

# TIP sheet

## Overhead powerlines

T003 – AUGUST 2006



### Minimum requirements

- Identify all aboveground, overhead and underground services during the work planning stage. This includes power lines and other utilities suspended on bridges and other similar structures.
- Clearly mark the position of power lines, transformers and distribution boxes on all original plans and drawings and make sure positions of services are clearly highlighted on work site copies.
- Consult with the owner of the service about their requirements for preventing damage to property and preventing injury.
- Verify the position of all services before work begins and make sure all required warning signs and devices are in place.
- If you need to work within the No Go Zone, ALL crane, plant, EWP operators, supervisors and safety observers must attend accredited Crane and Plant Electrical Safety training AND a trained Safety Observer (spotter) must be appointed for each item of plant in the No Go Zone. See ISSC26, Section 7.

- Complete a written risk assessment of all foreseeable risks associated with carrying out the work (OHS Reg Cl 64, see also Chap 2) and develop control measures, eg. relocate or de-energise the apparatus prior to work, use movement inhibitors and/or machinery that will not enter the 3 metre No Go Zone.
- Issues involving emergency conditions & overhead utilities must be included in your Emergency Evacuation Plan.
- If the risk is rated as medium or high (up to and including 4 on the RTA Risk Calculator) a SWMS must be developed.
- The SWMS must be developed in consultation with employees involved in the work, implemented and followed when the site is released from any Work Cover restrictions.
- All crane drivers, plant operators, tip truck and delivery drivers and safety observers must attend the toolbox.
- If services have been de-activated, de-energised or disconnected, make sure that the supply authority is advised at the end of the work.
- When services are reinstated, make sure that all warning signs and devices have been removed.

### In the Event of Emergency

If a crane, other plant or equipment makes contact with powerlines:

- Stop all work in the vicinity of the incident.
- Follow your emergency plans to make the site and nearby areas safe. Keep everyone at least 8 metres clear of the machine and conductor. Evacuate if necessary.
- Immediately notify the utility service provider. They must isolate the service if there is any risk of energy transfer.
- Try to break the machine's contact if advised by utility owner.
- If contact can't be broken, the operator should stay in the cabin (unless there is a fire or other emergency) until the power has been switched off and the all clear is given.
- Maintain an exclusion zone of at least 8 metres, until the power has been switched off and the all clear is given.



Unless there is a fire or other emergency, don't try to jump clear, until the power is off and the all clear is given because:

- Simultaneous contact with the machine and the ground will result in an energy transfer, and
- An energy transfer to earth may occur even without direct contact being made with the ground.

If you do need to jump...

- Don't make simultaneous contact with the machine and the ground.
- Jump clear, preferably in one jump from the vehicle to the ground, land on your feet, do not roll.
- Keep both feet together and hop away

## Powerlines down – immediate actions

- Keep well clear (minimum 8 metres).
- Immediately notify the supply authority and emergency services.
- Use 'lookouts' to warn others at, or near the work site.
- Make sure the line is guarded until it is made safe.
- Quarantine rubber tyred vehicles for 24 hours

## Electric shock

- Before making contact with the victim, make sure they are clear of conductors, or conductors have been de-energised.
- Don't touch the victim if they are in contact with live conductors.
- Call for medical help as soon as possible.
- Notify emergency services (000) and the supply authority.
- CPR by trained first aider and monitor the victim until ambulance arrives

## Reporting of incidents

Report incidents to the OHS Helpdesk - 1300 131 469.

If the incident is serious and presents an immediate threat to life or major damage to plant and equipment;

- The incident must be reported to WorkCover (for RTA sites by the OHS Help Desk), and
- A contact with powerlines is a serious incident.
- The incident may be classified as a non-disturbance occurrence and advice by WorkCover must be obtained prior to touching the affected site.
- If a non disturbance occurrence, protective barriers must be put in place at least 8 metres from the incident site as soon as it is safe to do so, and
- Principle contractors of the RTA retain the responsibility to contact WorkCover of serious incidents.

## References

[OHS Regulation](#) Part 4.2 Division 3, Cl 64 & 227

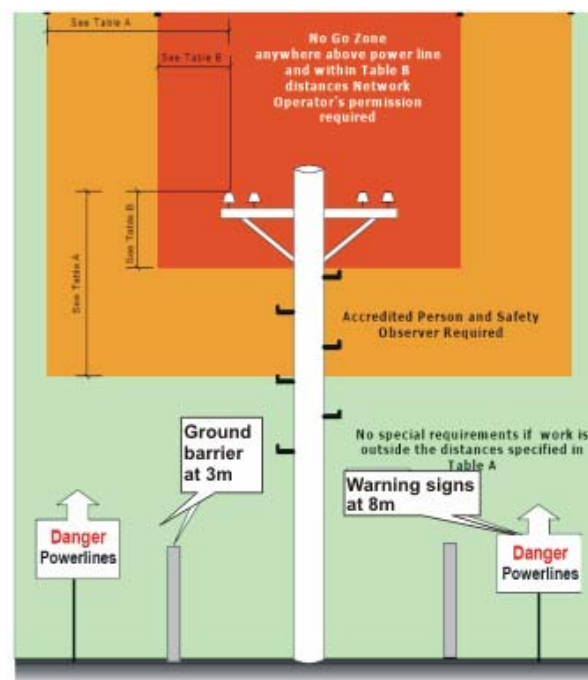
WC position paper – [Work Near or in close proximity to overhead overlines](#)

[ISSC26](#) – 'Interim Guide for Operating Cranes and Plant in Proximity to Overhead power Lines', available from Dept of Energy, Utilities & Sustainability (DEUS)

[RTA OHS Policy 2.25](#) – Work In the Vicinity of Aboveground, Underground and Underground Utilities

[Checklist - G22](#) - Annexure HI2

[Serious incidents](#) - Sect 87 OHS Act and Clause 344 OHS Regulation



**Table A - Minimum Safe Approach Distances for work performed by Ordinary Persons**

Nominal Phase to Phase AC Voltage (Volts)	Safe Approach Distance (m)
Un-insulated conductors up to and including 132,000	3.0
Above 132,000 up to and including 330,000	6.0
Above 300,000	8.0
Nominal Pole to Earth dc Voltage (Volts)	Safe Approach Distance (m)
Up to and including +/- 1500 Volts	3.0

**Table B - Minimum Safe Approach Distances for work performed by Accredited Persons, with a Safety Observer**

Nominal Phase to Phase AC Voltage (volts)	Safe approach distance (m)
Insulated low voltage cables up to 1000 (e.g. LV ABC cables)	0.5 or as advised by network operator
Un-insulated low voltage conductors up to 1000	1.0
Above 1000 up to and including 33,000	1.2
Above 33,000 up to and including 66,000	1.4
Above 66,000 up to and including 132,000	1.8
Above 132,000 up to and including 220,000	2.4
330,000	3.7
500,000	4.6
Nominal Pole to Earth dc Voltage	Safe Approach Distance (m)
Up to +/- 1,500	1.0