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.

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’.

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

If you need safety advice, call 13 74 66 or 1800 635 369.
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 powerlines. A trained person who has been approved as an Authorised Person. A Safety Observer Zone is the area where machinery or equipment is operating as if they are ‘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:

- **3m** for voltages up to **132kV**
- **6m** 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.

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. 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. A trained safety observer MUST be used if the equipment can reach the exclusion zone. An Exclusion Zone is a safety envelope around an overhead powerline.

**Safety Observer**

A Safety Observer or spotter is a person who:

- observes the operating plant and:
- 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 powerlines. This field extends for approximately 10 metres around these items.

**What should you do if contact occurs**

1. Try to stop the vehicle, 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 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 ‘live’.

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 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.

**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 anyone in close proximity to the vehicle.

Ensure that the vehicle is isolated with a 20m exclusion zone for a minimum of 24 hours. After this, have the vehicle thoroughly inspected for type and mechanical damage.
More information
Our Community Safety Team is available to discuss any questions relating to electrical safety legislation and requirements.

Call 1300 736 349

Network customer service 13 74 66
7.00am - 6.30pm, Monday to Friday

Faults only 13 22 96
24 hours a day, 7 days a week

Life-threatening emergencies only
000 (Triple zero) or 13 16 70
24 hours a day, 7 days a week

ergon.com.au

Ergon Energy Corporation Limited ABN 50 087 646 062
Before you start work

- Talk to the person in control of the property about any work areas which may be hazardous.
- Know the location of overhead and underground powerlines, poles and stays on the property and their proximity to your work.
- Complete a hazard assessment for each work site including paddocks, sidings and piece of machinery to be used.
- Install visual markers in any areas where electrical hazards are identified prior to commencing work. Vision can be obstructed by machinery blind spots.
- Monitor weather conditions closely as powerlines can sway in winds, sag as temperature increases and are difficult to see at dawn and dusk.
- Be aware of reduced powerline heights resulting from damage, often indicated by uneven powerlines, excessive sag or slack stays.
- Stay well clear of damaged powerlines and report them immediately on 13 22 96.
- Ensure operators are aware of the height of their machinery in both stowed and working positions.
- Monitor closely any machinery being operated to ensure required powerline exclusion zone clearances are maintained.
- Ensure all farm workers know the emergency procedures applicable for the work being carried out and the relevant emergency contacts.

Practice safe work habits

- Identify all electrical hazards, assess the risks, establish and introduce control measures, review control measures periodically. Control measures may include but may not be restricted to:
  - Visual indicators such as flag markers fitted to powerlines (contact us for advice).
  - Ground barriers where possible.
  - Informing workers of required work practices.
- Assign a safety observer to each work team.
- Ensure required exclusion zone clearances between machinery and powerlines are maintained.
- Investigate solutions and remedy current hazardous powerline locations.
- Lower toppers and elevators to the transport position when relocating, from paddock to paddock and farm to farm.
- Give consideration to operational exclusion zone clearances when building new cane paddocks and sidings to keep safe distances away from powerlines.
- Carry out maintenance and storage activities well away from powerlines.
- Contact us on 13 74 66 about marking powerlines, power poles and stays on your property.

Transporting a high load?

High loads come in all shapes and sizes. If the height of your load or plant exceeds 4.6 metres you are transporting a high load.

You will be required to know your load dimensions (vehicle and load), proposed route and times for transport. We will need to scope/assess the route to ensure the high load will not contact overhead powerlines.

It’s essential that you obtain a Notification to Transport High Loads form from us by calling 13 74 66 or emailing highloads2@ergon.com.au

Working in close proximity to powerlines, above or below the ground, has its hazards. Unfortunately each year, the workers in the cane industry come in contact with Ergon Energy assets. This includes contact with poles, wires and pillar boxes by vehicles, the loads they are carrying or their associated plant. Contact can also occur during harvesting and haul out operations, when moving machinery and plant from one location to another or when irrigating.
More information
Our Community Safety Team is available to discuss any questions relating to electrical safety legislation and requirements.

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Overhead warning markers
Ergon Energy has a range of overhead warning markers that can be installed to help identify overhead powerlines in areas where machinery is frequently operated.

Painting poles
Painting the lower section of the pole up to 2.4 metres above ground can also provide a visual indication of structures to help avoid accidental contact.

More information on our policies for painting poles can be found at ergon.com.au/paintingpoles or call 13 74 66 for advice.

Aircraft warning markers
Cable markers should be installed where regular low-level flying operations take place. Refer AS 3891 - 2008  Air navigation - Cables and their supporting structures - Marking and safety requirements.

The colour of the markers should be chosen for visibility and contrast with the surrounding background. Markers of different colours may be used to provide contrasts when viewed in different directions or conditions (eg white and orange alternated).

Responsibilities
The responsibility for marking overhead powerlines, cables and structures should be as follows:

- The person requesting planned low-level flying operations (eg the land owner) is responsible for requesting installation of markers.
- The pilot or pilot’s delegate should be satisfied as to the need for and effectiveness of markers prior to commencing low-level operations.
- Aerial markers should only be installed, maintained or removed by Ergon Energy.

Before starting work, every worker working near powerlines should be aware of their safety obligations under the Electrical Safety Act 2002 and The Electrical Safety Regulations 2013 adopting safe work practices in accordance with the Code of Practice “Working Near Overhead and Underground Electric Lines”. If you are contemplating working or operating plant near overhead or underground powerlines, obtain a copy of the “Electricity Entities requirements: Working Near Overhead and Underground Electric Lines” document. These are available online at ergon.com.au/lookupandlive

Contact us for safety advice on 13 74 66 about marking powerlines and painting poles on your property.
1. Stay in the vehicle. Call 000 immediately.

2. If there's an immediate danger, like fire, and evacuation is absolutely necessary, access your escape route and check for fallen powerlines.

3. Exit the vehicle by jumping — make sure to land with both feet together.

4. When jumping, don't touch the vehicle and the ground at the same time.

5. Once you've landed with both feet together (be careful not to stumble or fall), jump or shuffle with your feet together away from the vehicle.

6. Move in this way until you are at least 10 metres away from the vehicle. DO NOT go back.

What to do if your vehicle brings down powerlines

13 16 70

Queensland Government

1800 353 031

13 19 62
Look up and Live

Know your machine

This machinery's stowed height is [ ] m
This machinery's extended reach is [ ] m

Call for safety advice

Untrained Person Exclusion Zones

Safety Observer Area

Permit required if transit height exceeds 4.6m

outside view looking through glass

inside view from inside vehicle