

building the service-entrance conductors are allowed to travel to the service disconnecting means. The length of service-entrance conductors should be kept to a minimum inside buildings. There is an increased fire hazard because power utilities provide limited overcurrent protection. Some local jurisdictions specify a maximum length that service-entrance conductors may be run within the building before terminating at the disconnecting means.

If the AHJ determines the distance to be excessive, the disconnecting means may be required to be located on the outside of the building or near the building at a readily accessible location.

(2) Bathrooms. Service disconnecting means shall not be installed in bathrooms.

(3) Remote Control. Where a remote control device(s) is used to actuate the service disconnecting means, the service disconnecting means shall be located in accordance with 230.70(A)(1).

(B) Marking. Each service disconnect shall be permanently marked to identify it as a service disconnect.

Δ (C) Suitable for Use. Each service disconnecting means shall be suitable for the prevailing conditions. Service equipment installed in hazardous (classified) locations shall comply with the hazardous location requirements.

230.71 Maximum Number of Disconnects. Each service shall have only one disconnecting means unless the requirements of 230.71(B) are met.

(A) General. For the purpose of this section, disconnecting means installed as part of listed equipment and used solely for the following shall not be considered a service disconnecting means:

- (1) Power monitoring equipment
- (2) Surge-protective device(s)
- (3) Control circuit of the ground-fault protection system
- (4) Power-operable service disconnecting means

Δ (B) Two to Six Service Disconnecting Means. Two to six service disconnects shall be permitted for each service permitted by 230.2 or for each set of service-entrance conductors permitted by 230.40, Exception No. 1, 3, 4, or 5. The two to six service disconnecting means shall be permitted to consist of a combination of any of the following:

- (1) Separate enclosures with a main service disconnecting means in each enclosure
- (2) Panelboards with a main service disconnecting means in each panelboard enclosure
- (3) Switchboard(s) where there is only one service disconnect in each separate vertical section with barriers provided between each vertical section to maintain the inadvertent contact protection required in 230.62 based on access from the adjacent section(s)
- (4) Service disconnects in switchgear, transfer switches, or metering centers where each disconnect is located in a separate compartment

(5) Metering centers with a main service disconnecting means in each metering center

(6) Motor control center(s) where there is only one service disconnect in a motor control center unit and a maximum of two service disconnects provided in a single motor control center with barriers provided between each motor control center unit or compartment containing a service disconnect to maintain the inadvertent contact protection required in 230.62 based on access from adjacent motor control center unit(s) or compartment(s)

Exception to (2), (3), (4), (5), and (6): Existing service equipment, installed in compliance with previous editions of this Code that permitted multiple service disconnecting means in a single enclosure, section, or compartment, shall be permitted to contain a maximum of six service disconnecting means.

Informational Note No. 1: See UL 67, *Standard for Panelboards*, for information on metering centers.

Informational Note No. 2: Examples of separate enclosures with a main service disconnecting means in each enclosure include but are not limited to motor control centers, fused disconnects, and circuit breaker enclosures.

Informational Note No. 3: Transfer switches are provided with one service disconnect or multiple service disconnects in separate compartments.

In general, a service should have a single disconnecting means. However, one set of service-entrance conductors is permitted to supply a group of two to six separate service disconnecting means in lieu of a single main disconnect. Both single-occupancy and multiple-occupancy buildings can be provided with one main service disconnect or up to six separate main disconnects for each set of service-entrance conductors. Conductors from renewable energy sources, such as photovoltaic systems and wind generators, are service conductors. Where alternative energy systems are run in parallel with a utility source, see Article 705.

Multiple-occupancy buildings may have service-entrance conductors run to each occupancy, and each such set of service-entrance conductors may have from one to six separate disconnects (see 230.40, Exception No. 1). Exhibit 230.22 shows a single enclosure for grouping service equipment that consists of separate compartments for six circuit breakers or six fused switches. This arrangement does not require a single main service disconnecting means if they are in separate compartments. Some factory-installed switches that disconnect power to ancillary devices that are included as part of listed equipment do *not* count as one of the six service disconnecting means.

Revising the permission for up to six service disconnects to require each disconnecting means to be installed in separate enclosures or separate compartments allows an installer/maintainer to operate a single disconnect that de-energizes conductors and circuit parts except for the line side of the disconnecting means. This enhances safety by reducing the likelihood of an incident with energized conductors or circuit parts in the service equipment.