USING ENGINE DRIVEN GENERATING SETS SAFELY 21/12/2017

Portable generators may be used on a building site to power portable power tools or, to provide an alternate supply of electricity during a power cut, or when the power is off to work on the power lines to run plug-in domestic appliances. Generally they are very safe, but you should follow a few rules when you use a portable generator.

There are two main types of generators:

- Portable generators.
- Standby generators.

Portable generators

Portable generators for domestic use can be easily moved from site-to-site and are not intended to be connected directly to your home mains electrical system. You should only use them to supply small plug-in appliances through flexible cords.

Portable generators consistently used to provide back-up supply to a portion of the premises electrical system must be connected directly to the premises electrical system through a special inlet plug with interlocking changeover switch.

You must **never**:

- attempt to connect your generator to your mains switchboard, a wall outlet or by altering your house wiring. This could feed electricity back into our network and risk the lives of line workers
- connect loads that exceed the generator's maximum output rating. Most generators have a maximum rating in watts, for example 2000 watts (two kilowatts)
- use a generator indoors. You risk carbon monoxide poisoning from the fumes and also risk causing a fire
- add fuel to the generator while it is running
- use damaged leads or appliances. You should also use a safety switch designed especially for generators
- connect all appliances at the same time; start with the largest and progressively add successive ones up to the generator's maximum output
- 'piggy back' cords - always use a multiple-outlet box with built in load limiters.

Stand-by generators

A standby generator is designed to provide electricity in the event mains supply is lost. It does not operate in parallel with mains supply. A standby generator may be used in the case of:

- planned electricity interruption on the electricity Network
- fault on the electricity network
- storm or third party damage to the electricity network

Their capacity varies considerably and they can be connected to the installation wiring. Standby generators may be fixed in location and connected directly to a premises dedicated wiring system, or a mobile generator connected directly to the premises electrical system through a special inlet plug.

Proper Installation

The standby generator and its wiring must be installed in compliance with all relevant Electricity (Safety) Regulations and Standards as well as:

- a licensed electrician must install the generator and alter the wiring as necessary.
- the standby generator should never be connected on a temporary basis to the electrical circuits in your premises. To do so could endanger the premises occupants, neighbors and Network Waitaki workers.
- installations must have either an automatic or manual changeover switch that disconnects the incoming mains and couples the generator to the installation wiring. This changeover must occur to stop electricity feeding back into the networks line and putting the lives of line workers at risk.
- connected loads must not exceed the maximum rating of the generator. To limit the load to the maximum load rating of the generator, the installation wiring is split into essential and non-essential sections so that only the essential loads are supplied by the generator
- the connection must be on the installation side of the energy meter.
- generators designed to start automatically in the event of a power cut should be test-run on load at periodic intervals. The best way to ensure that a generator will start and changeover if the mains fails is to turn off the building main switch
- generators should be regularly serviced by a specialist company.

New Connections and the Certification Process

Every time an electrician completes a new electrical installation, extension, or modification to an existing installation, they are obliged to test and certify that the installation complies with current Electricity Regulations and Standards.

Before any connection and livening can take place on any fixed wiring alterations within a customer's installation which will allow for the connection of a portable standby generator, a Certificate of Compliance (COC) and Electrical Safety Certificate (ESC) must be completed by the electrician to verify that the generator installation will be safe to use.

The customer should receive a copy of the COC/ESC whenever electrical work is completed.

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