Evaluation of Orion 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 Orion's 2013 pricing methodology[1] 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 Orion's methodology

The table below summarises our understanding of the methodology that Orion uses to determine prices for its general connection group. The purpose of this example is to explain our understanding of Orion'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 general connections category includes all connections that do not fall into any other category	General connections make use of all network assets and do not have any unique cost characteristics that call for separate treatment
Cost allocation	Distribution: Shared assets are allocated based on contribution to ADMD, assets of a fixed size are allocated by the sum of each individual connection's AMD, and contingent assets are weighted according to each consumer category's value of lost load. Transmission: Allocated by the sum of AMD, with the additional cost of meeting higher winter peaks allocated to those customers who contribute to winter peak (except for irrigators)	Assets are allocated based on the relative use and need for each connection category
Charging basis	Capital contributions, volume charges (day/night), peak charges (c/kW/day), and a low power factor charge.	Peak charge covers LRAIC, and volume charges collect the balance. Low power factor charges are only to recover the cost of serving customers with a factor materially below 0.95 lagging

[1] Orion's 2013 pricing methodology is available online at: http://www.oriongroup.co.nz/downloads/PricingMethodology.pdf

Overview of our evaluation of Orion's methodology

Orion's 2013 pricing methodology is a clearly explained and well-structured document that details Orion's approach to determining prices. Overall, the methodology clearly presents most of the information required under the information disclosure guidelines. In particular, Orion provides a very clear link between the costs allocated to each consumer group, and how tariffs have been designed for each group to recover the costs allocated to them. This is particularly pleasing because this aspect of the pricing methodologies is often not done well.

Our main concern with the alignment of the pricing methodology against the pricing principles is that there is no enough explanation for the peak demand charges that are used to recover most of the network costs. While we are pleased to see that Orion has taken a carefully considered approach to reflecting its costs through its prices, we believe that this could be better explained in the methodology. For example, the methodology could explain more clearly how each retailer's contribution to peak demand is calculated. We understand that Orion uses channels other than its pricing methodology to explain the approach and rationale for peak pricing, but we believe that this element of the methodology could be more clearly laid out. The methodology should also clearly describe how the peak charges provide signals to retailers to reduce their customers' peak demand when the network capacity is constrained, or to utilise any spare capacity.

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

Guideline	What is done well?	What is missing?
(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	▪ The methodology is clearly explained, and presented in a logical structure ▪ Orion clearly identifies new sections to the methodology (3.2), and that there have been no material changes to the methodology ▪ The methodology is published clearly on the website	▪ The methodology would be improved by including titles and clearer formatting on the tables, particularly in section 7 where table columns need to be aligned
(b) The pricing methodology disclosed should demonstrate: **(i)** How the methodology links to the pricing principles and any non-compliance	▪ The methodology presents a summary of alignment in Appendix B	▪ See our evaluation of the pricing principles for areas of non-alignment
(ii) The rationale for consumer groupings and the method for determining the allocation of consumers to the consumer groupings	▪ The consumer groups are clearly described in the methodology with key statistics presented of the consumers in each group ▪ The rationale for each customer group is provided and some factors leading to customer groups are identified	
(iii) Quantification of key components of costs and revenues	▪ Key costs and revenues are clearly presented in section 5	
(iv) An explanation of the cost allocation methodology and the rationale for the allocation to each consumer grouping	▪ The methodology identifies the allocation approach for each type of costs, and some rationale for these approaches ▪ Orion identifies that the ADMD is the main cost driver for the network	▪ It would be helpful to link the figures presented in the table on page 15 with the description of assets on page 14. This would clarify which assets are considered to be shared, or of a fixed size, which allows the reader to follow the allocation of costs through using the statistics presented in the connection categories

Guideline	What is done well?	What is missing?
(v) An explanation of the derivation of the tariffs to be charged to each consumer group and the rationale for the tariff design	▪ The methodology presents the different tariffs for each consumer group in Section 7, and the rationale for the tariff design ▪ Orion clearly links the tariffs to the forecast revenue recovery, and the target revenue required to recover costs, for each consumer group	▪ It is not clear how kWs are measured or estimated for applying peak charges. That is, does the demand charge rely on an assumption about the contribution of customers to the average ADMD, or does Orion have information (for example, from smart meters) on the individual customer peaks?
(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.	▪ The methodology describes the pricing arrangements for distributed generation in Section 8 ▪ Orion offers power factor correction and interruptibility rebates for irrigators that manage their power factor and avoid the need for network reinforcement	
(c) The pricing methodology should: **(i)** Employ industry standard terminology, where possible	▪ The methodology uses industry standard terminology	
(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.	▪ Orion identifies forecast price changes for the next five years	

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
(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 regulation	▪ Orion provides estimates of the long run average incremental cost (LRAIC) of serving the general and major connections ▪ Orion individually negotiates with large connections to recover incremental costs	▪ The incremental cost of street lighting and irrigation connections is not presented. The methodology does not explain how the prices for these groups are subsidy free ▪ No standalone cost estimates are presented
(ii) having regard, to the extent practicable, to the level of available service capacity	▪ Peak demand charges signal the times of day when service capacity is constrained	▪ Orion attempts to provide signals to customers through peak charges, but the methodology does not clearly explain how each retailer's peak demand is calculated, and how this price signal creates the incentive for retailers to minimise Orion's costs ▪ Although peak demand charges signal when capacity is constrained, the methodology does not show where this occurs. The methodology could present information of current service capacity at different areas of the network, and how much of that capacity is currently required to meet demand
(iii) signalling, to the extent practicable, the impact of additional usage on future investment costs	▪ By pricing on LRAIC, Orion states that if customers continue to demand higher capacity, then they are paying for the long run incremental cost of that additional investment	▪ Orion does not provide any forecasts of investment needs ▪ It is not clear if the long run incremental cost of servicing customers is reflecting the rebuild after the earthquake and the need to improve the quality of the network in areas where there is continued ground movement. It would be helpful to identify when LRAIC was calculated, and if this is likely to change in the future

Pricing principles	What is done well	What is missing
(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	▪ The methodology identifies that prices based on LRAIC are not recovering allowed revenues	▪ The methodology states that customers are responsive only over long periods of time, and are more willing to pay for electricity during the day, than at night. On this basis, Orion believes it is responding to the price responsiveness of consumers. In our view, it is not obvious that consumers have lower price elasticity at night. For example, two customers may consume the same amount of energy during the day, but one of those customers may have a much higher willingness to pay for that energy than the other customer
(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	▪ Orion identifies large customers close to the GXPs may be likely to bypass the network. Discounts are offered to these customers	▪ It would be useful to see a description of the process used to identify the risk of uneconomic bypass and the process used to discount prices appropriately
(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	▪ Orion identifies that consultations are appropriate as part of the CPP and AMP processes, and that there is no room for price quality trade-offs under the DPP due to risk of breaching quality targets ▪ Orion has conducted twice-yearly pricing seminars with customers	▪ In our view, price-quality trade-offs are still possible under the DPP, for two reason: (i) there are elements of quality that are not covered in the DPP targets (e.g. customer response times and voltage fluctuations), and (ii) SAIDI and SAIFI are averages that allow the network to degrade quality in some areas whilst maintaining the averages overall
(iii) where network economics warrant, and to the extent practicable, encourage investment in transmission and distribution alternatives and technology innovation	▪ The methodology identifies that Orion offers power factor correction rebate for irrigators that manage their power factor and avoid the need for network reinforcement ▪ Orion pays ACOT and 'other charges' for distributed generation and export	▪ The methodology could improve the clarity of the export and generation credits and their relationship with ACOT

Pricing principles	What is done well	What is missing
(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	▪ Prices have been stable in the long run and Orion states that they introduce any major changes over several years to avoid price shocks to consumers ▪ Twice-yearly pricing seminars are conducted with customers, and significant changes are consulted on ▪ Orion publishes a pricing guide in plain English for customers (most recent in 2010)	▪ The methodology states that there will be a 15 percent increase in prices in the following pricing year. This increase represents 75 percent of the total forecast increase over a five year period. The methodology should explain how this price increase will be applied across different consumer groups (or when Orion expects to be able to inform customers of their specific impacts), and why this approach is the best way to transition consumers to the 20 percent increase over the 5 year period compared with other transition options ▪ It would be helpful to update the pricing guide for customers to understand the upcoming changes in prices and outcome of the CPP application
(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	▪ The methodology states that prices are GXP based to reduce the transaction costs for Orion and retailers ▪ All retailers are subject to the same prices ▪ The methodology describes changes over the past 3 years that have reduced transaction costs for retailers	

Key to Assessment	Does not align with principles	Partially aligns with principles	Aligns with principles