ALPINE ENERGY LTD

Line Charge Pricing Methodology

1st April 2011

1 INTRODUCTION

The purpose of this document is to comply with the Electricity Information Disclosure Requirements issued 31 March 2004, Regulations 22 and 23, by outlining the line charge pricing methodology used by Alpine Energy Limited.

The charges apply to the network connected to the Transpower grid via Grid Exit Points at Bells Pond, Temuka, Timaru, Studholme, Albury, Tekapo and Twizel. Charges are averaged over the whole area with a distinction between lower cost and higher cost areas. The allocation to the lower cost grouping is determined by the location of each customer as identified in the Alpine Energy geographic information system (GIS) asset database.

The basic methodology is:

- Determine Revenue Requirement
- Determine Customer Groups
- Allocate Revenue Required to Customer Groups
- Derive Line Charges for each Customer Group
- Determine the Fixed/Variable Proportions for each Customer Group

2 KEY COMPONENTS OF REVENUE REQUIRED

Revenue requirement is based on the recovery of business costs including the cost of capital. The revenue requirement from which line charges are calculated in 2010/11 is thus made up of the following items:

• Operations and Maintenance and Administration/Overheads	$9.8M
• Depreciation	$4.0M
• Cost of Capital (before tax)	$13.8M
• Transpower Transmission Costs	$9.1M
• **TOTAL REVENUE REQUIREMENT**	**$36.7M**

The numerical values are 2011/12 budget values. All meter/relay revenue requirements are excluded. Alpine Energy Limited has elected to increase all of the distribution and transmission components of its line charges for 2011/12.

Return on assets relates to regulatory Depreciated Replacement Cost (DRC) and Weighted Average Cost of Capital (WACC). The appropriate post tax WACC for Alpine Energy is 8.5%, as a distribution lines business. However, the budgeted post-tax WAAC has been set at the lower level of 7.9% to reflect the community nature of the Company.

The disclosed 31st March 2010 DRC was $122.4M.

3 CUSTOMER GROUPS

The following load groups have been used and these generally follow New Zealand industry practice. These load groups have been chosen to align with fuse capacity for the large number of <45kVA customers and demand for the smaller number of generally larger customers. All Time of Use (TOU) customers have ½ hour metering and demands can be accurately measured. The customer can choose their load group depending on the capacity required by the customer, and whether or not the customer has ½ hour metering.

- LOW fixed charge - primary domestic sites that would otherwise be in 0-15 kVA.
- 0 - 15 kVA - up to 60 amp fuse
- 45 kVA - 3x60 amp fuse
- 400V Assessed Demand - based on fuse size, motor nameplate, measured or connected load.
- 400V TOU - half hour metering
- 11kV TOU - half hour metering
- 33/11kV Major New Investments - more than $500,000 new investments, 30 year contracts

In addition to the above revenue load groups we also receive "capital contributions" from customers who require new or upgraded power supplies. These upgrades or extensions with standard line charges would be uneconomic without a capital contribution.

The new pricing schedule is effective from 1 April 2011. Customer group statistics are calculated as:

Customer Group	Customers December 2010	Group ADMD MW 2010
LOW fixed charge	4,717	5.1
0 - 15 kVA	23,572	33.5
45 kVA	867	8.0
400V Assessed Demand	1,286	30.3
400V TOU	140	14.9
11kV TOU	11	6.1
33/11kV Major New Investments	4	25.1
Total	30,597	123.0

4 ALLOCATION OF REVENUE REQUIRED TO CUSTOMER GROUPS

Costs are allocated to customer groups based on

- Customer Numbers
  - Corporate overhead costs, approximately 5% of total revenue.
- Group After Diversity Maximum Demand (ADMD)
  - Approximately half of revenues after overhead costs.
  - Covers Transpower charges related to interconnection rates, and,
  - Demand charges for provision of distribution capacity.
- Energy consumption for customers without kW metering
  - Approximately half of revenues after overhead costs.
  - Transpower charges related to connection costs, and,
  - Charges for provision of distribution.

All other costs are allocated to the customer groups on the basis of group After Diversity Maximum Demand (ADMD) except for the major new investment customers where there are 30 year contracts based on recovering the real cost of capital of the new investment.

The capital replacement cost of network assets is in general directly related to ADMD and as revenue requirements relate to network replacement costs, customers pay for capacity provided.

To provide consistency for customers the overall tariff levels have previously been adjusted on an "across the board" basis. For the 2011/12 year, following the 31st March 2010 revision of the pricing structures with the long term aim to improve cost reflective tariffs, there are generally greater increases for customers in the higher cost areas, than for customers in the lower cost areas.

5 FIXED/VARIABLE PROPORTIONS

The Ministry of Commerce guidelines suggest 100% fixed line charges are appropriate as the cost structures are almost 100% fixed. However, historically it was agreed to recover allocated line charges on an arbitrary 50/50 fixed/variable basis for all customers who do not have TOU metering.

With the underlying change to tariff structures we expect this ratio will change over time to reflect the changing mix of customers on the Alpine network. For 2011/12 the forecast ratio for non-TOU metered customers is 60% variable and 40% fixed.

Variable charges are allocated to the retailer (not individual customers) through the NRM purchase allocations i.e. retail volumes are calculated from GXP volumes less losses.

6 PRICE SCHEDULE

The following price schedule is derived from the above principles.

Alpine Energy Limited

Line Charges Effective 1 April 2011

Code	Load Group	Line Charges (excl GST)	
LOWHCA	Low fixed charge - HCA	$54.75 p.a.	6.81 c/kWh day time 3.49 c/kWh night time
LOWLCA	Low fixed charge - LCA	$54.75 p.a.	6.47 c/kWh day time 3.15 c/kWh night time
015HCA	Under 15kVa - HCA	$272.54 p.a.	4.39 c/kWh day time 1.07 c/kWh night time
015LCA	Under 15kVa - LCA	$242.14 p.a.	4.39 c/kWh day time 1.07 c/kWh night time
360HCA	3 x 60A – HCA	$996.65 p.a.	4.39 c/kWh day time 1.07 c/kWh night time
360LCA	3 x 60A – LCA	$900.04 p.a.	4.39 c/kWh day time 1.07 c/kWh night time
ASSHCA	Over 15kVa assessed - HCA	$90.71 p.a. $42.30/kW	4.39 c/kWh day time 1.07 c/kWh night time
ASSLCA	Over 15kVa assessed - LCA	$81.76 p.a. $40.69/kW	4.39 c/kWh day time 1.07 c/kWh night time
TOU400HCA	TOU 400V – HCA	$90.76 p.a. $108.29/kW	1.34 c/kWh day time 0.32 c/kWh night time
TOU400LCA	TOU 400V – LCA	$82.43 p.a. $103.91/kW	1.34 c/kWh day time 0.32 c/kWh night time
TOU11HCA	TOU 11kV – HCA	$90.76 p.a. $96.37/kW	1.34 c/kWh day time 0.32 c/kWh night time
TOU11LCA	TOU 11kV - LCA	$82.43 p.a. $93.09/kW	1.34 c/kWh day time 0.32 c/kWh night time
IND	Individually assessed sites	Individually assessed charges	
SSC	Special Service Charge	$224.23 p.a.	

Day time: In respect of all units used between 7am and 11pm.

Night time: In respect of all units used between 11pm and7am.

Special Service Charge: This is an additional charge for provision a non-standard service. The majority of special charges are for electric water heating that cannot be controlled by Alpine Energy Limited via a ripple relay. This is a fixed annual charge of $224.23, except for low fixed charge categories, for which it is applied as an additional variable charge of 2.49 cents per kWh.

Demand Charge: For sites with a demand (kW) charge, the demand level is assessed and set by the network and is available on request.

LCA and HCA: Sites are defined as either LCA (lower cost area) or HCA (higher cost area) by the Alpine Energy geographical information system (GIS).

Line Charges: The above table shows Distribution and Transmission charges combined. GST is payable in addition to the charges.

7 LOSS FACTORS

Losses represent the percentage of electricity entering the network that is consumed during the delivery to consumers' installations. The quantity of electricity metered at consumer installations is thus after losses and in order to determine each retailer's purchase responsibilities the electricity measured at the consumer's meter has to be multiplied by a "loss factor". There are two main components to the losses:

(a) Fixed component due to the standing losses of the zone substation and distribution transformers.

(b) Variable components arising from the heating effects of the resistive losses in the delivery conductors. The resistive losses are proportional to the square of the load current and occur in all network conductors and in the zone substations and distribution transformers.

Overall distribution network losses from 2004-2007 Information Disclosure data is calculated as 6.4%. A single year's data is considered to be insufficient as it has in the past been unduly influenced by a poor calculation by the retailers for the accrual value of kWh.

The Clandeboye Dairy Factory has one dedicated double circuit 33kV line and two dedicated 33kV cables providing n-1 security to meet reliability of supply requirements, resulting in effective losses of less than 2% for loads around 15MW. Losses for 11kV customers will be some 2% less than 400V customers because there are no transformer losses. With the Dairy Factory now taking approximately 18% of the energy delivered by the network and 11kV customers another 7% the following loss factors have been calculated:

33kV dedicated	1.02
11kV general	1.05
400V general	1.07

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