



Network Connection Standards

History of Changes

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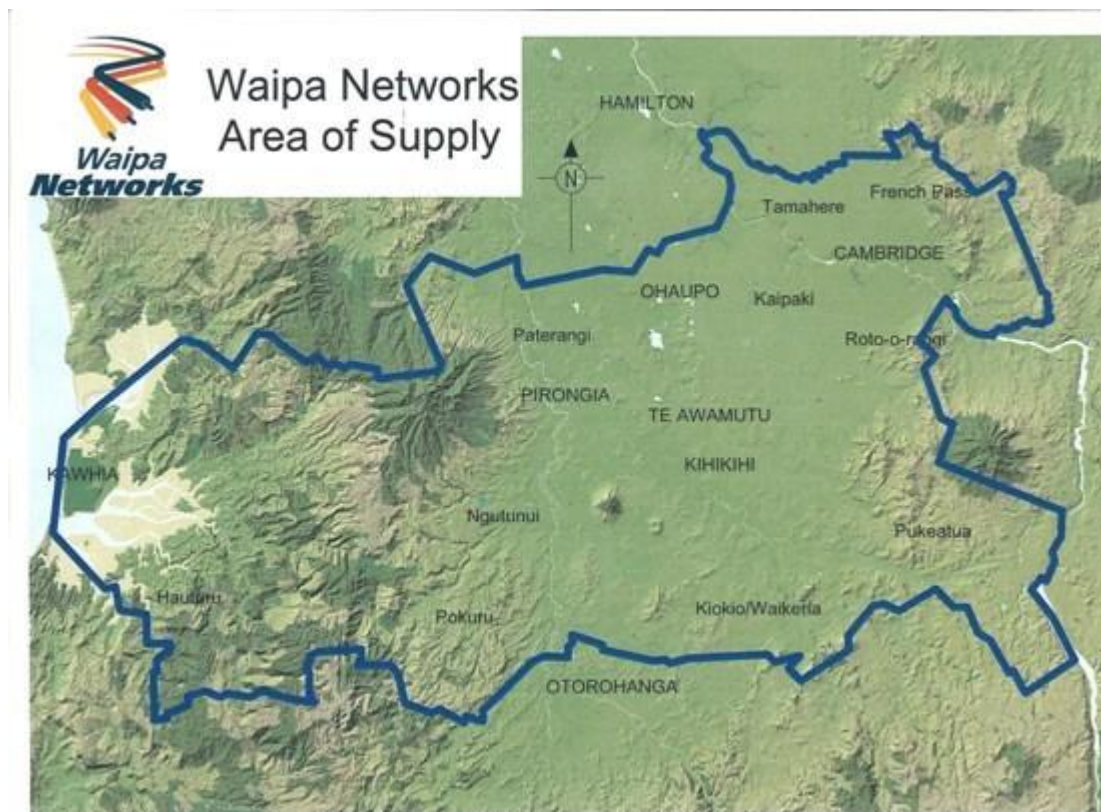
1. INTRODUCTION

1.1 Disclaimer

This document is subject to change and can be updated without notice. For the latest version of the document please visit our website www.waipanetworks.co.nz.

1.2 Introduction and Purpose of This Document

Waipa Networks is an electricity lines company that delivers electricity to customers in the Waipa and Kawhia areas, as indicated in this map:



Our activities include:

- Ownership and operation of the electricity network that delivers power to customers in the area shown in the map.
- Electrical contracting services such as service mains, new subdivisions, and inspections.
- Tree maintenance services, both general arbor work and specialist maintenance near power lines.

The purpose of this document is to cover aspects relating to the ownership and operation of the electricity *Network* and the delivery of electricity to our customers. It does not cover any contracting work carried out by Waipa Networks.

1.3 Scope of This Document

This document sets out the standards associated with a connection to our *Network*. Connection to our *Network* implies acceptance of, and compliance with, the standards in this document. This document should be considered in conjunction with any applicable law, rule or regulation. It should also be considered alongside any Retailer supply agreement. Where there is an apparent conflict in standards or terms you should contact Waipa Networks for clarification.

1.4 Definitions

The following are some common terms used in this document and what they mean.

<i>Capital Contribution</i>	<i>A an amount of money determined by Waipa Networks that is payable by an external party to facilitate work such as supply to a new subdivision, or upgrade of capacity for an existing connection.</i>
<i>EGCC</i>	<i>Electricity & Gas Complaints Commission.</i>
<i>Electricity Retailer</i>	<i>A Company that sells electricity to customers. Electricity is delivered to customers on behalf of electricity retailers by Waipa Networks through the Network.</i>
<i>Emergency</i>	<i>Any event the poses an immediate or imminent threat to the safety of persons or property, or which may significantly interrupt or adversely affect the operation of the Network.</i>
<i>Faults Service</i>	<i>The customer help line provided by Waipa Networks for the purpose of reporting Network faults and emergencies. The phone number is published on our website and in the local telephone directories.</i>
<i>ICP</i>	<i>The point at which the electrical supply is deemed individual to supply an individual customer account. For most customers this will be the point where their service main connects to the power pole or pillar in the road reserve.</i>
<i>Land Code</i>	<i>The document covering land access, as published by the Electricity & Gas Complaints Commission.</i>
<i>Network</i>	<i>The equipment Waipa Networks uses to deliver electricity in the Waipa area. This includes overhead and underground power lines (except service mains), transformers, service fuses, and other miscellaneous equipment.</i>
<i>Network Connection Point</i>	<i>The point at which a customer connects to the Network.</i>
<i>Service Main</i>	<i>This consists of an overhead or underground power line, usually sited on private property, which connects to the Network. The Electricity Commission publishes information regarding ownership and maintenance of customer service mains. Please refer to their website.</i>
<i>Supply Agreement</i>	<i>The agreement between a customer and an electricity retailer for the supply of electricity to an ICP.</i>

2. YOUR CONNECTION

2.1 Your Electricity Retailer

Waipa Networks does not sell electricity direct to customers. Instead, we deliver electricity on behalf of *electricity retailers*. Your retailer is responsible for connecting your supply to the *Network* and billing you for the power you use. You must not be connected to the *Network* unless you have registered for supply with an *electricity retailer*. A current list of *electricity retailers* supplying customers on our *Network* can be found on our website.

2.2 Access To Your Property

You must provide Waipa Networks reasonable access to inspect, maintain, upgrade, or repair any of our equipment located on your property. Waipa Networks will advise you of our intention to enter your property in accordance with the requirements of the EGCC Land Code or equivalent document. Waipa Networks is not required to advise you of our intention to enter your property in the event of an *emergency*.

2.3 Looking After Your Equipment

You must keep the electrical equipment on your property sufficiently maintained to prevent risk to persons, property, or the operation of the *Network*. This includes keeping your service main free from damage by trees, tree roots, or other external interference.

Electrical supply can be prone to interruptions and voltage fluctuations. You should ensure that all your sensitive electronic equipment such as computers, audio visual devices, dishwashers, security systems, and garage door openers are protected by surge protection devices. You should also ensure that any 3-phase motors are protected should a phase be lost. Your electrician will be able to advise you on how to protect the equipment on your property.

Flickering power (usually indicated by flickering lights) can be a sign that your supply is about to be lost, and can cause damage to sensitive electronic equipment. If you notice your lights flickering immediately turn off any sensitive appliances at the wall and phone our *faults service*.

Insurance

Surge protectors prevent exposure of your appliances to most surges you are likely to encounter. Unfortunately extremely high voltage or current can sometimes be brought into contact with the low voltage lines as result of an accident or the occasional lightning strike. In these cases the voltage is usually too high for surge protectors to work effectively so it is important to make sure your property is insured for this type of damage. Please contact your insurance company to confirm the electrical damage coverage your policy offers.

2.4 Looking After Our Equipment

You must ensure any equipment owned by Waipa Networks at your property is free from external interference.

2.5 Trees

All power distribution networks are governed by the Electricity (Hazard from Trees) Regulations 2003 with respect to trees. To view these regulations visit www.legislation.govt.nz. A summary brochure explaining both yours and Waipa Networks rights and responsibilities under the act is available from us on request.

Trees growing close to power lines present a real danger to public safety. They also cause a significant number of power cuts and voltage problems. If a tree makes contact with a power line, a current can flow through the tree to the earth. This current can electrocute anyone near or touching

the tree. People at highest risk are anyone maintaining the tree, and children playing around or in the tree.

You must ensure trees on your property are kept clear from power lines both on your property and in the road reserve. Do not attempt to clear any foliage near power lines without consulting with Waipa Networks first.

If you have any concerns about a tree on your property or on the road reserve please call our Waipa Networks.

2.6 Power Factor

You must ensure the power factor at your ICP is not less than 0.95 lagging. Your electrician will be able to test and offer advice regarding your power factor. Waipa Networks reserves the right to apply penalty lines charges to any ICP that does not comply, or in some cases, instigate disconnection proceedings.

2.7 Electrical Compliance

Connections

All electrical installations must be inspected and certified by a qualified inspector who is registered with the Electrical Workers Registration Board (EWRB). Refer to AS/NZS 3000:2007 for details on wiring standards. Once inspected, an installation will have an Electrical Certificate of Compliance. Waipa Networks has its own inspectors that can be of assistance to you.

Properties that have been disconnected for more than 6 months

If a property has been disconnected from the *Network* for more than 6 months then a full inspection of the installation is required. Refer to NZS 3019 for full details of this process.

Disconnection for safety

Waipa Networks reserves the right to disconnect any ICP or property if it is electrically unsafe. This can be through the building not complying with relevant standards, or alterations to the existing installation that create an unsafe environment. An example of this would be the incorrect installation of a backup generator to a house or shed. Waipa Networks takes safety seriously and if a situation is found that can cause harm to persons or significant damage to property then we will disconnect the property until such time as the problem has been remedied.

2.8 Safety

Electricity is dangerous. For this reason care must be taken around power lines, especially if a line is damaged, or in a state that is abnormal. There should be no attempt to isolate a line, climb an electrical structure, or alter a power line configuration without Waipa Networks knowledge and permission. When around power lines, care should be taken so that no objects make contact with the power line. Items such as sport balls, sticks, and kite are items that are at high risk of causing damage to the line, and potentially cause power to go to earth endangering anyone in the close proximity.

If you should notice that a line is faulty, hanging low, or on the ground then leave the line and the area around it clear. Broken power lines are in many cases still live. Call our *faults service* and we will be able to assist.

2.9 Cable Locations & Safety Disconnections

Cable Locations

If you intend to carry out any digging or other earthworks at your property or in the road reserve it is important to make sure you know the location on any underground services. Waipa Networks provides a cable location service where one of our field service team will attend the site and mark out the approximate location of underground cables.

Safety Disconnections

If you need to carry out maintenance (such as painting, tree trimming) near your *service main* it is important that you have the power temporarily disconnected to prevent the risk of electrical damage to persons or property. Waipa Networks can carry out the disconnection and reconnect the property when you have finished the work.

Please contact our office for more information on either of these services.

2.10 Permanent Disconnections

If you know longer require an electrical supply to your property please phone your *electricity retailer* in this first instance to advise them. They will organise any of their equipment to be removed and your service line cut away from our pole or pillar. If the power has already been disconnected for quite some time and you are unsure of whom the *electricity retailer* is then contact us for further assistance.

2.11 Customer Complaints

The Electricity & Gas Complaints Commission Scheme was set up to deal with customer complaints regarding electricity retail and lines companies. The service is free to consumers as it is funded by member companies, however the investigating and decision-making processes are entirely independent. Waipa Networks is a member of the scheme along with all the major electricity retailers operating in our area.

If you have a complaint about any aspect of your electrical supply then it is important you first contact your electricity retailer. They will decide if the complaint is able to be handled by them or if it needs to be referred to us. Thankfully Waipa Networks does not receive many complaints, but when we do we promise to do our best to:

- Keep you informed of the progress of your complaint.
- Have a solution offered to you within 5 working days.
- Have the issue completely resolved within 20 working days, or up to 40 working days with your consent.

If we fail to meet these obligations, or if you are not happy with the solution we offer, then you may be able to have the complaint dealt with by the Commission. Their contact details are:

*Electricity & Gas Complaints Commission
PO Box 6144
Wellington*

Ph 0800 22 33 40

Complaints relating to Gas companies, and to land access issues in relation to lines companies, are also under the jurisdiction of the Complaints Commission. For more information visit them at www.egcomplaints.co.nz .

3. New Connections & Upgrades

3.1 Introduction

If you need a new connection or upgrade to an existing connection it is important to contact us at the planning stage. Where a connection point (such as a distribution pillar) and sufficient capacity exist then approval will normally take up to 10 working days. If however a *Network* extension, upgrade, or reconfiguration is required the time it takes to approve the connection will vary considerably.

3.2 New Connections

If you want a new connection to our *Network* (eg to supply a new house, cowshed, etc) the process is as follows:

- 1) Complete an Application For Network Connection (refer to our website or contact our office) and return it to us.
- 2) We will assess the application and determine if a *Network* extension or upgrade is required. If this is the case, a *capital contribution* is usually required as a condition of approval. We will advise you if this is required.
- 3) Once approved, we will forward the Application For Network Connection to your nominated *electricity retailer*. For a current list of *electricity retailers* operating in our area refer to our website.
- 4) The *electricity retailer* will register the connection details in their system and organise for meters to be hung, inspected, and the connection livened.

Notes:

- A new connection cannot be livened unless approval has been given by both Waipa Networks and an *electricity retailer*.
- Each new connection should have an individual service line and connection point to the *Network*. Special approval may be given for new connections with a shared service line dependant on the individual circumstances. Contact our office for further details.

3.3 Upgrades to Existing Connections

If you intend to significantly increase the load for an existing connection you must complete an Application for Network Connection. Waipa Networks will then assess the new load to determine if any reconfiguration or increase in *Network* capacity is required to facilitate the upgrade. A *capital contribution* may be required in some circumstances.

3.4 Capital Contributions

New Connections

District Councils in our reticulation area have requirements as per their district plans and resource consent process, that subdividing owner(s) or developer(s) must provide a power *network connection point* to the boundary or frontage of every lot.

An underground fuse pillar is normally situated on the common boundary of 2 Lots and this provides the *network connection point* for both Lots or alternatively a *network connection point* can be from an existing pole on the road frontage of a Lot.

Capital contributions are the full costs incurred in establishing a *network connection point* to the boundary of any Lot.

Any new works that are within a public road reserve or cross through 1 or more Lots to supply other Lots will be vested to Waipa Networks. They will become part of the *Network* and be maintained by Waipa Networks.

A *capital contribution* quotation is provided to the developer after receiving a registered surveyor's subdivisional scheme plan which shows the total number of lots being created, their dimensions, and any proposed new roads.

This *capital contribution* amount is required to be paid in full and in advance before any works associated with the reticulation to the boundaries of each subdivisional Lot is commenced.

Any easements and associated costs are the responsibility of the developer.

The design of reticulation must comply with the Waipa Networks Design Manual (available to view upon request).

Upgrades to Existing Connections

A *capital contribution* may be required if your electricity supply requirements mean Waipa Networks is required to upgrade its equipment (for example, increase transformer capacity or a higher rated cable). This will be assessed on a case-by-case basis, and can depend on factors such as the number of customers supplied by that equipment, and any scheduled works/upgrades Waipa Networks already has planned. Should you require an upgrade please contact Waipa Networks to discuss this.

Allocation of Capital Contributions / Refunds

When more than one customer wishes to connect at the same time then the *capital contribution* is shared equally among them.

Once a *capital contribution* has been paid by a customer(s) any additional customers that wish to connect off that same line must pay a proportion of the cost of the line (less amortisation) to Waipa Networks who will refund this amount to the original customer(s). Lines are amortised over a 10 year period.

This procedure is illustrated by the following example:

- Customer A requires a \$25000 *Network* extension to supply their installation and being the only customer to be supplied by that line at the time he/she must pay the full amount.
- A year later Customer B wishes to connect off that line. The line after one year is now worth \$22500 (\$25000 less \$2500 or 1 year's amortisation). The cost of the line will now be split equally between two customers and we will charge Customer B \$11250 to connect and refund this amount to Customer A.
- Another year later Customer C and Customer D wish to connect. The line is now 2 years old and worth \$20000. As there are now 4 customers using the line they are responsible for \$5000 each. We would charge Customer C and Customer D \$10000 (\$5000 each) and refund half to Customer A and half to Customer B.
- And so on until 10 years has passed (and the line has been fully amortised) and any customers connecting after that will not be required to pay a contribution nor will there be any refunds.

If a property is entitled to a *capital contribution* refund and that property has since been sold and has a new registered owner, then the payment will be made to that new registered owner.

Waipa Networks will make all reasonable attempts to contact the current owner of a property entitled to a *capital contribution* refund. If contact is unable to be made then that portion of the refund will be held by Waipa Networks until such time the owner makes contact with the Company. However, if the owner has still not claimed a held refund by the time the line has been fully amortised then the refund will be void and the funds reinvested in the *Network*.

3.5 Connection of Distributed Generation

Waipa Networks welcomes inquires regarding distributed generation. Please refer to our website for information regarding the connection process.

3.6 Easements

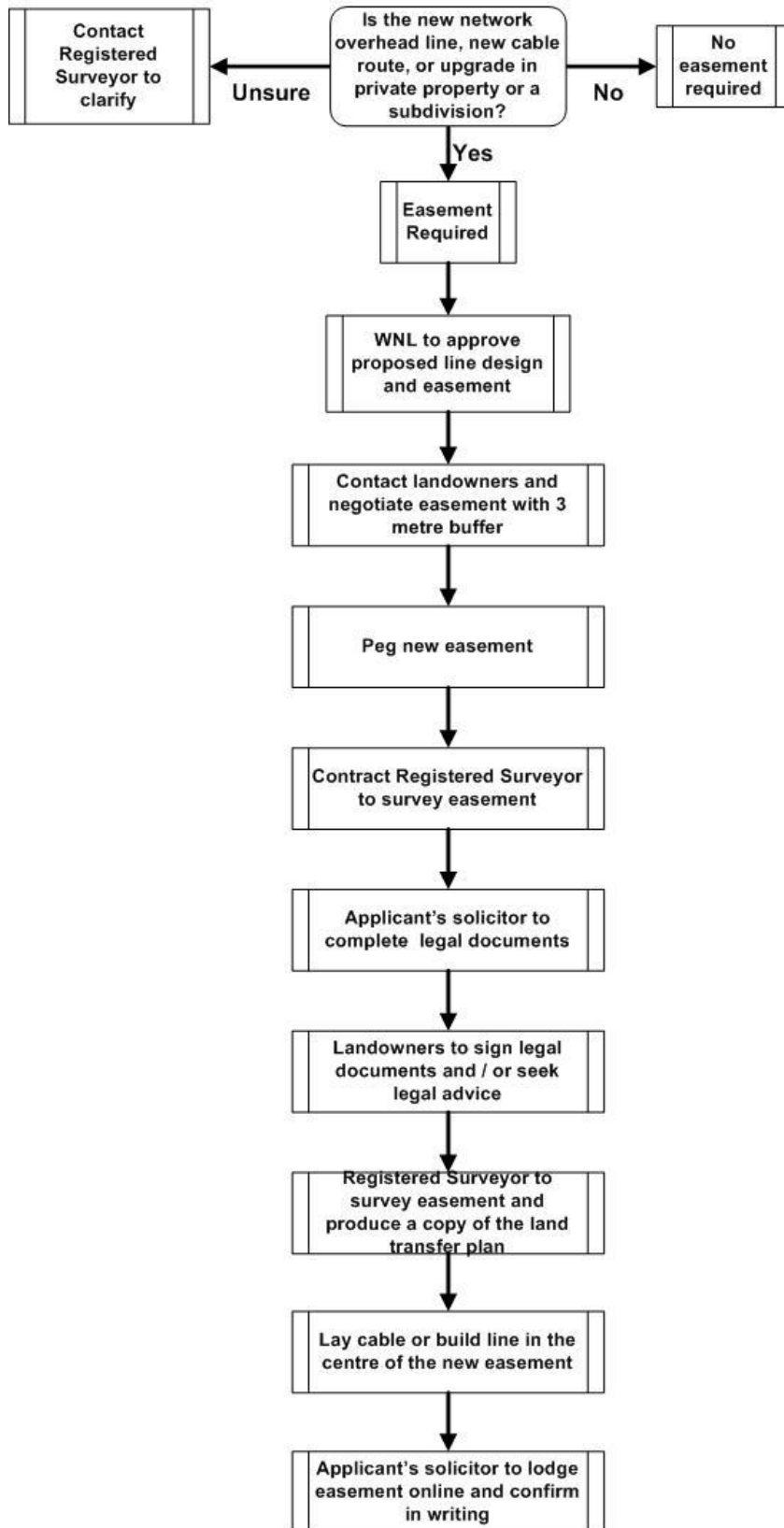
Easements are required for all *Network* equipment located in or on private property installed after 1 January 1993. *Network* equipment that was installed prior to 1 January 1993 is considered 'existing works' and therefore no easement is required. Please refer to the Electricity Act 1992 for clarification on existing works and access.

Easements are not required for underground or overhead mains that are totally contained within a road reserve or land that will become a road reserve upon deposit of a Plan of Division.

The easement process is shown in the Figure 1 below. The general rules are:

- When an applicant is lodging a survey plan in conjunction with a development, the applicant will fund and be responsible for creating an easement in gross favour of Waipa Networks.
- The applicant must liaise with Waipa Networks to ensure that the proposed design and the preferred easement meet Waipa Networks' requirements.
- Unless otherwise agreed, all easements are to be surveyed by a registered surveyor and pegs placed in position before the work commences. The pegs must delineate the easement and the boundaries of blocks before, during and after the electricity distribution assets are installed.
- All easements must be surveyed and lodged with Waipa Networks' drawing office and a copy of the land transfer plan showing easements in place.

Figure 1: Contractor's Responsibilities



3.7 Network Design

General

Waipa Networks maintains and fault finds on its own *Network*. To do this effectively we reserve the right to only have lines and installation designed to our standards. All designs are to be vetted by the Waipa Networks planning office before work commences. An As-Built drawing is required for any subdivision before it will be connected to the *Network*. Waipa Networks has produced a design manual that holds all relevant information that is available to all inducted contractors.

Subdivisions

Subdivisions must comply with the Waipa Networks design manual. Waipa Networks has its own planning office and contracting division. Quotes can be obtained from our experienced planning staff. Should you wish to use a contractor other than Waipa Networks to carry out reticulation in your subdivision you must ensure the contractor has been inducted onto our *Network*. All qualified contractors will have proof of this induction however if you are unsure please contact us for clarification.

Network Extension and Maintenance

Waipa Networks is continually exploring options to increase its reliability and the quality of power to our customers. For this reason we are constantly looking for areas that may produce a restriction to the conveying of quality power. Once identified, these areas are studied and plans are drawn up to strengthen, lengthen or rebuild the line to remove all foreseeable restraints. This is an accepted part of the management of our *Network* and all projects are clearly outlined in our Asset Management Plan that can be found on our website. This work is carried out by Waipa Networks staff.

4. Interruptions

4.1 Planned Interruptions

Waipa Networks may need to turn the power off to your property on occasion to carry out testing, maintenance, upgrades, or other work involving our *Network* operations. We will notify you of a planned interruption by the following means:

- 1) A notification provided to your electricity retailer, who will in turn notify you under the terms of your *supply agreement*,
- 2) If you have signed up to our e-mail notification system, an e-mail will be sent to you (refer to our website for details on this service),
- 3) If there are special circumstances (such as urgent maintenance) we may give you a written notice delivered to your property.

The shutdown notification will advise you of the reason for the shutdown, the time and date, and an alternative time of date (should the work be unable to be completed on the planned date).

Shutdowns cause inconvenience for customers and where possible we will try and schedule them in a manner as to keep this inconvenience to a minimum. However, it is difficult to accommodate all customers and so shutdowns will only be rescheduled in special circumstances. If you receive a shutdown notification and believe you have sufficient reason for it to be rescheduled please contact us straight away.

4.2 Unplanned Interruptions

Sometimes the supply to your property will be interrupted due to circumstances outside of our control. These include, but are not limited to, the following:

- Adverse weather
- Motor Vehicle Accidents
- Animals
- Trees
- Equipment failure
- Other external interference

If the power to your property goes off unexpectedly then please call our *faults service*. This service will advise you if there are any reported faults currently on our *Network* and also gives you the opportunity to report a fault.

In the event of an unplanned interruption our staff will make all reasonable attempts to have the power back on to your property as soon as possible. During a major storm this may take longer than usual, and we recommend you call our *faults service* periodically for updates.

In the event of an unplanned interruption:

- Turn off any sensitive appliances at the wall.
- Make sure you have a cellphone or non-powered landline phone handy.
- Call our faults service for information or to log a fault.
- Leave a light on so you know when the power has come back on.
- If your neighbour's power comes back on and yours doesn't then call our *faults service*.

4.3 Faults Service

Waipa Networks operates a *faults service*. The *faults service* typically covers the following types of problems:

- Full or partial loss of power supply.
- Flickering power.
- Failure of ripple control devices (commonly affecting the hot water supply).
- Trees touching or threatening power lines.
- Other external event affecting power lines.
- Any other safety issue affecting power lines.

Our *faults service* numbers are published in the local telephone directories and are available on our website.

Note - if we attend a fault at your property and the cause is found to be internal to your property there will in most cases be a charge for the service.

5 Tariffs

5.1 Introduction

Customers are supplied by Waipa Networks via their *electricity retailer*. Waipa Networks does not charge customers direct for lines charges, but instead charges the retailer who in turn incorporates those charges in their charges to the customer. The tariffs (below) and prices (available on our website) should reflect the lines charges portion of your power bill however the actual charges will vary from retailer to retailer.

5.2 Tariffs

Fixed Tariffs

All customer installations are classified with one of the following Price Code Categories:

Code	Description / Requirement
D	Domestic - an installation that consists solely of a single residential dwelling and/or a water pump solely supplying a single residential dwelling.
L	400V Capacity Contract. Time of use metering must be installed.
HS	11kV Capacity Contract – standard. 11kV time of use metering must be installed.
HE	11kV Capacity Contract – excess demand. 11kV time of use metering must be installed.
U	Unmetered fixed charge. Only available where demand is constant and can not exceed 3000kW per annum.
EX	Exempt from fixed charges. This applies to a small number of community supplies where Waipa Networks and an electricity retailer have agreed to waive charges as part of a sponsorship arrangement.
NS	Non standard contract applies (some large industrial customers).
N	Non-Domestic – this code applies to all installations that do not meet any of the other criteria listed above.

The Price Category Code assigned to an installation will determine the fixed tariff applied. Please refer to the Pricing Schedule for a list of charges applicable to each tariff.

Variable Tariffs

The variable tariff types applied to an installation are determined by the customer and *electricity retailer*, but must comply with the requirements listed below. (Note (D) = Domestic, (N) = Non-Domestic.)

Tariff Type	Code	Applicable Definition / Rule
Combined	WA01 (D)	Power is available 24 hours a day. A relay is also installed, which controls the hot water cylinder. 1 meter in installed, or 1 meter per phase for 2 phase supplies.
Uncontrolled	WA02 (D) WA22 (N)	Power is available 24 hours a day.
Controlled	WA03 (D) WA23 (N)	A relay is installed, which allows Waipa Networks to turn power off to the meter for load control purposes. Appliances connected to this meter (such as hot water cylinder, heating, spa pools, etc) must be hardwired.
Controlled 8	WA05 (D) WA25 (N)	A relay is installed, which only provides supply to the meter from 11pm to 7am. Appliances connected to this meter must be hardwired.
Day / Night	WA06 / WA07 (D)	The Day/Night tariffs are only available coupled together and are administered by a 2-rate meter.

	WA26 / WA27 (N)	
Streetlights	WA32	This tariff is available for installations exclusively supplying streetlighting.

Notes:

The Combined, Uncontrolled, and Day/Night tariffs are mutually exclusive. An installation cannot have a combination of 2 or more of these tariffs.

The Combined tariff is closed to all new connections. Customers with existing connections cannot change to the Combined tariff from another tariff.

Please refer to the Pricing Schedule for a list of charges applicable to each tariff.

6 General

6.1 High / Oversize Loads

A High Load Application is required to be completed for all loads that will exceed 4.25m in overall height. Some loads will require an escort and may require power to be disconnected to customers. You should submit an application a minimum of 14 days prior to the planned moving date to allow sufficient time to assess the requirements of the application. Once the application has been processed a permit will be issued along with any specific conditions. Application forms are available upon request from our office.