

- **706.9 Maximum Voltage.** The maximum voltage of an ESS shall be the rated ESS input and output voltage(s) indicated on the ESS nameplate(s) or system listing.

Part II. Disconnecting Means

706.15 Disconnecting Means.

- Δ (A) **ESS Disconnecting Means.** Means shall be provided to disconnect the ESS from all wiring systems, including other power systems, utilization equipment, and its associated premises wiring.
- **(B) Location and Control.** The disconnecting means shall be readily accessible and shall comply with one or more of the following:
 - (1) Located within the ESS
 - (2) Located within sight and within 3 m (10 ft) from the ESS
 - (3) Where not located within sight of the ESS, the disconnecting means, or the enclosure providing access to the disconnecting means, shall be capable of being locked in accordance with 110.25

Where controls to activate the disconnecting means of an ESS are used and are not located within sight of the ESS, the disconnecting means shall be lockable in accordance with 110.25, and the location of the controls shall be marked on the disconnecting means.

For one- and two-family dwellings, an ESS shall include an emergency shutdown function to cease the export of power from the ESS to premises wiring of other systems. An initiation device(s) shall be located at a readily accessible location outside the building and shall plainly indicate whether in the “off” or “on” position. The “off” position of the device(s) shall perform the ESS emergency shutdown function.

See also

Section 230.85 and associated commentary for information on emergency disconnects for services supplying one- and two-family dwellings

- Δ (C) **Notification and Marking.** Each ESS disconnecting means shall plainly indicate whether it is in the open (off) or closed (on) position and be permanently marked as follows:

“ENERGY STORAGE SYSTEM DISCONNECT”

The disconnecting means shall be legibly marked in the field to indicate the following:

- (1) Nominal ESS output voltage
- (2) Available fault current derived from the ESS
- (3) An arc-flash label applied in accordance with acceptable industry practice
- (4) Date the calculation was performed

Exception: List items (2), (3), and (4) shall not apply to one- and two-family dwellings.

Informational Note No. 1: See NFPA 70E-2018, *Standard for Electrical Safety in the Workplace*, for industry practices for

equipment labeling. This standard provides specific criteria for developing arc-flash labels for equipment that provides nominal system voltage, incident energy levels, arc-flash boundaries, minimum required levels of personal protective equipment, and so forth. Informational Note No. 2: ESS electronics could include inverters or other types of power conversion equipment.

For ESS disconnecting means where the line and load terminals could be energized in the open position, the device shall be marked with the following words or equivalent:

WARNING
ELECTRIC SHOCK HAZARD
TERMINALS ON THE LINE AND LOAD
SIDES MAY BE ENERGIZED IN THE OPEN POSITION

The notification(s) and marking(s) shall comply with 110.21(B).

(D) Partitions Between Components. Where circuits from the input or output terminals of energy storage components in an ESS pass through a wall, floor, or ceiling, a readily accessible disconnecting means shall be provided within sight of the energy storage component. Fused disconnecting means or circuit breakers shall be permitted to be used.

- N (E) **Disconnecting Means for Batteries.** In cases where the battery is separate from the ESS electronics and is subject to field servicing, 706.15(E)(1) through (E)(4) shall apply.

Informational Note: Batteries could include an enclosure, battery monitoring and controls, or other related battery components.

- N (1) **Disconnecting Means.** A disconnecting means shall be provided for all ungrounded conductors. A disconnecting means shall be readily accessible and located within sight of the battery.

Informational Note: See 240.21(H) for information on the location of the overcurrent device for battery conductors.

- N (2) **Disconnection of Series Battery Circuits.** Battery circuits exceeding 240 volts dc nominal between conductors or to ground shall have provisions to disconnect the series-connected strings into segments not exceeding 240 volts dc nominal for maintenance by qualified persons. Non-load-break bolted or plug-in disconnects shall be permitted.

- N (3) **Remote Activation.** Where a disconnecting means is provided with remote controls to activate the disconnecting means and the controls for the disconnecting means are not located within sight of the battery, the disconnecting means shall be capable of being locked in the open position, in accordance with 110.25, and the location of the controls shall be field marked on the disconnecting means.

- N (4) **Notification.** The disconnecting means shall be legibly marked in the field. The marking shall be of sufficient durability to withstand the environment involved and shall include the following:

- (1) Nominal battery voltage
- (2) Available fault current derived from the stationary standby battery system