

TOPIC 10. COMPUTER SYSTEMS

1. GENERAL. Size the Department of Veterans Affairs (VA) Medical Center Central Computer Room to include the following:

- a. **Uninterruptible Power Supply (UPS).** Equip each computer providing centralized support to medical center users with a UPS capability to provide ongoing power to the computer in the event of a power outage. Typically, each individual computer will have a dedicated UPS, although UPS devices with the capacity to support multiple computers will sometimes be used. The UPS should be able to supply power to the computer(s) from its batteries until the medical center emergency generator activates. The generator should serve the UPS from the Equipment System Transfer Switch and should provide sufficient power to operate all centralized computers and to recharge UPS batteries associated with these computers. The automatic transfer from UPS to generator should occur within five minutes.
- b. **Power Distribution.** A minimum 225A, 3-phase, 4-wire, 208/120 volt distribution panel with an isolated ground bus. Base the final power determinations on equipment estimates provided by the Medical Center in conjunction with the **Chief Information Office (19)**.
- c. **Floor System.** Provide a grid type computer access floor system in the computer room. For computer rooms 112 m² (1,200 sq. ft.) and smaller, depress the floor slab a minimum of 300 mm (12 in.) or provide an access floor system 300 mm (12 in.) above the finished floor level with ramp access at a maximum 1:12 slope. For rooms with areas larger than 112 m² (200 sq. ft.), depress the floor slab a minimum of 450 mm (18 in.) or provide an access floor system 450 mm (18 in.) above the finished floor level with ramp access at a maximum 1:12 slope. An access floor system constructed in existing buildings should provide a minimum of 300 mm (12 in.) clear space.
- d. **Communications Wiring.** Include all communications wiring with telephone installation. Install ADP/data in the same faceplate as the telephone outlet. The VAMC will make the connector determinations. Include the connector determinations in the telephone installation specifications.
- e. **Heating, ventilating, and air-conditioning (HVAC) system**
 - (1) Base air conditioning load on room requirements and actual values of ADP equipment to be installed. The VAMC should verify the actual values.
 - (2) Base air conditioning requirements for power conditioning unit or UPS equipment on total equipment heat loss values.
 - (3) Where possible, install UPS equipment in a separate room adjacent to the computer room. Install a separate air conditioning unit in the UPS room.

- (4) Install a minimum of one "back-up" air conditioning unit in the computer room. All units should be of equal capacity.
- (5) Use the space beneath the computer room access floor as a supply air plenum and for computer equipment cabling where appropriate for equipment installed.
- (6) Provide a water detection system on the floor of the air plenum.
- f. Fire Protection, Detection and Suppression: Provide an automatic wet-pipe sprinkler system for the entire space. Provide smoke detection on the ceiling.

2. VETERANS HEALTH INFORMATION SYSTEMS AND TECHNOLOGY ARCHITECTURE (VISTA) EQUIPMENT

- a. A duplex outlet is required to accommodate each VISTA workstation (one outlet for the computer and one for the monitor). If a printer is involved, a third outlet is also required.
- b. The VAMC will provide surge and transient suppression equipment for PC's, CRT's, Printers and other decentralized equipment at the equipment location.

NOTE: Additional electrical and mechanical design guidelines are available from *Electrical, HVAC, and Fire Protection Design Manuals. Telephone, ADP/data, and communications criteria and information are available from the Chief Information Office (19).*