



GAS PIPELINE SAFETY GUIDE.

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CREATING A NEW
ENERGY FUTURE

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WORKING SAFELY

VECTOR IS LEADING THE TRANSFORMATION OF THE ENERGY SECTOR TO CREATE A NEW ENERGY FUTURE.

We're identifying and developing options that will provide value, choice and service for our customers throughout New Zealand and deliver sustainable shareholder returns.

We are New Zealand's largest distributor of electricity and gas, owning and operating networks that span the Auckland region. We are focused on meeting the energy needs of more than 553,000 customers across the country.

Our smart metering business has deployed more than 1 million meters throughout New Zealand, and in 2016 we expanded into Australia.

Through Vector Communications we build, monitor and maintain our own fibre network for businesses who demand fast, reliable and secure data networks.

We have just under 800 staff and employ more than 1,000 contractors. 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.

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

All underground services must be located and confirmed, by way of industry recognised techniques including hand digging and hydrovacing, 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.
- Gas Act 1992 and amendments.
- Health and Safety at Work Act, 2015.
- NZECP34:2001 Electrical Safe Distances.
- Health and Safety in Employment (Pipeline) Regulations 1999.
- Electricity Safety Regulations 2012.

If anyone breaches any of the above laws and regulations we may refer the matter to WorkSafe for investigation, particularly for repeat offenders. The third party person conducting a business or undertaking (PCBU) has a duty to report notifiable events to WorkSafe.

We 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.

SAFETY WHEN DIGGING

Whenever you are digging on private or public property near natural gas pipelines, there is a serious risk to life and property if these pipes are damaged.

External interference is the leading cause of gas pipeline incidents, especially resulting from the use of excavation and directional drilling equipment.

This document is a guide to safe working practices when working near our gas pipelines and provides information about the services we have to help you.

VECTOR'S SERVICES TO HELP YOU WORK SAFELY

We provide a number of services to help people work safely around our gas pipelines:

- Reference maps that indicate the approximate location of our distribution pipelines.
- Close Approach Consents which are required for all works within one metre of strategic gas distribution pipelines.
- Pipeline safety awareness seminars (on request).
- Gas disconnections.

Before you start any work, contact us on **0508 B4U WORK** (0508 248 967)

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
- two working days for Close Approach Consent
- up to 10 days for disconnections

THE DANGERS

If you hit a gas pipeline there is a risk of:

- gas igniting, causing serious harm to life and property
- gas accumulating in adjacent buildings with the potential to explode
- air getting into the gas pipe and forming an explosive mixture

The force of escaping gas from a high pressure pipeline can also cause serious personal injury and damage.

Please note that any electronic equipment in the vicinity, including mobile phones, could cause the escaping gas to ignite.

SAFETY WHILE DIGGING

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

Please note that our cables and pipes are laid at different depths in the ground. These may vary from just under the surface to over 1200mm deep. Customer service pipes are generally between 300mm and 1000mm deep.

We cannot guarantee the depth of any cable or pipe 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 or pipeline 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 to request plans at least two working days before you begin work. We'll then email you the free reference maps that indicate the approximate location of underground cables and pipes.

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 our 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 and pipes within your work site before you begin any work.

Step 2: Mark out the locations

Use the reference maps obtained as a guide for locating and marking out all cables and pipes within your work site.

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 pipes and to continue working safely.



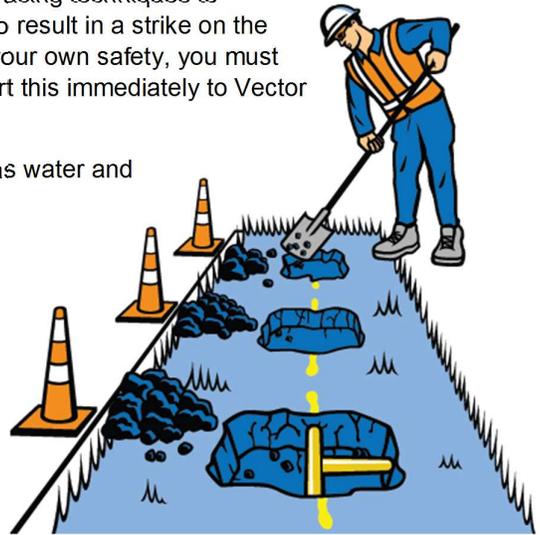
Step 3: Potholing to expose cables and pipes

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 Vector by calling 0508 VECTOR (0508 852 867).

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

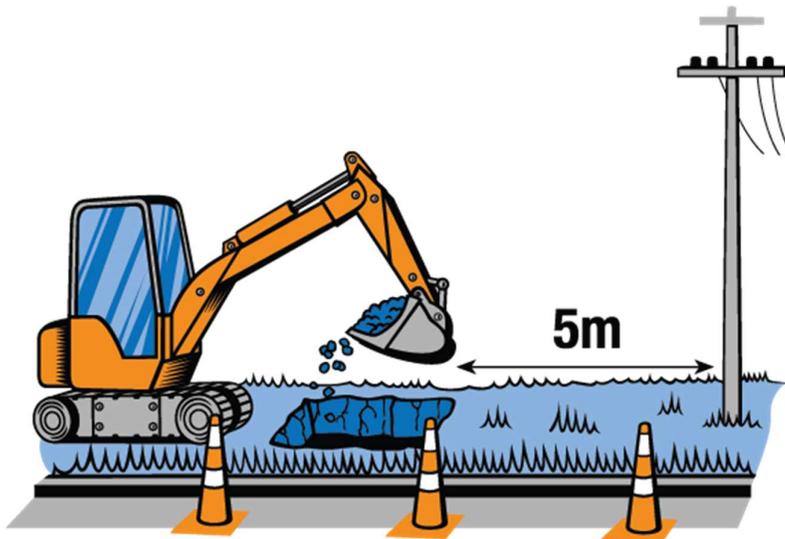
Step 4: Continue Working Safely

- 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 Vector representative.
- If you want to lift, lower, shift or remove any cable or expose a cable so that more than one meter is unsupported, specialist involvement is required by Vector's relocations 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 Vector's power poles without a **Close Approach Consent** as this could cause the power pole to collapse.
- 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 two metres of strategic cables or pipes
- excavating within five metres of a power pole or within 12m of a tower or pylon
- excavating within 5 metres of a Distribution Sub Station and 10 metres within a Zone Substation
- working within four metres of overhead lines
- all work above overhead lines

We will contact you if any strategic assets are shown on the maps you have requested and arrange for a Close Approach Consent to be issued if needed. We will also advise whether on-site advice is required.

You must not use any mechanical excavator within one metre of strategic cables or pipes – 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.

Safe Digging Summary

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

1. Obtain reference maps from us before you start work. Please call 0508 B4U DIG (0508 248 344).
2. If our maps show electricity, gas or communications cables or pipes you must locate them before you start work.
3. Pothole using recognised techniques to expose cables and pipes.
4. The actual location and depth of cables and pipes can differ from what's on Vector's maps because other earthworks can change these.
5. Watch out for customer services coming off the mains.
6. Follow the WorkSafe's Guide for Safety with Underground Services [and](#) Excavation Safety Good Practice Guideline.
7. Recommended backfilling material must be used.
8. You will be advised if you need a Close Approach Consent or provided on-site advice.
9. You must obtain a Close Approach Consent for all excavations within five metres of a pole.

WORKING SAFELY NEAR OVERHEAD LINES

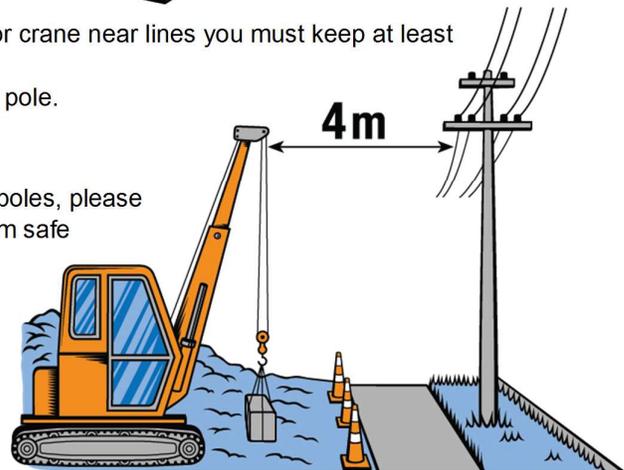
When working near overhead lines and power poles, keep a careful watch and make sure that you maintain a safe working distance from overhead lines at all times.



- 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 Consent which will take two working days to process.



REMOVAL OR DEMOLITION OF A BUILDING

For your own safety, you must have the gas service permanently disconnected from Vector's gas network in the street and have the meter removed before you demolish or remove a building.

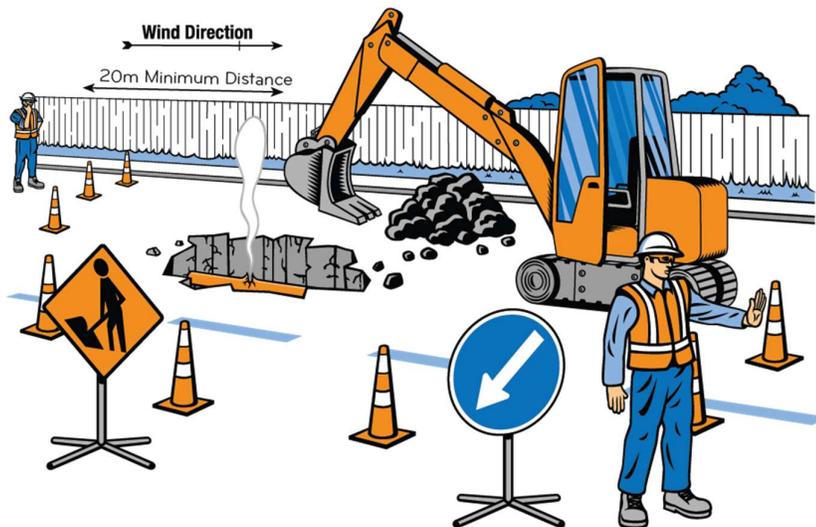
For gas disconnection requests please contact your gas retailer. If you don't know who the gas retailer is, please call us on 0800 VECTOR (0800 832 867) and allow 10 working days to process this request. Charges may apply for this service.



WHAT TO DO IN AN EMERGENCY

If you hit a gas pipeline, or smell or hear gas escaping:

- Switch off all machinery and remove all sources of ignition, including mobile phones and cameras.
- Move at least 20 metres away.
- Call the fire service on 111 then call us 0800 764 764.
- Do not smoke.
- Evacuate the immediate area.
- Leave the damaged pipe to vent, keeping it open and free from any materials or equipment.
- Turn off all vehicles and leave them where they are.
- Leave any ignited gas fires to burn, do not try extinguishing ignited gas fires.
- Move away if you are near fumes; do not inhale fumes.
- Do not cover the damaged pipe with any material, including digger buckets.
- Do not try squeezing off the gas pipe.



REPORT ALL DAMAGE TO PIPELINES

In the event of any damage to pipelines, even if this appears minor, it is essential that you notify us immediately on 0800 764 764. Any damage to the coating or denting of the pipe can seriously impact the integrity or lifespan of the pipeline.

You should never try repairing the pipeline yourself, as these can only be made under our supervision or by a Vector representative.

Help us keep gas pipelines safe by reporting any pipeline exposure, damage or signs of defects that could put pipelines at risk.

OUR GAS NETWORK COVERAGE



QUICK REFERENCE NUMBERS

- Reference maps 0508 248 967 or visit www.beforeudig.co.nz
- Close Approach Consent and safety advice 0508 248 967
- Emergencies call 111 then call Vector on 0800 764 764
- Disconnections 0800 447 447

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