

Mount Cottrell Terminal Station

A new electricity terminal station is being developed in Tarneit as part of a major investment to support customers and strengthen the electricity network. It will support the growing community and local businesses in Melbourne's fast-growing outer west, providing the infrastructure needed to keep pace with growth.

What is a Terminal Station?

Terminal stations are an essential part of Victoria's electricity system, with more than 50 terminal stations across Victoria. They contain specialised equipment that lowers the high-voltage electricity from transmission lines to levels suitable for local distribution.

From there, the electricity either goes to large industrial customers or to local substations, which further reduce the voltage before delivering it to homes, businesses and industry.

At the new Mount Cottrell Terminal Station, electricity will be delivered via existing 220 kV transmission lines. The station will then step the 220 kV down to 132 kV to support the local area and supply large local customers.

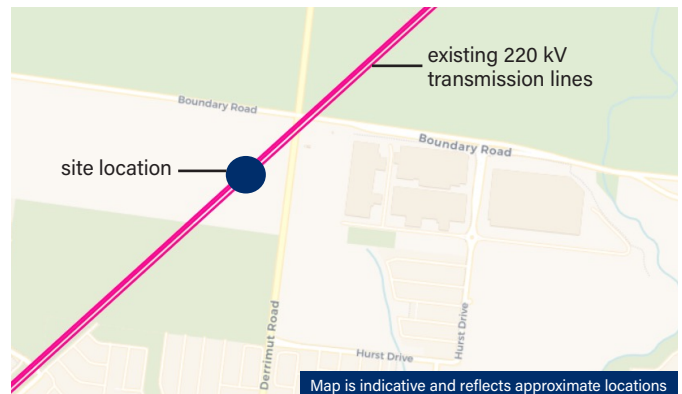
How we selected the site (1005 Boundary Road, Tarneit)

The terminal station will be built at 1005 Boundary Road in Tarneit on land intended for industrial land uses and the provision of utility infrastructure and essential services. The site is located directly underneath existing transmission lines and in an area where new demand for electricity is growing. The land was available to purchase, making this location both suitable and cost-effective.

As part of our early planning, we investigated a range of alternatives. Compared to other options, the advantages of this site include:

- Direct access to existing 220 kV transmission line.
- Located in an area of growing electricity demand.
- Well-positioned to strengthen future supply for major customers and the local community.
- Can be built quickly with minimal environmental impact and at the lowest cost.

Map of site location



Long-term benefits of the terminal station

The Mount Cottrell Terminal Station will ultimately support reliability for approximately 100,000 homes and businesses within the area.

In the future, it will deliver long lasting benefits including:

- **Maintaining reliability** – providing a strong and stable electricity supply for homes, businesses and major customers in the areas of Laverton, Laverton North, Altona Meadows, Werribee, Wyndham Vale, Mount Cottrell, Eynesbury, Tarneit, Hoppers Crossing and Point Cook.
- **Capacity for growth** – meeting the needs of one of Victoria's fastest growing areas including supporting local economic development.
- **Support for electrification** – enabling homes and businesses shift to more electric technologies, including household solar, EV charging and all-electric appliances.
- **Reducing future network costs** – as this project is primarily funded by a single large customer, with only a portion paid through the network. This helps keep future costs down for the wider community.

Key features of the Terminal Station

The design will include the assets and systems needed to bring high voltage electricity from the transmission grid into the local network. This will include:

- Incoming 220 kV transmission lines (already in place).
- Transformers to reduce voltage to 132 kV for distribution.
- Switchgear and circuit breakers to control and protect the flow of electricity.
- Systems to detect faults and allow remote monitoring and operation.
- Control and communications equipment.
- Safety and security, including earthing, fire protection, fencing, gates, cameras and lighting.

Site layout and design considerations

The site is being designed to meet all regulatory and statutory requirements. These considerations include:

- Appropriate separation from neighbouring properties.
- Managing noise.
- Electric and Magnetic Field (EMF) compliance.
- Visual design aspects such as fencing and landscaping.

We will refine these elements as we progress designs.

What the terminal station will look like

The Mount Cottrell Terminal Station will include a secure fenced area containing electrical equipment such as transformers, switching structures and support buildings. The layout will be designed to meet safety and operational standards, while minimising visual impacts where possible.

As the design develops, we will look at elements such as fencing, walls, landscaping and visual treatments where feasible.

Safety in design

Terminal stations are designed to be safe for the public, staff and the environment. While they contain high voltage equipment, access is strictly controlled. Sites are surrounded by secure fencing, locked gates, security cameras and lighting, with ongoing monitoring to prevent unauthorised entry.

The site design will also incorporate measures to address local considerations such as:

- Ensuring the site meets all Electric and Magnetic Field (EMF) guidelines.
- Managing noise through equipment placement and enclosures.

Electric and Magnetic Fields (EMFs)

Electric and Magnetic Fields (EMFs) are everywhere in our environment due to natural and manmade sources. The most recognisable natural source is the sun.

Electric fields are created by differences in voltage: the higher the voltage, the stronger the field. A good example of this in nature is the build-up in electric charges we feel in the air before a thunderstorm. What we call 'static electricity' is a form of EMF.

Magnetic fields are created when electric current flows: the greater the current, the stronger the magnetic field. In nature, the most well-known magnetic field is the type that causes a compass needle to orient to north or south.

Everyone is exposed to a mix of electric and magnetic fields at home, in communities and at workplaces. Importantly, these fields rapidly reduce in intensity with distance. The further you are from the source, the lower the field's intensity – doubling a distance results in one quarter the intensity, tripling the distance results in one-ninth of the intensity so on and so forth.

Like all electrical and electronic equipment, terminal stations produce electric and magnetic fields. All Powercor infrastructure including the new Mount Cottrell Terminal Station are designed to meet safety, EMF and environmental guidelines. We also build our network to reduce the potential for community members and our employees to be exposed to the low levels of EMF they create.

There is no established evidence that exposure to magnetic fields from powerlines, substations, transformers or other electrical sources, regardless of the proximity, causes any health effects.

For terminal stations, substations and transformers, the magnetic fields at distances of 5-10m away are generally indistinguishable from typical background levels in the home.

We use a Safety in Design process to include engineering controls that identify and minimise EMF emissions. This includes:

- Placing equipment up poles, well away from community members.
- Ensuring boundary fences around our terminal station and zone substations are well away from transformers and other equipment that might emit EMF.
- Using sheet metal screens specifically designed to form a shield against EMF, when reduction cannot be achieved by distance.
- Establishing exclusion zones around our equipment and where appropriate, posting signs advising of safe distances.
- Australian regulators such as the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) confirm that EMF levels around electrical sources including electrical infrastructure are safe. For more information, see ARPANSA's website at arpansa.gov.au.

Noise assessment and compliance

When upgrading or installing new assets, we assess potential noise impacts on the nearby area and take steps to minimise them in line with EPA requirements. The terminal station will be designed and operated to meet all regulatory standards, to ensure noise levels stay within approved limits.

Fire safety

Terminal stations are not considered a fire risk. Their design includes multiple safety and protection systems that automatically isolate equipment in the event of a fault or emergency. These systems, along with remote monitoring and control, ensure that any electrical issue can be quickly managed without posing a danger to the surrounding area.

Working with the community

If the planning permit is approved by the Minister, we will begin engaging with local residents, landholders and community groups to share information about the project and gather feedback.

As part of this engagement, we will:

- Share the proposed design and site layout.
- Explain the studies undertaken to ensure safety and environmental compliance.
- Provide opportunities for people to speak directly with our project team.

This approach gives the community a chance to provide input on parts of the project that can be influenced, while allowing the terminal station to be delivered efficiently and on time to meet customer needs.

Some elements, like the site location and the essential equipment needed to operate the station, cannot be changed. We are committed to listening to the community and considering feedback on anything that can be modified.

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information

