

Living with transmission lines

Learn how we access our transmission lines for maintenance, and what activities are permitted within transmission easements.



Easements within the transmission network

A vast network of transmission lines has been built across Victoria to ensure electricity reaches homes and businesses across the state.

Our lines carry electricity at extra high voltages (220,000 volts (220kV) to 500,000 volts (500kV) from the power stations and renewable sources to the major load centres. From here the voltage is transformed and local distribution companies then supply it to homes and businesses.

Most of our conductors are supported by steel towers. The grounds that house the towers and lie under the conductors are known as transmission line easements. There are 6,500 kilometres of transmission lines crossing a total area of about 17,500 hectares of easements across Victoria.

It's our job to maintain the transmission system and the easements provide easy and constant access to the lines for maintenance, repairs and construction. The easements are also important for community safety and certain activities cannot be carried out within easements for safety purposes.

One of our highest priorities is to eliminate potential electrical or fire hazards for the safety of the public and landowners, and the electricity system in general. Another major priority is to protect and nurture the ecosystems, flora and fauna that inhabit the easements.

Underground transmission cables

While most of our transmission lines are constructed on steel towers, we also have a significant number of 220kV transmission cables installed underground. Prior to starting any work involving digging, excavating, changing ground surface cover or driving of stakes or posts into the ground, a Before You Dig enquiry must be made to prevent damage to underground transmission lines.



Making an enquiry about an easement

To enquire about an easement on your property, or on a property you may be considering buying, please email LMG@ausnetservices.com.au with the details of the property and what you are planning to use the easement for.

Easement policy

As part of our role and responsibilities within the energy system, we have developed an easement policy that takes into account our legislative responsibilities and the interests of the Victorian community.

This policy dictates that we will:

- > Create awareness of our easement policy through promotion to landowners, land managers and the wider community.
- > Recognise and observe planning and environmental constraints.
- > Consult with local authorities, governments and interest groups on vegetation management.
- > Provide advance notice of our activities wherever practical and consult with land users, local authorities and others who have an interest in our activity.

> Minimise fire, safety and security risk within our easements.

> Minimise disturbance to landowners and occupiers by limiting the frequency of visits.

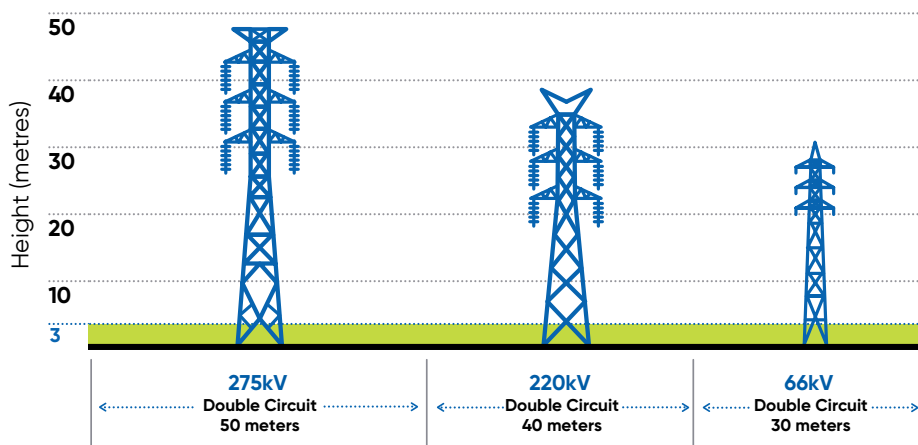
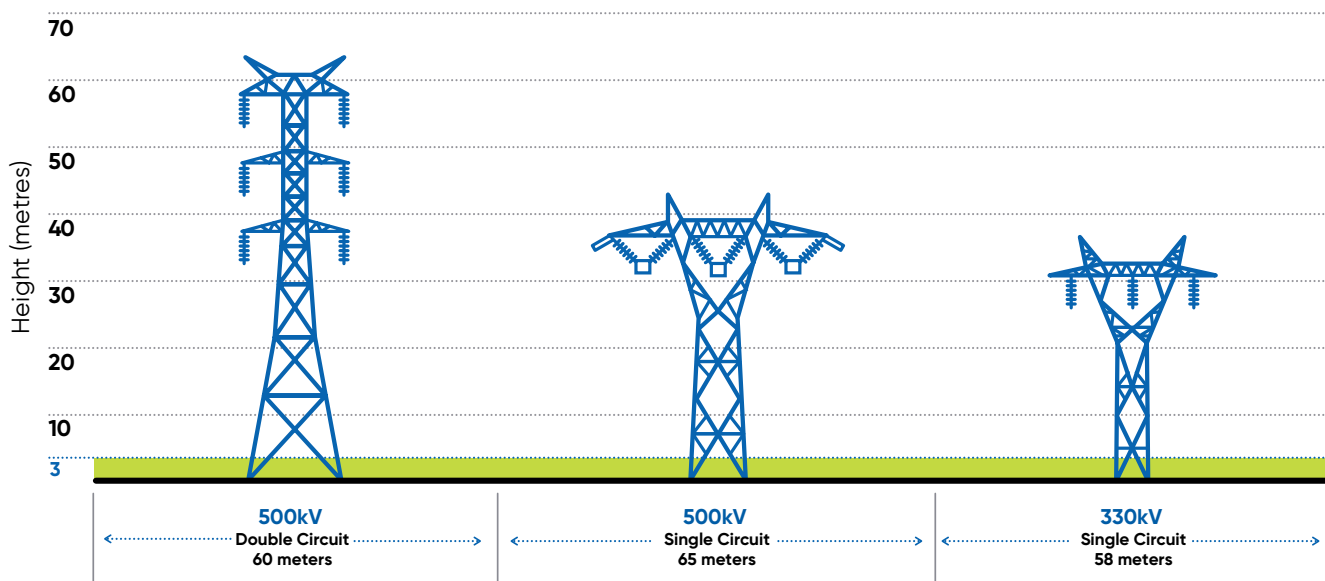
> Retain the services of an arborist to provide expert advice on vegetation and flora.

> Encourage property owners, land managers and community groups to plant native species in the vicinity of powerlines.

> Replace incompatible tall-growth species of vegetation with lower-growing local native varieties.

> Remove tall trees adjacent to easements that have the potential to cause line damage or fire.

Transmission line easement sizes



Note:

Actual easement details may vary from typical widths, but are recorded on the Certificate of Title, which should be your first point of reference.

3m is the maximum mature height of vegetation on easements

kV = kilovolts or thousand volts

Frequently asked questions

What are electricity transmission line easements?

Our easements are a corridor of land or 'right of way' for existing or future lines. They allow us to access transmission lines for maintenance and repairs as well as other safety measures. Other organisations and authorities also have easements for drainage, sewerage, pipelines, and overhead and underground powerlines for your local electricity distributor.

Transmission line conductors are the actual wires that are suspended from the towers along which electricity travels. These conductors may move many metres both horizontally and vertically under the effects of wind, temperature and electrical load. This movement is the basis on which easement widths and use conditions are determined.

Who owns the land the easement is on?

We don't usually own the land within an easement, but we have acquired the right to access and use that land through an agreement with the original landowner. While the owner of the easement may continue to use the land, we have statutory authority to restrict the activities that can be carried out on easements to ensure the safety of landowners and the community,

Who is responsible for the easement?

In general, maintenance of the area covered by the easement is the responsibility of the landowner or tenant depending on terms of use. Easements must be maintained to the standard laid out in landowner agreements and this guide. We will carry out additional land management and maintenance within the easement if necessary.

On some properties, access roads and tracks have been constructed specifically to build and maintain transmission lines; we retain the right to use these tracks for transmission line access and are responsible for maintaining them. If you require the tracks to be maintained to a higher standard, these costs are your responsibility.

Are there restrictions on easement use?

If you want to carry out any development, whether it requires council approval or not, please email transmissionprojects@ausnetservices.com.au to see if the easement will be a constraint.

You will need written approval from us before commencing work on an easement; a local council building permit is not sufficient authority. Failure to obtain approval may result in you having to remove or modify the new work at your own expense.

In general, restrictions limit the use of easements to mainly ground level activities. Our concern for your safety is paramount. Together we must work to prevent hazards from powerlines that may result from reduced clearances, fire, impact or an explosion from any activity on the easement.

Always check with us first

You must always submit your plans for proposed development on an easement to us before you start work on the site. This includes installing lighting or underground services, operating construction equipment, or detonating explosives in the vicinity of an easement.

How do you know if there are easements on your property?

Please check your certificate of title. If you need to obtain a copy, please visit the Land Victoria website.

Prospective property buyers should check the vendor's statement attached to the contract of sale to see if there are easements on the title.

What if you have already built something on the easement without our authorisation?

If you have built something on an easement and you are not sure if it conforms to our guidelines, please email transmissionprojects@ausnetservices.com.au



What other kinds of activities can be carried out on easements?

The below table details what is and isn't permitted within an easement. If the activity you're considering isn't listed, please email transmissionprojects@ausnetservices.com.au

✓ Permitted on an easement

- Grazing and agriculture
- Market gardens, orchards and horticultural nurseries, excluding buildings
- Water storage dams, subject to sufficient clearances from conductors and towers
- Trees and shrubs with a height of less than three metres
- Landscaping and paving, subject to sufficient clearances to the conductors and towers
- Non-metallic fences up to three metres in height
- Metallic fences, or fences incorporating metallic materials, must be suitably earthed and sectionalised and are subject to our approval
- Sewerage, drainage and water pipes constructed of earthenware or plastic materials are permitted, but must be at least 20 metres from towers
- Parking of sedan and utility vehicles. Barriers of an approved design may be required to protect towers from damage by vehicles
- Lighting poles subject to sufficient clearance to the conductors and towers. The power supply must be underground and the lighting poles must lower to the ground for servicing
- Playground equipment, subject to a 1 metre maximum height limit

✗ Not permitted on an easement

- Houses, buildings and structures.
- For 220 kV line easements only, domestic garages (non-habitable), carports and garden sheds may be permitted a limited distance into the easement subject to certain requirements being met
- Erection of scaffolding
- Swimming pools
- Storage of materials in industrial waste bins or skips
- Storage of excavated materials
- Storage or handling of flammable liquids or gases.
- Fuelling of and repairs to vehicles, plant and equipment
- Use of vehicles and equipment including cranes, excavators, elevated working platforms etc. exceeding three metres in operating height.
- A higher operating limit requires a 'Permit to Work'. To apply for a permit, please email transmissionprojects@ausnetservices.com.au
- Parking large trucks and caravans
- Loading, unloading and load adjustment of large trucks
- Operation of large water spray gun-type irrigators
- Metal pipes (including reinforced concrete), power cables and other electrically conductive materials within 30 metres of a tower
- Electrical detonation or storage of explosives including fireworks



Further considerations

Explosives

You must not use explosives on easements. If you need to detonate explosives in the vicinity of an easement you must not use an electrical detonation device. Please inform us before you carry out any explosions in the vicinity of an easement.

Damage

We are not responsible for any damage to any development you are carrying out on the easement caused by the operation and maintenance of the lines.

Vehicle access

We (and our contractors) need vehicle access to tower sites at all times. In many cases, gates 4.6 metres in width are required in boundary fences to permit access along the easement. Our personnel and contractors entering properties will leave gates in the same open or closed position they were found in.

Electric and Magnetic Fields (EMF)

Electric and magnetic fields, also known as EMFs, occur when electricity is flowing or there is an electrical force. They can occur naturally, such as lightning or solar activity, or from human activity, such as powerlines and common household appliances.

People all over Australia and the world have been living with appliances that emit EMFs for many decades and there is no established evidence that transmission line EMFs pose a risk to human health. Studies have also not found any observable impacts on the health and productivity of cows, sheep, pigs and horses.

There are some possible impacts to smart farming technologies, but we will work with landholders to ensure these impacts are mitigated or minimised.

Assessment of research results by health authorities has established interim guidelines on limits of public and occupational exposure to EMF and we operate within these guidelines.

Discharges, micro-shocks or a tingling sensation under or near transmission lines

Sometimes an electric field can be present under a high voltage transmission line. When you touch nearby metal objects such as long wire fences or metallic roofing or work with large metal objects, you may feel an acute shock or the hairs on your skin vibrate.

Proper earthing methods or working procedures will eliminate these discharges. Please email transmissionprojects@ausnetservices.com.au for further information on discharges from wire fences, clotheslines or large metallic objects.

EMF may cause some interference to electrical equipment and appliances in your home or workplace. The type of interference you might experience includes television and radio interference and computer monitor or video display unit (VDU) interference.

Computer monitor or VDU interference

The screen display on common computer monitors or VDUs is driven by the unit's internal magnetic circuitry. Under certain conditions, external magnetic fields may interfere with a monitor and affect the quality of the display with a jitter or distortion.

Magnetic field sources in commercial and industrial buildings (and occasionally homes) often come from equipment such as internal substations, main electrical switchboards, heavy-current cables, and external power distribution and transmission lines.

If this happens, check that the computer equipment and local magnetic field sources are properly installed. If you believe the magnetic field sources are coming from outside electrical installations, you can obtain further assistance from your local electricity distribution company. Refer to your electricity account for contact details. Please contact us if you suspect the interference relates to high voltage transmission lines.

Contact us

If your question or concern has not been addressed in this guide, please email csc@ausnetservices.com.au

To ensure we can address your query as effectively as possible, please provide as much detail as you can. This may include dimensioned plans, details of your proposal, map of the property and easement, tower positions, a copy of the certificate of title etc. Please send your request well in advance of the start of your planned works to ensure we have enough time to respond to you and find a suitable solution.