Articles 800 and 805 shall apply to communications wires, cables, and equipment installed in an information technology equipment room. Only communications wires and cables listed in accordance with 800.179, cable routing assemblies, and communications raceways listed in accordance with 800.182, and communications equipment listed in accordance with 800.171 shall be permitted to be installed in an information technology equipment room. Article 645 shall apply to the powering of communications equipment in an information technology equipment room.

Informational Note: See Article 100, Definitions, for a definition of *communications equipment*.

(G) Community Antenna Television and Radio Distribution Systems Cables and Equipment. Parts I, II, III, IV, and V of Articles 800 and 820 shall apply to community antenna television and radio distribution systems cables and equipment installed in an information technology equipment room. Only community antenna television and radio distribution cables listed in accordance with 800.179 and listed CATV equipment shall be permitted to be installed in an information technology equipment room. Article 645 shall apply to the powering of community antenna television and radio distribution systems equipment installed in an information technology equipment room.

(H) Optical Fiber Cables. Only optical fiber cables listed in accordance with 770.179 shall be permitted to be installed in an information technology equipment room.

(I) Cables Not in Information Technology Equipment Room. Cables extending beyond the information technology equipment room shall be subject to the applicable requirements of this *Code*.

Δ **645.4 Special Requirements for Information Technology Equipment Room.** The alternative wiring methods to Chapter 3 and Parts I and II of Article 725 for signaling wiring and Parts I and V of Article 770 for optical fiber cabling shall be permitted where all of the following conditions are met:

(1) Disconnecting means complying with 645.10 are provided.
(2) A heating/ventilating/air-conditioning (HVAC) system is provided in one of the methods identified in the following:
   a. A separate HVAC system that is dedicated for information technology equipment use and is separated from other areas of occupancy
   b. An HVAC system that serves other occupancies and meets all of the following:
      (i) Also serves the information technology equipment room
      (ii) Provides fire/smoke dampers at the point of penetration of the room boundary
      (iii) Activates the damper operation upon initiation by smoke detector alarms, by operation of the disconnecting means required by 645.10, or by both

Informational Note No. 1: See NFPA 75-2020, *Standard for the Fire Protection of Information Technology Equipment*, Chapter 11, Section 11.1, 11.1.1, 11.1.2, and 11.1.3, for further information.

(3) All information technology and communications equipment installed in the room is listed.
(4) The room is occupied by, and accessible to, only those personnel needed for the maintenance and functional operation of the installed information technology equipment.
(5) The room is separated from other occupancies by fire-resistant-rated walls, floors, and ceilings with protected openings.

Informational Note No. 2: See NFPA 75-2020, *Standard for the Fire Protection of Information Technology Equipment*, Chapter 6, for further information on room construction requirements.

(6) Only electrical equipment and wiring associated with the operation of the information technology room is installed in the room.

Informational Note No. 3: HVAC systems, communications systems, and monitoring systems such as telephone, fire alarm systems, security systems, water detection systems, and other related protective equipment are examples of equipment associated with the operation of the information technology room.

Use of the wiring methods permitted by Article 645 is based on the construction of the ITE room meeting the requirements in NFPA 75. For such ITE rooms, Article 645 contains wiring method installation requirements — for example, requirements for wiring methods in the space beneath the raised floor used for environmental air of an ITE room — that are less stringent than those in Chapter 3 for the same type of space.

Application of these modified requirements is contingent on the ITE room construction and equipment meeting all six conditions specified in 645.4. If any one of the six conditions is not met, wiring methods installed in the ITE room must follow the applicable requirements of Chapter 3, Parts I and II of Article 725 for signal wiring, and Parts I and V of Article 770 for optical fiber cabling.

645.5 Supply Circuits and Interconnecting Cables.

(A) Branch-Circuit Conductors. The branch-circuit conductors supplying one or more units of information technology equipment shall have an ampacity not less than 125 percent of the total connected load.

Δ **(B) Power-Supply Cords.** Information technology equipment shall be permitted to be connected to branch circuits by power-supply cords that comply with the following:

(1) Power-supply cords shall not exceed 4.5 m (15 ft).
(2) Power-supply cords shall be listed and a type permitted for use on listed information technology equipment or shall be constructed of listed flexible cord and listed attachment plugs and cord connectors of a type permitted for information technology equipment.