

Bulletin

Working close to overhead power lines

This information bulletin provides guidance on the safe operation of cranes, elevating work platforms, other extendible machinery and the erection of scaffolding near overhead power lines.

Legislation

Regulation 166 of the Work Health and Safety (National Uniform Legislation) Regulations requires that a person conducting a business or undertaking (PCBU) at a workplace must ensure, so far as is reasonably practicable, that no person, plant or thing at the workplace comes within an unsafe distance of an overhead electric line.

If it is not reasonably practicable to ensure the safe distance of a person, plant or thing from an overhead or underground electric line, the person conducting the business or undertaking at the workplace must ensure that:

- a) a risk assessment is conducted in relation to the proposed work; and
- b) control measures implemented are consistent with:
 - i. the risk assessment; and
 - ii. if an electricity supply authority is responsible for the electric line – Regulations 11 to 15 of the Electricity Reform (Safety and Technical) Regulations.

Power and Water Corporation

Permit zone

When it is necessary to operate within the no go zones, permission must first be obtained from Power and Water Corporation (PWC) on FREECALL – 1800 245 092.

Tables 1 and 2 (can be found at the rear of the document) outline the minimum distances prescribed by Power and Water Corporation for approach to their aerial conductors. Note, these parameters also comply with Regulation 166 of the Work Health and Safety (National Uniform Legislation) Regulations.

Overhead power line contact

If mobile plant or a load contacts aerial conductors, Power and Water Corporation shall be immediately notified of the situation and, until assistance is received, a responsible person shall remain near the mobile plant to warn of the danger of electric shock. NT WorkSafe must be notified as soon as it is safe to do so.

Work on Live Equipment

No person is to perform work on live equipment other than as prescribed by Power and Water Corporation.

Use of Mobile Plant

The following precautions shall be observed by the operator and other persons when working with mobile plant near overhead powerlines.

- Consider all conductors to be live unless it is proven that they have been de-energized and isolated. Documentary evidence of the continuing isolation of the power supply shall be obtained before approaching conductors.
- Provide ground barriers to warn operators. Consider the effects of sag, wind and temperature on conductor movement, especially near the centre of large spans.
- Use non-conducting taglines when these are required.
- Do not allow any person, other than the crane operator (two persons for elevating work platforms), to be in contact with any part of the *crane* or the load, except with a non-conducting tagline, once the lift has commenced.
- Ensure appropriate earthing systems are fitted to the crane and are in contact with the ground.
- High visibility bunting may be applied to the conductors by PWC as an indication of location of the conductors.
- High visibility insulating materials (tiger tails) may allow a reduced approach distance.

Consideration should also be given to the above precautions when operating outside the permit zone.

Use of Scaffolding

The following precautions shall be observed whilst performing scaffolding work near overhead electric lines.

- Where scaffolding is to be erected near low voltage power lines (less than 1000 volts) the clearance must not be less than 4.0 m where any metal scaffolding is used.
- Permission must be obtained from PWC for any reduction of the clearance prior to the operation of any *crane* or the erection of any scaffolding.
- Generally, scaffolding shall not be erected near high voltage power lines without having the electricity supply disconnected.
- Australian Standard AS/NZS 4576:1995 Guidelines for scaffolding, also provides guidance.

Safe Work Australia

Safe Work Australia provide a range of guidance material on Working in the vicinity of overhead and underground electric lines on their website.

REMEMBER

You don't have to touch a high voltage power line to receive a fatal shock, just being too close can kill!

Contact Us

For further information please contact us on 1800 019 115 via email at ntworksafe@nt.gov.au or go to the NT WorkSafe website at www.worksafe.nt.gov.au.

Definitions

The following definitions apply to Tables 1 and 2.

1. **Non Instructed Persons** - means a person, without appropriate training or experience to enable them to identify high voltage and low voltage conductors and to be aware of the hazards electricity may present.
2. **Instructed Persons** - means a person, with appropriate training or experience to enable them to identify high voltage and low voltage conductors and to be aware of the hazards electricity may present.
3. **Authorised Persons** - means a competent person with technical knowledge or sufficient experience who has been approved to act on behalf of Power and Water to perform the duty concerned.

Table 1 Safe approach distance to live conductors for non-instructed persons, instructed persons and authorised persons

Nominal phase to phase voltage (alternating current)	Safe approach distance to live conductors (mm)		
	<i>Non instructed persons</i>	<i>Instructed persons</i>	<i>Authorised persons</i>
Above 50 volts but not exceeding 1kV	3000	300	<i>Insulated</i> contact only
Above 1kV & up to & including 33kV	3000	1200	600
Above 33kV & up to & including 66kV	4000	2000	1000
Above 66kV & up to & including 132kV	5000	3600	1800

Table 2 Safe approach distance to live conductors for mobile plant operated by non-instructed, instructed and authorised persons

Nominal phase to phase voltage (alternating current)	Safe approach distance to live conductors (mm)			
	<i>Mobile plant operated by non instructed persons</i>	<i>Mobile plant operated by instructed persons or authorised persons without a safety observer</i>	<i>Mobile plant operated by instructed persons or authorised persons with a safety observer</i>	
			<i>Un-insulated portions of mobile plant</i>	<i>Insulated portions of mobile plant</i>
Above 50 volts but not exceeding 1kV	3000	1000	600	Contact allowed
Above 1kV & up to & including 33kV	3000	1500	1200	700
Above 33kV & up to & including 66kV	4000	3000	2000	1000
Above 66kV & up to & including 132kV	5000	3600	3000	1800