

## EQUIPMENT ROOMS, COMMUNICATIONS

**Size and Number of Telecommunication Rooms (TR's):** See "Communication Systems" within these design guidelines for programmatic requirements related to the number and sizes of TR's provided. **Environmental Requirements:**

- HVAC: The ambient temperature in TRs shall be maintained in the range of 68 to 75 F., 24 hours per day through an independent HVAC unit (typically, a ductless split system). TRs shall be ventilated at the rate of one air change per hour. Separate, wired, thermostatic control shall be provided for each TR.
- Lighting: Lighting in the TRs shall provide a minimum light level of 50 fc at desktop level on all sides of the rack equipment.
- Power: The TR shall be designed to include a dedicated power panel located in the TR. All TRs shall have 2 sources for electrical power
  - Emergency Power: Provide 100 amp 120/208 volt 3 phase panel in each TR, connected to the emergency system if available. Receptacles in each TR shall include a minimum of one each L6-30R, one each L6-20R, and one each L14-30R, and one each L5-20R mounted above the communications racks (per Switch).
    - Building Power: Provide a dedicated L6-20R and L5-20R mounted above the communication rack (per switch). Also, provide a dedicated 20 amp 120 volt quad receptacle with building power in the following locations: one on each wall
    - Enclosing Walls: Walls surrounding the TR shall extend to the structural floor above on all sides, both for reasons of physical security and environmental control.
    - Conduits and Raceways: Provide adequate conduit or other raceways through walls to adjoining accessible ceilings and/or accessible locations on other floors, where appropriate.
    - Ceiling: A suspended ceiling shall not be installed. Minimum clear height shall be 10'.
    - Floor: Floor finish shall be smooth, dust-free, and not susceptible to static electricity build-up. Acceptable finishes would be composition tile or sealed concrete.
    - Door: Provide 3' 0" wide by 7' 0" high door, opening outward, with card reader lock. Door shall be labeled "Telecommunication Room and Room #."
    - Windows: TR's shall not have any windows.
    - Water Infiltration: Measures must be taken to prevent water intrusion. Water or drain piping shall not be permitted within the TR.
    - Sprinkler System: Where the location of an automatic sprinkler head within the TR is required, it shall be the high heat type and be protected with a wire cage to prevent its accidental discharge. Where possible, do not install sprinklers above the equipment racks.
    - Plywood Terminal Boards: Provide 3/4" thick Grade A-C plywood terminal boards, securely attached to walls and painted with two coats of light-colored fire-retardant paint. Plywood shall cover three walls of the TR (not the wall with the entrance door) with 4'x8' sheets of plywood mounted beginning 24" above the finished floor. The designation of the walls to be covered shall be coordinated with the location of the phone, data, and TV entrance equipment and racks.
    - Equipment Grounding: A ground plate connected to the building main electrical ground system shall be mounted in the room with wiring sized as necessary by the engineer.