



## Evaluation of WEL Networks 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 WEL Network's 2013 pricing methodology<sup>1</sup> 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 WEL Network's methodology

The table below summarises our understanding of the methodology that WEL Networks uses to determine prices for its residential customers. The purpose of this example is to explain our understanding of WEL Network'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
<b>Customer categories</b>	Residential customers have the following characteristics: <ul style="list-style-type: none"> <li>▪ Fuse size of less than or equal to 160 amps</li> <li>▪ Connection voltage of 400 volts</li> <li>▪ Annual electricity consumption of less than 250MWh</li> <li>▪ Primary purpose of installation is as a residence (not a business)</li> </ul>	Primary purpose is used to reflect the differing load profile of residential and business customers. No rationale is provided for the other factors used to group residential customers (e.g. to separate customers that use different network assets)
<b>Cost allocation</b>	Most network costs are allocated using a composite variable that is based on the Anytime Maximum Demand of residential customers and the contribution of the customer group to network peak periods (Coincident Maximum Demand). Overheads are allocated based on customer numbers, and regulatory charges are based on electricity consumed	The AMD/CMD composite variable is a proxy for utilisation of the network, and therefore the costs of providing network services. Overhead costs are driven more by the number of customers served than the profile of each customer's network use
<b>Charging basis</b>	All residential customers face a fixed charge of 15c per day, and the balance of costs allocated to this group are recovered from variable charges. A new advanced pricing option has also been introduced	Compliance with low user fixed charge regulations

<sup>1</sup> WEL Network's 2013 pricing methodology is available online at: <http://www.wel.co.nz/UserFiles/WelNetworks/File/Pricing%20Methodology%20Disclosure%20for%20April%202013.pdf>

## **Overview of our evaluation of WEL Networks' methodology**

WEL Networks' pricing methodology clearly communicates how the company's network services are priced and the reasons that new customer groups and tariff options have been introduced. This pricing methodology is a substantial improvement on WEL Networks' 2012 methodology—reflecting the efforts that the company has put into developing its pricing approaches over the past year.

The main area of information disclosure that we think could be improved is on tariff design. Complete pricing disclosures should present a full list of tariff options showing fixed, variable, and demand charges, and should explain how those tariffs are expected to recover the costs allocated to each customer group. Although Table 6 appears to show that different tariff categories will generate the revenues to recover costs, we think that it is also useful to show how specific tariff components contribute to that revenue (e.g. 15c/day x 365 days per year x number of ICPS).

The methodology makes an excellent attempt to interpret the pricing principles. This is a necessary step because the pricing principles are not self-explanatory—but this has not done by most other distributors. Although we adopt slightly different interpretations of the principles in some areas (particularly on principle (b)), overall the way that WEL Networks' interprets the pricing principles is sound. Our evaluation has identified some areas where WEL Networks could present additional information to show compliance with each principle. For example, principle a(ii) and a(iii) call for prices that signal the value of using spare network capacity (through low prices) and the value of consuming during network peaks and therefore creating investment needs (through high prices). Although WEL Networks' pricing approach is heading in that direction by adopting advanced pricing, the benefits of this approach should be explained with reference to the physical characteristics of WEL Networks' particular assets, customer demands, and investment plans.

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

Guideline	What is done well?	What is missing?
<p><b>(a)</b> 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"> <li>▪ The methodology describes the material revisions in approach well by explaining what is being done and why</li> <li>▪ The methodology is published on WEL Networks' website and is clearly written</li> </ul>	
<p><b>(b)</b> The pricing methodology disclosed should demonstrate:</p> <p><b>(i)</b> How the methodology links to the pricing principles and any non-compliance</p> <p><b>(ii)</b> The rationale for consumer groupings and the method for determining the allocation of consumers to the consumer groupings</p>	<ul style="list-style-type: none"> <li>▪ The methodology summarises how WEL Networks has interpreted the pricing principles, which is an excellent way to give relevance and application to the principles</li> <li>▪ The factors used to allocate customers to different groups are clearly laid out</li> <li>▪ Good diagrammatic representation of customer groups in Figure 1 on p14</li> </ul>	<ul style="list-style-type: none"> <li>▪ Note: We have identified further instances of non-alignment and have noted them on our pricing principles review</li> <li>▪ It is not clear from Figure 1 on p14 how the purpose of the connection (residence or business) feeds into the diagram. Also not clear how customers connected at 400V with a fuse size of &lt;160 amps and consumption of &gt;250MWh per year would be grouped</li> <li>▪ The rationale for some of the factors used to allocate customers to groups is missing. For example, annual consumption of 250 MWh is used as a threshold. WEL Networks should explain why this level of consumption is used (for example, to distinguish between customers with different load shapes or demands)</li> <li>▪ It would be good to show some evidence that supports the conclusions drawn in the methodology. For example, WEL Networks states (on p25) that small scale distributors have been grouped together to recover long term incremental cost impacts. No supporting evidence is provided to establish that these costs are material and therefore warrant a separate customer group</li> </ul>

Guideline	What is done well?	What is missing?
<p><b>(iii)</b> Quantification of key components of costs and revenues</p>	<ul style="list-style-type: none"> <li>▪ Key revenue components are presented in Table 4, broken down by consumer group in Table 5, and by price component (tariff category) in Table 6</li> </ul>	<ul style="list-style-type: none"> <li>▪ The impact of the posted discount is confusing. It appears as a cost to the business in Table 4, but subtracted from target revenue in Table 6</li> <li>▪ The label “Net profit after tax” in Tables 3 and 4 may also be misleading. It is not clear whether debt repayments are recovered from this line item or somewhere else—if debt costs are recovered through this item it should be labelled “cost of capital”</li> </ul>
<p><b>(iv)</b> An explanation of the cost allocation methodology and the rationale for the allocation to each consumer grouping</p>	<ul style="list-style-type: none"> <li>▪ The factors used to allocate costs across different customer groups are clearly set out and described in Table 3</li> </ul>	<ul style="list-style-type: none"> <li>▪ The methodology should provide a breakdown of the target revenues for each consumer group by each cost component (this requires expanding Table 5). For example, the \$64 million of target revenue for the “Waikato mass market” consumer group should be broken down to show how much is due to asset related costs, O&amp;M, pass through items, etc</li> <li>▪ It would be good to explain why 200 peak half hours has been chosen for AMD and CMD</li> <li>▪ Should clarify that the use of CMD to pass-through transmission charges does not create an exact link between cost drivers and prices because transmission charges are based on regional coincident peak demands</li> </ul>

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>	<ul style="list-style-type: none"> <li>▪ WEL Networks provides a description of the new advanced pricing on p11</li> </ul>	<ul style="list-style-type: none"> <li>▪ It is unclear how advanced prices are represented in Tables 5 and 6</li> <li>▪ We would expect to see:               <ul style="list-style-type: none"> <li>– A clear description of how tariffs are derived (preferably including a tariff table)</li> <li>– A reasonable rationale for the design of all tariffs</li> <li>– The way tariffs are expected to recover the costs of each consumer group. For example, presenting the fixed charge for low user customers, multiplied by the number of low user customers and by the number of days in a year would provide an estimate of the revenue that is expected from the fixed charge. This, added to the revenue expected from variable charges would then be compared to the expected costs that this group will have on the network. This approach should then be replicated for all other consumer groups</li> </ul> </li> </ul>
<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"> <li>▪ The methodology describes how avoided transmission costs are shared with three distributed generators that avoid costs for WEL Networks</li> <li>▪ The methodology states that network economics warrant the introduction of a new charge for distributed generation to reflect the need to provide capacity when power is exported to the network</li> </ul>	
<p>(c) The pricing methodology should:</p> <p>(i) Employ industry standard terminology, where possible</p>	<ul style="list-style-type: none"> <li>▪ The methodology uses industry standard terminology</li> </ul>	

Guideline	What is done well?	What is missing?	
<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>	<ul style="list-style-type: none"> <li>▪ This methodology includes material revisions. The impacts on different consumers are described, including in some cases the decision to introduce new customer groups but not use those groups at this time (as part of a transition)</li> </ul>		
<b>Key to evaluation</b>	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><b>(a)</b> Prices are to signal the economic costs of service provision by:</p> <p><b>(i)</b> 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"> <li>WEL Networks identified a specific case of cross-subsidy (to unmetered street lights), and has changed its prices to remove this cross-subsidy</li> </ul>	<ul style="list-style-type: none"> <li>To demonstrate subsidy free prices, the methodology should clearly define what is meant by incremental cost, and demonstrate that the prices charged to each customer group exceed the incremental cost of service provision</li> <li>This requires providing an estimate of the incremental cost of serving different customer groups</li> </ul>
<p><b>(ii)</b> having regard, to the extent practicable, to the level of available service capacity</p>	<ul style="list-style-type: none"> <li>The introduction of an advanced pricing option aims to signal the lower cost of providing capacity during off-peak periods</li> </ul>	<ul style="list-style-type: none"> <li>It would be useful to know where and when spare capacity exists on WEL Networks’ network, and how prices encourage use of this capacity. This should include a comparison of peak demands and service capacity available at those times</li> </ul>
<p><b>(iii)</b> signalling, to the extent practicable, the impact of additional usage on future investment costs</p>	<ul style="list-style-type: none"> <li>The introduction of an advanced pricing option aims to signal the higher cost of investing to provide additional capacity during peak periods</li> </ul>	<ul style="list-style-type: none"> <li>It would be useful to present information on the network investments that have been planned, and whether the introduction of advanced pricing is expected to defer any of these investments</li> </ul>
<p><b>(b)</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"> <li>WEL Networks’ interpretation of this principle is “prices encourage demand response”. The specific objective of this principles is really to direct the recovery of network fixed costs towards the least price responsive customers</li> <li>The methodology states that controllable load pricing and advanced pricing help to align with this principle</li> </ul>	<ul style="list-style-type: none"> <li>The methodology should explain whether it is practicable to gauge the price responsiveness of different customers and customer groups</li> <li>The methodology should consider how the tariffs charged to different customer groups reflect the expected response to those prices—for example, by directing the recovery of fixed costs towards the least responsive groups</li> </ul>
<p><b>(c)</b> Provided that prices satisfy (a) above, prices should be responsive to the requirements and circumstances of stakeholders in order to:</p>		<ul style="list-style-type: none"> <li>The methodology should identify the circumstances where it would expect uneconomic bypass to occur</li> </ul>

Pricing principles	What is done well	What is missing
(i) discourage uneconomic bypass		<ul style="list-style-type: none"> <li>The methodology should explain what is done to address the risk of uneconomic bypass, for example by negotiating pricing arrangements that reflect as closely as possible the network costs incurred by each consumer</li> </ul>
(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	<ul style="list-style-type: none"> <li>The methodology explains that non-standard contracts are negotiated, and in particular explains how WEL Networks' prices can help customers to pay for capital connection costs over time</li> </ul>	<ul style="list-style-type: none"> <li>The methodology should also explain what information (if any) is gathered to understand the price/quality preferences of standard customers. For example, it would be useful to understand how WEL Networks engages with its customers before making investments to determine that customers are happy to pay more for the added reliability/capacity achieved through investment</li> </ul>
(iii) where network economics warrant, and to the extent practicable, encourage investment in transmission and distribution alternatives and technology innovation	<ul style="list-style-type: none"> <li>WEL Networks pays ACOT to distributed generation that reduces the transmission costs borne by WEL Networks</li> </ul>	<ul style="list-style-type: none"> <li>The methodology introduces a new charge for distributed generation, which would tend to reduce the business case for investment. While this charge may in fact reflect network economics, more information needs to be presented to draw the conclusion that the new charge is appropriate and not a barrier to efficient distributed generation</li> </ul>
(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	<ul style="list-style-type: none"> <li>WEL Networks has introduced material changes as part of this methodology. These changes have been clearly described</li> <li>The methodology creates the ability to introduce further price distinctions in the future, while not operationalizing different prices at this point in time</li> </ul>	<ul style="list-style-type: none"> <li>More information should be provided about how price categories will be phased in over time, or what characteristics would lead to particular pricing categories to become operational</li> <li>The methodology claims (on p22) that a 6.3% price increase is consistent with recent Commerce Commission decisions for non-exempt distributors. The basis for this claim should be explained further (some distributors received price increases, others price decreases in the recent DPP decision)</li> </ul>

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"> <li>▪ Good description of consultation with retailers, and the changes that resulted from consultation</li> <li>▪ Good to acknowledge that distributor pricing signals can be made effective by aligning with retailer prices</li> </ul>	<ul style="list-style-type: none"> <li>▪ It would be good to show that advanced pricing maintains economical equivalence, despite potentially not being available to all retailers</li> </ul>	
<b>Key to Assessment</b>	Does not align with principles	Partially aligns with principles	Aligns with principles