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All machinery operators and other workers working near powerlines should

be aware of their safety duties under the Electrical Safety Act 2002 and The Electrical Safety Regulation 2013 and adopt safe work practices in accordance with the Code of Practice 'Working Near Overhead and Underground Electric lines'.

Look up and Live

If you are contemplating working or operating plant near overhead or underground powerlines, you should obtain a copy of the 'Electricity Entity requirements: Working Near Overhead and Underground Electric Lines' which is available at ergon.com.au/lookupandlive or energex.com.au/lookupandlive

Always take care when operating around overhead powerlines.

Working in close proximity to powerlines, above or below the ground, has its hazards. Every year, workers die or suffer serious injuries, mostly because safe work practices around electricity have not been applied. Not only could contact with powerlines cause injury or death but costs to repair the damage could be expensive.

Call for safety advice



1800 635 369



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This guide contains valuable information about some of the potential dangers of and how to work safely around, both overhead and underground powerlines, for operators of machinery including excavators, tip trucks, trucks, crop sprayers, harvesters or aircraft and users of scaffolding equipment, irrigators or ladders.

Exclusion zone

An exclusion zone is a safety envelope around an overhead powerline. Exclusion zones keep people, operating plant and vehicles a safe distance from energised overhead powerlines. No part of a worker, operating plant or a vehicle should enter an exclusion zone while the overhead powerline is energised (live).

Exclusion zone measurements depend on the voltage of the powerline, type of work being performed and qualifications of people involved.

Generally, workers and their equipment must maintain exclusion zones around powerlines as follows:

- 3 metres for voltages up to 132kV
- 6 metres for voltages up to 330kV

If the work that you and your staff are planning has the potential to encroach into powerline exclusion zones or if you are unsure, contact us for safety advice before starting the job.

These exclusion zones can be reduced if the worker has been trained and approved as an Authorised Person. Contact us for information on how to become an Authorised Person.

Safety Observer Zone

A Safety Observer Zone is the area where machinery or equipment is operating where any part of the machinery or equipment COULD enter the exclusion zone. A trained safety observer MUST be used if the equipment can reach the exclusion zone. Encroachment into the exclusion zone is strictly forbidden.

To ensure the equipment does not come within an unsafe distance, we recommend that a Safety Observer Area of 10 metres be delineated either side of overhead powerlines as per the diagram below. A Safety Observer SHOULD be used when machinery or equipment is operating in the Safety Observer Area.

Safety Observer

A Safety Observer or spotter is a person who:

- a. observes the operating plant; and
- b. advises the plant operator if it is likely that the operating plant will enter the exclusion zone for an overhead powerline.

Safety Observers undergo specific training and must be competent to perform the role in observing, warning and communicating effectively with the plant operator. Contact us for information on how to become a qualified Safety Observer.



What to do if contact with powerlines occurs

What happens if overhead or underground powerlines are contacted

1. The machinery or vehicle will become 'live' at the same voltage as the powerlines contacted and electricity will attempt to pass through the vehicle to the ground.
2. Anything in contact with the powerlines will also become 'live', such as fences and trees.
3. A potentially dangerous electrical field will be created around anything in contact with the powerline. This field extends for approximately 10 metres around these items.

What should you do if contact occurs

1. Try not to panic, remain calm and stay in the vehicle until the power has been isolated and the powerlines removed. Don't risk being electrocuted by attempting to leave the vehicle before power is disconnected.
2. Advise anyone near the incident site to stay a minimum of 10 metres from the vehicle and anything else in contact with the powerlines.
3. Treat all powerlines as if they are 'live'.
4. Call 000 immediately to report powerlines down and a life threatening situation.



We recommend that operators of machinery practise this jump / shuffle technique on a regular basis.

What if the person in the vehicle needs to be evacuated

An emergency evacuation is extremely dangerous and should only be attempted as a last resort, such as if the vehicle is on fire. Remember never approach the vehicle to assist in an evacuation and always treat all powerlines as if they are 'live'.

Tyres can explode

When a vehicle contacts overhead powerlines a massive electrical current flows through the vehicle and its tyres to earth. This can cause the tyres to explode on contact or to start burning on the inside.

Tyres burning on the inside creates a potential hazard where the build up of gases and heat can cause the tyre to explode at a later time, even 24 hours after the incident. Flying debris from the tyres exploding could potentially injure any persons in close proximity to the vehicle.

Ensure that the vehicle is isolated with a 300m exclusion zone for a minimum of 24 hours. After this, have the vehicle thoroughly inspected for tyre and mechanical damage.