Evaluation of Eastland Network's 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 Eastland Network'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 Eastland Network's methodology

The table below summarises our understanding of the methodology that Eastland Network uses to determine prices for its domestic consumer group. The purpose of this example is to explain our understanding of Eastland Network's pricing methodology using the example of one consumer group.

	Approach	Rationale
Customer categories	Consumers are split into high or low network density and by network usage profile	Domestic consumers are grouped together because their peak usage occurs between the hours of 7.30am-9.30am and 5.30pm-9.00pm
Cost allocation	Cost allocators are divided into load dependent (number of ICPs) and load independent (AMD, CPD, kWh consumption, and Asset Replacement Cost) and applied to relevant load dependent and independent costs	Eastland Network uses a network use cost allocation method for load dependent costs, drawing on the assumption that investment in network assets is driven by use. For load independent costs, a rationale is provided for allocating some costs (e.g. overheads and administration), but is missing for others (e.g. transmission costs)
Charging basis	All domestic consumers are charged low user fixed charges and variable charges. Three variable rates are offered: uncontrolled, controlled and night rate tariff	The low user fixed charge is provided to comply with regulations. The variable rates are priced to encourage consumption outside of peak demand

[1] Eastland Network's 2013 pricing methodology is available online at: http://www.eastland.co.nz/assets/Uploads/Pricing-Methodology2013-14-FINAL-signed.pdf

Overview of our evaluation of Eastland Network's methodology

Eastland Network's pricing methodology is well written and follows a logical structure, two aspects that make it both easy to read and understand.

We believe that dividing customers into high and low density groups is a valuable approach. However, the methodology states that the division reflects the higher level of service offered to high density consumers. There is no information presented in the methodology to support this quality distinction. In our view if this difference is relevant then the methodology should show that high density customers value service quality more, and are therefore happy to pay a premium. In our view, the split would be better explained as reflecting the different costs associated with serving these two distinct sets of consumers.

The methodology could also be strengthened by providing a more thorough analysis of the tariff derivation and design. In particular, we would expect the methodology to identify the link between costs allocated to customer groups and the way that tariffs recover those costs. The methodology does a good job (through the table presented in appendix one) of showing how the cost allocation recovers total revenue. An attempt to showing how tariffs then recover costs (and therefore achieve total required revenue), is what we think is missing in the methodology.

In terms of alignment with the pricing principles, the methodology assets that cross-subsidisation exists in the electricity prices for domestic consumers. To confidently identify cross-subsidies (as distinct from price discrimination), the methodology should present estimates of the incremental cost of serving different domestic consumers. We believe that the relevant incremental cost is the short run incremental cost, i.e. the cost of supplying electricity to a group of customers and of maintaining the lines that serve them. As long as the variable and fixed charge components of tariffs recover the additional cost of serving these customers then no cross-subsidy exists. This is maintained for long run incremental costs by recovering additional fixed costs of connection through customer contributions.

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	▪ Tariff categories have remained unchanged for a number of years ▪ The methodology can be found on Eastland Network's website ▪ The document follows a logical structure and is well written	
(b) The pricing methodology disclosed should demonstrate: **(i)** How the methodology links to the pricing principles and any non-compliance	▪ The methodology explicitly links to the pricing principles through a summary at the end ▪ The methodology identifies cross-subsidisation as an area of non-compliance	▪ We have identified further cases of non-alignment to the pricing principles and have noted them on our pricing principles review
(ii) The rationale for consumer groupings and the method for determining the allocation of consumers to the consumer groupings	▪ A clear categorization of consumers is presented ▪ The factors leading to each consumer category are identified ▪ A rationale is provided for consumer groupings	▪ The table on page 9 is missing the demand group for 31 to 100kVA ▪ The methodology does not explain the overlap from 0 to 3 kVA between Low capacity and Demand
(iii) Quantification of key components of costs and revenues	▪ The revenue requirements by component are presented in table 1	
(iv) An explanation of the cost allocation methodology and the rationale for the allocation to each consumer grouping	▪ The cost allocators are listed and divided into load independent and load dependent ▪ The final cost allocation to consumer groups is shown on a table in Appendix I ▪ The rationale for the allocation of most costs is presented ▪ The relationship between costs and consumer groups is explained on page 11	▪ The rationale for allocating the costs presented on the first and last paragraphs of page 11 is not provided
(v) An explanation of the derivation of the tariffs to be charged to each consumer group and the rationale for the tariff design	▪ A reasonable explanation is provided for the different tariffs	▪ We would expect to see a table summarizing the tariff options and charges, and the way those tariffs recover costs ▪ We would expect to see the different tariff options available to non-domestic consumers, i.e. whether uncontrolled, controlled and night rates are offered to these consumers

Guideline	What is done well?	What is missing?
(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.	▪ Pricing arrangements for distributed generators are presented on page 13	▪ To better inform the developers of distributed generators the methodology could provide the value of the payment made for avoided cost of transmission
(c) The pricing methodology should: **(i)** Employ industry standard terminology, where possible	▪ Industry standard terminology is used	
(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.	▪ Eastland Network's intention is to move prices towards those based on a revised cost allocation methodology over a 3-5 year period, being mindful of price shocks to consumers	▪ The move in prices will see some load groups facing continual increases over the 3-5 year period. This change should be quantified and presented, and its impact on consumers assessed ▪ The methodology does not clearly state whether changes to prices and cost allocation have occurred since the previous pricing methodology

Key to evaluation	Does not 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	▪ The methodology recognizes that there is subsidized electricity prices for domestic consumers ▪ To reflect that the total value of assets used to supply low density consumers is significantly greater than that used to supply high density consumers, an increase in the fixed charges to low density non-domestic will be phased in over a transition period	▪ We would expect to see an approach to defining and calculating incremental and standalone costs. This would help clarify whether the low user fixed charge domestic consumers are paying below incremental cost, i.e. being subsidised.
(ii) having regard, to the extent practicable, to the level of available service capacity	▪ TOU pricing is offered which encourages shifting consumption from peak to off peak	▪ We would expect to see: – A description of service capacity and how much is used to meet demand – An explanation of the relationship between prices and service capacity ▪ The methodology should consider whether the differential for the night rate tariff, used to encourage use of available capacity at night, is insufficient. It is unclear whether the proposed removal of the night rate tariff is a consequence of a large amount of available service capacity during peak times or if the tariff differential is insufficient to encourage customers to shift consumption (which could explain the low levels of uptake for this tariff)
(iii) signalling, to the extent practicable, the impact of additional usage on future investment costs	▪ Eastland Network offers its customers the possibility of controlled load tariffs ▪ The methodology recognizes that peak demand drives the need for network investment but states that there has been little growth in peak demand ▪ The methodology identifies (p.11) that the majority of planned future investment relates to asset renewal and increased reliability and takes measures to reflect this in its cost of supply model	▪ We would expect to see forecasts of investment needs to meet future asset renewal and improved reliability

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 TOU consumers prefer a higher level of fixed charging and reflects this in the decision to recover the majority of non-domestic costs through fixed charges. It follows that non-domestic variable prices decrease as the capacity of the consumer group increases	▪ It is not clear from the methodology whether or not this principle applies ▪ We would expect Eastland Network to attempt to gauge the demand responsiveness of its domestic consumers so as to price them accordingly
(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	▪ Eastland Network considers that there is no risk of uneconomic bypass occurring ▪ Some flexibility is allowed with regard to capital contributions for new connections	▪ The methodology should present the reasons for considering uneconomic bypass unlikely
(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	▪ In 2010 a TOU tariff was introduced following consumer requests. The tariff was consulted with retailers and received positive feedback ▪ Some flexibility is allowed with regard to capital contributions for new connections at which point customers are allowed to make price/quality trade-offs	▪ We would expect to see a description of the approach to non-standard arrangements including a summary of the number and size of connections under these arrangements
(iii) where network economics warrant, and to the extent practicable, encourage investment in transmission and distribution alternatives and technology innovation	▪ The methodology presents a complete appraisal of its distributed generation pricing arrangements which encourage this activity	▪ The methodology could provide the number and size of distributed generators active in the network
(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	▪ Eastland Network has pricing arrangements in place to smoothen price shocks to load groups ▪ The cost of supply model assumes a static model of network configuration in order to create some stability in pricing ▪ Eastland Network limits the rate shock to non-domestic consumers to provide price stability and certainty, taking into account the long term investment decisions these consumers carry out	

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		▪ We would expect to see a description of the most relevant transaction costs and whether economical equivalence is maintained across retailers, i.e. whether all retailers face the same pricing schedules

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