



Evaluation of Nelson Electricity 2013 Pricing Methodology

What we have been asked to do

The Electricity Authority engaged Castalia to carry out an independent evaluation of the pricing methodologies published by the 29 electricity distributors in New Zealand. This document provides our evaluation of Nelson Electricity’s 2013 pricing methodology¹ against:

- The **Information Disclosure Guidelines** (Table 1). The guidelines set out the information that should be provided in distributor pricing methodologies.
- The **Pricing Principles** (Table 2). The principles contain economic benchmarks that should be reflected in pricing methodologies to the extent practicable.

The purpose of this review is to understand how distributors interpret the guidelines and principles, and to provide suggestions on how to improve distributor pricing methodologies. This review does not focus on ensuring compliance with the guidelines and principles.

Our understanding of Nelson Electricity’s methodology

The table below summarises our understanding of the methodology that Nelson Electricity uses to determine prices for its Load Group 2 consumer group. The purpose of this example is to explain our understanding of Nelson Electricity’s pricing methodology using the example of one consumer group (this is not a comprehensive summary of the pricing methodology that applies to all customers).

	Approach	Rationale
Customer categories	The users in this group have connections that range from 15 kVA up to 150 kVA	No rationale provided
Cost allocation	The cost allocators used as a base for apportioning costs are: the number of connections in the group, the group’s anytime peak and winter demand peak, GWh consumption, the regulatory value of the fixed assets used by the group, and the weighted average cost of capital	No rationale provided
Charging basis	Charges are comprised of a fixed daily charge based on fuse capacity and a variable kWh charge. Controlled and night rates are offered	No rationale provided

¹ Nelson Electricity’s 2013 pricing methodology is available online at: <http://www.nel.co.nz/dmsdocument/18>

Overview of our evaluation of Nelson Electricity's methodology

The main point raised in our evaluation of the methodology against the Information Disclosure Guidelines relates to the description of the cost allocation methodology. While the cost allocation methodology is well described in section 6.4, the methodology does not provide a rationale for the allocation Nelson Electricity's costs or the relationship between costs and the different consumer groups.

Our evaluation against the pricing principles raises a couple of areas where the methodology could improve. The methodology does not provide estimates of incremental and standalone costs, but suggests that cases of cross subsidy do exist. Given the confined and urban nature of Nelson Electricity's network, it is possible that these cases of cross-subsidy are in fact instances of price discrimination (charging different prices for the same service). The only way to clearly identify cross-subsidies is to show that revenues from any particular customer group are not sufficient to cover the incremental cost of service provision.

Table 1: Evaluation of the Pricing Methodology against the Information Disclosure Guidelines

Guideline	What is done well?	What is missing?
<p>(a) Prices should be based on a well-defined, clearly explained and published methodology, with any material revisions to the methodology notified and clearly marked</p>	<ul style="list-style-type: none"> ▪ There are no changes to the base pricing methodology ▪ The document is published on Nelson Electricity’s website ▪ The document is easy to understand 	<ul style="list-style-type: none"> ▪ The listing of the regulatory requirements on section 2 is unnecessary
<p>(b) The pricing methodology disclosed should demonstrate:</p> <p>(i) How the methodology links to the pricing principles and any non-compliance</p> <p>(ii) The rationale for consumer groupings and the method for determining the allocation of consumers to the consumer groupings</p> <p>(iii) Quantification of key components of costs and revenues</p> <p>(iv) An explanation of the cost allocation methodology and the rationale for the allocation to each consumer grouping</p>	<ul style="list-style-type: none"> ▪ The methodology recognizes cases of cross-subsidisation ▪ A section on compliance with the pricing principles is presented ▪ The factors on which consumer groups are based are identified ▪ All five consumer groups are clearly categorized ▪ The key components of costs and benefits are listed on page 13 ▪ The manner in which costs are apportioned is described in section 6.4 ▪ The rationale for the allocation of overhead costs is provided 	<ul style="list-style-type: none"> ▪ We have identified further instances of non-alignment to the pricing principles and have noted them in our pricing principles review ▪ The methodology should provide a rationale for its consumer groupings ▪ The methodology should provide a rationale to explain the allocation of all costs ▪ It is not clear how the consumer group statistics of section 6.2 are used to allocate costs to consumer groups. An example could be provided showing how the cost recoveries presented in the table on page 13 are obtained for any given load group using these statistics ▪ The relationship between costs and consumer groups is not explained

Guideline	What is done well?	What is missing?	
<p>(v) An explanation of the derivation of the tariffs to be charged to each consumer group and the rationale for the tariff design</p> <p>(vi) Pricing arrangements that will be used to share the value of any deferral of investment in distribution and transmission assets, with the investors in alternatives such as distributed generation or load management, where alternatives are practicable and where network economics warrant.</p>	<ul style="list-style-type: none"> ▪ The methodology states the overall proportion of costs recovered from fixed and variable tariffs ▪ The methodology states the percentage of total network costs that each type of tariff recovers for each load group ▪ The pricing schedule table on page 20 presents valuable information on the tariff design and its changes from the previous year <hr/> <ul style="list-style-type: none"> ▪ Section 9 presents the approach to distributed generation 	<ul style="list-style-type: none"> ▪ The methodology should explain the rationale for the overall tariff design and for the differences in the fixed/variable proportions between load groups ▪ The table on page 20 would be strengthened by adding a column showing how tariffs recover the required revenue, i.e. fixed tariff revenue plus variable charges times forecast consumption levels should equal required revenue <hr/> <ul style="list-style-type: none"> ▪ The methodology should present further information on the pricing arrangements with distributed generators. For example, do generators incur a cost for injecting electricity back into the network? The methodology does not appear to have an arrangement to pay avoided costs of transmission 	
<p>(c) The pricing methodology should:</p> <p>(i) Employ industry standard terminology, where possible</p> <p>(ii) Where a change to the previous pricing methodology is implemented, describe the impact on consumer classes and the transition arrangements implemented to introduce the new methodology.</p>	<p>Industry standard terminology is used throughout the methodology</p> <hr/> <ul style="list-style-type: none"> ▪ The base pricing methodology has not changed from that of last year 		
Key to evaluation	Does not follow guidelines	Partially follows guidelines	Follows guidelines

Table 2: Evaluation of the Pricing Methodology against the Pricing Principles

Pricing principles	What is done well	What is missing
<p>(a) Prices are to signal the economic costs of service provision by:</p> <p>(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 regulation</p>	<ul style="list-style-type: none"> ▪ The methodology recognizes cases of cross-subsidisation 	<ul style="list-style-type: none"> ▪ The methodology should provide estimates of incremental and standalone costs to identify cases of cross subsidy and the magnitude of subsidisation ▪ Given that Nelson Electricity’s consumer base is entirely urban and concentrated in location, we would expect price discrimination to be more common than cross-subsidies. Price discrimination involves different consumers making a different contribution towards recovering network fixed costs, but if all customers contribute more than incremental cost then tariffs are subsidy free
<p>(ii) having regard, to the extent practicable, to the level of available service capacity</p>	<ul style="list-style-type: none"> ▪ The methodology explains that consumption trends have been declining since 2008 ▪ Nelson Electricity is looking to change the fixed charge for all Group 2 consumers. The fixed charge will be based on fuse size to ensure larger capacity connections contribute a higher level of line charges and also to encourage behavioural change aimed at reducing fuse size 	<ul style="list-style-type: none"> ▪ In terms of available service capacity, the methodology should mention whether peak demand is also declining ▪ We would expect to see: <ul style="list-style-type: none"> – A description of current service capacities compared to the anytime peak and winter demand peak shown on page 11 – The relationship between prices and service capacity
<p>(iii) signalling, to the extent practicable, the impact of additional usage on future investment costs</p>	<ul style="list-style-type: none"> ▪ Nelson Electricity is currently investing in a new 33kV feeder and in replacing its only zone substation. Upon completion there will be less reliance on ripple control for local network congestion peaks and so prices will be reviewed 	<ul style="list-style-type: none"> ▪ It is unclear from the methodology whether the two investments referred to are the only investments planned by Nelson Electricity ▪ It would be useful to state whether prices are expected to increase or decrease for the different consumer groups

Pricing principles	What is done well	What is missing
<p>(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</p>	<ul style="list-style-type: none"> ▪ Domestic consumers have a higher variable proportion to their tariff design than other consumer groups. This responds to the assumption that residential users have lower price-demand elasticity 	<ul style="list-style-type: none"> ▪ It is not clear from the methodology whether this principle applies ▪ The methodology should state whether the higher variable proportion of domestic tariffs is a result of having gaged consumers’ demand responsiveness
<p>(c) Provided that prices satisfy (a) above, prices should be responsive to the requirements and circumstances of stakeholders in order to:</p> <p>(i) discourage uneconomic bypass</p>		<ul style="list-style-type: none"> ▪ The methodology should describe when it expects uneconomic bypass to be likely and its approach to mitigating the incidence of uneconomic bypass (for example, through non-standard pricing arrangements)
<p>(ii) allow for negotiation to better reflect the economic value of services and enable stakeholders to make price/quality trade-offs or non-standard arrangements for services</p>	<ul style="list-style-type: none"> ▪ Regular surveys are carried out consulting customers on their views on price/quality trade-offs ▪ Section 8 presents the approach to non-standard arrangements 	<ul style="list-style-type: none"> ▪ The methodology refers to a price/quality trade-off that has been made, i.e. to invest in new assets to reduce ripple control. It could be good to know whether customers were consulted on this point and any feedback received from customers on this price/quality trade-off
<p>(iii) where network economics warrant, and to the extent practicable, encourage investment in transmission and distribution alternatives and technology innovation</p>		<ul style="list-style-type: none"> ▪ Distributed generators do not appear to receive any pricing benefit ▪ The methodology could encourage distributed generation by, for example, offering to pay avoided costs of transmission to generators who make a contribution to reducing peaks and not charging variable charges to small generators
<p>(d) Development of prices should be transparent, promote price stability and certainty for stakeholders, and changes to prices should have regard to the impact to stakeholders</p>	<ul style="list-style-type: none"> ▪ The pricing methodology has remained stable for a number of years ▪ Customer consultation is held regularly ▪ Retailer feedback has been sought when modifying charges 	

Pricing principles	What is done well	What is missing	
(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	<ul style="list-style-type: none"> ▪ Pricing options have occurred which reduced transaction costs for retailers 	<ul style="list-style-type: none"> ▪ The methodology does not state whether economical equivalence is maintained across retailers 	
Key to Assessment	Does not align with principles	Partially aligns with principles	Aligns with principles