

source(s) grounded conductor, a warning sign shall be installed at the normal power source equipment stating:

WARNING:

**SHOCK HAZARD EXISTS IF GROUNDING
ELECTRODE CONDUCTOR OR BONDING JUMPER
CONNECTION IN THIS EQUIPMENT IS REMOVED
WHILE ALTERNATE SOURCE(S) IS ENERGIZED.**

The warning sign(s) or label(s) shall comply with 110.21(B).

Optional standby systems that have a solid (unswitched) neutral in the transfer equipment (nonseparately derived system) rely on the grounding and bonding connections in the normal source supply equipment to ensure that the ground-fault current path is completed from a ground fault to the alternate source. If a main or system bonding jumper is removed [e.g., to perform testing on ground-fault protection of equipment (GFPE) systems], service personnel could inadvertently become part of the current path if a ground fault occurs.

- Δ **(C) Power Inlet.** Where a power inlet is used for a temporary connection to a portable generator, a warning sign shall be placed near the inlet to indicate the type of derived system that the system is capable of based on the wiring of the transfer equipment. The sign shall display one of the following warnings:

WARNING:

**FOR CONNECTION OF A SEPARATELY
DERIVED (BONDED NEUTRAL)
SYSTEM ONLY**
or

WARNING:

**FOR CONNECTION OF A
NONSEPARATELY DERIVED
(FLOATING NEUTRAL) SYSTEM ONLY**

Part II. Wiring

702.10 Wiring Optional Standby Systems. The optional standby system wiring shall be permitted to occupy the same raceways, cables, boxes, and cabinets with other general wiring.

702.11 Portable Generator Grounding.

(A) Separately Derived System. Where a portable optional standby source is used as a separately derived system, it shall be grounded to a grounding electrode in accordance with 250.30.

(B) Nonseparately Derived System. Where a portable optional standby source is used as a nonseparately derived system, the equipment grounding conductor shall be bonded to the system grounding electrode.

702.12 Outdoor Generator Sets.

(A) Portable Generators Greater Than 15 kW and Permanently Installed Generators. Where an outdoor housed generator set is equipped with a readily accessible disconnecting

means in accordance with 445.18, and the disconnecting means is located within sight of the building or structure supplied, an additional disconnecting means shall not be required where ungrounded conductors serve or pass through the building or structure. Where the generator supply conductors terminate at a disconnecting means in or on a building or structure, the disconnecting means shall meet the requirements of 225.36.

The disconnecting means on an outdoor generator set can be used as the disconnecting means required in 225.31, provided the disconnecting means, and not just the generator, is readily accessible and is within sight of the building.

(B) Portable Generators 15 kW or Less. Where a portable generator, rated 15 kW or less, is installed using a flanged inlet or other cord-and-plug-type connection, a disconnecting means shall not be required where ungrounded conductors serve or pass through a building or structure. The flanged inlet or other cord-and-plug-type connection shall be located outside of a building or structure.

- Δ **(C) Power Inlets Rated at 100 Amperes or Greater, for Portable Generators.** Equipment containing power inlets for the connection of a generator source shall be listed for the intended use. Systems with power inlets not rated as a disconnecting means shall be equipped with an interlocked disconnecting means.

Exception: Supervised industrial installations where permanent space is identified for the portable generator located within line of sight of the power inlets shall not be required to have interlocked disconnecting means nor inlets rated as disconnects.

This requirement ensures that a portable generator can be safely disconnected from a power inlet rated 100 amperes or more. A generator that is disconnected (unplugged) under load can present a safety hazard if the inlet is not rated for load break. The power inlet is required to be equipped with an interlocked disconnecting means to ensure that the disconnecting means is opened prior to disengaging the inlet. The exceptions recognize power inlets that are load break rated and those installed in supervised industrial installations where certain conditions exist.

ARTICLE 705

Interconnected Electric Power Production Sources

Part I. General

705.1 Scope. This article covers installation of one or more electric power production sources operating in parallel with a primary source(s) of electricity.

Informational Note No. 1: Examples of the types of primary sources include a utility supply or an on-site electric power source(s).

Informational Note No. 2: See Informational Note Figure 705.1.