

Working close to overhead and underground power lines, gas pipes, and other infrastructure

Operating vehicles and mobile plant near overhead and underground electrical infrastructure (including power lines) presents a high risk of accident or injury, including electrocution, electric shock, burns and gas explosions. Electricity can jump (flashover) if equipment gets too close to power lines and death can result, even without direct contact with the infrastructure.

Between 1 January 2018 and 6 May 2022, NT WorkSafe have investigated the following 29 incidents of contact with overhead or underground infrastructure which had the potential to cause serious injury or death to the operators or supporting staff at the affected worksites:

- Five contacts with overhead high voltage lines.
- Nine contacts with overhead low voltage lines.
- Five contacts with underground high voltage lines.
- Seven contacts with underground low voltage lines.
- Three contacts with underground gas lines.

Permitted Work Zones and Permits

When it is necessary to operate plant, transport a high load, or excavate the ground in proximity to power lines, water pipes or gas lines, you must contact the relevant infrastructure operator at least 7 days in advance to determine the requirements for working in proximity to their assets.

Using mobile plant near overhead power lines

NT WorkSafe strongly urges all workplaces using mobile plant near overhead power lines to ensure the following measures are in place, and that they are effective:

- 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 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 mobile plant or the load, except with a non-conducting tagline, once the lift has commenced.
- Ensure appropriate earthing systems are correctly fitted to the mobile plant and in contact with the ground.
- Consider requesting the electricity infrastructure operator to:
 - apply high visibility bunting to the conductors as an indication of location of the conductors.
 - install high visibility insulating materials (tiger tails) to establish a reduced approach distance, these approach distances will be defined in the infrastructure operators permit which are approved on a case by case basis.
- Store, load and unload at a safe distance from any electrical infrastructure.

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- Ensure all employees are provided information, instruction and training about working near electricity and power lines, and given safe systems of work to ensure their health and safety.
- Ensure work is not carried out and equipment is not positioned above exposed high voltage conductors or exposed parts of high voltage electrical equipment unless the work or positioning of the equipment is authorised in writing by the operator of the electricity infrastructure or electrical installation concerned.

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

Erecting scaffolding near power lines

NT WorkSafe strongly urges all workplaces using scaffolding near power lines to ensure the following measures are in place, and that they are effective:

- Refer to Australian Standard AS/NZS 4576:1995 Guidelines for scaffolding. Ensure suitable visual indicators are present on any power lines.
- Ensure all employees are provided information, instruction and training about working near electricity and power lines, and given safe systems of work to ensure their health and safety.
- If scaffolding is erected in the vicinity of the overhead power lines suitable containment should be incorporated to minimize the risk of workers inadvertently having items protrude into the safe approach distance.
- A person who does work near electricity infrastructure must comply with reasonable requirements made by the electricity entity for the protection of the infrastructure or the safety of the persons carrying out the work.
- Further information on the rules for working around power lines can be found on [the Power and Water Corporation website](#).

Safety hazards involved in excavations

If you're digging, for whatever reason, you need to know what's underneath the ground before you dig. You could hit an electrical cable, gas line, telecommunications or a water main, risking your safety or someone else's. You could interrupt essential services to other people and be financially liable for damages.

Before You Dig Australia is a free national referral service for information on infrastructure networks. For more information visit www.byda.com.au.

What to do if there is an incident

If mobile plant, a high load, or an excavator contacts electrical infrastructure, the following actions must be implemented:

- The relevant electricity infrastructure operator must be immediately notified via their emergency hotline or call Emergency Services on 000;
- Until assistance is received, a responsible person should remain at a safe distance from mobile plant to warn of the danger of electric shock and ensure people are kept away;
 - The recommended minimum safe distance is at least 8 to 10 meters away from the point of contact or vehicle concerned, higher voltages require greater distances;
- Do not touch both the machinery and ground at the same time;
- NT WorkSafe must be notified as soon as it is safe to do so on 1800 019 115 or emailing ntworksafe@nt.gov.au.

Electrical Safety Reminder

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