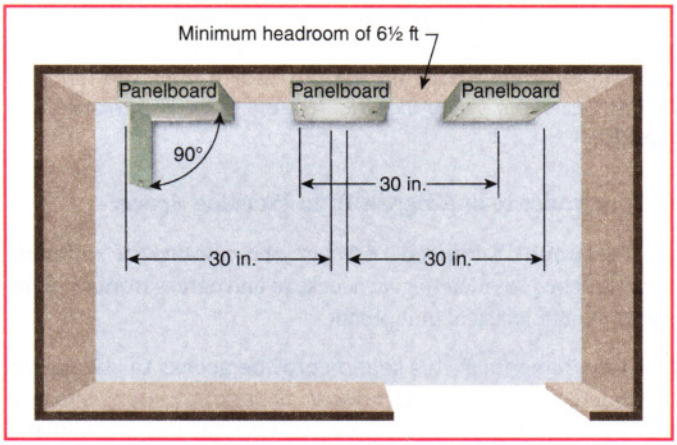

EXHIBIT 110.14 The 30-inch-wide front working space, which is not required to be directly centered on the electrical equipment and can overlap other electrical equipment.

Regardless of the width of the electrical equipment, the working space cannot be less than 30 inches wide. This space allows an individual to have at least shoulder-width space in front of the equipment. The 30-inch measurement can be made from either the left or the right edge of the equipment and can overlap other electrical equipment, provided the equipment does not extend into the working space of the other equipment. If the equipment is wider than 30 inches, the space must be equal to the width of the equipment. Exhibit 110.14 illustrates the 30-inch width requirement.

Sufficient depth in the working space is also required to allow a panel or a door to open at least 90 degrees. If doors or hinged panels are wider than 3 feet, more than a 3-foot-deep working space must be provided to allow a full 90-degree opening. (See Exhibit 110.15.) Doors are often part of bolted equipment covers. The 90-degree requirement applies only to the hinged door. It does not require that the bolted cover be capable of swinging 90 degrees.

(3) Height of Working Space. The work space shall be clear and extend from the grade, floor, or platform to a height of 2.0 m (6½ ft) or the height of the equipment, whichever is greater. Within the height requirements of this section, other equipment or support structures, such as concrete pads, associated with the electrical installation and located above or below the electrical equipment shall be permitted to extend not more than 150 mm (6 in.) beyond the front of the electrical equipment.

Exception No. 1: On battery systems mounted on open racks, the top clearance shall comply with 480.10(D).

Exception No. 2: In existing dwelling units, service equipment or enclosed panelboards that do not exceed 200 amperes shall be permitted in spaces where the height of the working space is less than 2.0 m (6½ft).

Exception No. 3: Meters that are installed in meter sockets shall be permitted to extend beyond the other equipment. The meter socket shall be required to follow the rules of this section.

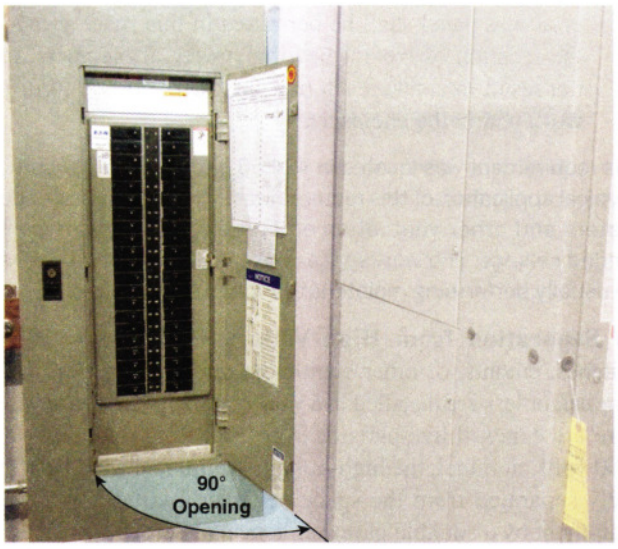

EXHIBIT 110.15 A full 90-degree opening of an equipment door in order to ensure a safe working approach.

This requirement allows the placement of a 12-inch × 12-inch wireway on the wall directly above or below a 6-inch-deep panelboard without encroaching on the working space. The allowable 6-inch extension into working space also applies to support structures or housekeeping pads that the equipment may be affixed to. The requirement prohibits large differences in depth of equipment below or above other equipment that specifically requires working space. Freestanding, dry-type transformers are not permitted to be installed where they would extend into the work space for a wall-mounted panelboard, compromising clear access to the panelboard.

(4) Limited Access. Where equipment operating at 1000 volts, nominal, or less to ground and likely to require examination, adjustment, servicing, or maintenance while energized is required by installation instructions or function to be located in a space with limited access, all of the following shall apply:

(1) Where equipment is installed above a lay-in ceiling, there shall be an opening not smaller than 559 mm × 559 mm (22 in. × 22 in.), or in a crawl space, there shall be an accessible opening not smaller than 559 mm × 762 mm (22 in. × 30 in.).
(2) The width of the working space shall be the width of the equipment enclosure or a minimum of 762 mm (30 in.), whichever is greater.
(3) All enclosure doors or hinged panels shall be capable of opening a minimum of 90 degrees.
(4) The space in front of the enclosure shall comply with the depth requirements of Table 110.26(A)(1) and shall be unobstructed to the floor by fixed cabinets, walls, or partitions. Space reductions in accordance with 110.26(A)(1)(b) shall be permitted. The maximum height of the working space shall be the height necessary to install the equipment