



Northpower

**A GUIDE TO WORKING SAFELY AROUND  
NORTHPOWER'S ELECTRICITY &  
COMMUNICATIONS NETWORKS.**

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## Our Electricity Network Coverage



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## Working Safely

Northpower is one of New Zealand's most innovative electricity and fibre communications businesses.

We are focused on meeting the energy needs of more than 60,000 connected customers across Whangarei and Kaipara region.

Through Northpower Fibre we build, monitor and maintain our own fibre network for our customers who demand fast, reliable and secure data networks. We have helped establish Whangarei as New Zealand's first ultra-fast broadband city.

We have over 1,200 people all working across the north island. With a strong record of health, safety and environmental leadership, our aim is to keep all contractors, customers and the public safe around our network.

We encourage you to read this document first to ensure you keep yourself and others safe before you dig on private or public property or work near overhead lines or other equipment above ground.

We're sure that you'll agree with us that safety for yourself, your co-workers and the public is the responsibility of everyone on a work site.

## Your legal requirements

The WorkSafe Excavation Safety Good Practice Guideline has minimum safe work practices for carrying out any work near all underground and overhead pipes, power, communications lines and any other utility services:

<https://worksafe.govt.nz/dmsdocument/17-excavation-safety>

Another useful document is WorkSafe's Guide for Safety with Underground Services:

<https://worksafe.govt.nz/dmsdocument/1442-guide-for-safety-with-underground-services>

All underground services must be located and confirmed, by way of industry recognised techniques including hand digging and hydrovacating, before any excavation can be carried out with machinery.

Other laws and regulations specifying safe working practices to be followed are:

- Electricity Act 1992 and amendments.
- Health and Safety at Work Act, 2015.
- NZECP34:2001 Electrical Safe Distances.
- Electricity Safety Regulations 2012.

If we consider that anyone has breached any of the above laws and regulations we may refer the matter to WorkSafe for investigation. Northpower has a duty to report notifiable events to WorkSafe. Northpower may also take legal action to recover both the cost of repairs and the cost of lost business from any party responsible for damaging our network.

## Before starting work

- Before starting any work you must obtain reference maps that show the approximate location of our underground electricity and communications cables. Please go to [www.beforeudig.co.nz](http://www.beforeudig.co.nz) and complete the form. You will then be emailed out a map.
- Call us on 0800 10 40 40 or go to [service.northpower.com](http://service.northpower.com) following the issue of the information from before u dig to request a cable location service – you will need your before u dig sequence number to order your cable location service.
- For work near power poles, overhead lines, fibre cables please visit <https://service.northpower.com> or call Northpower Faults (0800 10 40 40). You may need a Close Approach Consent, High Load Consent or an electricity and communications service safety disconnection.

## Planning your work

Please allow enough time to plan your work. As a rule of thumb you should allow:

- two working days for reference maps from beforeudig and bookings for cable location services
- two working days for on-site advice and Close Approach Consent
- up to five working days for High Load Permits
- at least two and up to five working days for service disconnections

## The dangers



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

- fatal electrocution or critical injury
- flashover causing serious burns
- cable explosion
- fire
- loss of critical supply to hospitals, medically dependant customers and businesses

If an electricity cable is cut by an excavator, or contact is made with an overhead line, anyone touching metal parts of the machine may receive an electric shock.

Electricity can also travel through the ground, or any metal object in contact with the ground, causing the neighbouring ground to become live.



If you hit a communications cable there is a risk of:

- loss of eyesight from viewing laser light directly from the broken cable
- disruption to signalling or cutting off monitoring or control from an electricity substation
- injury from the brittle glass used in the cables which can break easily
- interruption of critical communications services

## Safety while digging

Before you begin any digging work you should find out where Northpower's electricity and communications cables are. Overhead lines in the area doesn't automatically mean an absence of underground cables.

Please note that our cables are laid at different depths in the ground. These may vary from just under the surface to over 1200mm deep.

We cannot guarantee the depth of any cable because alterations to the ground cover may reduce or increase the depths. We recommend that you do not rely on finding buried marker tape when you dig, as this may not be present if the cable was installed by a directional drill or thrusting.

Please **do not** use toothed excavator buckets when digging close to underground assets.



### Step 1: Obtain reference maps

Visit [www.beforeudig.co.nz](http://www.beforeudig.co.nz) to request plans at least two working days before you begin work. They will then email you the free reference maps that indicate the approximate location of underground cables.

Please note that these reference maps are valid for 28 days from the date of issue; new maps have to be requested after 28 days.

The accuracy of maps cannot always be guaranteed as road re-alignment, reconstruction, alterations to ground cover and property boundaries can all affect accuracy. This means that you will have to confirm the location of our cables within your work site before you begin any work.

### Step 2: Locate assets in relation to your worksite

If your worksite is indicated within 10 metres of our cables you must carry out a cable/pipe location to identify the approximate location of the cables.

We can come to site and locate the cables for you, marking them with dazzle and advising approximate depth.



Please visit <https://service.northpower.com> to apply for a cable location service. Allow a minimum of 2 working days to process your request. If you need to locate underground cables and pipes urgently or on a weekend or public holiday please call us on 0800 10 40 40.

Please note your responsibilities under the Health and Safety at Work Act 2015, whereby you must establish the location of underground services before commencing excavation. You must also locate the services by 'potholing' using recognised techniques to expose cables and to continue working safely.

### Step 3: Confirm the physical location of cables and pipes by pot holing

Potholing requires using recognised hand digging and/or hydrovacating techniques to expose the cables, and pipes. These techniques are less likely to result in a strike on the services that causes serious damage to cables and pipes. For your own safety you must pothole with caution. If you damage a cable or pipe please report this immediately to Northpower Faults by calling 0800 10 40 40.

Remember to check for other services coming off a main such as water and private service cables and pipes.



### Step 4: Use a designated Safety Observer

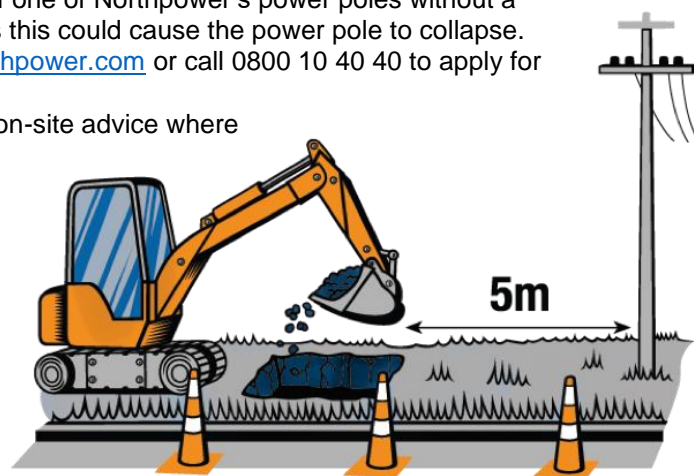
All works within 2 metres of high voltage network electrical cables, or any Northpower critical electricity or fibre lines require a Northpower stand over at the cost of the contractor.

### Step 5: Continue working safely

- If you discover marker tape or protective covering for unmarked cables, you must pothole to expose the cable.
- Always assume that cables are live until confirmed otherwise by a Northpower representative.
- If you want to lift, lower, sift or remove any cable or expose a cable so that more than one meter is supported, specialist involvement is required by Northpower's Engineering team.
- Backfill should be a recommended stone free soil or approved thermal backfill.
- Don't forget to put mechanical protection and warning tape back when reinstating.

### Excavating near power poles

- Do not dig within five metres of one of Northpower's power poles without a **Close Approach Consent**, as this could cause the power pole to collapse. Please visit <https://service.northpower.com> or call 0800 10 40 40 to apply for a close approach consent.
- We will provide guidance and on-site advice where necessary.



## Close Approach Consents

For safety reasons, Close Approach Consents are required for:

- all works within 2 metres of critical electrical or communication cables.
- all works within 4 metres of overhead lines
- excavating within five metres of a power pole or within 12m of a tower or pylon
- all excavation works within 2 metres of any other type of electrical cable or gas pipe, you **must** follow the “Safety While Digging” guidelines in this guide
- excavating within 5 metres of a Distribution Sub Station (transformer) and 10 metres within a Zone Substation
- working within four metres of overhead lines
- all work above overhead lines

You **must** contact Northpower Faults (0800 10 40 40) if any high voltage cables are shown on the maps you have requested. This is to determine whether on-site advice, a stand over or a Close Approach Consent is required and, if so, to arrange it.

You must not use any mechanical excavator within one metre of strategic cables – you must hand dig. Exceptions to this are only permitted if the excavation technique is expressly provided for in the Close Approach Consent.

Please note that Close Approach Consents are only valid for the dates applied for and the location and type of works agreed to on the consent.

### In summary, key action points to note to ensure safe digging are:

1. Obtain reference maps from [www.beforeudig.co.nz](http://www.beforeudig.co.nz) before you start work.
2. If our maps show electricity, or communications cables or pipes you must locate them before you start work.
3. Visit <https://service.northpower.com> to arrange a cable locate service – allow two working days. If you need to locate underground cables and pipes urgently or on a weekend or public holiday please call us on 0800 10 40 40.
4. Pothole using recognised techniques to expose cables and pipes.
5. The actual location and depth of cables and pipes can differ from what’s on Northpower’s maps because other earthworks can change these.
6. Watch out for customer services coming off the mains.
7. Follow the WorkSafe’s Guide for Safety with Underground Services and Excavation Safety Good Practice Guideline.
8. Recommended backfilling material must be used.
9. If you are digging within 5 meters of a Northpower pole or 2 meters of electrical cables and communication cables you must obtain a Close Approach Consent – call 0800 10 40 40 to arrange a site visit for this consent.



## Working safely near Overhead Lines

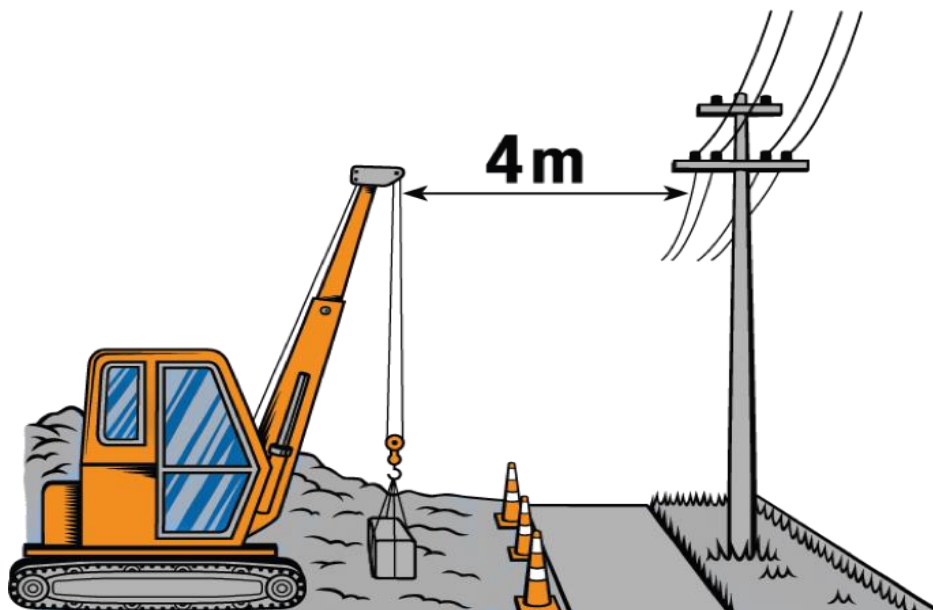
When working near overhead lines and power poles, keep a careful watch and make sure that you maintain a safe working distance from overhead lines at all times.

- When operating machinery such as a digger or crane near lines you must keep at least four metres clear of overhead power lines.
- Do not excavate within five metres of a power pole.



When planning to work near overhead lines or power poles, please note that you are legally required to follow the minimum safe distances set by the New Zealand Electrical Code of Practice – NZECP 34:2001 Electrical Safe Distances.

All work activity must be kept at least four metres from overhead power lines. If you need to work closer, you must obtain a Close Approach (Working Near Lines) Consent which will take two working days to process. Please visit <https://service.northpower.com> to apply for this consent.

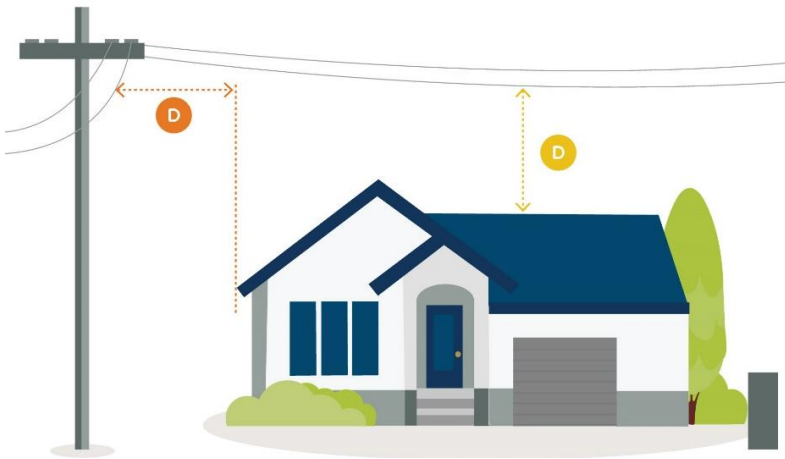


## Building near Overhead Lines

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



Minimum distances allowed between any new buildings and overhead lines have been set by the New Zealand Electrical Code of Practice NZECP 34:2001. Please note that the minimum safe distances will differ depending on the voltage of the overhead lines.

To find out the voltage of the lines that you are planning to build near to, please call 0800 10 40 40



If your works do not comply with Table 2 of NZECP 34:2001 (see below), specialist engineering advice will be required to confirm that the works comply with Table 3 of NZECP 34:2001 (see page 11 of [The New Zealand Code of Practice for Electrical Safe Distances](#)). Please call us on 0800 10 40 40.

Please note that any work **above** an overhead line requires a consent.

Minimum safe distances from buildings to overhead lines		
Voltage	 Minimum distance beneath powerlines	 Minimum distance to side of powerlines
Not exceeding 1kV	4.0m	3.5m
Exceeding 1kV but not exceeding 11kV	5.5m	5.0m
Exceeding 11kV but not exceeding 33kV	7.0m	8.5m
Exceeding 33kV but not exceeding 110kV	7.5m	9.5m
Exceeding 110kV	Refer to <a href="#">Table 2 of NZECP34</a>	

## Temporary Electricity Disconnection service

DIY electrical work, repairs to roofing, spouting, painting, water-blasting, tree trimming and scaffolding may 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.

To stay safe, visit <https://service.northpower.com> and arrange to have your power temporarily disconnected when working near overhead lines. Please allow 2 working days to process your request.

If you need a safety disconnection urgently, after hours, on a weekend or public holiday please call us on 0800 10 40 40.



## Working Safely near Overhead Lines and other equipment above ground - Summary

In summary, key action points to note when working near overhead lines and other equipment above ground are:

1. Note the position of all overhead lines and power poles on a work site and in the area.
2. Follow the four metre rule: all work activity must be kept at least four metres from overhead lines. Obtain a Close Approach (Working Near Lines) Consent if you need to work closer. Please visit <https://service.northpower.com> or call 0800 10 40 40.
3. Do not excavate within five metres of a Northpower power pole or 12m of a tower or pylon, get a Close Approach Consent if you need to dig closer.
4. Close Approach Consents take two working days to process.
5. Follow the NZECP 34:2001 Electrical Safe Distances when building near overhead lines. For more information, visit [www.energysafety.govt.nz](http://www.energysafety.govt.nz).
6. If you are working near overhead electricity service lines or a service connection, have the power temporarily disconnected before you start work.

## Removal or Demolition of a Building

Please note that you will have to organise the disconnection of both gas and electrical connections before removing or demolishing a building.



For free electrical and communications disconnection requests, please call 0800 10 40 40 and allow two working days to process the request.



## Travelling with High Loads

You must apply for a High Load Consent if you plan to move a tall structure, such as a house or a boat, with a height that is 4.25m or greater.

Please visit <https://service.northpower.com/> and fill out our high load transport request application at least five working days before you're transporting your load. We'll then process your application and advise what assistance we'll provide, along with any applicable charges.

The table below from Waka Kotahi (NZ Transport Agency) factsheet for over dimension vehicles and loads summarises all possible scenarios when travelling with high loads.

We recommend that you also check with your local telecommunications company about the height of their lines as well.

Height (m)	Operating conditions
Greater than 4.3 – up to and including 5	<ol style="list-style-type: none"> <li>1. Written permission from the owner of an overhead obstruction that the vehicle travelling underneath cannot clear.</li> <li>2. Written approval from the relevant access provider, if the vehicle travels over a level crossing that does not cross a State Highway and the vehicle exceeds the height shown on an electrified railway safe height sign.</li> <li>3. For loads exceeding 4.8 m, a vehicle with a deck height less than 1.3 m above the road must be used.</li> </ol>
Greater than 5 – up to and including 6.5	<ol style="list-style-type: none"> <li>1. Need to meet all of the above operating conditions</li> <li>2. Need an overdimension permit from the Overdimension Permit Issuing Agency (OPIA).</li> <li>3. A vehicle with a deck height less than 1.3 m above the road must be used.</li> <li>4. Need written permission from the owner of the overhead wires or cables that the vehicle travels under.</li> </ol>
Greater than 6.5	<ol style="list-style-type: none"> <li>1. Need to meet all of the above operating conditions</li> <li>2. Need written Approval from Waka Kotahi (NZ Transport Agency). Apply online to the Overdimension Permit Issuing Agency (OPIA) for an overdimension permit.</li> </ol>

To contact the Overdimension Permit Issuing Agency's (OPIA) helpdesk phone 0800 OVERSIZE (0800 683 774) or fax 06 953 6313.

## What to do in an Emergency



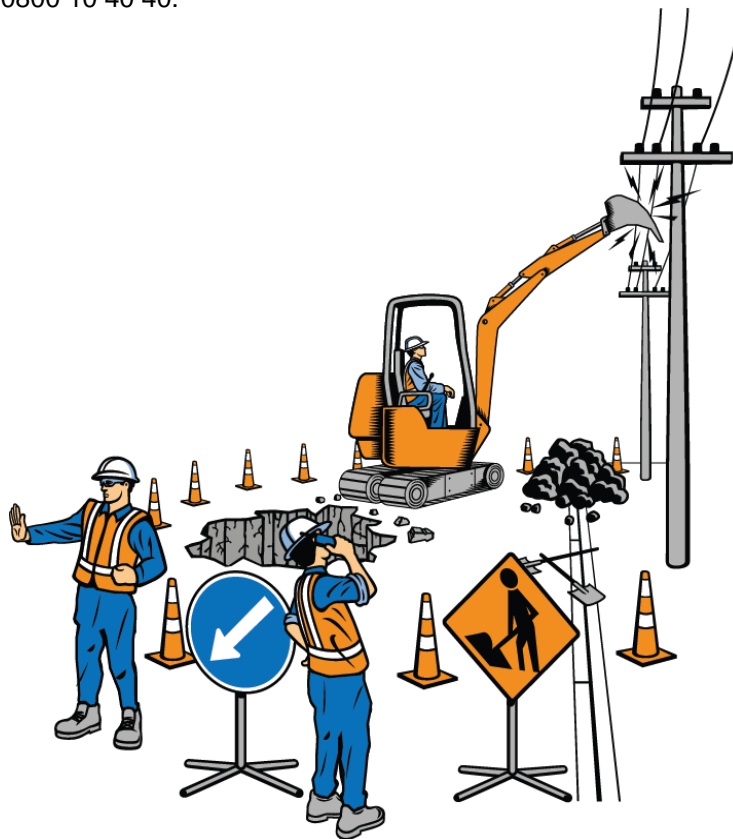
If you hit an electricity cable or overhead power line:

- Treat the cable or overhead line as live – jump well clear and get back at least 10 metres.
- Evacuate the immediate area.
- If you are in a machine, stay there.
- If you are at serious risk from another hazard, such as fire, and must leave the machine, jump well clear. Do not touch metal surfaces, or the machine and ground at the same time.
- Leave damaged cables exposed for us to fix.
- Call Northpower Faults immediately on 0800 10 40 40.
- In the event of an electric shock don't touch the person until you are certain the source of electricity has been removed. Call 111.



If you hit a communications cable:

- Do not look directly at the cable as laser light may damage eyesight.
- Leave damaged cable exposed for us to fix it.
- Call us immediately on 0800 10 40 40.



## **Northpower Limited**

28 Mount Pleasant Road,  
Raumanga, Whangarei 0110

### **Contact**

**0800 Northpower**  
info@northpower.com

No power or hot water – **0800 10 40 40**

### **Customer care team**

09 4301 965 | [customercare@northpower.com](mailto:customercare@northpower.com)

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