

Electricity and sugar cane

When it comes to the potential dangers of working around powerlines and other electricity network infrastructure, there are some key safety tips to keep in mind to help keep you and your workers safe.

What should I do before starting any work on a property?

- ▶ 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. Use the **Look up and Live** app to identify the location of powerlines:
essentialenergy.com.au/lookupandlive
- ▶ Complete a hazard assessment for each work site including paddocks, sidings, travel routes and pieces of machinery to be used.
- ▶ Put appropriate control measures in place prior to commencing work; including work practices and procedures to prevent potential harm to persons.
- ▶ Install rota markers in any areas where electrical hazards are identified prior to commencing work, as vision can be obstructed due to blind spots in machinery.
- ▶ Ensure operators are aware of the height and reach of their machinery in both stowed and working positions.
- ▶ Ensure farm workers know the required clearances required between machinery and powerlines.
- ▶ Ensure all workers are aware of the Emergency Escape Procedure.

Safe work habits

- ▶ Conduct regular toolbox meetings and periodically review control measures implemented for effectiveness.

- ▶ Check for reduced powerline heights resulting from damage, often indicated by uneven powerlines, excessive sag or slack stays. Report any issues observed immediately to Essential Energy on **13 20 80** for rectification.
- ▶ Monitor weather conditions closely as powerlines can sway in winds, sag as temperatures increase and are difficult to see at dawn and dusk.
- ▶ Closely monitor any machinery being operated to ensure required powerline clearances are maintained and NO-GO ZONES aren't encroached.
- ▶ Assign a safety observer to each work team to guide machinery movements near overhead powerlines, in order to warn the person/operator of unsafe conditions and ensure that minimum safe approach distances are maintained.
- ▶ Lower toppers and elevators to the transport position when relocating every time; within the paddock, from paddock to paddock and farm to farm.
- ▶ Tip cane well clear of powerlines. Plan to start work at each new site during daylight hours so that all hazards can be observed.
- ▶ Stay clear of damaged powerlines and report them immediately to Essential Energy on **13 20 80**.



Powerlines in a sugar cane field

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When burning cane

- ▶ It's the grower's responsibility to ensure that the fire is monitored and controlled during and after to prevent damage to Essential Energy's assets.
- ▶ Lay cane down directly beneath and for at least 3 metres either side of powerlines prior to commencing burn.
- ▶ Consider not planting cane directly beneath or within 3 metres either side of powerlines.
- ▶ Essential Energy may provide a supervision service during the burn, at a cost. Contact Essential Energy at least 24 hours prior to commencing burn to discuss this option.
- ▶ Ensure Essential Energy is immediately informed if there is any damage.



What else can I do to make my property power safe?

- ▶ Ensure maintenance of machinery, building of cane pads and unloading/loading activities are carried out well away from powerlines.
- ▶ Warn workers of the presence of overhead powerlines prior to commencing work by:
 - ▶ Have the **Look up and Live** app downloaded and review the location maps during pre-start checks, or whenever changing locations

- ▶ Wherever possible, mark either side of powerlines - at least 8 to 10 meters with either signage or a visible marker to alert drivers.
- ▶ Consider the use of line proximity devices installed on machinery.

Minimum safe approach distances when operating machinery near powerlines

Powerlines with voltages up to 132,000 volts	e.g. low voltage and high voltage distribution and sub transmission lines, usually on poles	3 m
Between 132,000 and 330,000 volts	e.g. sub transmission and transmission lines on either poles or towers	6 m
More than 330,000 volts	e.g. transmission lines usually on towers	8 m

- ▶ Although these are the minimum clearances required, you can reduce the likelihood of mistakes by operating machinery well clear of powerlines.
- ▶ Ensure required minimum clearance distance between machinery and powerlines are maintained when transporting machinery to avoid flash overs occurring.



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Minimum safe distances for fixed vehicles required when driving under powerlines

Nominal phase to phase AC voltage	Minimum approach distance
Low voltage conductors up to 1,000 volts (usual supply from transformers to houses, sheds and pumps)	0.6 m
Above LV, up to and including 33,000 (usual supply to rural transformers on a single pole with crossarms)	0.9 m
Above 33,000 up to and including 132,000 (usually two poles or single poles without crossarms)	2.1 m
Above 132,000 up to and including 220,000 (usually steel towers)	2.9 m
330,000 (steel towers)	3.4 m
500,000 big steel towers)	4.4 m



Electrical Incident Emergency Escape Procedure

- ▶ From a safe distance – at least eight metres – simply get the operator to drive the vehicle clear to break contact if safe to do so (applies to other plant and equipment).
- ▶ Stay in plant/equipment/vehicle unless fire occurs, not just smoke.
- ▶ If there is a life-threatening situation and they have to get out, the operator must jump clear – avoiding contact with the machine and the ground at the same time. Avoid over balancing or falling.
- ▶ HOP or SHUFFLE with feet together until at least 8 metres away.
- ▶ Seek medical attention after any incident as effects of injury may not show until many hours later.



SAFETY FIRST

- ▶ Ensure workers have been suitably trained and are competent to safely perform the work being carried out
- ▶ Ensure NO-GO ZONES are maintained
- ▶ You can still be injured without directly contacting an overhead powerline, as electricity can arc across open spaces – so keep your distance!
- ▶ Carefully monitor weather conditions – powerlines can sway in winds, sag as temperature increases and are difficult to see at dawn and dusk
- ▶ Never approach a fallen powerline, they can remain alive, even when laying across the ground