

A guide to living with transmission line easements



Introducing AusNet Services

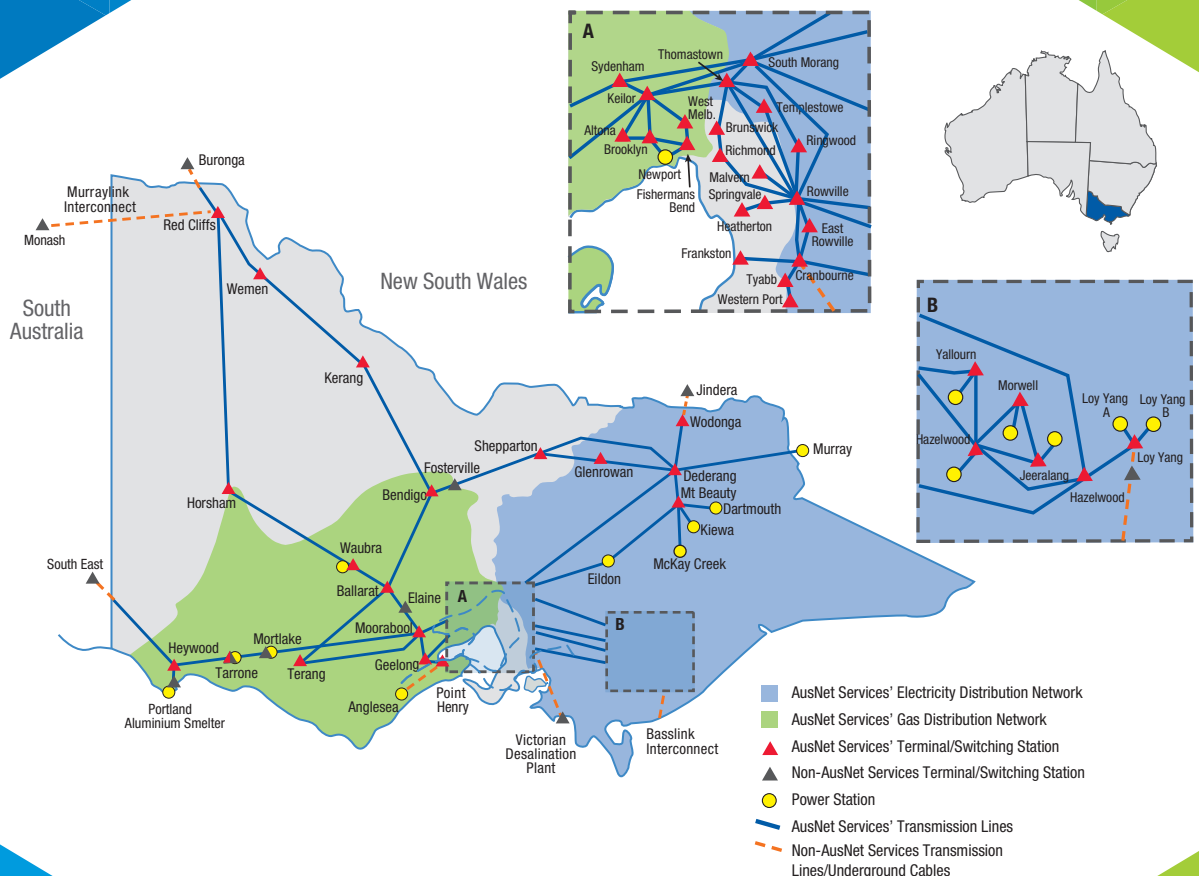
AusNet Services owns and operates the electricity transmission system in Victoria.

Our network of transmission towers and terminal stations support some 6,500 kilometres of conductors (the wires) and it links with neighbouring states, including Tasmania, as part of the national electricity grid. The corridors of land on which this network is built are referred to as transmission line easements.

AusNet Services is committed to working with Victorian landowners to ensure that our easements are maintained and used in a manner that will provide for the safe and reliable flow of electricity through the network. We have written this booklet to provide landowners and managers with helpful information about your rights and responsibilities in relation to the use of these easements.

We appreciate you taking the time to read through this material, and are more than happy to provide you with any additional information you require or to assist with your planning. Another booklet in this series, *Your Guide to Planting Near Electricity Lines*, may also be a helpful source of information.

AusNet Services' electricity and gas regions



Easements within the transmission network

Most of us take our electricity for granted. Every time we switch on a light, iron a shirt or watch TV, we just expect the power to be there so our appliances will work. We don't even think about where the electricity comes from or how it gets to us.

A vast network of transmission lines has been built to ensure electricity reaches you, your neighbours, and millions of Victorian homes and businesses. These lines – owned by AusNet Services – carry electricity through their conductors (the wires) at extra high voltages of 220,000 volts (220 kV) to 500,000 volts (500 kV) from the power stations to the major load centres where the voltage is stepped-down (transformed) and the local distribution companies supply it to homes and businesses.

The vast majority of AusNet Services' conductors are supported on steel towers. The grounds on which the towers stand and conductors cross are known as transmission line easements. There are 6,500 kilometres of transmission lines crossing a total area of some 17,500 hectares of easements across Victoria.

For the purposes of this document, 'easement' refers to the land surrounding transmission lines, including government and privately-owned land.

It is AusNet Services' job to maintain the transmission system, and the easements provide ready access to the lines for maintenance, repairs and construction work to be carried out safely, 24 hours a day. The easements are also important for community safety.

We communicate with bodies such as Energy Safe Victoria to reasonably limit the activities, vegetation and buildings permitted on easements. Our priority is to eliminate potential electrical or fire hazards – both for the safety of the public and landowners, and the electricity system in general. Another major priority is to protect and nurture native ecosystems, flora and fauna that also inhabit the easements.

This guide provides you with some important information about the electricity transmission system and the easements on which it is situated. It also contains some vital information about what activities you can and can't carry out on easements.

Underground transmission cables

While the majority of AusNet Services' transmission lines are constructed on steel towers, there are also a significant number of 220kV transmission cables installed underground that are managed by AusNet Services.

In this regard, prior to commencement of any works involving digging, excavation, change of ground surface cover or driving of stakes or posts into the ground, a Dial Before You Dig enquiry must be made.



Making an enquiry about an easement

If you wish to enquire about a transmission easement on your property, or on a property you may be considering buying, complete the application form at the rear of this publication and forward it to:

AusNet Services
Asset Management
Survey and Easements
Locked Bag 14051
Melbourne City Mail Centre VIC 8001

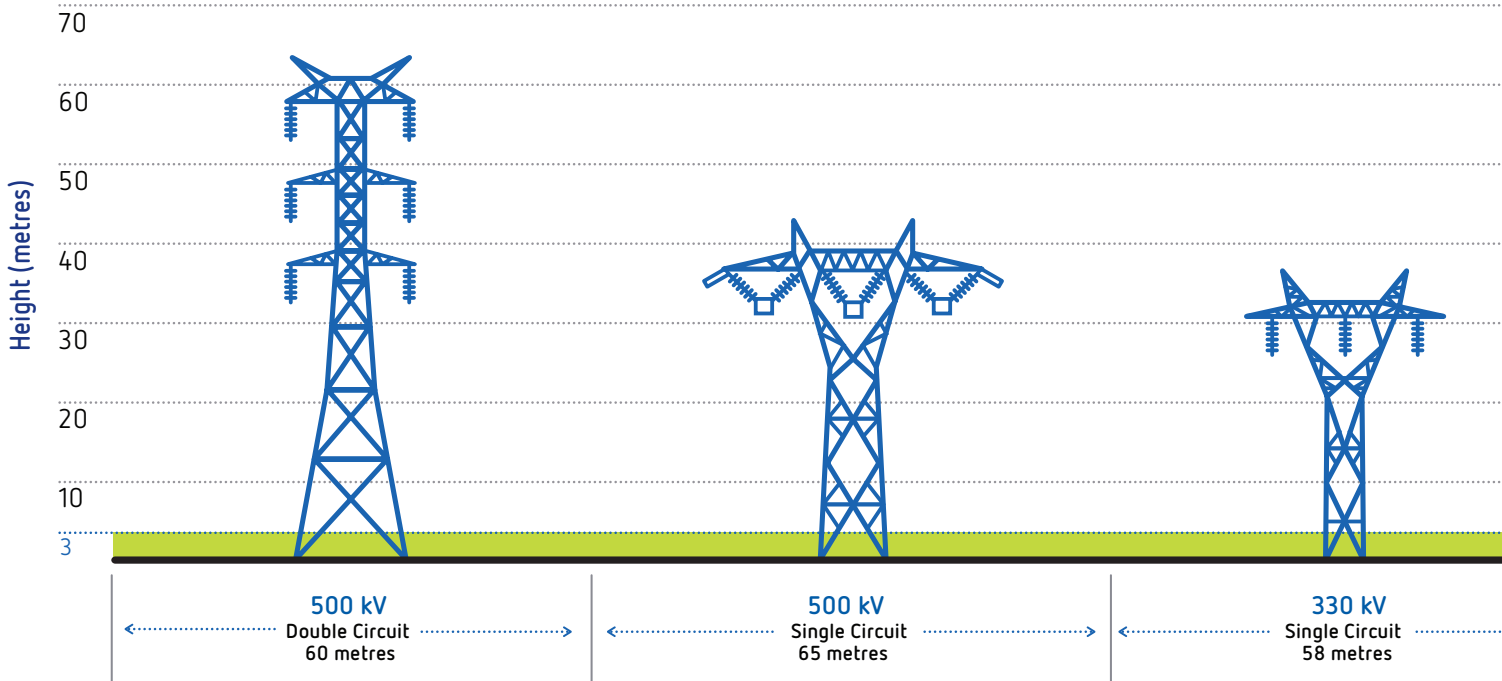
The application form is also available on AusNet Services' website (www.ausnetservices.com.au) and can be lodged electronically img@ausnetservices.com.au

Easement policy

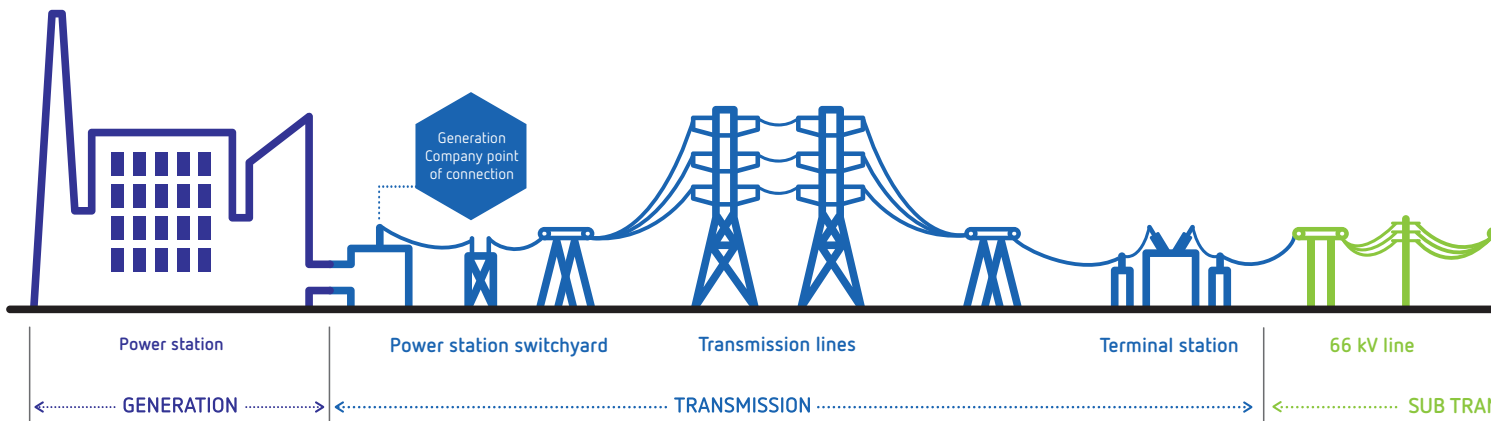
In fulfilling our role, AusNet Services takes into account our legislative responsibilities and the interests of the community through:

- > creating awareness of the AusNet Services Easement Policy through promotion to landowners, land managers and the community in general;
- > recognising and observing planning and environmental constraints;
- > consulting with local authorities and interest groups, such as Landcare Australia, the Department of Environment, Land, Water and Planning and local Councils and groups with regard to AusNet Services' vegetation management activities and methods;
- > providing advance notice of our activities wherever practical and consulting with land users, local authorities and others having an interest in AusNet Services' activity;
- > fostering long-term compatibility of the immediate environment with transmission lines to minimise fire, safety and security risks and to minimise disturbance to landowners and occupiers by limiting the frequency of visits required to sites;
- > retaining the services of an arborist to provide expert advice where specific vegetation issues such as tree habit and regrowth rates arise;
- > encouraging property owners, land managers and community groups to plant compatible local native species in the vicinity of powerlines;
- > replacing incompatible tall-growth species of vegetation with lower-growing local native varieties;
- > removing tall trees adjacent to the easement that have the potential to cause line damage or fire risk; and
- > taking action against infringements to line clearance and inappropriate developments on easements to restore safe and compatible conditions.

Easement widths



Main system components



What are electricity transmission line easements?

AusNet Services' easements secure a corridor of land or 'right of way' for existing or future lines, and allow us access for maintenance and repair purposes as well as for safety control measures.

Other authorities have easements as well. They include drainage and sewerage easements, pipeline easements, and easements for 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.

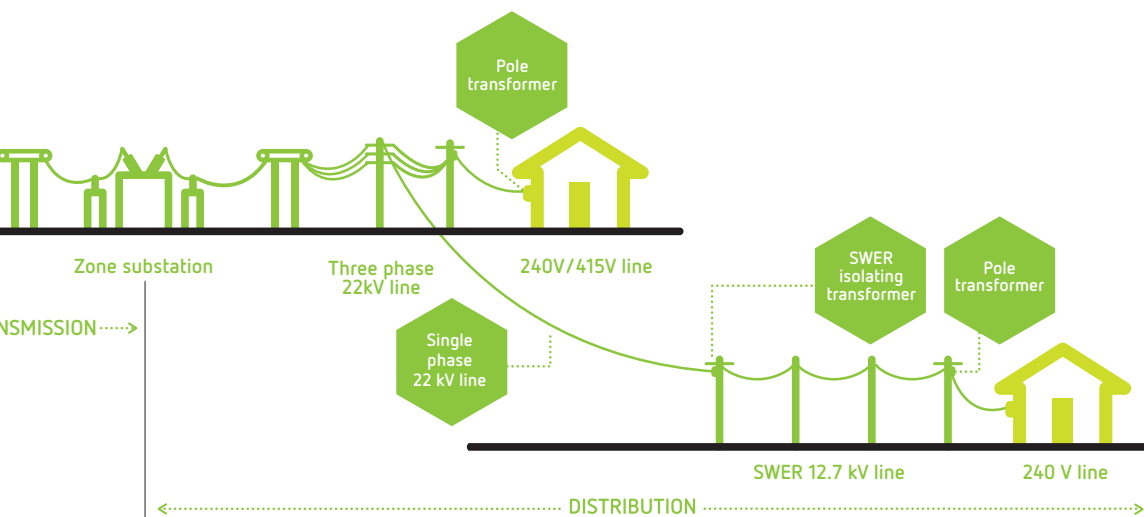
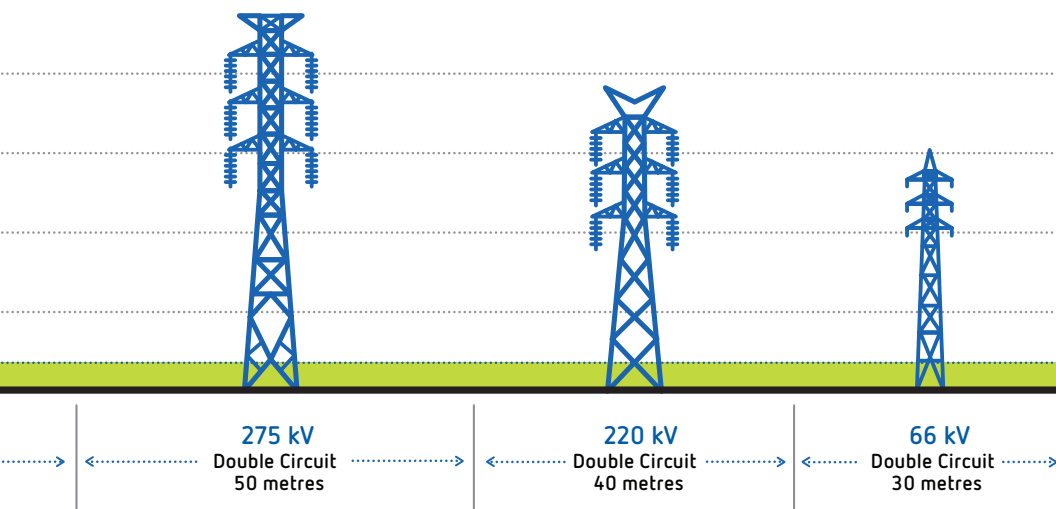
Who owns the land the easement is on?

Usually AusNet Services does not own the land contained within the easement, but has acquired rights for its use by agreement with, and compensation of, the original landowner. Ownership of that land remains with the landowner, who has restricted use of the easement; however, to ensure the safety of landowners and the community, AusNet Services has statutory authority to restrict the activities that can be carried out on easements.

Note that the 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



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 subject to the safety restrictions mentioned in this booklet.

AusNet Services reserves the right to carry out additional land management functions within the easement where unsuitable vegetation, ground surface level conditions, or other activities compromise the safe and reliable operation of the transmission lines.

On some properties, access roads and tracks were constructed specifically to build and maintain the transmission lines. AusNet Services retains the right to use these tracks for building and maintenance. We therefore maintain the tracks to four-wheel-drive standard in order to preserve vital access to the transmission lines.

If, for your own purposes, you require the tracks to be maintained to a higher standard, these costs are your responsibility.

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

Please check your Certificate of Title. If you want to obtain a copy, contact the Land Registry Office at:

Land Victoria
Land Registry
570 Bourke Street
Melbourne VIC 3000

Telephone (03) 8636 2010

A Title search can also be conducted via the Land Victoria website: www.land.vic.gov.au

For prospective property buyers, please check the Vendor's Statement attached to the Contract of Sale to see if there are easements on the title.

Restrictions on easement use

AusNet Services' primary concern is for everyone's safety, and you can help; all it really takes is common sense. If you want to carry out any development, whether or not it requires council approval, please check with AusNet Services to see if the easement will be a constraint. You will need written approval from AusNet Services before commencing work on an easement, as a local council building permit is not sufficient authority. Failure to obtain AusNet Services approval may result in having to remove or modify the new work at your expense. So please check with us first, and avoid disappointment and needless 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

Just to be on the safe side, you must always submit your plans for proposed development on an easement to AusNet Services before you start work on the site. This includes plans for installation of additional lighting, underground services, and to operate construction equipment, or to detonate explosives in the vicinity of an easement (contact details are on page 3).

Help us help you

To help us respond to your questions or proposals, the following details must be supplied:

- > the completed application form included as an appendix to this publication;
- > clearly dimensioned plans, preferably to scale, showing your proposal in relation to the property boundaries and, if possible, to the AusNet Services easement boundary. The plans should clearly indicate the dimensions (length, width and height) of any proposed structures;
- > location plans of the property, showing main roads and the position of any towers on the property; and
- > a copy of the Certificate of Title.

AusNet Services receives many applications for proposed works on easements, so the processing of your application may take some time. Generally we are able to respond to your application within 30 days. Please ensure that you send your request well in advance of the start of your planned works (the address is on the back of this booklet).

What if you have already built something on the easement without AusNet Services' authorisation?

If you have built something on an easement and you are not sure if it conforms to our guidelines, please give us a call and we would be happy to look into your enquiry.



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

AusNet Services requires the following restrictions and conditions be adhered to, thereby ensuring that public safety is not compromised by inappropriate activities within easements and to ensure that the reliability of the line is maintained. Prior AusNet Services approval is also required for any proposed alterations to approved developments on the easement to maintain the initial high safety standards.

Please take some time to read over the following guidelines carefully.

Permitted uses of transmission line easements

- > Grazing and agriculture.
- > Market gardens, orchards and horticultural nurseries, excluding buildings.
- > Water storage dams, subject to sufficient clearances from conductors and towers. Please consider the effects on water tables.
- > Trees and shrubs with a mature growth height not exceeding three metres.
- > Vegetation density is generally restricted to scattered trees or limited area clumps and shelter belts to control the total quantity of burnable materials on the easement.
- > A tree clear area of 20 metres radius is generally required at tower sites for line maintenance purposes. Closer trees may be permitted in some locations where the interference caused to access and essential line maintenance is acceptable. However, a greater clearance area is required at future tower sites to provide for construction of new transmission lines.
- > Landscaping and paving, subject to sufficient clearances to the conductors and towers if changes to the natural surface levels are proposed.
- > 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 AusNet Services' approval.
- > Sewerage, drainage and water pipes constructed of earthenware or plastic materials, but no closer than 20 metres to towers.
- > Parking of sedan and utility types of vehicles. Barriers of an approved design may be required to protect towers from damage by vehicles.
- > Tennis courts on 500 kV and 330 kV easements subject to certain specific requirements. Please contact AusNet Services for fencing requirements and further information.
- > Tennis courts on 220 kV line easements, provided that earthed metal net posts are used. An elevated earthed umpire's chair is also permitted, provided that it is earthed, of all-metal construction, with a metal screen above the seating position. Perimeter fences should also be earthed. Please contact AusNet Services for earthing requirements and further information.
- > Ground level sporting activities, such as football, cricket, golf, basketball and netball, subject to special requirements regarding the design of fences, goals and lights.
- > 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.
- > For 220 kV line easements only – car, boat and trailer sales yards, excluding buildings.

Prohibited uses of transmission line easements

- > Houses, other buildings and structures, including eaves, awnings, canopies, shelters and the like. For 220 kV line easements only, domestic garages (non-habitable), carports and garden sheds **MAY** be permitted a limited distance onto the easement subject to a number of requirements being met. These include sufficient safety clearance to towers and overhead conductors; three metre maximum height; construction made largely of non-flammable materials and not attached to a dwelling.
- > Erection of scaffolding.
- > Swimming pools, both above and below the ground, including filtration equipment.
- > Storage of materials in industrial type waste bins and skips.
- > Stockpiling of excavated materials.
- > Storage or handling of flammable liquids or gases. For 500 kV easements only, the storage or handling of such liquids or gases from bulk delivery vehicles is not permitted within 60 metres of the centreline of the transmission line.
- > Fuelling of and repairs to vehicles, plant and equipment.
- > Use of vehicles and equipment such as cranes, excavators, elevated working platforms and the like exceeding three metres in operating height. A higher operating height limit is subject to sufficient clearances to the conductors and requires the issue of a 'Permit to Work Adjacent to Exposed High Voltage Electrical Apparatus'. To arrange a Permit contact AusNet Services by email on img@ausnetservices.com.au.
- > Parking of large trucks and caravans (traversing or crossing easements is permitted).
- > Loading, unloading and load adjustment of large trucks.
- > Operation of large water spray irrigators of the gun type.
- > Metal pipes (including reinforced concrete), power cables and other electrically conductive materials within 30 metres of any tower steelwork.
- > For 220 kV easements only, this minimum distance reduces to 20 metres.
- > Electrical detonation or storage of explosives including fireworks.



Application for approval of (or general enquiry regarding) structures, buildings, or other use or activity on an electricity transmission easement

Property details

Street No. Street

Suburb/Locality

Applicant details

Name

Address (if different to above)

Street No. Street

Suburb/Locality

Telephone

Email

What do you want to do on the easement?

(Provide a detailed description of the building, use or activity that you wish to carry out on or near the easement).

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IMPORTANT: A plan (or plans) MUST be submitted with this application detailing the location on site of the proposed use or activity. The plan(s) must include distance from the property boundaries to the proposed use, and if possible should indicate the easement boundary. The dimensions of the proposed use, including length, width and height of any structures must also be shown. Provision of a copy of your title plan will assist us to process your application promptly.

Send completed application and plan(s) to:

AusNet Services
Asset Management
Survey and Easements
Locked Bag 14051
Melbourne City Mail Centre VIC 8001

Or email to img@ausnetservices.com.au





Other important considerations

Explosives

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

Damage

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

Electric and Magnetic Fields (EMF)

These fields are present whenever electricity is transmitted, distributed and used, and are therefore found in most places in modern society. Their effects can sometimes become evident through interference to electrical appliances or metallic objects. The health effects of EMF have also been the subject of public debate.

Health authorities appropriately determine the assessment of possible health effects and the Victorian Human Services Department and the National Health and Medical Research Council guide AusNet Services in these matters. Assessment of research results by the health authorities establishes interim guidelines on limits of public and occupational exposure to EMF and AusNet Services presently operates the transmission network 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 contact AusNet Services 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.

Television and radio interference

Clear television and radio reception depends on many factors, including the receiving equipment, antenna, broadcast signal quality and atmospheric conditions.

Therefore, for good television and radio reception, you should install the receiver and antenna properly in an area with an adequate broadcasting signal.

However, the reception quality may also depend on whether there are interfering signals from other local sources such as electrical appliances, communication equipment or nearby faulty powerline hardware. You can report the interference to, and receive help from:

The Australian Communications and Media Authority (ACMA)
PO Box 13112
Law Courts Melbourne VIC 8010
Telephone: (03) 9963 6800 or 1300 850 115
Facsimile: (03) 9963 6899

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 from a nearby source may interfere with the monitor and affect the quality of the display with a jitter or a slight screen 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 think that the magnetic field sources come 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 AusNet Services if you suspect the interference relates to high voltage transmission lines.

Vehicle access

AusNet Services and our contractors need vehicle access to existing and future tower sites at all times for line maintenance and construction purposes. In many cases, gates 4.6 metres in width are required in boundary fences to permit access along the easement. AusNet Services personnel and contractors entering properties will leave gates in the same open or closed position that they were found in.

Contact us

Customer enquiries

1300 360 795 8am–5pm Monday to Friday

Electricity transmission towers faults and emergencies

1800 111 164 24 hours a day, 7 days a week

Email: csc@ausnetservices.com.au

www.ausnetservices.com.au

Connect with us

 @AusNetServices

 AusNet Services

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