

Safe Use of Generators in Blackouts

Introduction

When disaster strikes essential services such as electricity are often lost for many hours or even days or weeks. Some people may choose to have a backup generator* to run essential home appliances such as refrigerators and cooking appliances.

Public Health Significance:

Generators can help home owners by providing essential refrigeration and cooking facilities. However, the primary hazards to avoid when using a generator are carbon monoxide (CO) poisoning from the toxic engine exhaust, electric shock or electrocution, as well as fire. Every year, people die in incidents related to portable generator use. Home owners must follow the directions supplied with the generator to ensure safe operation of generators.

Action to Take:

Purchasing a Generator

Buy a generator rated for the amount of power that you think you will need. Look at the labels on lighting, appliances, and equipment you plan to connect to the generator to determine the amount of power that will be needed to operate the equipment. Choose a generator that produces more power than will be drawn by the combination of lighting, appliances, and equipment you plan to connect. If your generator does not produce adequate power for all your needs, plan to stagger the operating times for various equipment. If your equipment draws more power than the generator can produce, then you may blow a fuse on the generator or damage the connected equipment.

Using a Generator

Under no circumstances should portable generators be used indoors. This includes inside a garage, carport, basement, crawlspace, or other enclosed or partially-enclosed area, even with ventilation. Opening doors and windows or using fans will **not** prevent CO build-up in the home. The CO from generators can rapidly lead to full incapacitation and death, but CO can't be seen or smelled. Even if you cannot smell exhaust fumes, you may still be exposed to CO. If you start to feel sick, dizzy, or weak while using a generator, get to fresh air **RIGHT AWAY - DO NOT DELAY**.

Additionally, be sure to place the generator away from open windows, doors, and vents that could allow CO to come indoors. To avoid electrocution, keep the generator dry and do not use in rain or wet conditions. To protect the generator from moisture, operate it on a dry surface under an open canopy-like structure, such as under a tarp held up on poles. Dry your hands if wet before touching the generator.

It is a good idea to install battery-operated CO alarms or plug-in CO alarms with battery backup in your home, according to the manufacturer's installation instructions. If CO gas from the generator enters your home and poses a health risk, the alarm will sound to warn you. Test the battery frequently and replace when needed.

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Refuelling a Generator

Ensure the generator is off and cool before refuelling. Petrol spilled on hot engine parts could ignite. Store fuel for the generator in an approved safety container. Use the type of fuel recommended in the instructions or on the label on the generator. Laws may restrict the amount of fuel you may store, or the storage location. Ask your local council or fire department for additional information.

Store the fuel outside of living areas in a locked shed or other protected area. Do not store it near a fuel-burning appliance, such as a natural gas water heater in a garage. If the fuel is spilled or the container is not sealed properly, invisible vapours from the fuel can travel along the ground and can be ignited by the appliance's pilot light or by arcs from electric switches in the appliance.

Using Appliances

Plug appliances directly into the generator. Alternatively, use a heavy duty, outdoor-rated extension cord that is rated (in watts or amps) at least equal to the sum of the connected appliance loads. Check that the entire cord is free of cuts or tears and that the plug has all three prongs, especially a grounding pin. **Never** try to power the house wiring by plugging the generator into a wall outlet, a practice known as "back feeding." This is an extremely dangerous practice that presents an electrocution risk to utility workers and neighbours served by the same utility transformer. It also bypasses some of the built-in household electrical safety devices.

Future Considerations

Permanently installed stationary generators are better suited for providing backup power to the home.

** Refer to information on "Using Generators" at the Queensland Department of Employment and Industrial Relations website (see "Related Links" below).*

Acknowledgement:

This document was sourced from information provided by the American Red Cross, the Centers for Disease Control and Prevention (USA), the National Fire Protection Association (USA) and the U.S. Consumer Product Safety Commission.

Related links:

- Emergency Management Queensland (EMQ) at website:
www.emergency.qld.gov.au/emq/css/beprepared.asp
- Emergency Management Australia Community Awareness Publications at website:
www.ema.gov.au/www/emaweb/emaweb.nsf/Page/Publications
- Queensland Department of Employment and Industrial Relations at website:
www.deir.qld.gov.au/