



# **AEL.NP.001 New Connections and Extensions Policy**

10 February 2014

Version 3

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## Introduction

This policy document outlines the commercial terms Alpine Energy Limited (AEL or Alpine) applies for extensions to its network, for new connections in areas with existing supply, and for alterations to existing connections. Alpine Energy has introduced these commercial terms to apply from 22 July 2010.

Alpine Energy's network is continuing to grow with demand for new connections and increased loads at existing connections. To be fair and reasonable to the established consumers, Alpine Energy believes it is important that future network connections and extensions should pay a contribution towards the cost of the connection or extension. This document outlines the economic considerations Alpine Energy has incorporated when establishing these commercial terms along with the appropriate technical requirements.

Alpine Energy's economic aim is to apply efficient pricing policies which reflect the economic costs of providing our delivery service. With this approach, consumers (particularly prospective consumers) make efficient decisions about which form of energy to use, and where to locate new load.

Ideally, each new connection would pay for any necessary extension and reinforcement through its future delivery charges. However, a number of factors prevent this balance from occurring:

- Price averaging must be applied over large groups of connections, because it is not practical to single out individual connections for cost-specific delivery pricing;
- The life and future utilisation of new connections are not known, so the present value of future delivery charges cannot be calculated with certainty;
- The assets involved have very long lives and it is not viable to lock consumers into a contract over a matching period;
- Network enhancement is incremental - it is often more efficient to add large amounts of capacity at a time;
- Dedicated assets often become shared assets as the network expands. Existing consumers should share in the benefit of greater utilisation of shared assets (and other enhanced economies of scale);
- Some spare capacity must be available before it is required to ensure that developments are not unduly delayed.

Responsibilities	
Approval	Chief Executive Officer
Reviewer	
Revision	January 2016

New Connections and Extensions Policy

This policy document is for use within all Alpine's area of operations.

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This document is for the sole use of Alpine Energy Limited. Any other use is unauthorised.

## Amendment Record

Issue No.	Amendment Details	Date of Amendment	Amended by
1	Initial Document	22 July 2010	Andrew Tombs
2	Amendments to policy	3 November 2011	Daniel Roos
3	All pages amended	10 February 2014	S Small (on behalf)
4	Amendments and additions	10/04/2014	T Pieromaldi

The above table lists the amendments made to this policy that have been distributed since the policy was first issued.

Amendments are updated with an issue number and date in the footer of every page.

# 1. Technical Requirements for New Connections to the Network

## 1.1 Method of connection

Our preference is for all customer extensions on private property to be underground, however they will be assessed on an individual basis.

Transformers and associated equipment up to 200 kVA may be pole mounted with transformers rated above 200 kVA, ground mounted.

The last span on to all new connections is required to be installed underground.

The installation of all equipment must comply with all appropriate industry and safety regulations.

## 1.2 Minimum cable size

In order to provide thermal resilience to faults in property installations the minimum 11 kV cable size permitted to be connected to our network is cable with a minimum of 25mm<sup>2</sup> cross sectional area, MDXLPE copper wire screen.

The minimum 400 V cable that can be connected to Alpine Energy's network is 16mm<sup>2</sup> copper or equivalent and must be neutral screen.

## 1.3 Motor starting

In order to avoid interference to other customers during motor starting we may specify a maximum motor starting current which cannot be exceeded under any circumstances.

(a) Where a motor is supplied from a transformer which supplies only the motor and associated equipment the following limits will apply:

Motor output (kW)	Type of Starter	Specified Current Limit
Up to 10	Direct on Line (DOL)	Not applicable
Above 10	Dependent on Motor Size and Location	Will be determined by us

The requirement for a specified current limit depends on the installation's location within our network. Motor details must be provided to us for all motors with full rated output greater than 10 kW. Under certain circumstances the specified current limit may allow "Direct on Line" starting

(b) Where a three phase motor larger than 4 kW or a single phase motor larger than 1.5 kW is supplied by a transformer which also supplies other customers, a current limit may be specified. Motor details must be provided to us.

## **1.4 Motors other than induction motors**

Refer to us for individual determination.

## **1.5 Interference to other customers**

Regardless of the guidelines given above, where an installation causes interference to other customers or our Network (e.g. ripple signal), we retain the right to require additional limits and/or compliance on any installation at any time.

## **1.6 Harmonics**

In addition to requirements in this policy refer to our webpage for specifications on harmonic limits and maximum allowable pollution, as well as the provisions of NZECP36 (Electricity Codes of Practice).

## **1.7 Power factor**

All connections will maintain a power factor of between 0.97 lagging and 0.95 leading at all times. For the purposes of this policy, power factor is defined as true power factor kW/kVA not displacement power factor  $\cos\phi$ . Refer to the our webpage for specifications on power factor correction requirements.

## **1.8 Load control**

Irrigation and hot water loads are to be fitted with ripple control relays. All loads over 10 kW and any controlled loads are notifiable.

## 2. Commercial Terms for New Connections and Network Extensions

Standard terms apply for broad categories of extensions and new connections. More specific consideration applies for other or larger connections which do not fit within these categories. We reserve the right to alter the terms for any particular extension or new connection proposal where we consider or agree that economic factors warrant an alternative approach. Alterations may result in terms that are either more or less favourable than the standard terms.

We will endeavour to provide new connections and enhanced capacity wherever it is economically viable, and this network extension policy sets out to establish this economic viability. However, there may be situations where it is imprudent, environmentally unsound or physically impracticable to provide supply or enhanced capacity, and we reserve the right to refuse to provide new connections or enhanced capacity in these situations.

Please note that we consider all newly established Installation Control Points (ICP's) (the industry's unique numbering system for all electrical connections) as new connections, even where the new ICP replaces a previously decommissioned ICP.

### 2.1 Ownership

All network extensions and connection equipment located on public land and all substations and other equipment on private property paid for by us remain the property of, and is maintained by, Alpine Energy irrespective of any contribution made by a customer.

This policy sets out the basis on which we will contribute toward network extensions and upgrades. Please refer to Schedule A.

We do not contribute to assets (electrical or otherwise) downstream of the network connection point.

### 2.2 Low voltage connections up to 15 kW

This policy category covers the majority of new connections, which are individual connections within our existing urban reticulation areas (including rural townships). The policy provides a straight-forward process under which we are responsible for providing the new connection and the customer makes a capital contribution toward the cost of those assets.

Applies to: New connections within rural, urban residential, commercial or industrial areas (as designated by the relevant council authority), and with a supply capacity of up to 15 kW except unmetered and/or public utility connections (such as street lights or traffic lights).

Our rebate: We will design and arrange pricing for all low voltage extensions from the customer's boundary to our network and will carry out any upstream network reinforcement necessary to accommodate the new connection. We will supply and install



the service protective fitting and connect (terminate) the customer's electrical installation. In addition we will provide a rebate. Please refer to schedule A for details.

Customer's contribution: The customer must provide a capital contribution to us to meet the cost of assets that we provide or already have in place. Customers are also responsible for their own electrical installation, including the provision and installation of the cable to the network connection point.

### **2.3 Low voltage connections up to a 3 x 60 ampere supply**

This policy category covers any new connections, which are individual connections within our existing rural, urban residential, commercial and industrial areas. The policy provides a straight-forward process under which we are responsible for providing the new connection and the customer makes a capital contribution toward the cost of those assets.

Applies to: New connections within rural urban residential, commercial or industrial areas (as designated by the relevant council authority), and with a supply capacity up to a 3 x 60 ampere supply.

Our rebate: We will design and arrange pricing for all low voltage extensions from the customer's boundary to our network and will carry out any upstream network reinforcement necessary to accommodate the new connection. We will supply and install the service protective fitting and connect (terminate) the customer's electrical installation. In addition we will provide a rebate. Please refer to schedule A for details.

Customer's contribution: The customer must provide a capital contribution to us to meet the cost of assets that we provide or already have in place. Customers are also responsible for their own electrical installation, including the provision and installation of the cable to the network connection point.

The default fuse size available on our network is 3 x 60 ampere. Low Voltage connections of 3 x 32 ampere supply are only available to domestic customers and only in extraordinary circumstances. Applications must be addressed to the Network Manager and will be assessed on a case by case basis.

For details of land requirements refer to section 3.5 below.

### **2.4 Connected supply greater than 3 x 100 ampere**

This policy category covers any new connections, which are individual connections within our existing rural, urban residential, commercial and industrial areas. The policy provides a straight-forward process under which we are responsible for providing the new connection and the customer makes a capital contribution toward the cost of those assets.

Applies to: New connections that require a supply capacity of greater than 50 kVA.

Our rebate: We will –

- provide a substation of sufficient capacity either directly on the our network or on the customers property to supply the new connection and any existing connections supplied from the same point
- provide any high voltage switchgear (circuit breakers, drop-out fuses, RMUs) which is required on our side of the network connection point
- ensure that there is sufficient upstream capacity available for the new connection.

In addition we will provide a rebate. Please refer to schedule A for details

Customer's contribution: The customer must provide a capital contribution to us to meet the cost of assets that we provide or already have in place. Customers are also responsible for their own electrical installation, including the provision and installation of the cable to the network connection point.

In many cases new connections of this size may require a substation located on the customers property. In consultation with the customer/land owner we will establish the number of substations, location and land requirements that may be required. The number, size and type of any substations required will be at our discretion.

Please note that connections/loads drawing 500 ampere or more per phase will be assessed on a case by case basis.

Where a substation is located on private property all low voltage equipment installed and owned by the customer must be capable of operating at the prescribed fault levels. If supply is taken at 11 kV all customer switchgear and associated equipment must be approved by us.

## 2.5 Subdivisions

All new network work will be at actual cost. We will take ownership of the installation when complete and be responsible for future repairs and maintenance. This excludes any on-property installations. No rebates are applicable to subdivisions, multi-tenant buildings or apartments.

## 2.6 Land and easements

Network extensions often require new land or easements. Unless specifically stated otherwise, we require the customer or developer to provide or obtain any necessary land or easements. The negotiation and costs associated with these easements will be borne by parties other than Alpine Energy. ***More comprehensive information regarding easements is available upon request***

## 2.7 Livening new connections

To facilitate compliance with safety requirements and regulatory and market reporting requirements, us and/or our designated approved contractor(s) are the sole providers of the livening service, the final step in providing a new connection. An establishment / administration fee of \$300-00 applies for the creation of every new ICP.

## **2.8 Re-established connections and new connections to dwellings that have been relocated**

We treat all connections, including re-established connections and connections to relocated dwellings, as a new connection. All requests for new connections must be made using our “Network Connection form”. It is the applicants’ responsibility to present the cable to the network connection point.

2.7.1 All installations, where an approved certificate of compliance (CoC) has been provided and signed off by a practicing electrical inspector, will be eligible for connection to our network.

2.7.2 All work to establish or re-establish a connection to our network must comply with prevailing current industry rules. Where there is conflict between the current rules for the connection and old rules for the installation a new MEN point shall be established at the applicant’s expense.

2.7.3 On receipt of a CoC from a licensed electrical inspector our livening agent can refuse to complete the livening process on the grounds of the installation being unsafe. If this arises then the livening agent and certifying electrical inspector must meet immediately to resolve any differences. Where differences cannot be resolved both parties should seek the advice of the body governing the electrical industry i.e. Energy Safety Services.

2.7.4 Underground vs. overhead – the local council district plan requirements will prevail.

## **2.9 Temporary connections**

We treat all connections, including temporary connections, as a new connection. All requests for new connections must be made using our “Network Connection form”. It is the applicants’ responsibility to present the cable to the network connection point.

## **2.10 Changes to existing network or network connections**

All new connections are based on fuse capacity supply selected by the customer or nominated representative as specified on the New Connections application form.

### No increase in capacity

We will accommodate changes to the route or configuration of our existing network (to supply substantially the same load) where the person requiring the changes pays for the entire cost, minus a rebate in lieu of maintenance, of the alterations and any necessary easements.

### Increase in capacity

We will individually consider contributions toward the costs of enhancing the capacity of an existing supply. Current Transformer (CT) metered sites will accrue a capital contribution of \$1,400.00 in respect of new metering equipment - Schedule B. All CT metering equipment remain our property and will be maintained by us.

### 3<sup>rd</sup> Phase Additions

All conductors for a 3<sup>rd</sup> phase addition, on existing poles, crossing private land shall be covered by an easement. The negotiation and costs associated with these easements will be borne by parties other than us. Metering costs will apply relevant to customer requirements.

## **2.11 Design variations**

Our contribution to network extensions is based on and limited to our standard design practices utilising the lowest cost construction methods and supply route consistent with industry best practice. We are willing to accommodate design enhancements or variations where the customer pays for the difference between the actual cost and the cost using our standard practice.

## **2.12 Other situations**

We will individually consider all new connection proposals that do not fit within one of the standard categories above. Our consideration will follow economic principles consistent with the framework for standard categories.

## **2.13 Approved contractors**

To reduce overhead costs, we will normally rely on pricing from one approved Contractor. However, we will issue network connection designs to other approved Contractors for pricing and present the prices to the customer for their approval should alternative pricing be desired by the Customer.

## **2.14 Credit rating, quotes, deposits, physical connection, and other fees**

### Credit Rating

We may, at its sole discretion perform credit worthiness checks of a customer before any work/quotes are prepared. Where necessary, we may request from the customer a deposit or other form of security deemed acceptable by us.

### Quotes

All quotes produced by us are valid for 30 days from the date of issue, i.e. the date of the letter sent to the customer.

### Deposits

All accepted quotes for work over \$3,000 exclusive of GST requires a deposit from the customer of no less than 50% of the quoted price. Larger deposits may be required by us as may deposits for work under \$3,000; these will be determined on an individual case by case basis.

Physical Connection

Physical connection will be made to our network only when we are satisfied all appropriate monies have been paid and requirements met. Full payment is a condition of the supply of electricity.

## 2.15 Reapportionment Charge

If a new customer uses assets to connect to our network that have previously been the subject of a capital contribution payment within the previous ten years, we believe it is only fair that there may be a reapportionment charge applicable.

This is where the original capital contributor is reimbursed as subsequent customers use these assets within the defined period. This charge will be on a pro-rata basis (connection capacity), based on historic cost and will be subject to 10% annual depreciation. If this charge is applicable it will be paid to us and we will reimburse the original connection presently being serviced by the asset(s).

Reapportionment is not applicable to cases of subdivisions, multi-tenanted buildings or apartments.

The reapportionment charge is calculated:

$$\frac{\textit{Historic cost}}{120} \times \frac{\textit{remaining life of assets}}{\textit{number of new users}}$$

### 3. Schedule A – Alpine Energy Rebates

#### a. Low Voltage connections up to 15 kW

<b>Required capacity</b> (kW rating)	<b>AEL Rebate</b> (per connection)
Single phase, up to 15kW	1 times annual fixed line charge code <b>015LCA</b>  E.g. 1 April 2014 = \$319.40

#### b. Low Voltage connections up to 3 x 60 ampere (aka 3 x 63) supply

<b>Required capacity</b> (Ampere rating)	<b>AEL Rebate</b> (per connection)
Three phase by 60amp	1 times annual fixed line charge code <b>360LCA</b>  E.g. 1 April 2014 = \$1,187.23

#### c. Connected supply greater than 3 x 100 ampere

<b>Required capacity</b> (Fuse kW rating)	<b>AEL Rebate</b> (per connection)
All Capacities	1 times ((KW rating times (sum of annual fixed Distribution and Transmission <b>demand charges</b> plus the annual fixed <b>line charge</b> code <b>ASSLCA</b> ); E.g. 1 April 2014; 55 kW load  $= 1 \times ((55 \times (\$11.71 + \$44.30)) + \$107.85) =$ $\$3,188.40$  <b>OR</b> by individual determination as approved by Alpine

#### d. Connections of any voltage drawing currents of 500 ampere per phase or more

By individual determination as approved by Alpine Energy

#### e. GST

GST is payable on values stated above.

## 4. Schedule B- Alpine Energy CT Metering Costs

3x certified CT's @\$150.72	\$452.16
Test block	\$110.00
HRC fuse links	\$14.70
HRC carriers	\$50.46
CT meter	\$247.00
AEL Labour	\$74.07
Total asset cost	\$948.39
Certification	\$180.00
Ripple	\$89.00
<b>Total</b>	<b>\$1,217.39</b>
GST	\$182.61
<b>Total cost per site</b>	<b>\$1,400.00</b>

## 5. Approval

This policy is hereby formally approved by:

---

CEO—Alpine Energy Limited

---

Date

Review Date:

---

Month/Date



## Appendix 1: Adherence to the Pricing Principles

The Electricity Authority's Pricing Principles (developed in 2010) were incorporated into the Commerce Commission's Electricity Information Disclosure Determination 2012 (section 2.4.6). We are required to demonstrate the extent that our capital contributions policy is consistent with these principles. It is important to note that these principles are high level and are applicable to the broader price setting of distribution line charges; therefore some are not directly applicable to capital contributions.

Our capital contributions policy is consistent because:

- Cross subsidisation from other customers is eliminated because of the “causer pays” approach we take. Ensuring that existing customers are not paying for new customers to connect or augment the network.
- Customer contributions are based on the actual cost of meeting the customer's requirements/request. As such these accurately account for specific circumstances that are relevant to the customer and allow the customer to evaluate the economic value of the service and make price/quality trade-offs.
- The way we calculate the customer contributions policy is transparent and the impact on stakeholders is considered when this policy was setup and when it is updated.

## Alpine Policy—Document change request

### Memo

To Reviewer's title  
Alpine Energy Limited  
31 Meadows Road  
Washdyke  
Timaru

### Change details

(Attach separate sheets as necessary).

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### Paragraphs affected

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### Priority

(Double-click on box to check it).

**Urgent**   
(Within 1 week)

**Routine**   
(Within 12 months)

**Low**   
(Next Review)

<hr/>	9/03/2018
<b>Submitted by (Print Name)</b>	<b>Date (Click date to update)</b>

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### Document change request—acknowledgement

Dear \_\_\_\_\_

Thank you for your suggested changes to the above document.

Your request has been noted and added to our works programme. Should we require any additional information about your notification, we will contact you.

Thank you for your contribution to improving the quality of Alpine's documents.

Regards

\_\_\_\_\_  
Reviewer's title

\_\_\_\_\_  
Date