



Portable Generators

Considerations for the Use of Portable Generators

Portable generators are useful when temporary or remote electric power is needed, but they can be hazardous. The primary hazards to avoid when using them are electric shock or electrocution, carbon monoxide poisoning and fire.

Shock and Electrocution

The electricity created by generators has the same hazards as normal utility-supplied electricity. The following precautions are provided to reduce shock and electrocution hazards:

- Never attach a generator directly to a wall outlet of a structure (home, office, trailer, etc.) This can backfeed electricity and create an electrocution hazard to workers and users in other areas
- Always plug electrical appliances directly into the generator or use grounded (3 prong) extension cords. Inspect cords to make sure they are not damaged, cut or abraded.
- Use ground fault circuit interrupters (GFCIs), especially where electrical equipment is used in or around wet or damp locations. GFCIs shut off power when an electrical current is detected outside normal paths.
- Make sure a generator is properly grounded and the grounding connections are tight. Consult the manufacturer's instructions for proper grounding methods.
- Keep a generator dry; do not use it in the rain or wet conditions. Never manipulate a generator's electrical components if you are wet or standing in water.

Carbon Monoxide Poisoning

Carbon monoxide (CO) is a colorless, odorless, toxic gas. Many people have died from CO poisoning because their generator was used without adequate ventilation.

- Never use a generator indoors or in enclosed spaces such as garages, crawl spaces, and basements. Opening windows and doors may NOT be enough to prevent CO from building up when a generator is located in an enclosed space.
- Ensure generators are at least 5 meters from doors, openable windows, and vents to ensure CO does not enter a structure – including tents.
- If you or others show symptoms of CO poisoning—dizziness, headaches, nausea, tiredness—get to fresh air immediately and seek medical attention. Do not re-enter the area until it is determined to be safe by trained and properly equipped personnel.



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Fire Hazards

- Ensure cords are rated for the appropriate amperage for the intended use. Using underrated cords creates a fire risk.
- Do not overload a generator; this can cause overheating and result in fire
- Generators become hot while running and remain hot long after they are stopped. Generator fuels (gasoline, kerosene, etc.) can ignite when spilled on hot engine parts.
- Before refueling, shut down the generator and allow it to cool.
- Gasoline and other generator fuels should be stored and transported in approved containers that are properly designed and marked for their contents, and vented.
- Keep fuel containers away from flame producing and heat generating devices (such as the generator itself, cigarettes, lighters, and matches). Escaping vapors or vapors from spilled fuel can travel long distances to ignition sources.
- Do not store generator fuels inside any Queen's University Building.

For More Information Contact:

Environmental Health and Safety
Queen's University
(613) 533-2999

[Environmental Health & Safety - Home | Office of Risk and Safety Services \(queensu.ca\)](#)