

Keeping structures a safe distance from powerlines

Did you know that electricity can ‘jump’ across an open space? That means you don’t actually need to come into contact with powerlines for your life to be endangered or your property to be damaged.

What is a minimum safe distance?

A minimum safe distance is the clearance you need to have between a building or other structure and a powerline during strong winds or high temperatures. Under these conditions, the conductor may swing or sag considerably towards the building or structure compared with its usual position, and that needs to be included in the minimum safe distance.

How do I find out the minimum safe distance?

Minimum safe distances for voltages up to and including 132,000 volts are specified in the Overhead Line Design - Detailed Procedures AS/NZS 7000:2010 and the Service and Installation Rules of NSW. Copies of these publications can be found on the internet by entering their names into your search engine.

For voltages exceeding 132,000 volts, the matter should be referred to TransGrid. See www.transgrid.com.au or phone 02 9284 3000 for more information.

Radio communications or television aerials

No radio communications or television aerials should be placed so that any part is vertically above a powerline. Where an aerial or its supporting wires are likely to become electrically charged through contact with a powerline (by collapsing or any other cause), then both the aerial and the stay wires must comply with the requirements of Australian Standard AS1417.1 (int) 2011, Radio and Television Receiving Aerials for design and construction, height limitation, mounting and staying.

Swimming pools

Swimming pools must not be built underneath overhead powerlines

Easements

What is an easement?

An easement is a registered legal right applying to land. Put simply, an easement allows a person to enter

someone else’s property so they can install and maintain facilities like powerlines and cables.

Do I need permission to build within an easement?

Yes. You cannot build within a registered easement that’s connected to a powerline without written approval from Essential Energy. Information about easements can be found in Essential Energy’s Easement Policy CEOP8046. You can also obtain a copy by phoning **13 23 91**.

Buildings and powerlines

- Clearances between powerlines and blank walls should comply with ‘D’ of the table.
- Clearances between powerlines and windows should comply with ‘C’ of the table.
- Clearances above normally accessible roofs should comply with ‘A’ of the table.
- Exterior display signs or similar advertising structures erected near a powerline are required to comply with distances specified in ‘C’ and ‘D’ of the table.

TIP: Essential Energy recommends that no structures be built within 10 metres of overhead powerlines and poles.

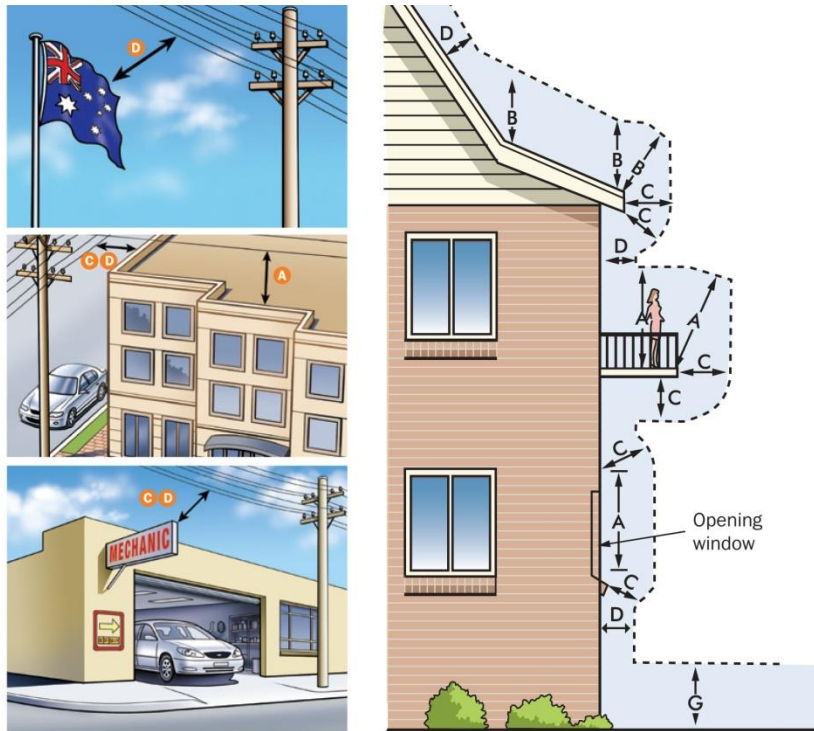
For your convenience, we have included illustrations and a table on minimum safe distances in this brochure. If you are in any doubt, contact Essential Energy on 13 23 91.

Be safe, because they need you



Minimum safe distances

Here is a table showing what the required minimum safe distances must be between parts of buildings or structures and an overhead powerline, after allowing for any swing or sag in accordance with the design of the powerline.

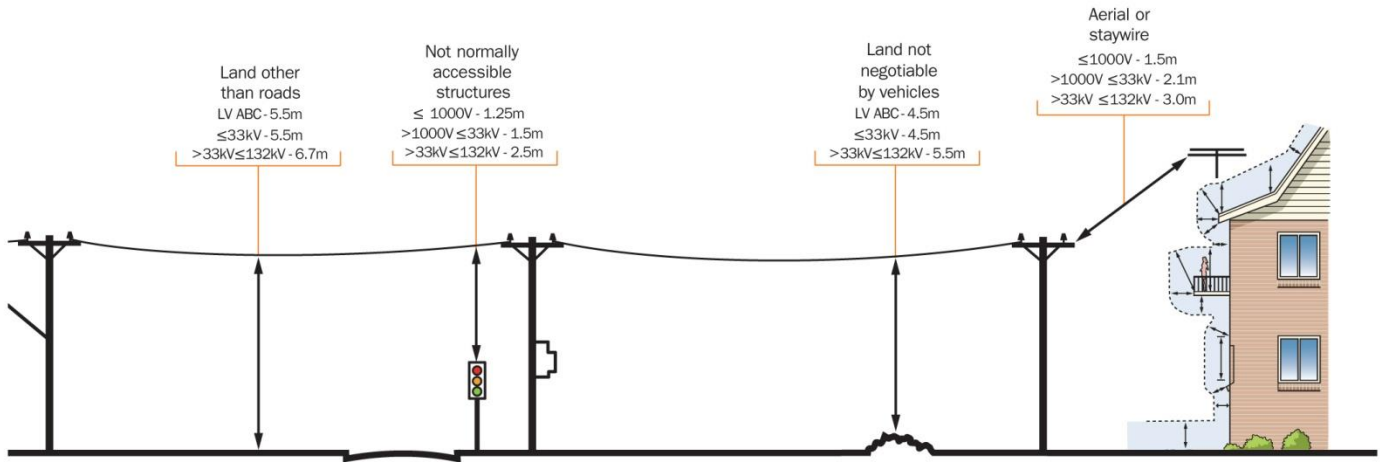


CLEARANCE U = System voltage	U ≤ 1000V			U > 1000V		1000V < U ≤ 33kV	33kV < U ≤ 132kV
	Insulated m	Bare Neutral m	Bare Active m	Insulated with earthed screen m	Insulated without earthed screen m	Bare m	Bare m
A Vertically ¹ above those parts of any structure normally accessible to persons.	2.7	2.7	3.7	2.7	3.7	4.5	5.0
B Vertically ¹ above those parts of any structure not normally accessible to persons but on which a person can stand.	1.25	2.7	2.7	2.7	2.7	3.7	4.5
C In any direction (other than vertically above) from those parts of any structure normally accessible to persons, or from any part not normally accessible to persons but on which a person can stand.	1.25	1.25	1.5	1.5	1.5	2.1	3.0
D In any direction from those parts of any structure not normally accessible to persons.	0.1 ²	0.3 ²	0.6 ²	0.1	0.6	1.5	2.5
G In any direction from ground.	Please refer to image above, and 'Minimum clearance requirements for completed structures or land (NSW)' image for clearance details.						

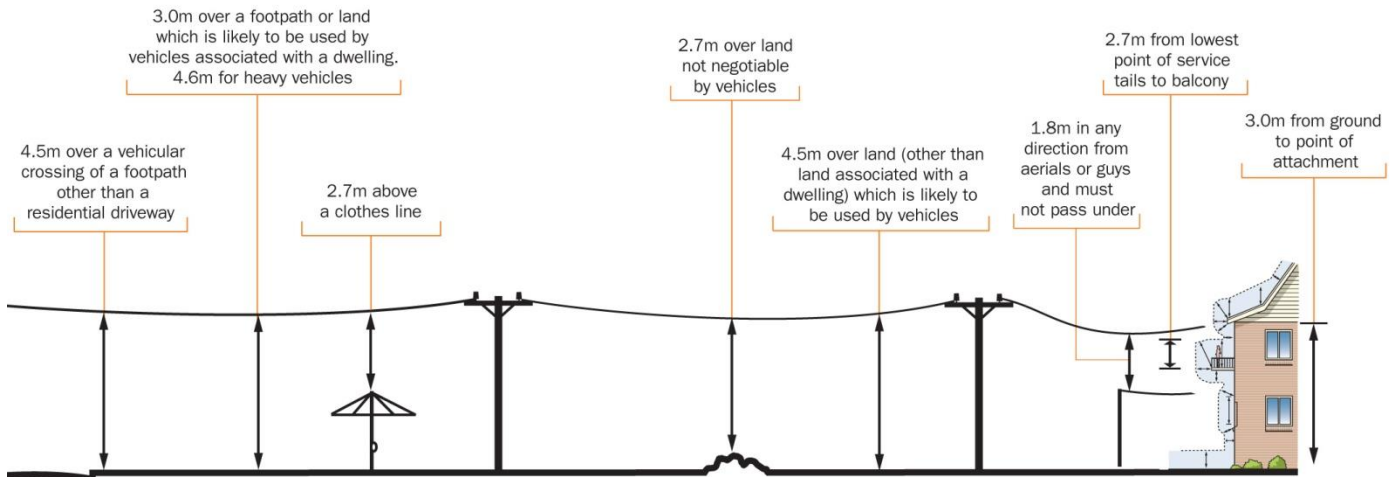
¹ This should not be taken as meaning the literal vertical. The actual clearance may also extend outwards in an arc until it intersects with the relevant (C) dimension clearance. ² This clearance can be further reduced to allow for the termination at the point of attachment.

Minimum clearance requirements for completed structures or land (NSW)

High and low voltage



Insulated service lines connecting customer premises to mains



Notes:

1

These requirements are for powerlines near completed structures or land. They do not represent safe working distances while building or operating machinery near powerlines. Refer to SafeWork NSW Regulation 2001 Chapter 4 Division 8 and relevant SafeWork NSW Codes of Practice for these safe working requirements.

2
3

Clearances specified on this drawing are for Essential Energy mains only. For clearances of consumer mains see Australian Standard AS/NZS 3000:2007.

Clearances stated on this drawing comply with the Energy Networks Association Overhead Line Design-Detailed Procedures AS/NZS 7000:2010 and the Service and Installation Rules of NSW.

4
5

Clearances stated are for the worst case of maximum sag and maximum swing.

The clearances given may need to be increased where vehicles of unusual height are likely to pass under an overhead line.

Legend

- < Less than
- \leq Less than or equal to
- > Greater than
- \geq Greater than or equal to