outdoor location. Mounting the emergency disconnect in a readily accessible location does not preclude locking the disconnect in the "on" position. Replacement of the service equipment will now require the addition of the emergency disconnect, but not repair of service equipment or wiring. Additional labeling for emergency disconnects is required where alternate sources of power are not located adjacent to the disconnect, which will help ensure all sources of power to the structure are removed.

N **(A) General.**

N **(1) Location.** The disconnecting means shall be installed in a readily accessible outdoor location on or within sight of the dwelling unit.

Exception: Where the requirements of 225.41 are met, this section shall not apply.

N **(2) Rating.** The disconnecting means shall have a short-circuit current rating equal to or greater than the available fault current.

N **(3) Grouping.** If more than one disconnecting means is provided, they shall be grouped.

N **(B) Disconnects.** Each disconnect shall be one of the following:

(1) Service disconnect
(2) A meter disconnect integral to the meter mounting equipment not marked as suitable only for use as service equipment installed in accordance with 230.82
(3) Other listed disconnect switch or circuit breaker that is marked suitable for use as service equipment, but not marked as suitable only for use as service equipment, installed on the supply side of each service disconnect

Informational Note 1: Conductors between the emergency disconnect and the service disconnect in 230.85(2) and 230.85(3) are service conductors.

Informational Note 2: Equipment marked "Suitable only for use as service equipment" includes the factory marking "Service Disconnect".

N **(C) Replacement.** Where service equipment is replaced, all of the requirements of this section shall apply.

Exception: Where only meter sockets, service entrance conductors, or related raceways and fittings are replaced, the requirements of this section shall not apply.

N **(D) Identification of Other Isolation Disconnects.** Where equipment for isolation of other energy source systems is not located adjacent to the emergency disconnect required by this section, a plaque or directory identifying the location of all equipment for isolation of other energy sources shall be located adjacent to the disconnecting means required by this section.

Informational Note: See 445.18, 480.7, 705.20, and 706.15 for examples of other energy source system isolation means.

N **(E) Marking.**

N **(1) Marking Text.** The disconnecting means shall marked as follows:

(1) Service disconnect

EMERGENCY DISCONNECT, SERVICE DISCONNECT

(2) Meter disconnects installed in accordance with 230.82(3) and marked as follows:

EMERGENCY DISCONNECT, METER DISCONNECT, NOT SERVICE EQUIPMENT

(3) Other listed disconnect switches or circuit breakers on the supply side of each service disconnect that are marked suitable for use as service equipment and marked as follows:

EMERGENCY DISCONNECT, NOT SERVICE EQUIPMENT

N **(2) Marking Location and Size.** Markings shall comply with 110.21(B) and both of the following:

(1) The marking or labels shall be located on the outside front of the disconnect enclosure with red background and white text.
(2) The letters shall be at least 13 mm (½ in.) high.

Part VII. Service Equipment — Overcurrent Protection

230.90 Where Required. Each ungrounded service conductor shall have overload protection.

Service equipment is the main control and means of cutoff of the electrical supply to the premises wiring system. It is usually an overcurrent device, such as a circuit breaker or a fuse, installed in series with each ungrounded service conductor to provide overload protection only.

The service overcurrent device does not protect the service conductors under short-circuit or ground-fault conditions on the line side of the disconnect. Protection against ground faults and short circuits is provided by the special requirements for service conductor protection and the location of the conductors.

Δ **(A) Ungrounded Conductor.** Such protection shall be provided by an overcurrent device in series with each ungrounded service conductor that has a rating or setting not higher than the ampacity of the conductor. A set of fuses shall be considered all the fuses required to protect all the ungrounded conductors of a circuit. Single-pole circuit breakers, grouped in accordance with 230.71(B), shall be considered as one protective device.

Exception No. 1: For motor-starting currents, ratings that comply with 430.52, 430.62, and 430.63 shall be permitted.

Exception No. 2: Fuses and circuit breakers with a rating or setting that complies with 240.4(B) or (C) and 240.6 shall be permitted.