



## **Electricity Distribution Network Pricing Methodology Disclosure**

**For prices Effective 1 April 2012**

Pursuant to:

Electricity Information Disclosure Requirements Issued 31 March 2008  
Distribution Pricing Principles and Information Disclosure Guidelines

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# 1. Introduction

## 1.1 Overview of Marlborough Lines

Marlborough Lines Limited (MLL) is an electricity distribution business (EDB). The network has approximately 24,000 customers which are homes and businesses across the Marlborough region. The area supplied includes the provincial centre of Blenheim and the smaller towns of Picton, Havelock, Seddon and Ward. The supply network also extends to a number of very isolated areas (including the Marlborough Sounds), that pose unique challenges for electricity supply. Unlike many other regional networks the company has a single point of supply, GXP, (in Blenheim) with an extensive sub-transmission system and zone substations.

MLL also has an electrical contracting business in Marlborough which undertakes capital and maintenance work for the network and other local businesses. MLL has investments in other related businesses including Nelson Electricity, OtagoNet, Otago Power Services and Horizon Energy.

## 1.2 Ownership structure

MLL is owned by the Marlborough Electric Power Trust (MEPT), which holds shares on behalf of the consumers connected to the network in Marlborough.

## 1.3 Prices changes for current year

MLL has reviewed its prices for electricity distribution services and new prices were published to take effect from 1 April 2012. The prices set reflect the needs of the company and its customers / stakeholders, together with the wide ranging requirements provided by the comprehensive regulatory framework.

## 1.4 Regulatory status of MLL

MLL meets the criteria specified for a consumer owned electricity distribution business under Part 4 of the Commerce Act and currently has 'exempt' status. Electricity distributors that have an exempt status are not required to comply with the Default Price-quality Path (DPP) provisions. However, the company is still required to comply with a number of regulatory reporting obligations including Information Disclosures.

## 1.5 Regulatory requirements

### 1.5.1 Information Disclosure

This Pricing Methodology disclosure is applicable to MLL's Marlborough electricity network activities only and excludes non-network businesses and operations. Requirement 22 of the Original Requirements requires EDB's to publicly disclose the methodology used at the beginning of each financial year to determine the lines charges payable by consumers connected to their distribution network. Requirement 23 sets out what needs to be included in the Pricing Disclosure which is discussed in more detail in the Regulatory Framework section of this document.

Pursuant to requirement 14(4) of the Electricity Distribution (Information Disclosure) Requirements 2008, requirements 22 and 23 of the previous disclosure provisions from the Electricity Information Disclosure Requirement issued 31 March 2004 (Original Requirements), continue to apply.

### **1.5.2 Consideration of Pricing Principles**

This year MLL's Pricing Methodology Disclosure has been prepared in accordance with the Distribution Pricing Principles and Information Disclosure Guidelines published by the Electricity Commission in February 2010. These guidelines request a commentary on the consistency or otherwise of the company's pricing methodology with a set of voluntary pricing principles issued in February 2010 by the Electricity Commission. When the Electricity Commission was disbanded a number of its previous responsibilities passed to a new regulatory body, the Electricity Authority. This year's Pricing Methodology Disclosure is in a similar format to the significantly revised methodology published last year.

MLL's Pricing Methodology Disclosure focuses on the structure and allocation of the distributor costs including pass through costs such as transmission costs. Transmission costs include Transpower charges and Avoided Cost of Transmission, (ACOT), paid to embedded generators. This disclosure is consistent with the current regulatory framework.

### **1.6 Structure of Disclosure Document**

Section 2 outlines the regulatory framework for this year's Disclosure including the principles confirmed by the Electricity Authority. Section 3 of the document is an overview of the methodology and cost allocation model applied to the prices for lines charges for customers on MLL's electricity network. The final section of the document, Section 4 discusses each of the pricing principles in turn and examines how MLL's methodology is consistent with the principles.

### **1.7 Overview of Cost Categories**

As required, the document discusses the costs of the network business that need to be recovered through lines charges. The costs have been grouped into the categories of; operating costs, administration and overhead costs, transmission charges, depreciation, taxation and a return on assets used in the network business. The numerical value of each of these cost components is clearly stated in section 3.2.

### **1.8 Overview of Customer Groups**

All the network customers are grouped together into a number of consumer groups based on common characteristics. The five consumer groups referred to in the cost allocation model are; Residential, Small Commercial, Medium Commercial, Large Commercial (Time of Use) and Irrigation. The document discusses the rationale for grouping of consumers in this way and the methodology to determine which group each consumer falls into. The network statistics relating to each of the consumer groups is clearly stated in section 3.4.

### **1.9 Overview of Cost Allocation Methodology**

A cost allocation methodology is discussed in the document in more detail. The methodology details how the components of network costs are allocated between the customer groups.

The methodology utilises three key cost allocators which reasonably apportion the costs to each of the consumer groups. The cost allocation model is used to ensure that the revenue received from each consumer group broadly aligns with an appropriate allocation of network costs.

The first cost allocator used is the Before Diversity Maximum Demand (BDMD). The BDMD of each consumer is summed together to calculate the total for each of the consumer groups. The second is the number of ICPs in each consumer group. The last allocator is the kilowatt hours consumed by each ICP summated for the total of the group.

### **1.10 General Issues with Cost Allocation Model**

MLL recognises that the pricing principles published by the Authority encourage distributors to develop and use a cost allocation model. However, MLL also suggests there are a number of limitations to processes for allocating costs and that there are many different valid approaches to the allocation of network costs to groups of consumers. The difficulties result from most assets and other non-asset related costs being shared over a large number of consumers which makes the allocation of costs to each of the consumer groups subject to assumptions and judgement. In essence costs have to be allocated rather than accurately attributed to a defined group of consumers. The application of the cost allocation model used by MLL is discussed in the paper in more detail in section 3.4.

### **1.11 Fixed and variable costs**

A description of the current methodology with respect to the proportion of fixed and variable charges is also discussed in section 3.5.

### **1.12 Discount Policy**

MLL has for some time had a policy of paying discounts to qualifying consumers at the end of each financial year. The revenues stated in this report are before the payment of discounts and discounts are not included as a cost to be recovered. In most cases the discount offered is an equal proportion of each tariff on the price schedule. MLL has chosen to set the discount as an equal proportion of each tariff<sup>1</sup>, and therefore each network consumer is rewarded equally through the discount process regardless of their mix of consumption across tariffs.

In essence the discount distributes to consumers in a relatively equal proportion to the charges paid for network services in the prior 12 month period<sup>2</sup>. In most cases the structure of the discount policy means it is viewed as an equitable method of distributing the benefit of the Consumers' ownership of the company to its shareholders.

Consistent with the Low User Regulations, the cost faced by the typical residential user (as defined by the MED) are equal on a pre and post discount basis. Discounts are paid via the consumers' electricity retailer as a credit on their account.

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<sup>1</sup> A small number of tariffs are excluded such as powerfactor and streetlights to make the discount administration process more straightforward.

<sup>2</sup> The calculation period runs from 1 February to 31 January each year to provide sufficient time to calculate each qualifying consumer's discount which is paid via their retailer in March

## 2. Regulatory Framework

### 2.1 Regulatory Requirements

The following section provides an overview of the main regulatory requirements that impact MLL's pricing disclosures.

MLL is regulated by:

- The Commerce Commission under Part 4 of the Commerce Act
- The Electricity Authority under section 42 of the Electricity Industry Act - The Authority has particular responsibility for monitoring tariff structures and approaches.
- Compliance is also required with the "Low User Regulations" which require EDB's to offer a low fixed charge option to domestic consumers (limited to permanent residences only).
- Section 113 of the Electricity Industry Act 2010 provides for further regulation that may limit the rate of price increase between rural and urban consumers.

The Ministry of Economic Development oversees compliance with the Low User Regulations.

### 2.2 Disclosure Requirements

The Commerce Commission's Original Requirements require that an EDB provides the following:

#### *23. Contents of pricing methodology disclosure*

*Every disclosure under requirement 22 must-*

- (a) Describe the methodology used to calculate the prices charged or to be charged; and*
- (b) Include the key components of the revenue required to cover costs and profits of the disclosing entity's line business activities, including cost of capital, transmission charges, which must include the numerical value of each of the components; and*
- (c) State the consumer groups used to calculate the prices charged or to be charged, including –*
  - (i) The rationale for the consumer grouping; and*
  - (ii) The method by which the disclosing entity determines which group consumers are in; and*
  - (ii) For each of these consumer groups, the statistics relating to that group which were used in the methodology; and*

- (d) *Describe the method by which the disclosing entity allocated the components of the revenue required to cover costs of its line business activities amongst consumer groups, which must include the numerical values of different components allocated to each consumer group and the rationales for allocating it in this manner; and*
- (e) *Describe the method by which the disclosing entity determined the proportion of its charges which are fixed and the proportion which are variable, and the rationale for determining the proportions in this manner.*

## **2.3 Pricing Principles and Information Disclosure Guidelines**

The predecessor to the current Electricity Authority was the Electricity Commission. The Electricity Commission had a work stream around the standardisation of distributor arrangements that included distributor pricing. The programme of work included consultation with distributors, retailers and end use consumers' and their representatives.

In February 2010 the Electricity Commission released the *Pricing Principles and Information Disclosure Guidelines* with a purpose of assisting distributors to meet the requirements of their next disclosures. The guidelines outlined that distributors should state how their pricing aligns with the pricing principles as part of the Pricing Disclosures from 31 March 2011 onwards.

### **2.3.1 The Pricing Principles**

- (a) *Prices are to signal the economic costs of service provision, by:
 
  - (i) *being subsidy free (equal to or greater than incremental costs, and less than or equal to standalone costs), except where subsidies arise from compliance with legislation and/or other regulations and /or the Government Policy Statement;”*
  - (ii) *having regard, to the extent practicable, to the level of available service capacity; and*
  - (iii) *signalling, to the extent practicable, the impact of additional usage on future investment costs.**
- (b) *Where prices based on ‘efficient’ incremental costs would under-recover allowed revenues, the shortfall should be made up by setting prices in a manner that has regard to consumers’ demand responsiveness, to the extent practicable.*
- (c) *Provided that prices satisfy (a) above, prices should be responsive to the requirements and circumstances of stakeholders in order to:
 
  - (i) *discourage uneconomic bypass;*
  - (ii) *allow for negotiation to better reflect the economic value of services and enable stakeholders to make price/quality trade-offs or non standard arrangement for services; and**

- (iii) where network economics warrant, and to the extent practicable, encourage investment in transmission and distribution alternatives (e.g. distributed generation or demand response) and technology innovation.*
- (d) Development of prices should be transparent, promote price stability and certainty for stakeholders, and changes to prices should have regard to the impact on stakeholders.*
- (e) Development of prices should have regard to the impact of transaction costs on retailers, consumers and other stakeholders and should be economically equivalent across retailers.*

## **2.4 Other Regulatory Constraints on Pricing**

MLL is exempt from the DPP provisions which would otherwise limit the rate of annual price increase (after providing for changes in volumes) to CPI, plus or minus an x factor (currently set at zero), plus any change in “pass through” and “recoverable” costs.

### **2.4.1 Low User Regulations**

MLL is required to comply with the Low User Regulations. These regulations require distributors and energy retailers to offer low fixed charge tariffs - Distributors must make available a tariff with a line charge component of no more than 15 cents per day to residential consumers (subject to the connection being a primary residence, not a holiday home etc).

The total charge for the low user plan, made up of the fixed and variable charges, must be equivalent to a standard price option for a typical domestic consumer. The MED has defined a typical domestic consumer as one that uses 8,000kWh per annum in most areas of NZ.

A distributor’s fixed cost to supply a residential ICP is generally higher than 15 cents per day, so the Regulations effectively require us to subsidise a particular group of network users i.e. those residential customers who uses less than the deemed typical consumer.

MLL has obtained an exemption from offering low user tariffs to installations that are in difficult to service and sparsely populated areas of the network, which reduces the level of cross subsidisation that occurs. The areas are referred to as “remote”. Installations within the remote areas make up around 10% of the total network connections.

The installations with the areas deemed ‘remote’ do not qualify for network discounts on the basis that the discount is a distribution of benefits to the customers who are beneficiaries of the consumer trust and these connections are uneconomic to supply.

### **2.4.2 Rural and Non - Rural Pricing**

Section 113 of the Electricity Industry Act 2010 provides a policy intent that prices increase at an equal rate between rural and urban consumers. Distributors had been directed through a Government Policy Statement to limit the increase of rural prices to the rate of that for urban consumers.

As the cost of delivering the services to rural customers is higher, this has a similar effect to the low user regulations and requires a distributor to subsidise one group of consumers from another.

### **2.4.3 Differentiation of service level**

The degree of the subsidy can be limited to some extent by differentiating the service level provided, to customers where the cost of providing the service exceeds the revenue obtainable. MLL has to some degree adopted this approach where regulation requires extensive cross subsidisation between users. For example a less intensive network for rural customers provides less reliability whereas urban consumers have the benefit of a meshed network.

### 3. Cost Allocation and Derivation of Tariffs

The following section outlines the methodology used to allocate costs to consumer groups. The methodology applies of three main cost drivers to allocate costs to the defined consumer groups. These costs drivers are combined and applied to each category of costs identified.

#### 3.1 Treatment of discounts

MLL will continue to pay discounts for the financial year ending 31 March 2013. As the discount paid to qualifying customers is a means of distributing benefits to consumers, the estimates of revenues and costs in this disclosure are prior to the payment of discounts to consumers

#### 3.2 Cost Categories

The company aims to set a price for network services at a level to generate sufficient revenue for the coming year to cover costs for the coming period. The costs include an estimate of a return on the assets employed in the Network business. Table 1 outlines the company's best estimate of costs that set the level of revenue required.

**Table 1: Marlborough Lines Network Cost Categories FY13**

\$'000	FY13 Estimate
System Operations & Maintenance	7,822
Administration & Overheads	4,995
Transmission Costs Incl. ACOT	5,769
Depreciation	8,071
Taxation Expense	1,292
Return on Investment	14,704
<b>Total Costs</b>	<b>42,653</b>

*Source: MLL Company Budget FY13 and FY11 Information Disclosure*

All costs other than the return on investment are based on the Company's budget for FY13, which are developed on a business unit basis.

The Return on Investment is calculated by applying the cost of capital for Information Disclosure purposes to an estimate of the Asset for regulatory purposes as at 31 March 2012. The estimate of the regulatory investment value as at 31 March 2012 is \$193.5m, made up of the closing regulatory investment value disclosed as at 31 March 2011, the most recent estimate of the FY12 Capital Expenditure for the regulated business, and an estimate of regulatory depreciation.

In the future the Company will consider refining the return on investment calculation to include a CPI adjustment and asset disposals (if applicable) in making a forward estimate of the RAB for Pricing Methodology purposes.

### 3.3 Consumer Groups

Initially consumers are categorised as being residential or non-residential. The classification of a consumer into residential or non-residential is based upon their predominant end use. The different characteristics of residential consumers compared to businesses consumers make it logical to have a residential consumer group. Residential consumers have different consumption patterns from businesses and have a higher proportion of their total load associated with water and space heating. Water and space heating loads are generally able to be interrupted by the Company’s ripple control system.

Ultimately, network consumers are categorised into five broad consumer groups. These were determined by assessing the predominant end use of each installation and the installed capacity of each connection.

The five consumer groups are Group 1 - Residential, Group 2 - Small Commercial, Group 3 - Medium Commercial, Group 4 - Large Commercial (ToU), and Group 5 - Irrigation.

The Non-residential consumers are divided into four groups, with three groups for commercial customers, depending on the maximum capacity supplied to the installation, measured in kVA and one group for irrigation installations. Groups 2 and 3 are small commercial customers with the differentiation point set at 40kVA. Group 4 is made up of customers that have capacity provided to meet demands that are in excess of 140kVA. MLL’s network policy requires these customers to have half hourly or Time of Use (TOU) metering installed. Group 4 also includes a number of large customers with 11kV supplies.

The grouping of most of the non-residential consumers by capacity provided is considered to be an appropriate way to distinguish between customers. The capacity provided generally reflects the initial and ongoing investment made, the maintenance costs required and is an indication of their contribution to peak demands.

Group 5 is the irrigation consumer group which includes both low and high kVA capacity consumers. These users have a distinct pattern of consumption and interruptible load and restrictions on seasonal use and have therefore been grouped separately from other commercial users.

Table 2 outlines the consumer groups, the relevant fixed charge price codes and the number of ICP’s in each group for the year to 31 March 2013.

**Table 2: Consumer Groups**

Group No.	Description	Fixed Charge Codes	No. of ICPS
1	Residential	DS,DL,DT	20,649
2	Commercial < 41 kVA	NS,NH,NT,US,UL	2,883
3	Commercial 42 to 140 kVA	RT,RV,RX	400
4	Commercial > 140kVA	BF	119
5	Irrigation	PM,PH,PK	335
<b>Total</b>			<b>24,386</b>

### 3.4 Cost Allocation Methodology

This section outlines how costs are allocated to the consumer groups to establish the required revenue. The three indicators of costs are the kWhs consumed, the installed capacity, and the number of ICPs for each group. The indicators of costs are used as cost drivers in the cost allocation model.

The intention of the methodology is to establish a substantial relationship between the underlying activity driving each component of cost and the cost driver used.

Table 3 summarises the network statistics for each consumer group.

**Table 3: Network Statistics for Consumer Groups**

Group	MWH	MWH %	KVA	KVA %	ICP Count	% of ICPs
1 - Residential	148,959	41%	344,664	63%	20,649	84.7%
2 - Small Commercial	37,897	10%	84,511	15%	2,883	11.8%
3 - Midsize Commercial	37,050	10%	34,457	6%	400	1.6%
4 - Commercial ToU	125,859	34%	55,280	10%	119	0.5%
5 - Irrigation	17,027	5%	26,555	5%	335	1.4%
<b>Total</b>	<b>366,794</b>	<b>100%</b>	<b>545,467</b>	<b>100%</b>	<b>24,386</b>	<b>100%</b>

#### 3.4.1 Application of cost indicators to cost categories

We have identified that four of the six cost categories are essentially related to the asset of the Network. Systems Operations and Maintenance, Transmission Costs, Depreciation, and Return on Investment are all driven by the network assets required to service each of the consumer groups. As a proxy for the share of assets for each consumer group we have used a mix of the before diversity maximum demand estimated by the installed capacity for each group measured in KVA and the total kWh used by the group.

For Systems Operations and Maintenance, depreciation, and return on investment the group's share of the Network total KVA and kWh have been equally weighted. Whereas for Transmission costs a weighting of 70% kWh and 30% kVA has been adopted to reflect that higher consumption levels are more likely to coincide with Regional Coincident peak Demand which drive the majority of MLL's transmission costs.

Administration and overhead costs are considered to be more related to the Company's servicing of consumers, which is better characterised by a combination of the number of ICPs and kWh. These indicators have been predominantly weighted to kWh to allocate costs to the consumer groups. Both of these cost indicators represent a broader level of consumer use and activity rather than the level of installed capacity. The taxation charge, which is relatively small, has also been allocated in this way.

### 3.4.2 Calculation of required revenue

Table 4 below demonstrates how each cost has been allocated between the consumer groups and the total cost of each group.

**Table 4: Allocation of Costs to Consumer Groups**

Cost Categories \$000	System Operations & Maintenance	Administration & Overheads	Transmission Incl. ACOT	Depreciation	Taxation	Return on Investment	Total
Cost Drivers	kWh / kVA	ICPs / kWh	kWh / kVA	kWh / kVA	ICPs / kWh	kWh / kVA	
Group 1	4,060	2,249	2,734	4,189	582	7,631	<b>21,443</b>
Group 2	1,010	524	685	1,042	135	1,899	<b>5,295</b>
Group 3	642	462	517	663	120	1,207	<b>3,611</b>
Group 4	1,738	1,545	1,561	1,794	400	3,268	<b>10,306</b>
Group 5	372	216	272	384	56	699	<b>1,998</b>
<b>Totals</b>	<b>7,822</b>	<b>4,995</b>	<b>5,769</b>	<b>8,071</b>	<b>1,292</b>	<b>14,704</b>	<b>42,653</b>

### 3.4.3 Comparison of cost allocation and expected revenue

Table 5 compares the estimate of cost with the expected revenue from each consumer group.

**Table 5: Costs and Revenues by Consumer Groups**

\$'000	Total Allocated Costs	Estimated Revenue	Difference as % of Costs
Group 1	21,443	17,008	-21%
Group 2	5,295	5,052	-5%
Group 3	3,611	3,606	0%
Group 4	10,306	10,228	-1%
Group 5	1,998	1,274	-36%
<b>Totals</b>	<b>42,653</b>	<b>37,168</b>	<b>-13%</b>

The company’s overall expected revenue is less than what is required currently to make a return on investment in line with the industry cost of capital benchmark. The overall shortfall between costs and revenues is primarily the difference between the costs and revenues for the residential consumer group.

The expected revenue from the residential consumer group looks to be relatively lower than the cost allocation model would suggest is appropriate. The price changes published in January 2012 to take effect from 1 April correspondingly reflected a differential rate of increase between residential and commercial customers.

For the three commercial customer groups the budgeted revenue broadly aligns with the costs as allocated.

In the case of the Irrigation consumer group the expected revenue is less than the costs allocated under this methodology. However we note that when tariffs were introduced for irrigation users the rates were set at a level to utilise network assets that were available at off-peak times and therefore a relatively lower revenue number would be expected.

The current network line charges include historical elements as well as reflecting the recent realignment and a significant simplification of the tariff structure that has occurred over the past three years.

The methodology presented in this report is a relatively simplistic cost allocation model. The Company anticipates that it will continue to estimate its costs and how these costs may be best allocated to each of the consumers groups.

A more detailed analysis of how network assets are utilised by each group together with the contribution of each consumer group to the RCPD may be useful and ultimately promote a higher level of compliance with the Principles.

### **3.5 Fixed and variable proportions**

The proportion of fixed charges versus variable charges has been based on historical pricing methodologies. MLL has maintained this pricing mix to provide consistent pricing signals to consumers.

The introduction of the low user daily fixed charges for domestic consumers has to some degree challenged the efforts made to accurately recover costs fairly from all consumers. MLL has partially addressed the cross-subsidisation inherent in the low user tariff by obtaining an exemption from offering the low user fixed charge option to domestic consumers who are located in remote areas of the network.

The proportion of line charges currently being charged is 31% fixed, 47% variable and 22% demand based charges. Demand based charges only apply to Groups 4 and 5.

Variable charges are generally higher for lower capacity (kVA) users, including groups 1, 2 and 3. The higher variable component in the tariffs for groups 1, 2 and 3 reflect the patterns of supply with non half-hourly metering, lower investment costs for an incremental consumer, and a controllable portion of the load (water heating mostly for Group 1 customers).

Fixed charges are generally higher for higher capacity (kVA) users including groups 4 and 5. This is designed to reflect investment costs associated with peak demand, which is measured with half-hourly metering equipment.

Despite the allocation of significant proportions of costs in the above methodology to kilowatt hours, MLL assesses that most of its costs outlined above are actually fixed. If MLL were to recover its fixed proportion of costs in fixed charge tariffs, the fixed charge proportion would need to increase.

However, offering variable charges to consumers stimulates efforts to use energy efficiently. The use of unit charges i.e. c/kWh, also align with what current consumers general understand electricity services are being providing particularly in the residential area where concepts such as peak demand are not well understood.

### **3.6 The derivation of the tariffs to be charged to each consumer grouping**

The pricing methodology is required to include sufficient information for an independent expert to assess compliance with the pricing principles and explain the derivation of the tariffs to be charged to each consumer grouping.

The process that MLL employs to establish tariffs for each consumer group, considers a range of factors including:

- To encourage consumption outside of peak demand periods;
- To ensure the costs of assets are recovered;
- Use of controllable supplies when peak demand periods arise;
- Legislative and regulatory pricing considerations, including the Low User regulations;
- Restructure of the tariff need to consider rate shocks for consumers.

#### **3.6.1 Group 1 Tariffs – Residential Consumers**

Daily fixed charges are set on the basis of kVA capacity, with rates for <20kVA capacity and >20kVA. Energy based tariff rates are provided for uncontrolled energy, 13 hour controlled and 8 hour controlled energy. Tariff rate incentives are provided for controlled energy tariff codes, to enable MLL to control energy consumption during peak periods of demand. Ripple controlled energy supplies are incentivized with lower energy consumption rates, in comparison to uncontrolled supplies.

Larger capacity residential connections pay a higher daily fixed charge to compensate for additional available capacity to consume energy. The same energy consumption rates apply for connections up to 20 kVA and above 20 kVA. Differential tariff rates for residential connections are applied to fixed charges, to reflect initial and ongoing asset costs.

Low User options are available to non remote connections, consistent with the exemption received. Low User tariffs have been created to comply with the Regulation.

#### **3.6.2 Group 2 Tariffs – Non Residential Consumers – up to 41 kVA**

Daily fixed charges increase as kVA increases within this consumer group. Three controlled energy tariff rates are available to incentivize consumers to utilize controlled tariffs where applicable.

#### **3.6.3 Group 3 Tariffs – Non Residential Consumers – 42<>140 kVA**

A limited number of connections within this group are metered with TOU equipment for monitoring purposes only. Fixed daily charges for this group increase with the capacity provided. Uncontrolled energy tariff rates decrease as an off-set to the higher fixed charges.

This structure is designed to reduce the variability of revenue. The uncontrolled consumption charges are slightly lower than group 2, to compensate for economies in supplying these larger kVA connections.

#### **3.6.4 Group 4 Tariffs – Time of Use Connections > 140 kVA**

TOU metering allows for a more detailed tariff structure and greater signaling of network constraints. Group 4 tariffs include; a fixed daily rate, a unit charge based on energy consumed,

anytime assessed demand to reflect capacity provided to the site and winter peak demand charges. The capacity based charges, including the anytime demand and winter peak demand, make up a large component of the overall charges for Group 4 consumers.

Some group 4 connections have taken responsibility for the maintenance of transformers with the pricing tariff structure reflecting this differential cost to the network.

### **3.6.5 Group 5 Tariffs – Irrigation**

Irrigation has a distinct pattern of energy consumption that is unique to the other consumer groups. The charges in this area are predominately capacity based which removes the seasonal uncertainty and variability of cost/revenue for both the consumer and the Network.

### **3.7 Power Factor Charges**

A charge for reactive energy, where power factors are below 0.95, is levied to encourage investments in improving power factors.

### **3.8 MLL Pricing Schedule**

The current MLL pricing schedule can be sourced from the following website reference:

<http://www.marlbroughlines.co.nz/Disclosures/Pricing>

## 4. Compliance of Pricing Methodology with the Pricing Principles

The following section examines the Electricity Authority's Pricing Principles and considers the extent to which Marlborough Lines' current Pricing Methodology is consistent with these principles. This generally includes an explanation of our interpretation of the principle and some discussion on practical and commercial constraints that may exist.

MLL considers that there may be further opportunities to have regard for these principles' as the Company's pricing methodology continues to evolve. We examine each principle of the Electricity Authority guidelines in turn.

### 4.1 Pricing Principle (a)(i)- subsidy free range

Pricing principle (a) (i) in the Pricing Principles and Disclosure Guidelines states that:

***“Prices are to signal the economic costs of service provision, by being subsidy free (equal to or greater than incremental costs, and less than or equal to standalone costs), except where subsidies arise from compliance with legislation and/or other regulation;”***

#### 4.1.1 MLL's Interpretation

Firstly we agree with the principle that Network prices should be subsidy free. Our interpretation of this requirement is that prices we set for each designated consumer group are at a level so that the revenues from that consumer group fall within the subsidy free band. The lower limits of this band is the cost of connecting that consumer group to the network (incremental costs) and the upper level of the band the costs of serving that consumer group, as if they were the only consumer group, (stand-alone costs).

The range provided by this definition is indeed quite wide as the nature of MLL's regulated business means that there are extensive shared costs. Throughout the network consumer groups are intermingled. E.g. the easily identifiable 33kV portion of the network generally supplies all consumer groups. Other costs incurred by the network business relate to functions, e.g. billing processes that are also provided for all customer groups albeit in a slightly different form depending on the size of the customer. Therefore if MLL were to cease supply to any of the particular customer groups there would be a limited reduction in costs.

#### 4.1.2 Compliance with Principle (a)(i)

We recognize that we have not quantitatively assessed standalone costs for each customer or customer group. This would be a significant undertaking and one we propose may be most appropriately done for a section of larger commercial customers. However, we believe that the nature of our cost allocation model inherently ensures we comply with this principle. Our Network prices are based on a cost allocation model that allocates costs across consumer groups using a number of key indicators of costs. The costs allocated are our actual costs which reflect the economies of scale present in operating the network business. As each customer group is only allocated a portion of these costs the revenue received is less than the standalone costs of servicing them.

Principle (a)(i) also explicitly excludes the subsidies which arise from compliance with legislation regulation. MLL considers that the Low User Regulations impose a very significant subsidy between consumers in our particular network. In addition directives which prohibit the differential rate of price increase for rural and non-rural users also prevent us from adequately recovering costs from individual consumers.

We have addressed this issue by obtaining an exemption from offering low user fixed charge compliant plans to approximately ten percent of our customers who are in the most distant and less populated areas of the network. The customers within these areas of the Network are deemed to be “Remote”<sup>3</sup>. This partially reduces the subsidy from centrally located customers to the other users.

We recently reviewed the profitability of all network customers on a geographic segment basis. This analysis included a detailed allocation of assets to each geographical segment. The results reinforced our assessment of the significant cross subsidization that existed among consumers in different geographic areas and support the steps that have been taken to address this through the low user exemption and discount policy.

As discussed above we propose to generate a quantitative assessment of stand-alone costs for at least some consumer. We will then assess the relative position of these consumers within the spectrum of the subsidy range.

## **4.2 Pricing Principle (a) ii - level of available service capacity**

*“Prices are to signal the economic costs of service provision, having regard, to the extent practicable, to the level of available service capacity”*

The current structure of the New Zealand Electricity market means that Marlborough Lines supplies end use consumers via retailers<sup>4</sup>. The distributors role in the supply chain provides an indirect relationship with the consumer which means that any price signals provided by Marlborough Lines can potentially be re-packaged differently by retailers.

There are currently eight retailers with active customers on the Marlborough network.

### **4.2.1 MLL’s interpretation of Principle (a)(ii)**

MLL’s interpretation of this principle is that prices must distinguish between where additional capacity is readily available and where it is not available.

The impact of any price signal sent by the network is diminished by the low relative value of the distribution component of the customers total electricity bill. In 2011 Marlborough Lines charges (on a pre-discount basis) made up 30.6%<sup>5</sup> of the total \$2,295 charged for a ‘typical’ domestic consumer.

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<sup>3</sup> Refer to Marlborough Lines website – exemption notice and map

<sup>4</sup> Retailers operating on MLL network as at March 2012 were TrustPower, Contact Energy, Genesis Energy, Meridian, Just Energy ( Pulse Utilities), Mercury and Tiny Mighty Power (subsidiaries of Mighty River Power).

<sup>5</sup> MLL Annual Report 2011.

Notwithstanding the repackaging and dilution effects of the price signals provided by the network, MLL meets the requirements of Principle (a)(ii) by having a capacity based charge across all customer segments and differentiating between interruptible and non-interruptible load.

MLL's tariff structure is significantly capacity based. Prices for each group reflect the principle that as capacity requirements increase, end users pay higher charges. For larger commercial customers a greater proportion of total line revenue is based on capacity charges.

MLL offers controlled load or limited availability prices to residential, small commercial (<140kVA), and irrigation installations. These prices reflect the Network's ability to limit supply when the Network is facing peak demand, or only supply at times when peak demands are very unlikely to occur, eg night rates are offered for supply between 11pm – 7am.

For residential consumers controlled load is generally offered for hot water cylinders which are then remotely switched off by the network during times of peak demand. Night rates are used to a lesser extent generally for heating appliances which utilise electricity supply only at night.

For small commercial customers controlled rates are also offered. The uptake of utilisation of controllable load by small commercial customers is much less as customers do not generally have a significant load that they only require on a limited basis.

The special tariffs designed for irrigation installations are only available to irrigation installations on the network. Irrigation supply is controllable load and has an additional restriction of seasonal availability only.

The network does not yet offer time of use rates to residential customers. Retailers have now installed smart meters within our network so we anticipate making available some appropriate pricing.

#### **4.3 Pricing Principle (a)( iii) – additional usage on future investment costs**

*"Prices are to signal the economic costs of service provision, by; signalling, to the extent practicable, the impact of additional usage on future investment costs.*

##### **4.3.1 MLL's interpretation of Principle (a)(iii)**

This principle is very similar to Principle (a)(ii) with a focus on the growth of the network rather than utilization of the existing capacity.

##### **4.3.2 MLL's compliance with Principle (a)(iii)**

MLL utilizes a number of tools to signal the cost of additional usage on future investment costs. One of these is the capital contribution system which requires consumers to contribute to the marginal cost of providing capacity for a new installation or additional capacity for an existing installation. In our view other than capacity contributions, the most effective pricing structure to signal the impact of demand on investment is where the price is related to the end users demand during the peak demand period on the network.

The controlled and interruptible load pricing tariffs offered to residential and small commercial and irrigation customers meet the requirement of signaling the impact of additional usage on future investment costs. Variable charges also signal the impact in an easy to understand and dynamic way.

For all the consumer areas (residential, commercial and irrigation) charges are stepped up as capacity provided is increased. For non Time of Use (ToU) commercial customers this is done in relatively narrow bands, for ToU customers this is done in 5kVA increments. Irrigation installations are also charged on a capacity basis linked to maximum possible capacity but restricted from operating during the peak periods.

For the larger commercial consumers with ToU metering the daily and unit charge is greatly reduced with the majority of cost associated with capacity charges. Most of the capacity charge is seasonally based with winter peak demand charges signaling the historical winter peak that drove new investment as well as the impact of coincident regional peak demands that drive the majority of transmission costs.

With Network investment costs generally linked to capacity, MLL’s capacity based price structure ensures compliance with this principle.

#### **4.4 Pricing Principle (b) – recovering allowed revenues**

Pricing principle (b) states:

*“Where prices on ‘efficient’ incremental costs would under-recover allowed revenues, the shortfall should be made up by setting prices in a manner that has regard to consumers’ demand responsiveness, to the extent practicable”*

##### **4.4.1 MLL’s interpretation of Principle (b)**

MLL interprets this pricing principle as Ramsey pricing, whereby pricing at marginal cost is not appropriate for a natural monopoly as it would provide insufficient revenue to cover total cost. Ramsey pricing requires the utilization of a tariff structure to recover average costs, with the additional costs over marginal cost, being targeted in line with consumers’ responsiveness to price. In theory if all consumers shared the same marginal costs, consumers with a high price electricity of demand should be offered a lower price relative to other consumers. However, price elasticity is not able to be observed or measured for end use consumers.

##### **4.4.2 MLL’s compliance with Principle (b)**

We believe the consumer segmentation inherent in the MLL pricing structure is consistent with this principle. The Network utilizes variable charges for all consumer groups and in particular for smaller end use customers to recover charges that are largely fixed. This is the only practical way of allowing consumers with differing willingness to pay, to respond to price signals in line with their elasticity of demand.

#### **4.5 Pricing Principle (c)(i) – discourage uneconomic bypass**

Pricing Principle (c)(i) states:

*“Provided that prices satisfy (a) above, prices should be responsive to the requirements and circumstances of stakeholders in order to discourage uneconomic bypass”*

##### **4.5.1 MLL’s interpretation of Principle (c)(i)**

This principle deals with discouraging uneconomic bypass and requirement that the network not set prices so high that it encourages an alternative form of network supply which would replicate the sunken assets of the original network supplier.

#### 4.5.2 MLL’s compliance with Principle (c)(i)

The use of a cost allocation model which ensures a price is set below a stand-alone price, ensures consistency with this principle for the majority of customers. Additionally, MLL proposes to investigate whether the further use of non-standard pricing is most appropriate in some instances, which would allow all the specific factors for a particular consumer to be considered.

#### 4.6 Pricing Principle (c) ii – price quality trade-offs

Pricing Principle (c)(ii) states:

***“Provided that prices satisfy (a) above, prices should be responsive to the requirements and circumstances of stakeholders in order to allow for negotiation to better reflect the economic value of services and enable stakeholders to make price/quality trade-offs or non standard arrangement for services”***

In our view the best way of ensuring pricing is responsive to the requirements and circumstances of particular stakeholders in the future is to investigate non-standard arrangements where appropriate.

MLL has in the past met specific customer needs by introducing new tariff structures. For example, seasonal irrigation tariffs and 20 hour controlled tariffs for bakeries. In the future, the further extension of non-standard arrangements may be appropriate.

Standard pricing options for large customers respond to their particular needs by offering alternatives for them to own their own transformers and connect at differing points in the network.

#### 4.7 Pricing Principle (c) iii – encouraging investments in alternatives

***“Provided that prices satisfy (a) above, prices should be responsive to the requirements and circumstances of stakeholders in order to, where network economics warrant, and to the extent practicable, encourage investment in transmission and distribution alternatives (e.g. distributed generation or demand response) and technology innovation”***

The distributed generation regulations provide that a distributor may only charge the incremental cost of connecting to their network. MLL pays all distributed generators on the network Avoided Cost of Transmission charges (ACOT) which encourages generators to be operating during the transmission peak periods. MLL’s lines charges for the new distributed generation to feed into the Network have been set at zero where the capacity has been readily available. This allows the smaller embedded generators to connect to and utilise the network to deliver their generation to other connections without incurring network charges.

With respect to transmission and distribution alternatives, a number of MLL’s customers utilise generation capacity where they have a need for reliability beyond that which the network can reasonably provide and/or a short time of peak demand which the network cannot economically meet through installing additional capacity.

#### 4.8 Pricing Principle (d) – transparency, stability and certainty

***“Development of prices should be transparent, promote price stability and certainty for stakeholders, and changes to prices should have regard to the impact on stakeholders”***

MLL takes a number of steps to ensure our methodology is consistent with the above principle.

1. MLL consults with retailers on any planned changes to its pricing structure.
2. MLL has progressively simplified its pricing structure where differentials are no longer justified or the cost associated with the tariff complexity outweighs the additional revenue collected.
3. Whilst simplification and rationalisation has been undertaken, MLL has essentially maintained its historically based pricing structure. This is because over the recent years there has been the potential of regulatory intervention into distribution pricing. With the confirmation of a principles based approach, MLL will continue to review of its cost allocation model and tariff structure in the coming year.
4. MLL will develop policies around managing rate shock to ensure the impact on stakeholders is mitigated. If there are any significant changes that need to be made these will be phased in over time.

#### **4.9 Pricing Principle (e) – have regard to the impact on transaction costs and economic equivalence**

***“Development of prices should have regard to the impact of transaction costs on retailers, consumers and other stakeholders and should be economically equivalent across retailers”***

As stated above, MLL has moved to simplify its pricing structure over the last three years whilst maintaining the historical pricing signals and relativities between tariffs. The changes made have reduced transaction costs to retailers, some customers and ourselves. We have consulted with retailers on these proposed changes each year. An example of such change was the removal of an area distinction between those properties within the Marlborough District Council area and those within the Kaikoura District Council area. This simplification has resulted in the removal of around 22 tariffs, reducing the number of tariffs in the schedule by 30 percent.

All consumers, irrespective of which retailer they use are offered the same network prices. We do not provide any discounts or special terms to end use consumers based on their choice of retailer.

All retailers are subject to the same tariffs from Marlborough Lines. We therefore consider that prices are economically equivalent across all retailers. This principle of no special terms provided to any particular retailer is entrenched in our current Use of System Agreement.

## Glossary

<b>ACOT</b>	MLL’s pays Avoided Cost of Transmission to a number of small scale generators that provide distributed generation services on MLL’s networks.
<b>Asset</b>	Equipment or plant that is part of MLL’s electricity distribution network.
<b>By pass</b>	If a consumer chooses to obtain its electricity supply from an alternative source to the distribution network.
<b>Commerce Commission</b>	Electricity distributors are subject to regulatory provisions from the Commerce Commission under the Commerce Act 1986 which aims to provide the benefits of competition in markets where effective competition does not exist.
<b>Consumer</b>	An electricity user.
<b>Controllable Load</b>	The load mostly electrical water heating load that MLL is able to switch off during periods of high demand.
<b>Cost Allocation Model</b>	A model that allocates the actual costs of owning and operating the distribution network to the customer groups based on cost allocation methodology.
<b>CPI</b>	Means the consumer price index a measure of the change of a weighted average of prices in a basket of consumer goods and services.
<b>Distributed Generation</b>	Electricity generation that is connected directly to the distribution network. Also referred to as ‘embedded generation’.
<b>Electricity Authority</b>	The Electricity Authority is an independent Crown entity responsible for regulating New Zealand’s electricity market. Its objective is to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers.
<b>Electricity Distribution Business (EDB)</b>	A business such as MLL that is responsible for delivering electricity from the national grid to homes and businesses.
<b>Distribution Pricing Principles</b>	Published by the Electricity Authority in February 2010. These principles outline the requirements of distributors pricing methodology. Also known as the “pricing principles”.
<b>GXP</b>	Means Grid Exit Point. The point where MLL’s network connects to Transpower’s transmission network and where electricity flows from Transpower’s network onto MLL’s network.

<b>HV</b>	Means the high voltage distribution network.
<b>ICP</b>	The installation point where a consumer connects to MLL's electricity distribution network.
<b>kWh</b>	Kilowatt-hour. A measure of electricity consumption - this is the unit in which retail sales of electricity are measured.
<b>kVA</b>	Means kilovolt ampere and is a symbol of electrical load.
<b>Load management</b>	When MLL controls the electrical water heating load by switching it off during periods of high demand or during faults or emergency situations.
<b>LV</b>	Means the low voltage distribution network.
<b>Network peak demand</b>	When the network's consumption is at its highest.
<b>Pricing Methodology Disclosure Guidelines</b>	Published by the Electricity Authority on 1 March 2010. These guidelines specify the information that a distributor should make available so that a third party may determine if a pricing methodology is consistent with the pricing principles.
<b>TOU</b>	Means time of use, a metering set up that measure half hourly data allowing pricing that that varies dependent on time of day and measurement of peak demands.