

Power blackouts - using alternative fuel and electricity generation safely

When power outages occur, people sometimes use alternative sources of fuel or electricity generation for heating, cooling, drying out the buildings, running appliances, cooking etc.

Carbon monoxide gas is found in combustion fumes such as those produced by small gasoline engines, stoves, generators, lanterns, and gas ranges, or by burning charcoal and wood.

Carbon monoxide is invisible and you cannot smell it. If it builds up in the home, garage or caravan it can cause sudden illness, loss of consciousness and death. Think about your pets as well as your family.

NEVER use appliances designed for outdoor use inside a home, basement, garage, or caravan, or even outside near an open window. Appliances such as power generators, grills, camp stoves, or other petrol, LP gas, natural gas, or charcoal-burning devices, should only be used as specified by the manufacturer.

Power Generators

Some people use a backup portable power generator to run essential home appliances such as refrigerators and cooking appliances.

Although they are very useful, the primary hazards to avoid are:

- Carbon monoxide poisoning from the engine exhaust
- Electric shock or electrocution, and
- Fire.

Householders must follow the directions supplied with the generator to ensure safe operation.

Purchasing a generator

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

The generator needs to be rated for the amount of power required. Look at the labels on lighting, appliances, and equipment you plan to connect to the generator to work this out.

If your equipment draws more power than the generator can produce, this may blow the fuse on the generator or damage the connected equipment.

If the generator does not produce adequate power for all your needs, plan to stagger the operating times for various pieces of equipment.

Using a generator safely

NEVER use a portable generator indoors. This includes inside a garage, carport, basement, crawlspace, or other enclosed or partially enclosed area, even with ventilation.

Opening doors and windows will not prevent carbon monoxide building up in the home.

Additionally, make sure you place the generator well away from open windows, doors and vents that could allow carbon monoxide to travel indoors.

It is a good idea to install battery-operated carbon monoxide alarms or plug-in carbon monoxide alarms with battery backup in your home.

If carbon monoxide 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.

To avoid electrocution

- Keep the generator dry and do not use in rain or wet conditions.
- To protect the generator from moisture, use it on a dry surface under an open canopy-like structure, such as a tarpaulin held up on poles.
- If your hands are wet, dry them before you touch the generator.

Refuelling a generator

- Ensure the generator is off and cool before refuelling. Petrol spilled on hot engine parts can ignite.
- Store petrol away from living areas, in a locked shed or other protected area.
- Do not store any fuel near a fuel-burning appliance (eg. a natural gas water heater in a garage).

Using appliances connected to a generator

- 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.
- Use short extension leads to reduce voltage drop
- Unwind extension leads from reels or drums
- Check that the entire cord has no cuts or frays and that the plug has all three prongs, especially the earth pin.

NEVER try to power the house wiring by plugging the generator into a wall outlet, a practice known as "back feeding". This is extremely dangerous and 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.

Preventing carbon monoxide poisoning

- Never use a gas-range or oven to heat a home.
- Never use a charcoal grill, hibachi, lantern, or portable camping stove inside a home, tent, or caravan.
- Never run a generator, pressure washer, or any fuel-powered engine inside a basement, garage, or other enclosed structure, even if the doors or windows are open, unless the equipment is professionally installed and vented.
- Keep vents and flues free of debris, especially if winds are high, as flying debris can block ventilation lines.
- Never run a motor vehicle, generator, pressure washer, or any fuel-powered engine outside an open window, door, or vent where exhaust can vent into an enclosed area.
- Never leave the motor running in a vehicle parked in an enclosed or partially enclosed space such as a garage.

- If you start to feel sick, dizzy, or weak get to fresh air immediately – **do not delay**.

If you suspect you have been exposed to carbon monoxide seek immediate medical advice.

For further information

- For medical advice on carbon monoxide exposure contact your doctor.
- For general health information about carbon monoxide contact the Environmental Health Unit of the Department of Human Services on 1300 761 874.
- For information about the safe use of gas or electricity contact Energysafe Victoria on (03) 9203 9700 or their webpage at www.esv.vic.gov.au
- For gas leaks or emergencies ring 132 771

Additional copies of this sheet can be downloaded from the Environmental Health Unit webpage at www.health.vic.gov.au/environment/emergency_mgmnt/index.htm

References

Preventing Carbon Monoxide Poisoning After an Emergency (2006) Centre for Disease Control & Prevention, Department of Health & Human Services.

Public Health Fact Sheet – Safe Use of Generators in Blackouts (2005) Queensland Health, Queensland Government.