BEFORE ANYTHING RISKY. LOOK 360°

Working safely around electricity

Construction industry

Working near electrical infrastructure can be extremely dangerous and can cause serious injury or death. Public safety is a shared responsibility for Western Power and for the people who need to work near our network.

In the construction industry, it is very likely that you are working around electricity throughout your work day. This factsheet provides information about how to conduct your work to ensure you, your workmates and the community remain safe and the power remains on.

Your duty of care

Working around electricity, whether underground or overhead, is high risk work. All workers have a duty of care to ensure that no person, plant or materials enter the danger zone of any electrical network asset.

Danger zone

A danger zone is a specific area surrounding live electrical apparatus that ordinary persons, equipment and materials must not enter and is prescribed by the Occupational Safety and Health Regulations, 1996 - Reg 3.64.

The danger zone distance should be applied in conjunction with the standards and regulations applicable to your industry. If a greater danger zone is stated you must adhere to those requirements.

Note that tiger tails do not permit the reduction in the danger zone they are only a visible indicator of the presence of the wires.

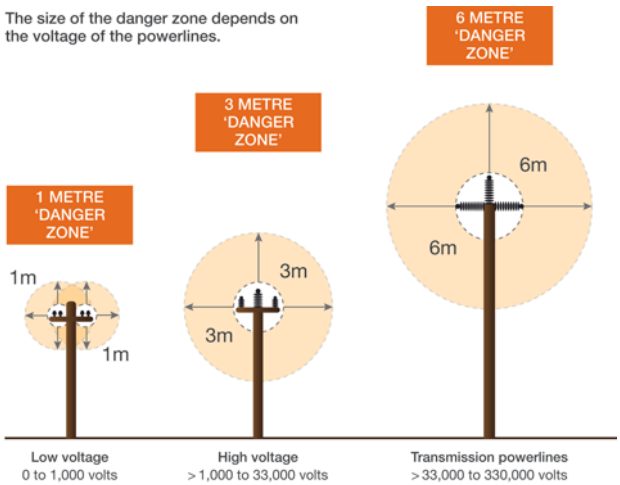
Working underground

When working underground observe the requirements of the Code of Practice – Excavation 2005 and adhere to the minimum approach distances for underground cables:

Nominal voltage	Minimum approach distance	
	Power tool or plant	Non-powered hand tool/ non-destructive digging
Up to and including 1,000V	30cm	Approach with care, avoid contact
1,000V up to and including 33kV	50cm	
Greater than 33kV up to and incl. 132kV	3m*	

Working overhead

If your works enter the danger zone you put yourself at risk of injury and may be prosecuted and be liable for any damage to the network.



westernpower
It's ON

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Options for works within the danger zone

If you have completed a job risk assessment and safe work method statement and determined that you are unable to work outside of the danger zone, there are some options to allow you to continue your planned works.

Distribution network assets (0-33,000 volts)	
Aerial visual covers (tiger tails)	• Available for installation on low voltage powerlines only, up to 1,000 volts • Does not provide insulation or reduce the danger zone
Isolation or de-energisation	• Available for installation on low voltage powerlines only, up to 1,000 volts • Does not provide insulation or reduce the danger zone
Relocation or removal	• Available for installation on low voltage powerlines only, up to 1,000 volts • Does not provide insulation or reduce the danger zone

Transmission and communication network assets (33,000 – 330,000 volts)	
Relocation	• Ensures work and/or event can be undertaken safely • Cost and time implications apply
Isolation	• Ensures work can be undertaken within the danger zone/s safely • Cost and time implications apply
Clearance assessments	• Ensures work can be undertaken within the danger zone/s safely • Ensures clearances required Australian Standards
Earth potential rise/ low frequency induction studies	• Provides a network based review of your studies • Cost and time implications apply
Provision of technical data	• Provides specific network data that may be useful for your job risk assessment/safe work method statement • Cost and time implications apply
Provision of technical data	• Ensure the works will not impact network assets • Cost and time implications apply

Working near electricity process

Planning ahead is vital in ensuring you are safe when working near our electricity network. Follow these steps prior to commencing your work:

1	Seek out asset information: **Submit a Dial Before You Dig enquiry on 1100.com.au** or freecall 1100 to determine the location and voltage of Western Power overhead and underground network assets
2	Perform an **onsite inspection** – existence, location, alignment of assets that could be impacted by your works
3	Conduct a **job risk assessment** and safe work method statement to determine if works can be completed outside of the danger zone/s
4	**Consider your options**, if works cannot be completed outside of the danger zone/s, contact Western Power to establish what services are available to ensure that you can complete your works safely
5	**Follow the 4 P's of excavation:** Plan, Pothole, Protect and Proceed, for any works in proximity to underground network assets. Visit Dial Before You Dig at 1100.com.au or freecall 1100 for further advice on 'safe excavation' practices.

Tips for working around overhead network

Always

- Establish the location and voltages of network assets in your work area by contacting Dial Before You Dig
- Ensure an accurate diagram of services in your work vicinity is available at all times (OSH 3.21)
- Check the height of loads
- Determine the extension, reach and height of equipment
- Use a competent spotter to ensure clearances are maintained.

Where possible

- Do not lift loads directly underneath powerlines
- Do not lift loads over powerlines
- Establish your lay down area, site storage and disposal points away from electrical infrastructure.

Tips for working around underground network

Always

- Establish the location and voltages of network assets in your work area by contacting Dial Before You Dig
- Ensure an accurate diagram of services in your work vicinity is available at all times (OSH 3.21)
- Determine if excavation is within the danger zone of any underground cables
- Determine the extension, reach and height of equipment and that it doesn't enter the danger zone for overhead powerlines

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- Determine collapsible area of proposed excavation
- Visually locate all underground services depicted on Dial Before You Dig plans, by potholing or any other non-destructive means
- Proceed with mechanical excavation after all services have been identified and exposed.

Never

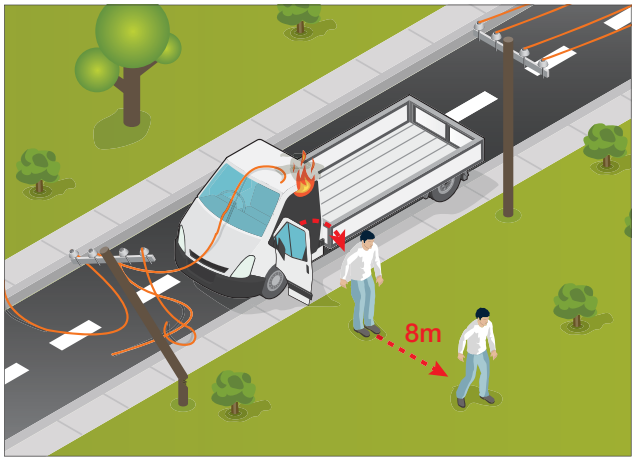
- Proceed if you have been unable to visually locate all underground infrastructure depicted on the underground service map. Instead call Western Power on 13 10 87 for more information on how to proceed with your works.

In case of emergency

- In a life threatening emergency, call emergency services on 000 as a priority
- For all other electrical emergencies, or after you have called 000, call Western Power's 24/7 emergency number on **13 13 51**
- Keep bystanders at least 8m clear from any impacted network assets
- Wait for Western Power to attend to make the area safe. Treat all network assets as live until told otherwise
- If you receive an electric shock, seek medical advice even if you are not injured.

What to do in a vehicle in contact with electricity

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 8 metres away from the vehicle. **Do not go back.**



Safe work habits

- Ensure operators of machinery or delivery vehicles are aware of the height of their load and are aware of powerline locations
- Assign a safety observer to each team to guide machinery movements or when handling materials near overhead powerlines to maintain required clearances
- Activities such as roofing, painting, water blasting and scaffolding can be dangerous if carried out close of overhead service and powerlines
- Take extra care when handling roofing materials, especially when windy and at heights
- Be aware of reduced powerline clearances caused by damage, often indicated by uneven lines and excessive sagging.

Safety observer

A safety observer should alert workers and crane or plant operators when approach distances are likely to be breached or other unsafe conditions arise. A safety observer must be able to communicate effectively at all times with crane and mobile plant operators.

Safety observers should monitor the work activity and have the authority to stop the work at any time. Safety observers must be competent to implement control measures.