



HORIZON ENERGY DISTRIBUTION LIMITED

Pricing Methodology

**Effective
01 April 2010**

Electricity Information Disclosure Amendment Requirements Notice 2006

Disclosure of Pricing Methodology (Pursuant to Requirements 22 & 23 Part 4A of Commerce Act 1986)

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1. Pricing Methodology

1.1. Background

Clause 22 of the Electricity Information Disclosure Requirements 2004, (retained by the transition provisions in the Electricity Distribution (Information Disclosure) Requirements 2008 (Current Requirements)) requires the following information to be publicly disclosed annually:

- Existing pricing policies and methodologies
- Key components of revenue required to cover the costs and profits, (including transmission costs), of the line owners business activities
- Consumer groups used in the calculation of line prices and charges
- The method of allocating costs and revenues amongst consumer groups
- The method by which a line owner determines the proportion of fixed and variable charges.

The pricing methodology disclosure is based on financial information drawn from Horizon Energy Distribution Limited's ("Horizon Energy") budget and financial forecasts for the year ending 31 March 2011. These costs have been separated from Horizon Energy's other non line business activities in accordance with the Electricity Information Disclosure Handbook 2004 (as amended to 31 October 2008).

Horizon Energy developed its pricing methodology on industry disaggregation in 1999. Since that date the methodology has been revised, to a small degree, to reflect the changing nature of Horizon Energy's network characteristics and industry wide changes. For example, the impact of regulation such as the low fixed charge tariff for domestic customers has resulted in increased cross-subsidisation between and within consumer groups.

The Electricity Commission has announced changes to the Pricing Methodology requirements with effect from 1 April 2011. As such this document will require changes to meet the new requirements next year.

1.2. Pricing Methodology

To develop line service charges Horizon Energy identifies, using a 'building block' approach, all cost and revenue requirements associated with the total lines business. Customer groups are then allocated this revenue requirement based primarily on:

- allocated after-diversity maximum demand ("ADMD")
- Measured maximum demand
- Non network costs are allocated on number of connections ("ICP's")
- Percentage of costs for assets employed to effect supply.

The line service charges are then derived within customer groups based on the allocated revenue requirement along with adjustments to reflect legislated, regulatory and commercial requirements.

2. Revenue Requirement

The building block components of the revenue requirement are classified as:

Table 1 – Revenue Building Blocks (Before Tax)

Component	Amount (\$'000)
Network Maintenance Costs	2,244
Depreciation	4,239
Transmission Costs	7,676
Cost of Capital (return on assets)	9,558
Operational Costs	4,803
Required Revenue	28,520
Impact of Regulatory Regime	(659)
Budgeted Revenue	27,861

The return on assets employed is derived using the Weighted Average Cost of Capital (“WACC”) methodology.

2.1. Network Maintenance Costs

Direct costs relating to the operation and maintenance of the electricity network assets are broken down into the following components:

- Low voltage
- 11kV assets
- 33kV assets
- Distribution transformers
- Zone substations
- Centralised load control
- Communications equipment
- SCADA

These are further broken down into sub groups for greater accuracy for cost allocation across the network.

Network asset related costs are allocated to the identified components as follows:

- Network Operating Costs (maintenance and other network operating costs) are based on the 2010-2011 approved budget.
- Depreciation for each system asset is calculated by dividing the Optimised Replacement Cost by the Standard Life for that asset. For non system assets depreciation is based on financial reporting values.
- The return on assets revenue requirements is calculated on the 31 March 2007 Depreciated Replacement Cost (“DRC”) valuation undertaken under New Zealand Equivalents to International Financial Reporting Standards (“NZ IFRS”) and adjusted for additions, disposals and depreciation post 31 March 2007. The DRC calculated under NZ IFRS uses the underlying methodology of the Commerce Commission’s Optimised Deprival Value (ODV) as set out in the Handbook for Optimised Deprival Valuation of System Fixed Assets of Electricity Lines Businesses (30 August 2004).

2.2. Operational Costs

Management estimates are used to determine the allocation of operational costs to different consumer groups. These costs (as contained in the 2010-11 budgets) comprise:

- Control room operations
- Asset management and planning costs
- Regulatory compliance costs
- Administration and corporate costs

3. Consumer Groups

3.1. Disaggregation of Load Groups

The pricing methodology employed seeks to fairly allocate costs amongst various consumer groups. Consumer group (load group) disaggregation has been determined using the capacity requirements of each connection. All connections have a service main fuse selected from a range of national standard sizes. Location factors are also used to determine customer groupings.

Locality factors such as the urban and rural split were based on either a meter reader 'walk' or number of customers per kilometre. Thus the capacity requirements and location factors result in Horizon Energy recognising the following distinct load groups:

Table 2 – Customer Groups as per Tariffs table.

Customer Group	Capacity	Unit
Domestic		
(DU) Urban	(0 – 14)	kVA
(DR) Rural	(0 – 14)	kVA
General		
(N1U)	1ø 60A (0 – 14)	kVA
(N1R)	1ø 60A (0 – 14)	kVA
(N2U)	3ø 60A (15 – 42)	kVA
(N2R)	3ø 60A (15 – 42)	kVA
(N3U)	3ø 100A (43 – 70)	kVA
(N3R)	3ø 100A (43 – 70)	kVA
(N4U)	3ø 150A (71 – 100)	kVA
(N4R)	3ø 150A (71 – 100)	kVA
(N5U)	> 3ø 150A (> 100)	kVA
(N5R)	> 3ø 150A (> 100)	kVA
Note:		
U – Urban		
R – Rural		
NMD (Maximum Demand) > 3ø 100A (> 43)		kVA
Other – Non-metered supplies (e.g. Street lighting, electric fence units)		
Major Customers – Individually priced.		

Table 3 – Statistics Relevant to Consumer Groups

Statistic	Domestic	General	NMD	Other	Majors	Total
DRC Estimate (\$m)	41.94	32.28	14.83	0.64	5.34	95.03
ADMD per ICP (kW)	2.0	5.0	50.0	0.5	N/A	N/A
Average Maximum Demand (kW) per ICP	N/A	N/A	N/A	N/A	5,055	N/A
ICP's	18,731	5,786	159	178	0	24,854

4. Revenue / Cost Allocation

Network and Non-network operating costs are allocated to consumer groups by a combination of:

4.1. Network Operating Costs

Network operating costs incurred on the “meshed network” are allocated to consumer groups based on the DRC of assets employed to supply them. This ensures network-operating costs that are not directly attributable to consumer groups are allocated on a reasonable basis.

Where budgeted costs are directly attributable to specific consumers or consumer groups, these costs are allocated specifically.

4.2. Network Depreciation

Network depreciation costs are allocated to consumer groups based on the DRC of assets employed to supply them. This ensures consumer groups incur depreciation costs reflective of the value of assets used to supply them.

4.3. Transmission Costs

Transmission Costs comprise:

- Transpower charges for conveyance of electricity across the national grid. Horizon Energy excludes ‘Loss Constraint Excess Payments’ (payments received from Transpower based on constraints on the national grid) as they are refunded to major customers and electricity retail companies in the year following receipt.
- Avoided Transmission Charges incurred by embedded generation on the Horizon network.
- Other pass through costs, being rates and regulatory levies.

Transmission costs are predominately driven by the after-diversity maximum demand characteristics of a network. Accordingly these costs are allocated to consumer groups based on an estimate of the groups’ ADMD.

Consumer group ADMD is derived from a generic estimate of the ADMD attributable to a single ICP, which is then extrapolated for the consumer group based on the number of ICP’s. The complexity associated with the derivation of coincident demand contribution between consumer groups is high. The estimates have been determined via a combination of load measurement, historical network operating knowledge and known customer diversity.

Major consumers are allocated transmission costs based on their demand history derived on measured maximum demand.

4.4. Cost of Capital

The cost of capital is derived based on the DRC of the Company’s asset base multiplied by Horizon Energy’s pre tax WACC. Accordingly this cost is allocated to consumer groups based on the proportion of total assets employed to supply them.

Horizon Energy’s last regulatory ODV was undertaken in March 2004. However Horizon Energy’s accounting policies required a valuation as at 31 March 2007. This valuation resulted in an increase in DRC to \$96m (or an increase of 23% from the 31 March 2006 ODV value). Horizon Energy has adopted the use of the

31 March 2007 valuation as this more accurately reflects the value of Horizon Energy's network. The valuation has been updated for additions, disposals and depreciation since the valuation date.

The limitations placed on the Company by the Targeted Control Regime mean the company is unable to earn its revenue requirement. The impact of the regulatory regime is reflected in the \$0.659m reduction to budgeted revenue as set out in Table 1 - Revenue Building Blocks (before Tax).

4.5. Non-Network Costs

Non-network costs are overhead costs that cannot be directly attributable to specific consumer groups or allocated on the assets employed to supply. Accordingly these costs are allocated to consumer groups on a per connection basis.

Table 4 – Allocation of Costs to Consumer Groups

Cost Type (\$'000)	Primary Allocation Basis	Domestic	General	MD	Other	Majors	Total
Network Operating Costs	ODV	809	623	286	12	513	2,244
Network Depreciation	ODV	1,669	1,285	590	26	670	4,239
Transmission Costs	MD and ADMD	2,346	1,808	1,249	123	2,149	7,676
Cost of Capital	ODV	3,953	3,043	1,398	61	445	8,899
Non network costs – Admin	ICP's	3,620	1,118	31	34	0	4,803
Total Costs		12,397	7,877	3,554	256	3,777	27,861

In allocating the costs above and deriving individual tariffs, adjustments are made to reflect specific characteristics of certain consumer groups. For example -

General

General consumer group tariffs are adjusted to reflect the impacts of distance for rural and urban customers.

Majors

All customers supplied at 33kV or 11kV and some large customers supplied at low voltage are subject to individually determined line charges based on accurately defined costs and assets employed.

Other

Smaller groups such as non-metered supplies are charged on individually recognised units. Streetlights are charged on unit size and estimated usage as a fixed price.

As some load groups do not use all the network components their pricing only reflects an allocation based on the requirement or demand of that group.

5. Fixed and Variable Charging

5.1. Method

Network distribution costs are generally derived from asset and capacity requirements which are mainly known and fixed, and should be reflected in fixed charges. Variable charges are the reflection of the variable cost component of supply. These have generally been rationalised to avoid confusion. The variable charges for the bulk of the customers also include a transmission component.

5.2. Rationale

Horizon Energy's rationale is that all customers requesting and having a supply made available contribute to the required cost recovery through the fixed charge component regardless of energy consumption. This is seen as the fairest way to remove cross subsidisation between customer groups. Having a variable element in the charge means customers can influence the final amount charged.

Within the domestic group a higher allocation is made to the variable component in consideration of historical pricing practice and the restrictions imposed by the compulsory requirement to offer a 'low user' tariff.

The application of the allocation methodology results in the following revenue allocations:

Table 5 – Percentage Revenue Allocation Across Major Tariffs Groups

	Domestic	General	MD	Other	Majors	Total
Variable	40.83%	17.00%	4.95%	0.00%	0.00%	62.78%
Fixed	3.67%	11.27%	7.80%	0.92%	13.56%	37.22%
Total	44.50%	28.27%	12.76%	0.92%	13.56%	100.00%

Table 6 – Revenue Allocation Across Major Tariff Groups (\$000)

	Domestic	General	MD	Other	Majors	Total
Variable	11,375	4,737	1,380	0	0	17,492
Fixed	1,022	3,139	2,174	256	3,778	10,369
Total	12,397	7,876	3,554	256	3,778	27,861