

# Guidelines when working near TasNetworks' electrical assets

## About TasNetworks

Tasmanian Networks Pty Ltd (ACN 167 357 299) ('TasNetworks') is the owner and operator of the regulated electricity network in Tasmania, with the exception of the Bass Strait Islands.

## Who these guidelines apply to

These guidelines are TasNetworks' **minimum requirements** for when work is to be performed near TasNetworks' electricity network by third parties (persons not working for TasNetworks), such as:

- Councils;
- Contractors to third parties;
- Other Infrastructure Owners;
- Land owners where TasNetworks' electrical assets cross their property; and
- Any other persons who work in the vicinity of TasNetworks' electrical assets as or on behalf of a third party.

For simplicity, councils, contractors to third parties, other infrastructure owners and other third parties working near TasNetworks' electrical assets are referred to as 'Contractors' in this document.

These guidelines do not apply to privately-owned electrical assets.

## Identification

To ensure the safe operation of its distribution network, TasNetworks should be informed of any activity that may have an impact upon the electricity network.

Contractors should contact Dial Before You Dig (DBYD) on 1100 to determine if TasNetworks has any infrastructure near any planned excavations.

Hydro Tasmania, councils and property owners also own and manage electrical infrastructure. These organisations (or persons) should also be contacted during the work planning phase to determine if they have infrastructure near planned excavations and their requirements.

## Notification

In accordance with The Tasmanian Electricity Supply Industry Act 1995, a person who proposes to do work near electrical infrastructure must give the appropriate electricity entity **at least 7 days notice** of the proposed work if:

1. There is a risk of equipment or a structure coming into dangerous proximity to the electrical conductors; or
2. The work may affect the support for any part of the electricity infrastructure; or
3. The work may interfere with electricity infrastructure in some other way.

The remainder of these guidelines discuss in more detail when notifications are required.

Notifications of work near TasNetworks' electrical infrastructure should be made by contacting **1300 137 008** and should include:

- Location of work with reference to the location of TasNetworks' electrical assets;
- Dates and times when work will start and cease; and
- Contact number of person responsible for site safety.

If the Contractor requires assistance from TasNetworks at any time during the Contractor's work near TasNetworks' electrical assets then they should **contact TasNetworks on 1300 137 008 as early as possible during the planning phase.**

TasNetworks will make initial contact within 7 days of notification. However, if modifications to the network are required to accommodate the Contractor's work, the scheduling of these modifications will be subject to the availability of TasNetworks personnel and equipment.

To minimise safety risks, if TasNetworks assistance is required, work should not proceed until the required assistance is provided.

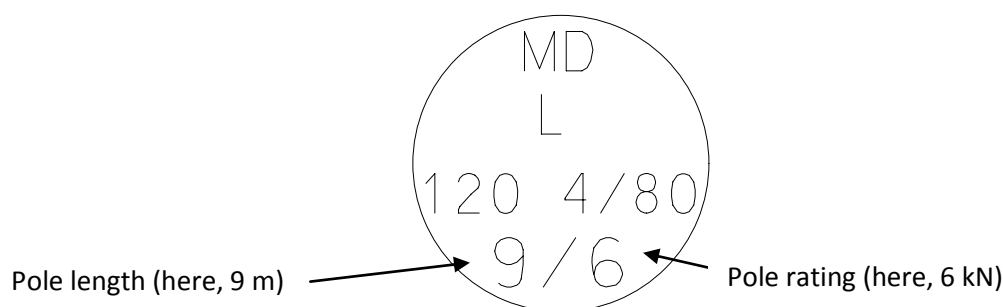
## Working near overhead structures

TasNetworks' electricity network uses many overhead structures, including poles, lighting columns and towers.

TasNetworks' timber poles should have a pole identification tag attached to them. An example of a pole identification tag is shown in Figure 1. The last two numbers on the tag represent the length and strength rating of the pole.

If the tag is missing then contact TasNetworks for advice before proceeding with any work.

When contacting TasNetworks it is important to provide the pole identification number which is a 6 digit number. An example of a pole identification number is shown in Figure 1A.

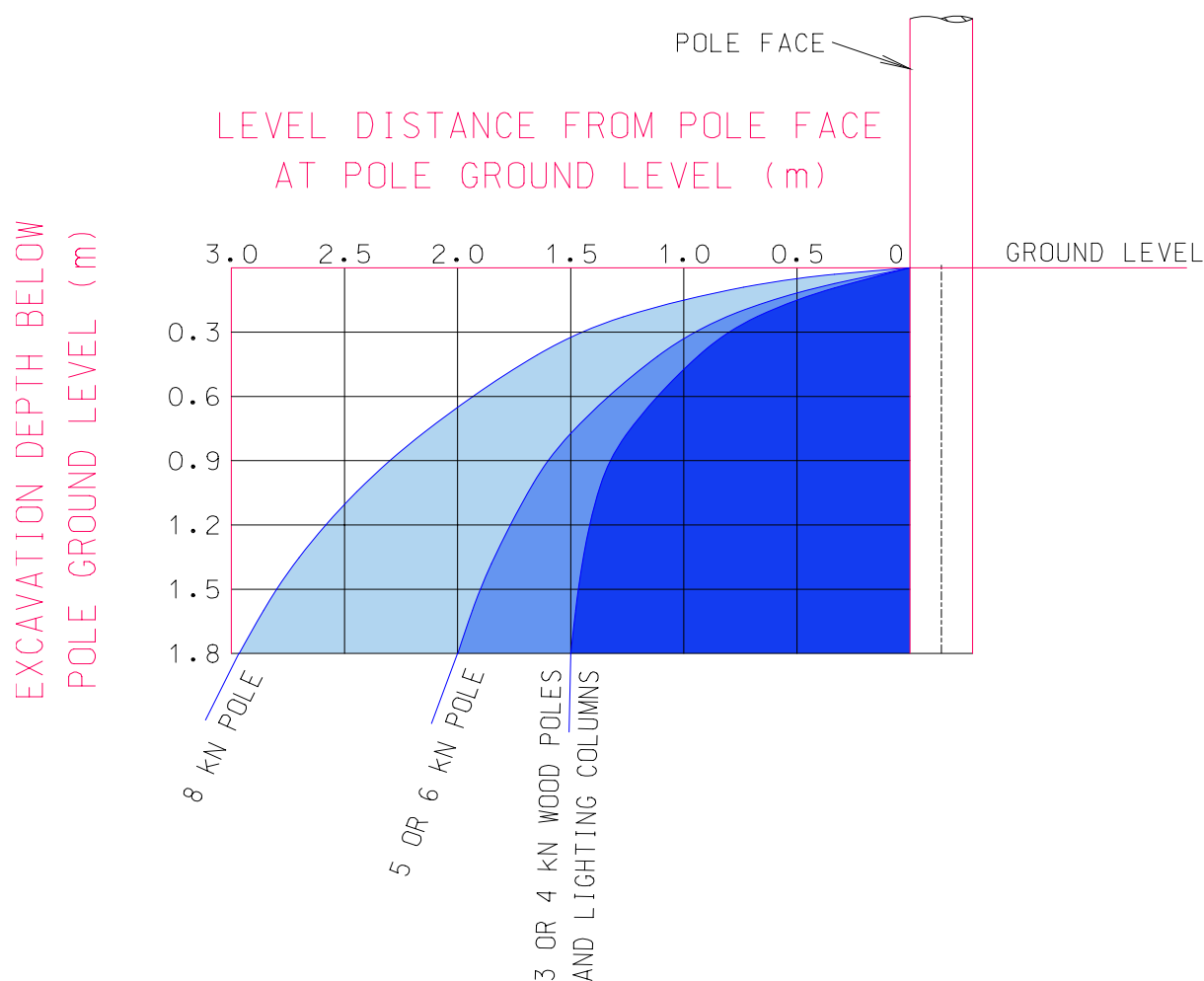


**Figure 1: TasNetworks timber pole identification tag**



**Figure 1A: Pole identification number**

Figure 2 shows acceptable excavation limits when working near TasNetworks' poles and lighting columns.



**Figure 2: Temporary excavation limits when working near TasNetworks power poles**

Figure 2 applies to TasNetworks' timber poles and lighting columns with a length between 9 m and 12 m, strength of 3 kN to 8 kN and assumes that the excavation is open for no more than one week. (Information on identifying the length and strength of poles from the pole tag is given above).

If the pole is made from a material other than timber then:

- If the pole is 125 mm rectangular hollow section (RHS), it should be treated like a 4 kN timber pole when using Figure 2.
- Any other pole type should be treated like an 8 kN timber pole when using Figure 2.

If excavations are located outside of the limit curves in Figure 2 or do not exceed 300 mm in depth then work may proceed without notifying TasNetworks.

If the excavation falls within the limit curves (the shaded area) in Figure 2 and exceeds 300 mm in depth this will affect electrical infrastructure and the Contractor shall obtain written advice from a suitably qualified and experienced engineer detailing:

1. How the pole is to be kept safe during the excavation; and
2. How the ground around the structure should be reinstated.

A copy of the engineer's advice along with the name, qualifications and contact details of the advising engineer shall to be emailed to [structureandoverhead@tasnetworks.com.au](mailto:structureandoverhead@tasnetworks.com.au) at least 7 days in advance of the commencement of works.

The Contractor must ensure the advising engineer's advice is fully implemented.

If the engineering advice requires that the pole be physically supported then this should be undertaken by TasNetworks.

## Working near overhead power lines on poles

Contractors **cannot work within 3 m each side of or above overhead power lines** (known as the 'No Go Zone') unless they have notified TasNetworks by contacting **1300 137 008** at least 7 days in prior to the commencement of the works and received written authorisation for the work.

The notification must provide details of the proposed work and the location.

TasNetworks will provide a response as to whether the work can be undertaken and any requirements that must be adhered to when undertaking the work.

Without prior written authorisation from TasNetworks the Contractor is not authorised to undertake the proposed work. Failure to comply with this requirement can lead to prosecution under the Electrical Supply Industry Act.

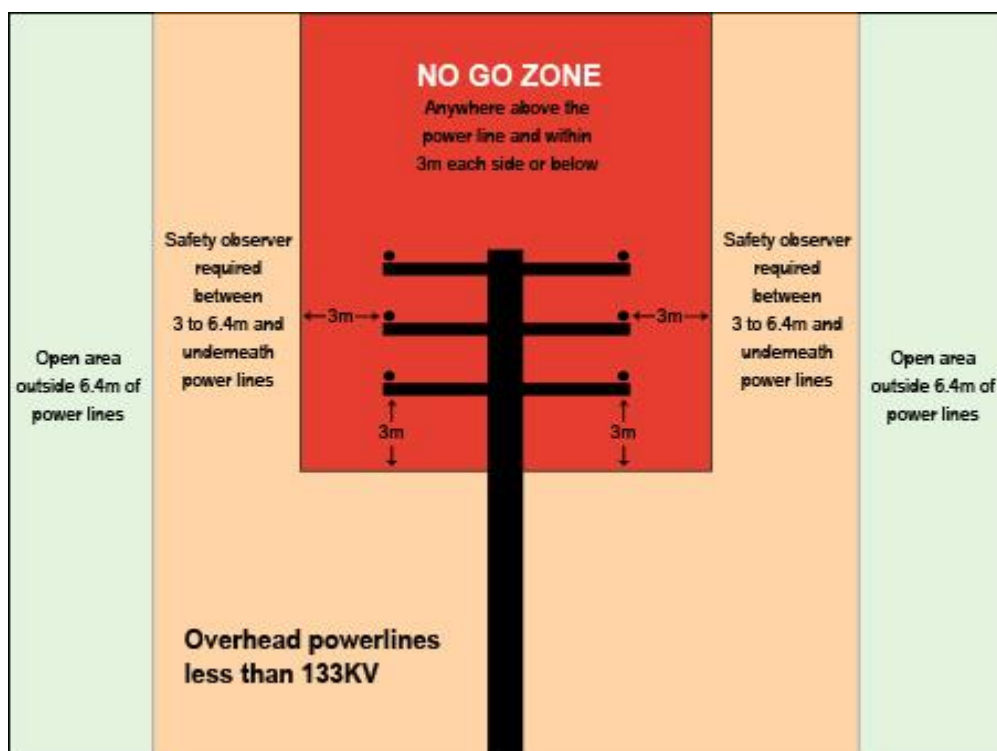


Figure 3: Working near overhead power lines

If work is planned between 3.0 m and 6.4 m of overhead power lines or directly below overhead power lines Contractors must conduct a risk assessment and appoint a **Safety Observer** if required as an outcome of the risk assessment.

The **Safety Observer** must:

- Be a competent person and should have successfully completed a relevant training course carried out by a registered training organisation;
- Position themselves where they can have an unobstructed view of the work being performed and the potential hazards;
- Not do any other duties while performing their safety observer duties;
- Ensure they are able to communicate with the worker(s) during the process;
- Be aware of any hazards unique to the site, and make sure they are not at risk from them;
- Warn against unsafe approach to energised apparatus; and
- Stop work processes to prevent unsafe situations arising.

## Working near TasNetworks' ground mounted infrastructure and underground power cables

TasNetworks' electricity network also uses 'ground mounted' assets, including high voltage substations, electrical cabinets and electrical turrets (photographs of typical examples of these assets are provided in Appendix A).

TasNetworks also has an extensive underground distribution network of cables operating at both high voltage and low voltage.

Contractors planning underground work must contact Dial Before You Dig (DBYD) on 1100 **before commencing work**. A response will be provided on whether TasNetworks 'Does' or 'Does NOT' have a record of infrastructure in the location of the proposed works provided by the Contractor.

If TasNetworks does have a record of infrastructure at the location of the proposed works, then the Contractor should use a cable location service to accurately identify the location of the infrastructure.

TasNetworks must be notified by contacting **1300 137 008** at least 7 days in prior to the commencement of the works if:

1. The proposed work is within 2 m of TasNetworks' ground mounted assets (refer Appendix A);  
or
2. The proposed work is within 1 m of TasNetworks' underground assets, e.g. cables.

The notification must provide details of the proposed work and the location.

TasNetworks will provide a response as to whether the work can be undertaken and any requirements that must be adhered to when undertaking the work.

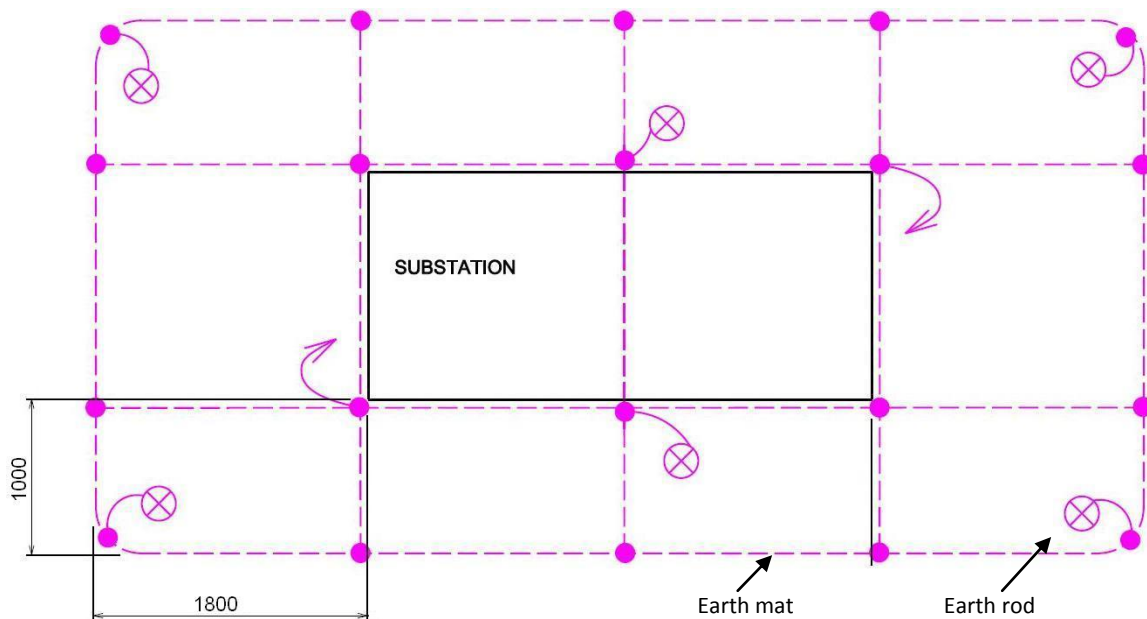
Without prior written authorisation from TasNetworks the Contractor is not authorised to undertake the proposed work. Failure to comply with this requirement can lead to prosecution under the Electrical Supply Industry Act.

## Earthing infrastructure

Earthing systems are essential for providing electrical safety and TasNetworks places a high emphasis on protecting these assets.

Earthing systems are connected to many of TasNetworks' electrical assets. The earthing systems are laid in the ground, both near the assets and underneath them. Typically transformer poles, turrets and cabinets are earthed by means of a 1.8 m earth rod (copper rod driven into ground), while substations are earthed using earth rods and an earth mat. Earth mats are installed approximately 0.5 m below ground level and extend approximately 1.8 m from the extremities of the substation.

Earthing systems are made from copper and are not insulated.



**Figure 4: Underground earth mat at substations**

If during excavations an earth rod or earth mat is uncovered or damaged then stop work immediately and contact TasNetworks on **13 2004**.

Provided TasNetworks is notified immediately, TasNetworks will repair the earth system at no cost to the Contractor. TasNetworks does this because of the importance of earthing to public safety.

Should the Contractor choose not to notify TasNetworks immediately then on becoming aware of the damage, TasNetworks will recover costs from the Contractor and report the matter to Work Safe Tasmania.

## Damage to TasNetworks' assets

If TasNetworks' electrical assets are damaged during works then:

1. Stop work immediately;
2. Contact TasNetworks immediately on **13 2004**;
3. Keep all people at least 8 m away from the fallen power lines, damaged underground cables or infrastructure until TasNetworks crews arrive on site; and
4. Supervise site to ensure members of the public and others do not approach the vicinity until TasNetworks crews arrive.

## Vehicle contact with overhead power lines

If a vehicle has made contact with an energised overhead power line or a flash-over occurs between an energised overhead power line and a vehicle and the driver is inside:

1. The driver should attempt to move the vehicle clear to a distance of at least 8 m.
2. If the vehicle cannot be moved, the driver should remain in the vehicle unless there is threat of fire.
3. If there is a threat of fire (or other life threatening reason), the driver should:
  - Open the door and jump clear of the vehicle landing with both feet together;
  - Avoid touching the ground and vehicle simultaneously; and
  - Hop or shuffle away with both feet together to a distance of at least 8 m – do not walk or run.

If rubber-tyred vehicles come into contact with high voltage lines there is a risk that tyres may explode many hours after the incident. This is caused by pyrolysis, which is a type of combustion that occurs inside the tyre. Contractors should seek advice from workplace safety experts if they think there may be a risk of this occurring.

## **Fees and charges**

TasNetworks does not charge a fee for processing notifications.

If TasNetworks staff are required to visit the site to discuss the work or to undertake work to ensure that the Contractor's works proceed safely then it will charge the Contractor a fee. TasNetworks' These fees are for labour only and depending on the work required there may be additional costs for equipment and materials.

In the event that TasNetworks' electrical assets have been damaged through the negligence of a Contractor, TasNetworks will issue an invoice to the Contractor for the full cost of repair and may seek to recover lost revenue. Failure to pay the amount claimed may result in court proceedings.

## **Further advice**

To obtain further advice, please contact TasNetworks on **1300 137 008**.

Your work, health and safety duties for working near electrical assets are covered in the (draft) Code of Practice: Working in the vicinity of overhead and underground electric lines (available on the Safe Work Australia website: <http://www.safeworkaustralia.gov.au/sites/swa/pages/default>)



## Appendix A – Ground Mounted Assets



Padmount Substation



LV Cabinet



Kiosk Substation



Turret