection Association (NFPA) standards, the Model Building and Fire Codes, insurance and property risk management considerations, technical advice of Bellcore and consensus opinion of Company subject matter experts.

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

followed to the extent required. Where those provisions are in conflict with this section, a variance means should be found by seeking "equivalent protection" through alternative installation methods which will satisfy the intent of this section.

1.05 An EDP building is constructed primarily for housing EDP systems. However, the appropriate practices identified herein also apply to EDP areas (and those areas only) located within buildings other than EDP buildings, such as administrative buildings. Areas containing EDP equipment are equivalent to telephone equipment spaces. EDP areas are those areas which contain main frame computers and associated support equipment.

1.06 This section is based on Company Firesafety Policy and applies to both new and existing facilities. However, there may be cases in existing buildings where it is impractical to retrofit the building to comply with certain sections. Therefore, sound engineering judgment should be exercised in these cases to ensure that the intent of the sections are achieved.

2. FIRESAFETY PRACTICES

2.01 The basic firesafety philosophy to be incorporated into the design of EDP buildings is to follow local code requirements except where the firesafety requirements are more stringent in the sections listed in Table A and/or discussed in the following paragraphs. Buildings which contain both EDP and telephone central office equipment shall comply with the more stringent firesafety requirements of either this section or Section 760-600-200 "Application Criteria for Telephone Equipment Buildings." The basic philosophy of these criteria is to provide a sound basis for fire protection in all EDP buildings.

2.02 The sections listed in Table A detail firesafety requirements for **Site Selection, Finishes and Furnishings, Kitchen/Cafeteria, Standby Engines, Building Construction, Telephone Equipment Installation, Exposure Protection, Type of Construction, Egress/Access, Compartmentation, Firestopping, HVAC Systems, Smoke Control, Portable Fire Extinguishers, Suppression Systems, Detection Systems and Engineering Provisions for the Firesafety Plan.**

2.05 **Standby Engines:** The firesafety measures to be employed in connection with the installation of standby engines are described in the sections listed in Table A. Of particular importance is providing 1) concrete diking around day tanks, 2) fuel level and warning indication at the point of fill (normally outside the building) on day tanks and 3) automatic shut-off valves on the fuel supply lines as they enter

the building and as they leave inside fuel storage tanks.

2.06 **Telephone Equipment Installations:** The sections which outline the firesafety measures that shall be adhered to during the period of installation, modification, and/or removal of EDP equipment are listed in Table A. Even though this refers to Telephone Central Office Equipment Installation and Removal, the considerations also apply to installation of EDP equipment with special attention to assure debris is not accumulated beneath the raised floor.

2.07 **Types of Construction:** EDP buildings shall be of type B fire-resistive construction as described in Section 760-630-200.

2.08 **Compartmentation:** The sections for interior compartmentation to reduce the likelihood of serious spread of fire within an EDP building are listed in Table A and are discussed in the following paragraphs.

(a) EDP areas shall be compartmented to achieve a 1-hour rating. However, in new buildings an exception to this 1-hour compartmentation requirement may be taken, to allow flexibility for future growth and efficient utilization of floor space, provided that the building is fully protected by suppression , EWFD (detection) and smoke evacuation.

(b) Tape libraries shall be compartmented to achieve a 2-hour rating.

2.09 **Smoke Control:** EDP equipment areas, Tape storage areas and below grade spaces should be provided a means of venting or purging with outside air to remove smoke. This can be manually activated and is generally accomplished by using the air handling system economizer serving that particular space. In new EDP buildings of three levels with an ultimate gross area of more than 25,000 square feet, a smoke control and evacuation system as outlined in the sections listed in Table A is required.

2.10 **Suppression Systems:** The suppression system sections to be considered for firesafety in EDP buildings are discussed in the following paragraphs and are listed in Table A.

(a) The use of automatic suppression systems (sprinklers, Halon 1301) are recommended to be installed throughout all areas of an EDP building, with the exception of telephone equipment areas if present within the building.

(b) In particular, sprinklers are recommended to be installed in all EDP equipment areas. This specifically includes areas that contain computers with associated terminals and/or printers, storage of microfiche records, billing equipment, sorting equipment, mail equipment/distribution areas, UPS (uninterruptable power supply) equipment, etc.

(c) The use of a sprinkler system is not recommended for areas with computer tape libraries. However, Halon 1301 automatic flooding systems may be considered based on the particular circumstances, such as the overall importance of the information and whether a duplicate tape is stored at another building location. For each individual case, all factors and costs must be examined to arrive at a supportable decision.

(d) Sprinklers are not recommended in areas which contain alternating current (AC) primary or secondary electrical distribution equipment, such as switchgear, transformers, etc.

(e) Sprinklers should also be installed in other parts of EDP buildings such as office/administrative areas, storerooms, below-grade building storage, receiving-loading docks, maintenance shops, mechanical rooms (boiler, furnace, pump, ventilation and air conditioning equipment spaces), toilet facilities, janitor closets, lounges, hallways, corridors, fuel storage areas, power areas (such as UPS systems, battery plants, building standby engine/power plants, etc.) and building telephone/data/communication rooms/closets.

(f) Halon 1301 systems may be used to protect building areas containing fuel storage or primary/secondary AC switch gear as an alternative option instead of a sprinkler system where mandated by local code enforcement authorities.

(g) The application recommendations for standpipe and hose systems in EDP buildings are shown in Section 760-640-310, Table 1 and generally based upon a function of building height (number of stories) and area per floor. Consideration should also be given to providing a standpipe and hose system wherever a sprinkler system is installed.

2.11 **Detection Systems:** The sections related to the installation of Early Warning Fire Detection Systems (EWFDS) in EDP buildings are discussed in the following paragraphs and are listed in Table A.

(a) EWFDS shall be installed so as to provide detection coverage throughout EDP buildings.

(b) In particular, EWFD shall be provided throughout the computer room, concealed floors and ceilings used for routing power and signaling cable, record/tape libraries, paper storage, UPS areas, standby power and battery systems, power conditioning systems, fuel storage areas, magnetic media facilities, mail sorting and distribution facilities, mechanical rooms and maintenance rooms adjacent to the computer area.

(c) The other areas within EDP buildings may use return air detection as EWFDS coverage. This includes administrative/office areas, toilet facilities, janitor closets, lounges, hallways, corridors, general purpose storage and other administrative types of spaces not involving a concentration of combustibles or a work operation that is critical to EDP operations.

(d) EWFDS shall be continuously monitored for alarms 24 hours a day by a control center. Monitoring indication shall included detection and trouble conditions and, where provided, sprinkler system supervisory signal operation.

2.12 **Engineering Provisions for the Firesafety Plan:** The engineering provisions for the administration of the Firesafety Plan are indicated in Section 760-660-100, Engineering Provisions for the Firesafety Plan. A Fire Command Station and Communications System is required in all EDP buildings regardless of size and occupancy. Evacuation plans and signs are also required in all EDP buildings.

TABLE A

SUPPORT DOCUMENTATION FOR EDP BUILDINGS

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 Removel
7. Exposure Protection	760-630-100	Protection Against Exposure Fires
8. Type of Construction	760-630-200	Fire Resistance Ratings of Structural Elements
9. Egress/Access	760-630-300	Egress/Access Requirements
10. Compartmentation	760-630-400	Compartmentation
11. Firestopping	760-630-410	General Firestopping Considerations for Floor and Wall Penetrations and Protection of Cable Runs
12. HVAC Systems	760-640-100	Considerations for Heating, Ventilating, and Air-Conditioning Systems
13. Smoke Control	760-640-110	Considerations for Smoke Control Systems
14. Portable Extinguisher	760-640-200	Distribution of Portable Extinguishers
15. Suppression System	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
16. Detection System	760-650-100	Fire Detection Systems
17. Engineering Provisions for the Firesafety Plan	760-660-100	Engineering Provisions for the Firesafety Plan