

**SUBJECT:** Portable Generators - GFCI Protection

**Purpose:** To clarify the exemption and/or the requirement for GFCI protection on portable or vehicle-mounted generators.

**Scope:** This instruction applies MNOSHA-wide.

**Background:**

1926.404(b)(1)(ii) requires GFCI protection for receptacle outlets on construction sites, unless the receptacles are on a two-wire, single-phase portable or vehicle-mounted generator rated not more than 5kW, where the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces.

**ACTION:**

Portable/vehicle-mounted generators in use on construction sites **must** be equipped with GFCI unless it meets **all** of the following criteria:

- A. The output is a two-wire, single phase system-both wires are normally current carrying.
  - 1. Note: reference to the two-wires does not include the ground or equipment grounding conductors
  - 2. Examples of systems that do not meet the criteria:
    - i. Systems with a neutral conductor
    - ii. Three phase generators (have four wires)
    - iii. Dual voltage systems (120v/240v) (have three wires)
- B. The generator has a rating of 5kW or less.
  - 1. This information generally can be found on the manufacturer's nameplate on the generator.
- C. The circuit carrying wires of the generator are insulated and/or isolated (not connected) from the generator frame or other grounded surfaces.
  - 1. OSHIs should use the Santronics AC Sensor to determine whether or not circuit conductors of the generator are insulated/isolated from the generator frame. Testing procedure is as follows:
    - i. With the generator turned ON, touch the frame of the generator with the tip of the Santronics AC Sensor. If the sensor lights, then consider the circuit conductors not insulated from the generator frame and 1926.404(b)(1)(ii) should be cited if GFCI protection is not provided.

If all criteria are not met for the portable/vehicle-mounted generator and the generator is not equipped with GFCI, a citation for 1926.404(b)(1)(ii) is issued.

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For the MNOSHA Management Team

**Distribution:** OSHA Compliance and WSC Director

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