

FACILITY ALERT

PORTABLE GENERATOR AWARENESS - during a recent electrical inspection it was noted that a worker was using a portable generator to supply power to a hand tool. The portable generator was sitting in the back of a truck with the metal frame of the generator in contact with the metal frame of the truck. Further inspection with regard to the nameplate of the generator revealed that the NEUTRAL WAS FLOATING.

In this instance, if the frame of the generator became energized (120/240 volts) due to a fault inside the generator, the live frame of the generator would also energize the metal frame of the truck (120/240 volts). Because of the rubber tires on the vehicle, everything would be fine until a worker/person touches the truck. Under the right conditions, this would be a life threatening hazard.

There are two types of approved portable generators - One has the NEUTRAL FLOATING which requires the frame of the generator to be bonded to ground (earth). This involves putting a rod into the earth and attaching a ground cable from the rod to the generator frame. If there was an internal fault, the voltage would flow into the earth preventing a shock hazard.

The other type has the NEUTRAL BONDED TO THE FRAME. In this instance if there was a fault to the frame, the circuit breaker would trip eliminating the fault.

The O.R.F.A. recommends checking all portable generators and any that have the neutral floating (other than units that are used with a transfer switch) should be re-wired by an authorized and qualified individual so the neutral is bonded to the frame and a new label created to indicate the change.

In addition, the Ontario Occupational Health and Safety Act requires portable electrical tools used outdoors or in wet locations be fed from a circuit having a ground fault circuit interrupter, installed at the receptacle or on the circuit at the panel. The Electrical Safety Authority (ESA) also recommends all wiring connected to a stand alone generator have ground fault circuit interrupter protection.

The Ontario Electrical Safety Code outlines specific requirements for connecting and operating Portable Generators in the Province to eliminate electrical fire and shock hazards.

For further information:

Electrical Safety Authority <http://www.esainspection.net>

Portable Generator Safety http://www.esainspection.net/main_index/PDF/Flash%20Notices/03-03-FL.pdf

Understanding Portable Generators (OMAFRA) <http://www.gov.on.ca/OMAFRA/english/engineer/facts/00-057.htm>

T. 416.426.7062

F. 416.426.7385

1.800.661.ORFA

info@orfa.com