



Refuelling Portable Equipment

Alert on the risks of refuelling portable equipment, such as petrol generators and demolition saws, and advice on controlling the risks

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Background

Refuelling portable equipment can create vapours or fuel spills that can be easily ignited by hot engine parts, static electricity or other ignition sources resulting in an explosion and or fire. People have been burned, many seriously, while refuelling portable equipment.

Incidents

Workers lining a dam with high density polyethylene (a plastic) suffered burns when petrol vapours ignited while they were refuelling a portable generator. Their movement on the plastic liner generated static electricity which sparked and ignited the petrol vapours.

A worker was seriously burned when a portable generator caught fire while he was refuelling it on the back of his Ute. The fire was caused by either the petrol vapours igniting due to static electricity, or petrol spilling onto the generator's hot engine.

Another worker suffered burns from a fire caused by petrol that spilt onto the hot exhaust while he was refuelling a running portable generator.

Control Measures

The risks must be eliminated, so far as is reasonably practicable. If the risk or part of the risk cannot be eliminated, it must be reduced so far as is reasonably practicable.

Eliminate the ignition risks by using an alternative to fuel such as mains power, battery powered tools, or a deep-cycled battery and an inverter.

If it is not reasonably practicable to eliminate the risk, reduce the risk by substituting petrol equipment with diesel equipment if reasonably practicable. Diesel is a safer alternative to petrol as it has a higher ignition point.

When refuelling petrol or diesel powered portable equipment there must be safe systems of work in place to reduce the ignition risk. These may include:

***When refuelling:**

- turn the equipment off and give it time for the hot parts to cool down
- remove the equipment from inside vehicles
- remove the equipment from trailers or surfaces (e.g. plastic or rubber) to ground out any static charge built up on the equipment
- refuel away from other heat and possible ignition sources
- refuel in a well-ventilated area
- do not refuel in low lying areas, where vapours can accumulate
- refuel only from approved labelled fuel containers
- use a funnel, to reduce the risk of static electricity and fuel spillage
- suitable fire extinguishers are readily accessible
- replace fuel caps on equipment and fuel containers tightly.

***When transporting** portable equipment and fuel containers:

- allow the equipment to cool down before loading it onto a vehicle
- ensure fuel caps are on tight
- secure in the upright position in a well-ventilated space.

***When storing** fuel onsite:

- Only approved labelled fuel containers are used
- fuel containers are outside vehicles or structures, in a well-ventilated area.

Inform and provide instruction to users of the equipment on the hazards and control measures required to refuel safely.

Wear personal protective equipment (PPE) such as safety boots, non-flammable long pants and long sleeve shirts, eye or face protection and gloves to further reduce the risk of injury if fuel ignites during refuelling.

Further information

Australian Standards:

* AS/NZS 2906 - Fuel containers - Portable - Plastics and metal

* AS/NZS 1940 - Storage and handling of flammable and combustible liquids