PART 1 - GENERAL

1.01 OVERVIEW

A. This Section includes design standards and requirements for electrical distribution for telecommunications equipment rooms. This is a design standard and is not intended to be used as a Specification.

PART 2 - DESIGN CRITERIA

2.01 GENERAL

A. The design for electrical distribution for telecommunications equipment rooms shall comply with the National Electrical Code and Owner’s Design Guideline Elements D50 Electrical.

B. This section specifies requirement on power, grounding, standby power, and wiring requirements for voice system equipment and associated peripheral equipment installed in the equipment room.

C. A 24-hour lighting system shall be provided to ensure that personnel working in telecommunications equipment rooms are able to see the equipment and labels attached to the equipment. All lighting fixtures in the telecommunications rooms shall be on emergency power. The light intensity level must be a minimum of 50 foot-candles at three foot above finished floor. Lighting fixtures shall be installed flush with the bottom of cable tray.

D. 120V (and where required, 208V) power from both the normal power system and UPS system shall be provided. UPS power shall be derived from a centralized UPS, with generator backup of the centralized UPS.

E. A centralized UPS shall be provided for all new building construction, or whenever a full, or major, renovation of an existing building occurs.

F. HVAC equipment serving telecommunications rooms shall be fed from standby power.

2.02 INTERMEDIATE DISTRIBUTION ROOMS (IDR)

A. Each relay rack in the MDR/IDR shall have a minimum of two NEMA5-20r quad outlets comprised of two separate, dedicated circuits (one regular and one UPS power) mounted at the top of the rack, or as needed, and a minimum of two L6-30r (30A/208V) outlets comprised of two separate, dedicated circuits (one regular and one UPS power) mounted at the top of the rack. The quantity, location, and type of power outlets shall be determined by and coordinated with MD Anderson IT Engineering, for specific project requirements.

B. In addition, on each wall in the IDR (or every 10ft for larger rooms) there shall be one wall-mounted NEMA 5-20r duplex outlet on UPS power, at 18” above finished floor.
C. When approved by MD Anderson IT Engineering, an IDR may have several different wall-mounted, low-voltage system cabinets (i.e., BAS, Security, Paging, lighting controls, etc.). Each wall mounted system cabinet shall have a dedicated circuit on UPS power. The specific outlet requirements should be coordinated by the owner of each system.

D. Each system cabinet along with the auxiliary cabinet requires a separate power outlet. These outlets shall not be shared with other equipment, shall not be switched, and shall be located outside the cross-connect field (wire wall) area. Exact requirements vary from project to project and shall be determined and coordinated with MD Anderson Network Services and Telecommunications Services Engineering.

E. Outlets located below raised floors should be located within 2 feet of the cabinet it serves.

F. All electrical circuits should be dedicated for the specific telecommunications room, preferably via a dedicated electrical power panel(s) inside the room.

2.03 CONDUITS AND WIREWAYS FOR TELECOMMUNICATIONS

A. Refer to Owner’s Design Guideline Element D5030 Communications for following design criteria.
   
   1. Outdoor and indoor wireways for communications cables.
   2. Outdoor and indoor pull boxes for communications cables.
   3. Cable trays and dividers for communications cables.
   4. Conduit inner ducts for fiber optic cables.
### Element D Services
#### D501001 Electrical System for Telecommunications Rooms

## PART 3 - DOCUMENT REVISION HISTORY

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<td>2.02 Intermediate Distribution Rooms (IDR) revisions</td>
<td>George Gabino, FPDC</td>
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