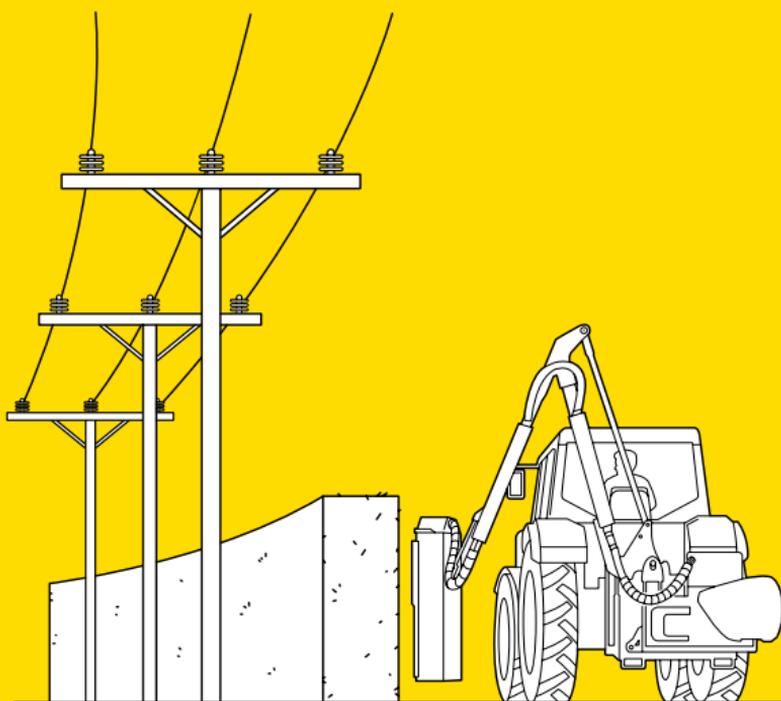


IMPORTANT SAFETY INFORMATION

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# STAY SAFE NEAR ELECTRICITY

Your guide to working safely around Aurora Energy's electricity and communications networks



**KEEP SAFE  
AROUND  
ELECTRICITY**

**Aurora**  
ENERGY

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At Aurora Energy we want to keep all contractors, customers and the public safe.

Aurora Energy Limited owns and operates the electricity distribution network in Dunedin, Central Otago and Queenstown Lakes.

Whenever you are digging on private or public property where cables are present, or working near overhead lines there is a serious risk to life and property.

This booklet is a guide to safe working practices when working near our electricity and communications networks in Dunedin, Central Otago and Queenstown Lakes, and provides information about the services we have to help you.

For more information about Aurora Energy visit [www.auroraenergy.co.nz](http://www.auroraenergy.co.nz)



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Electricity



Communications

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## **DISCLAIMER**

Aurora Energy Limited does not accept any liability for any information contained in this document.

None of Aurora Energy Limited or its related companies:

- Accept liability for any loss or damage suffered or incurred by the recipient of this document, or any other person or entity however caused (including negligence) relating in any way to this document including, without limitation, the information contained in it or any errors in or omissions from it, or the recipient, or any other person or entity, placing any reliance on this document, its accuracy, completeness, currency or reliability.
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  - Accept any responsibility to inform the recipient of any matter arising or coming to their notice that may affect any matter referred to in this document.
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## BEFORE YOU START WORK



### GO ONLINE FOR

- **Reference maps**, to indicate the location of our underground electricity and communications cable use [www.beforeudig.co.nz](http://www.beforeudig.co.nz)
- **High load consent request**, use the South Island wide powerline website [www.powerline.co.nz](http://www.powerline.co.nz) to check your route and make sure it's safe



### CALL US ON 0800 22 00 05 FOR

- **Close approach approvals** or excavation work near power poles and operating machinery near overhead lines.
  - **Cable location requests, on-site cable location and mark outs** for work near strategic electricity and communications cables and pipes.
  - **Any other safety or general enquiries.**
-





## **VEHICLES, PLANT AND EQUIPMENT**

Always use equipment that is fit for its intended purpose and wear personal protective equipment

Always keep a minimum safe distance from moving vehicles, live equipment or working machinery



## **DRIVING**

Always wear your seat belt while driving

Never use a handheld device while driving



## **PUBLIC SAFETY**

Always protect the public from the work site

Never leave electrical equipment unsecured



## **REMOTE AND ISOLATED WORK**

Always tell someone where you are when working or travelling alone



## **EMERGENCY RESPONSE**

Always know the emergency response plan

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## **WHAT TO DO IN AN EMERGENCY**



### **IF YOU HIT AN ELECTRICITY CABLE OR OVERHEAD LINE:**

- Treat the cable or overhead line as live – get back at least 10 metres.
- Evacuate the immediate area.
- If you are in a machine, stay in the machine.
- If you are at serious risk from another hazard, such as fire, and must leave the machine, jump well clear. Do not touch the machine and ground at the same time.
- Do not cover up a broken cable or try to fix it yourself.

Call us immediately on: 0800 22 00 05



### **IF YOU HIT A COMMUNICATIONS CABLE:**

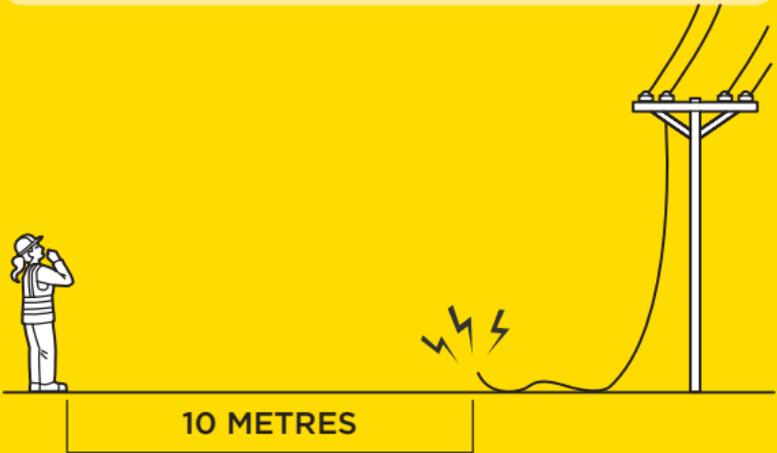
- DO NOT look directly at the cable as laser light may damage eyesight.
- DO NOT attempt to repair the cable.

Call us immediately on: 0800 22 00 05

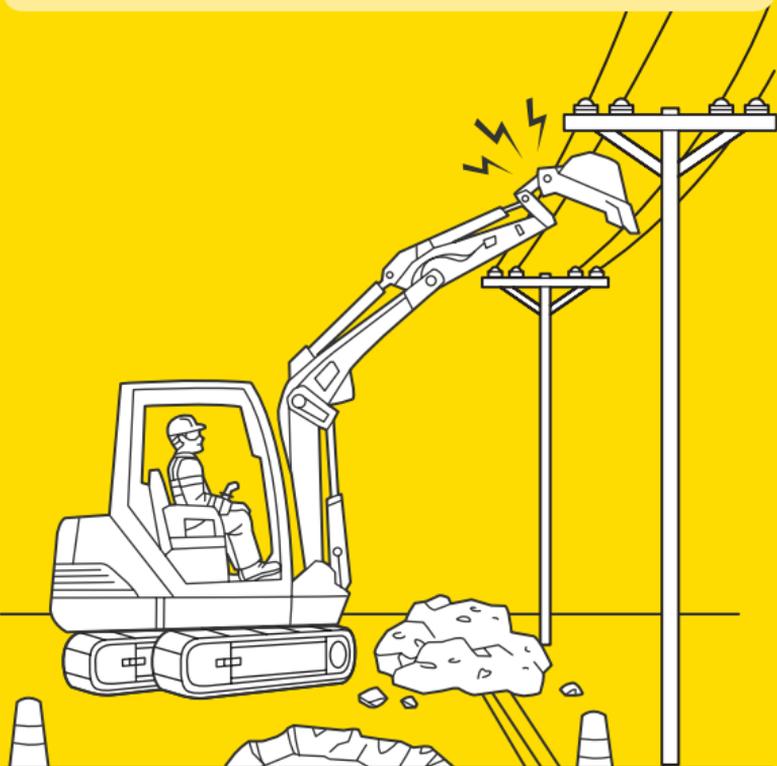
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Stay back at least 10 metres.  
Call us immediately.



Stay inside the machine.  
Call us immediately.



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## **PLANNING** **YOUR WORK**

It takes time to arrange your work.

Aurora Energy has joined beforeUdig, a free national online service that allows customers and contractors to request maps and information from a variety of utilities to check underground cables and pipes before commencing work.

To lodge your work and get your free maps go to [beforeUdig.co.nz](http://beforeUdig.co.nz)



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## **YOUR LEGAL OBLIGATIONS**

WorkSafe has set down minimum safe practices for carrying out any work near electricity and communications networks. See *Worksafe's Guide for Safety with Underground Services* ([www.worksafe.govt.nz](http://www.worksafe.govt.nz)).

There are also laws and regulations that specify safe working practices which must be followed:

- Electricity Act 1992 and amendments
- Electricity (Safety) Regulations 2010 and amendments
- Health and Safety at Work Act 2015
- NZECP 34:2001 Electrical Safe Distances

Aurora Energy stringently enforces health and safety across its networks and if a third party is found breaching any of the above laws and regulations we will refer the matter to WorkSafe for investigation. We may also take legal action to recover both the cost of repairs and the cost of lost business from any party or parties responsible for damaging our network infrastructure.

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## **WORKING** **SAFELY**

There's one golden rule - safety first, for yourself, your co-workers and the public. Everyone on a worksite is responsible for safety.

**SAFETY**  
**///**  
**NOTHING LESS**

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## THE DANGERS



If you hit an electricity cable or overhead line there is a risk of:

- Electrocutation
- Electric shock
- Flash over
- Explosion
- Fire.

It's not always necessary to touch a live cable or overhead line to be electrocuted. At the moment of contact, a machine, tool, or person is live at the same voltage as the cable.

If an electricity cable is cut by an excavator, or contact is made with an overhead line, anyone touching the machine is likely to be electrocuted.

Electricity can also travel through the ground, causing the ground to become live.



If you hit a fibre-optic cable, there is a risk of:

- Eye damage, possibly blindness.
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# LOOK UP LOOK OUT

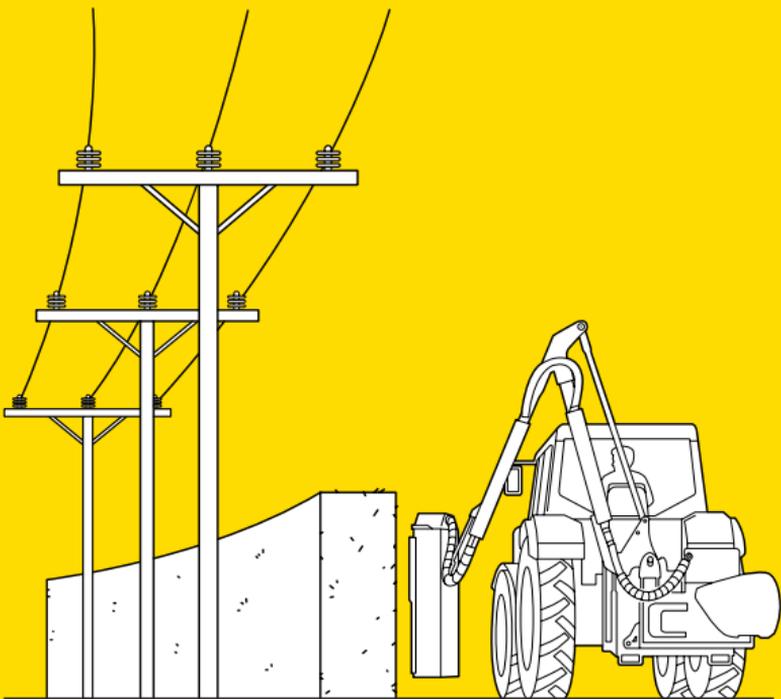
## WHEN WORKING NEAR OVERHEAD LINES

Keep a careful watch and make sure that you maintain a safe working distance from overhead lines at all times:

- at least four metres when operating machinery, such as a digger or crane, near lines
- and do not excavate within five metres of a power pole (see page 23).



Before you start work find out where network cables are, and note the position of overhead lines.



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## WORKING SAFELY NEAR OVERHEAD LINES

When you plan to work near overhead lines or power poles it is a legal requirement that you follow the minimum safe distances as set down by New Zealand Electrical Code of Practice - NZECP 34:2001 Electrical Safe Distances.

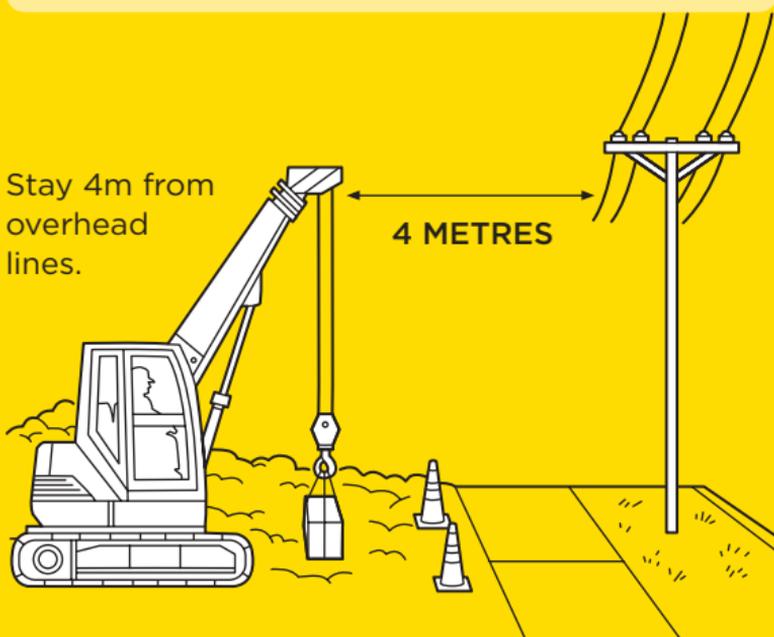
Follow the four metre rule: All work activity must be kept at least four metres from Aurora Energy's overhead lines.

If you need to work closer to our overhead lines you must get a close approach approval. It takes four working days to process this approval.

This includes trimming trees by hand.



Close approach approval is required for work within 4 metres of overhead lines.



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## **SAFE WORKING NEAR OVERHEAD LINES**

### **REMEMBER**

- Note the position of all overhead lines and power poles on a worksite and in the area.
  - Follow the four metre rule: All work activity must be kept at least four metres from overhead lines – get a close approach approval if you need to work closer.
  - Do not excavate within five metres of one of our power poles – get a close approach approval if you need to dig closer.
  - Close approach approvals take four working days to process.
  - Follow the NZECP 34:2001 Electrical Safe Distances when building near overhead lines. Contact Energy Safety for more information ([www.energysafety.govt.nz](http://www.energysafety.govt.nz)).
  - If you are working near overhead electricity service lines or a service connection have the power disconnected before you start work.
-

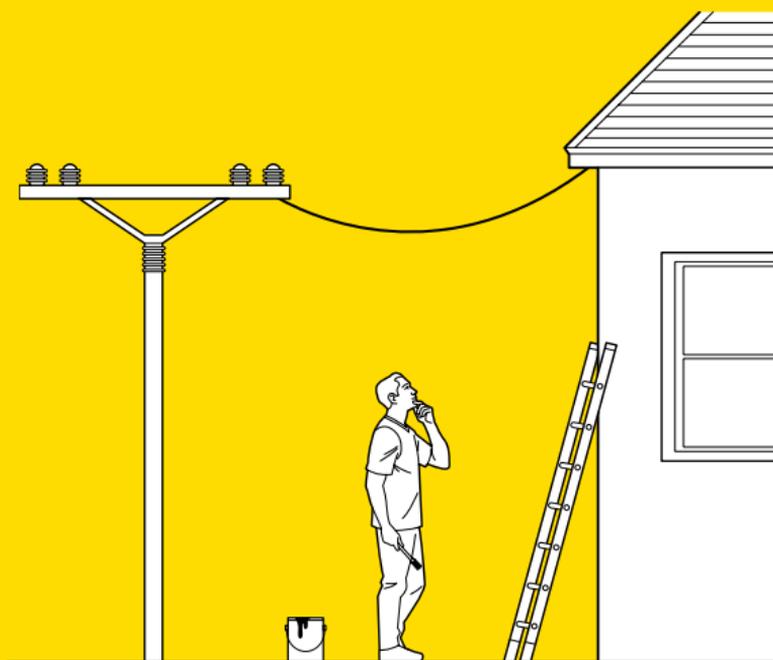
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## **TEMPORARY ELECTRICITY DISCONNECTION SERVICE**

Repairs to roofing, spouting, painting, water-blasting, tree trimming and scaffolding can be dangerous if carried out close to overhead service lines (the lines connecting a home or business to the lines and poles in the street).

Call 0800 22 00 05 to have the power temporarily disconnected when working near overhead service lines.

Allow five working days to process the request. This service is free on private properties and available between 8am and 5pm, Monday to Friday. Disconnection services outside these hours will incur a charge.



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# **CHECK** **BEFORE YOU DIG**

## **WORKING NEAR UNDERGROUND CABLES**

### **BEFORE YOU BEGIN**

Find out where our electricity and communications cables are. Just because there are overhead lines in the area doesn't mean there won't be underground cables as well.

### **STEP 1: GET REFERENCE MAPS**

**[www.beforeudig.co.nz](http://www.beforeudig.co.nz)**

Lodge your proposed works with beforeUdig, and they'll provide you with free reference maps showing underground cable locations within a few hours.

Once your plans are lodged with beforeUdig you will then receive an email either notifying you that there are no cables in your proposed work area or you will receive an email providing you with the plans of the underground cables for you to be aware of when working.

- Reference maps are valid for 28 days from date of issue. After 28 days you must request new maps.
- The accuracy of our maps cannot always be guaranteed. Road realignment, reconstruction, alterations to ground cover and property boundaries can all affect accuracy.

You must hand dig to confirm the location of our cables within your worksite before you start work.

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## STEP 2: MARK OUT THE LOCATIONS.

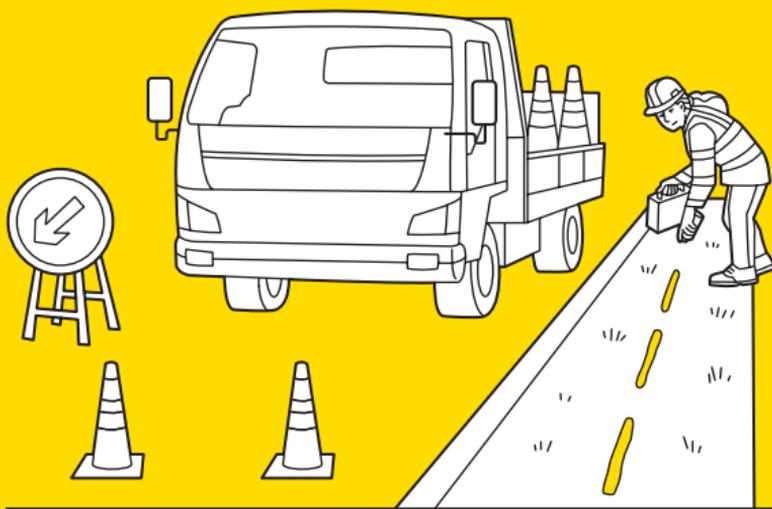
Use the reference maps to mark out the location of all cables on the worksite before you break ground. Maps are a guide only. Use appropriate location technology.

Aurora Energy will provide a free mark out service for strategic assets only. A cost may apply for other cables. See page 20 for details.

**NOTE:** The same precautions may be required for other work, such as driving metal stakes or posts into the ground, particularly in verges. A metal post or stake that contacts a live cable is likely to electrocute anyone who touches it.



Mark out all cable locations before you start work.



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### STEP 3: HAND DIG TO EXPOSE CABLES.

#### Why hand dig?

Hand digging is less likely to cause serious damage to cables. You must dig with caution for your own safety. Any damage to a cable should be reported to Aurora Energy immediately on 0800 22 00 05.

And remember to watch out for services coming off a main distribution cable.



Hand dig pot holes  
to locate cables.



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## **CABLE** **DEPTHS**

Our cables are laid at different depths in the ground, varying from 400mm to over 1200mm.

Alterations to the ground cover may reduce or increase the depths. We cannot guarantee the depth of any cable. Expect a cable to be at any depth.

Don't rely on finding buried marker tape when you dig as this may have shifted over time and depending on the age of the asset, tape may never have been laid (note warning tape is not a legal requirement).

If you expose a cable during excavation, you must ensure that the cable is adequately supported and protected.

Any exposed cable must not be moved under any circumstances.

If the surrounding material is removed, the cable must be supported at intervals of not more than one metre to prevent any movement.

When reinstating excavations, cables must be backfilled with at least 200mm of sand that has been compacted by hand.

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## MARK OUT SERVICES

We provide free electricity and communications cable mark outs for strategic assets only (66kV, 33kV and fibre-optic cables). A cost may apply for other cables. One of our representatives will indicate the location of cables by marking the ground to provide a digging guide.

Please note: Mark outs are a guide only. It is your responsibility to identify hazards within your worksite. You must hand dig to confirm the location of all cables before you start work.

Please allow up to four working days for contractors to arrange mark outs of strategic assets. All other mark outs are your responsibility.



Electricity cables mark outs will have a letter beside them and look like this.

- HV - - - -

- LV - - - -

- STL - - - -

A single orange line shows an individual cable, and you must hand dig to positively locate the cable (and all other services) before using mechanical excavators.

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A double orange line (corridor marking) shows a raft of cables between the lines. You must hand dig between the two lines.



A single purple line shows that there is an Aurora Energy communications cable.



Communications cable mark outs will have the letters “F” beside them.

One of our representatives may provide on-site advice if you’re working near any strategic assets.

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## **CLOSE APPROACH APPROVALS**

For safety reasons close approach approvals are required for all works near any cables, overhead lines or excavating within five metres of a power pole.

We will contact you if any strategic assets are shown on the maps you have requested, arrange for the appropriate close approach approval to be issued and advise whether on-site advice is required or mark out provided.

You must not use any mechanical excavation within two metres of strategic cables - you must hand dig.



Close approach approvals are only valid for the dates applied for and the location and type of works as agreed on the approval.

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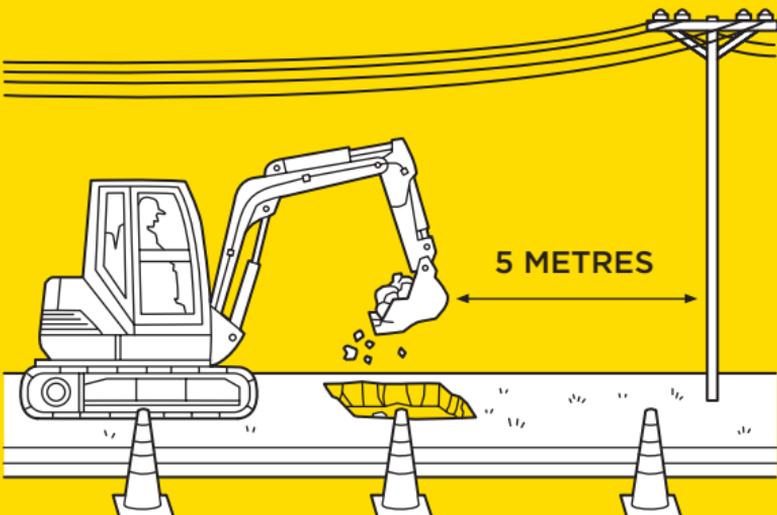
## EXCAVATING NEAR POWER POLES

- Do not dig within five metres of one of our power poles without a close approach approval.
- Digging is anything that disturbs or penetrates the ground including shovels, excavators, hammer drills, directional drillers and hydro excavators.
- Excavations within five metres could cause the pole to collapse. We will provide guidance and in some instances, on-site advice.



Do not dig within 5 metres of a power pole.

Close approach approval required for all digging closer than 5 metres.



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## **SAFE DIGGING**

### **REMEMBER**

- Get reference maps before you start work.
  - If our maps show electricity or communications cables, you must locate them before you start work.
  - The actual location and depth of cables can differ from what's on our maps because other earth works can change these.
  - Watch out for customer services cables coming off main cables.
  - You will be advised if you need a close approach approval, mark out or on-site advice.
  - You must obtain a close approach approval for all excavations within five metres of a power pole.
  - Follow WorkSafe's Guide for Safety with Underground Services [www.worksafe.govt.nz](http://www.worksafe.govt.nz)
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## **DISCONNECT BEFORE** **YOU REMOVE OR** **DEMOLISH A BUILDING**

For your own safety, you must have the electricity and communications services disconnected before you demolish or remove a building.



Contact your electricity retailer and communications provider to have all services disconnected.



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## **TRAVELLING WITH HIGH LOADS**

Before you move any tall structure such as a house or boat, more than 4.25 metres in height, you must apply for a high load approval first to ensure that your load does not come into contact with overhead power lines. To obtain approval for the transport of high loads please complete an online request by going to the Powerline website, [www.powerline.co.nz](http://www.powerline.co.nz). This is a South Island wide approval site and enables your request to be sent to the South Island power companies on your route.

Loads between 4.3 and 5.3 metres high:

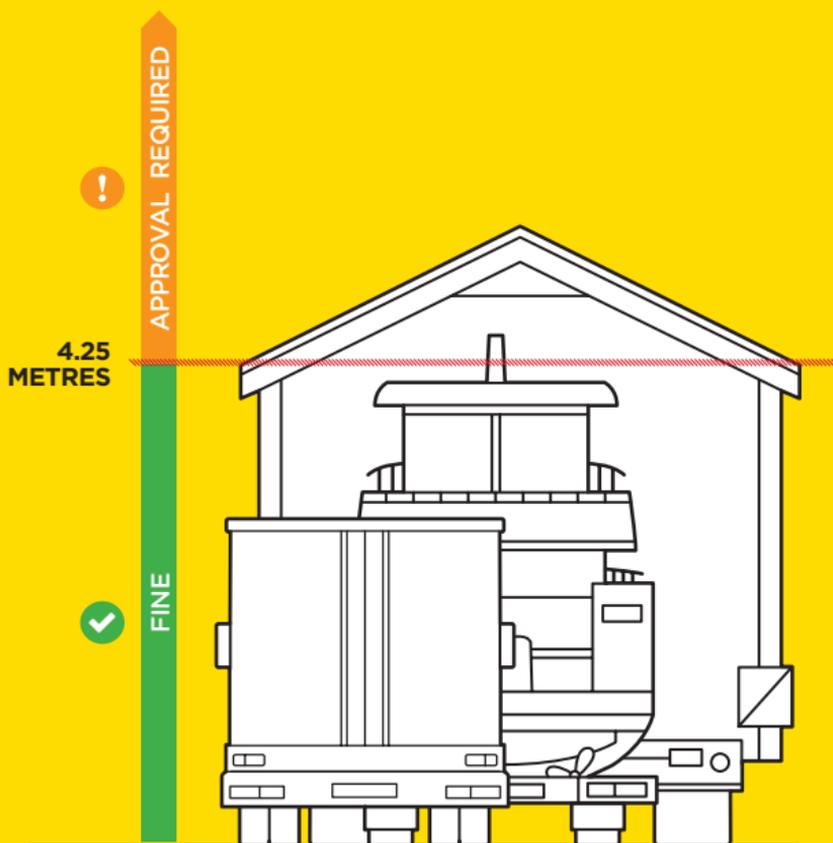
- We will check the proposed route
- If the route is clear to the height required, an approval will be issued
- If there are low lines we will arrange to escort the load at no cost.

Loads 5.3 metres high and over:

- We will check the proposed route
  - If the route is clear to the height required, an approval will be issued
  - If the route is not clear we will arrange an escort. A charge will apply
  - If disconnection is necessary, a 12 working day notice period is required so we can inform customers who will be affected.
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High load approval required for loads above 4.25 metres.



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## **BUILDING NEAR OVERHEAD LINES**

You must ensure that structures such as garages, decks and extensions to houses remain well clear of overhead lines.

The NZECP 34:2001 has set down minimum distances allowed between any new buildings and overhead lines. The minimum safe distances differ depending on the voltage of the overhead lines.

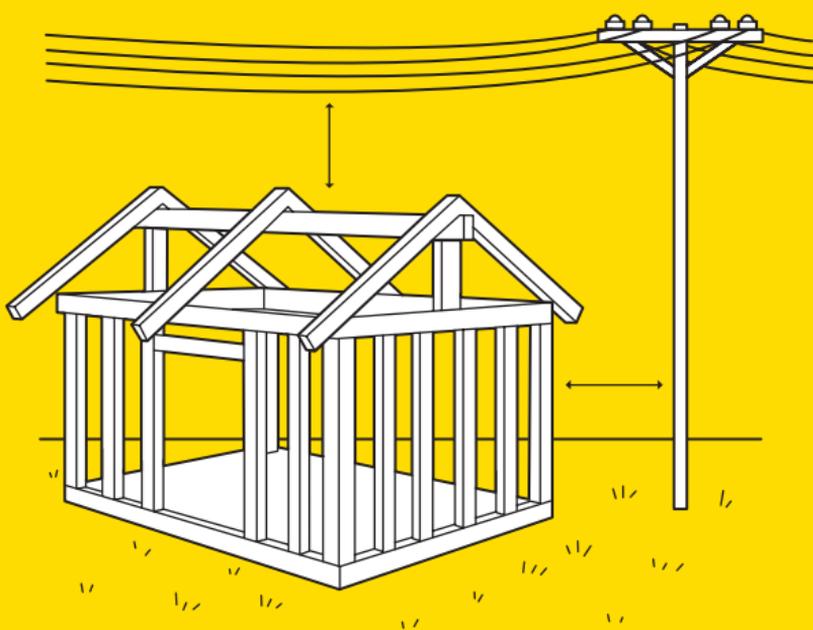
If you need to build closer to overhead lines on a private property they may need to be placed underground. A specialist contractor can do this - call us for advice on 0800 22 00 05.

Call 0800 22 00 05 for more information and to find out the voltage of the lines that you plan to build near.

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All buildings must be at minimum safe distances, well clear of overhead lines.





**FOR ANY  
QUESTIONS  
GET IN TOUCH**

0800 22 00 05  
info@auroraenergy.co.nz  
www.auroraenergy.co.nz

 Aurora Energy