



**DISCLOSURE OF ELECTRICITY PRICING
METHODOLOGY**

**PURSUANT TO REQUIREMENT 22 OF THE
ELECTRICITY INFORMATION DISCLOSURE
REQUIREMENTS 2004**

Effective 1 April 2010

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1 INTRODUCTION

This document contains the information required to be disclosed under Sections 22 and 23 of the Electricity Information Disclosure Requirements 2004.

Powerco changed its electricity line charges (“prices”) with effect from 1 April 2010. The pricing methodology and underlying principles of cost allocation have not materially changed from the previous methodology.

In determining the pricing methodology a balance is required between a number of competing forces. These forces include;

- historical pricing structures and prices and where possible, ensuring that consumer rate shocks are kept to an acceptable level;
- the cost of implementation to all participants within the industry;
- any regulatory requirements such as the Commerce Act (Electricity Distribution Thresholds) Notice 2004 and Electricity (Low Fixed Charge Tariff for Domestic Consumers) Regulations 2004;
- keeping business risk to a minimum on uncontrollable costs;
- the price signals or incentives required to ensure efficient use of the network; and
- the ability of Consumers/Retailers to respond to these signals or provide these same signals without dilution to consumers.

2 DESCRIPTION OF THE METHODOLOGY USED TO CALCULATE PRICES

Two different pricing methodologies continue to be used across the Powerco Network.

A *Grid Exit Point* (GXP) methodology is used for the Western Region covering Taranaki, Wanganui, Rangitikei, Manawatu, Tararua and Wairarapa. The GXP methodology is a wholesale delivery model whereby the network cost allocation is maintained at a relatively high level, being connection category. Connection category is based on the usage consumers make of the different components of the network i.e. subtransmission, high voltage (11kV) and low voltage (400V). Essentially all sales for service take place at the GXP. Volumes and demand data for industrial consumers, normally 11kV network users, are calculated from half hour metering data, adjusted for losses, with the balance of volume and demand inputs being derived from the Reconciliation process and with Retailer ICP counts accessed from the industry ICP registry. For the majority of consumers minimal market segmentation occurs in the GXP method which should reduce barriers to a competitive retail market and promote innovation in Retailer designed consumer tariffs.

An *Installation Control Point* (ICP) methodology is used for the Eastern Region. This methodology has not been significantly altered since the acquisition of the UnitedNetworks Limited (UNL) networks in the Tauranga, Thames Valley and Coromandel regions in 2002. This methodology is a retail delivery model whereby the sale for service takes place at the Consumer's metering point. Load characteristics tend to vary with the demand size and the market segment of the Consumer and this methodology allocates costs to reflect the assessed average characteristics or actual characteristics of the various Consumers within the determined groups. This pricing structure is more reflective of a Retailer type tariff and subsequently is more likely to prohibit innovation in retailer tariffs to end consumers due to the Retailer not wanting to accept rebundling risk. This methodology enables an ability to provide a greater degree of targeted price signals to specific groups or individual market segments of consumers to encourage efficient use of the network. Retailers provide the individual Consumer metering data to enable calculation of the line charges. Existing revenue requirements have been updated for changes in allowable threshold revenue, transmission charges, indirect costs and load growth forecasts.

UNL's calculation of the proportions used to allocate costs between consumer groups continues to be used for the Eastern Region. The Western Region proportions are determined according to previous calculations under the SOLEC Methodology contained in the Guide to Derivation of Line Charges, prepared by the Separation of Line and Energy Charges (SOLEC) Working Party for the Supply Committee of Electricity Supply Association of New Zealand (ESANZ), (version 3, 28/01/1992).

The two pricing methodologies have been updated to ensure compliance with government regulations for both low fixed charge residential tariffs and the price threshold regime while also providing for the transparent pass through of some uncontrollable costs and rebates as defined under the Commerce Act (Electricity Distribution Thresholds) Notice 2004. This notice requires that Powerco be only allowed to increase its notional revenue (sum of price time's quantity for all price options) by the average annual change in CPI less 2%.

The Electricity (Low Fixed Charge Tariff for Domestic Consumers) Regulations 2004 require that for every residential standard tariff option is available that another tariff

option is available for residential consumers where the fixed charge component is no more than 15 cents per day and that the total charge per year for the average consumer is the same or no more than the standard option. Price changes were required to ensure that the annual charge for the low fixed charge option¹ for the average² residential consumer equates to the annual charge under the standard option for the same consumer as required by the regulations.

¹ Distributors are required to offer a low fixed option charge where the daily fixed line connection charge represents a maximum of fifteen cents per day.

² Average consumer is defined as an 8000 kWh per annum consumer in accordance with the Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004.

3 DESCRIPTION OF KEY COMPONENTS OF THE REVENUE REQUIRED TO COVER COSTS AND PROFITS

The key components of network revenue for Powerco's Eastern and Western Regions are summarised below. Network assets and system length largely drive these costs. Consequently, these costs are largely fixed and independent of business conditions such as consumer density and consumer class.

3.1 Operating Costs

These are the costs associated with the provision of electricity distribution services. These costs include:

- Statutory charges and levies (excluding pass through costs);
- Network planning and asset management costs;
- Network management and dispatch costs;
- Network operation costs;
- Cost of support services such as billing, record management, planning, contract administration, regulatory compliance and resource costs;
- Depreciation on electricity lines business assets; and
- Tax.

Powerco's indirect costs have been determined in accordance with Avoided Cost Allocation Methodology ("ACAM) and are allocated between regions and customer groups based on averages. Economic theory would suggest that the determination of costs on a standalone basis may be more appropriate in determining the allocation of costs to particular areas and consumer groups.

3.2 Transmission Costs

These are the costs charged by both Transpower for transmission services and other parties who provide services that substitute for transmission or distribution services.

3.3 Cost of Capital

This is the cost of capital (both debt and equity) invested in Powerco. Powerco requires large amounts of capital to maintain and develop network assets to meet increased demand and supply quality standards, legal compliance requirements and to ensure a reasonable standard of safety and reliability.

Table 1: The numerical value of each of the key components of the revenue required to cover costs and profits of Powerco’s lines business activities for the relevant financial year

Key Component	Eastern Region (\$,000)	Western Region (\$,000)	Total Network (\$,000)
Operating Costs	47,393	57,984	105,377
Transmission Charges ³	32,667	32,633	65,301
Cost of Capital	47,501	59,235	106,736
Total	127,561	149,852	277,413

³ Transmission costs include Transpower charges and avoided costs of transmission (ACOT)

4 EASTERN REGION METHODOLOGY

4.1 Consumer Groups

Powerco, being sensitive to Consumers/Retailers need for price stability, has continued with the same Consumer groupings as UnitedNetworks Ltd had in place. Changes to the pricing structure may have significant rate shocks. Powerco uses five categories of Consumer Groups in the Eastern Region for pricing purposes. The rationale for the grouping of consumers is the broad divisions of capacity provided on the distribution network. Consumers are allocated into an appropriate category based on the market segment attributable to the consumer, mains size, protection rating and/or dedicated transformer capacity.

The five categories are:

- Un-metered consumers;
- Residential and small commercial consumers with a capacity less than three phase 60 amps;
- Consumers with capacity between three phase 60 amps and 300kVA without half hourly metering;
- Consumers with capacity greater than 100kVA with half hourly metering; and
- Individually priced consumers.

Table 2: Statistics for Eastern Region Consumer Groups used in the Pricing Methodology

Consumer Group	ICPs	Volume (MWh)	Anytime Maximum Demand (kW)	On Peak Demand (kW)
Un-metered consumers	481	20,248	N/A	N/A
Residential & Small Commercial – capacity less than three phase 60 amps	132,597	903,969	N/A	N/A
Capacity three phase 60 amps to 300kVA without half-hourly metering	7,448	338,871	N/A	N/A
Capacity greater than 100kVA with half hourly metering	204	144,102	N/A	N/A
Individually priced consumers	150	737,066	175,709	74,062

4.2 Method of Revenue Allocation

The method of revenue allocation has not changed materially since the acquisition of the network from UNL in 2002. Refer to UnitedNetworks Ltd – Electricity Information Disclosure Number 42 - for year beginning 1 April 2002 document for further discussion of these principles. Powerco is undertaking to develop a cost of supply model for the Eastern Region to ensure that existing prices fairly reflect the use that the consumer groups make of the network.

In order to determine the revenue required to recover each cost component as detailed in table 3 Powerco has applied in essence the change in this years costs in proportion to the various consumer groups previous years revenue whilst ensuring that the price threshold is not breached as required by regulation - Commerce Act (Electricity Distribution Thresholds) Notice 2004.

The individually priced consumer group revenues are determined by;

- A return on dedicated assets employed;
- An allocation of upstream assets based on an anytime maximum demand (AMD);
- Allocation of direct costs incurred based on AMD and on peak demand; and
- An allocation of indirect costs on the basis of a 70% fixed component with the balance based on peak demand,

Adjustments to the residential group prices were also required to account for the implementation of the low fixed charge regime required by the Electricity (Low Fixed Charge Tariff for Domestic Consumers) Regulations 2004. Further adjustments were undertaken to reduce the number of load groups in response to consultative feedback to simplify Powerco's tariff offerings in this region and also to modify pricing signals to reflect constraints now appearing due to significant load growth being experienced on the networks.

Table 3: Revenue required to cover costs and profits of Powerco’s lines business activities allocated by key revenue components to each consumer group for the relevant financial year

EASTERN REGION				
Consumer Group	Revenue required for:			
	Operating Costs \$(000s)	Transmission \$(000s)	Cost of Capital \$(000s)	Total \$(000s)
Un-metered ICPs	407	281	409	1,097
Residential & Small Commercial	25,606	17,650	25,665	68,921
Capacity three phase 60 amps to 300kVA non half-hourly metered	8,043	5,544	8,061	21,647
Capacity greater than 100kVA	3,839	2,646	3,848	10,332
Individually priced consumers	9,498	6,546	9,519	25,563
Total	47,393	32,667	47,501	127,561

4.3 Fixed and Variable Charges

Distribution costs tend to be fixed in nature, rather than related to the delivered energy volumes. The assets employed are expensive and the cost of the assets is not directly related to the usage of the assets, i.e. the cost is the same regardless of whether the assets are being used by an end-consumer at any particular time.

However, Powerco wants to promote the economically efficient use of network assets. Line charges are designed to allow end-consumers the opportunity to modify their behaviour to make efficient use of network assets.

The larger capacity load groups have the bulk of the charge fixed while lower capacity connections have the fixed component set at closer to 50% of the total line charge.

Powerco’s ability to amend the existing fixed and variable rate structure is limited by Powerco’s policy of avoiding price shocks to end-consumers, limitations imposed on residential fixed charges by the Electricity (Low Fixed Charge Tariff for Domestic Consumers) Regulations 2004 and limitations imposed on total revenue by the Commerce Act (Electricity Distribution Thresholds) Notice 2004. Powerco, therefore, determines the proportion of fixed and variable charges by reference to existing rates while recognizing the largely fixed nature of the underlying costs. Regulations have effectively set the fixed and variable components for residential groups.

Transpowers AC rental rebates are excluded from the bundled tariffs and are passed through to retailers directly.

5 WESTERN REGION METHODOLOGY

5.1 Consumer Groups

Powerco uses three categories of consumer group for cost allocation and charging purposes in the Western Region. The rationale for the grouping of consumers is the broad divisions in capacity they represent on the distribution network and taking into account other factors such as geography, rural/urban connection density and different load characteristics i.e. supply voltage and significant individual demand. The groupings represent a trade-off between the simplicity required to reduce processing costs and the level of complexity required to appropriately allocate costs while providing the appropriate cost signals to the relevant Network Users. Consumers are allocated to a group according to their installed capacity.

The three categories are:

- Less than 100kVA connections
- 100 to 299kVA connections
- Greater than 300kVA connections

Table 4: Statistics for Western Region Consumer Groups used in the Pricing Methodology

Consumer Group	ICPs	Energy Volume (MWh)	Annual Demands (kW) & (kVA)	Installed Capacity (kVA)	ODRC ⁴ (\$, 000)
Less than 100kVA connections	171,999	1,564,522	3,866,547	N/A	475,982
100 to 299kVA connections	175	174,769	338,715	N/A	15,987
Greater than 300kVA connections	189	554,600	1,896,784	2,173,745	53,431

⁴ ODRC values as at 30 June 2006

6 METHOD OF REVENUE ALLOCATION

Revenue requirements are allocated to each Consumer Group, on the following basis:

- Revenue components are allocated to each GXP or groups of GXP's on the basis of ICP numbers, demand, or Optimised Depreciated Replacement Cost (ODRC) as appropriate. Operating Costs with the exception of depreciation are allocated to each GXP on the basis of the number of ICPs as this serves as a proxy for the underlying cost driver on the network. Depreciation is allocated on the basis of ODRC. Transmission costs are allocated to each GXP on the basis of actual forecast costs based on GXP demand.
- Revenue requirements at each GXP are allocated between the three consumer groups by proportions derived using the SOLEC guidelines. Transmission costs are allocated between the consumer groups by their proportion of peak demand.

Consumer Group	SOLEC Proportions
Less than 100kVA	82%
100 to 299kVA	3.5%
Greater than 300kVA	14%

Table 5: Required revenue to cover costs and profits of Powerco's lines business activities allocated by key revenue components to each consumer group for the relevant financial year

WESTERN REGION				
Consumer Group	Revenue required for:			
	Operating Costs \$(000s)	Transmission \$(000s)	Cost of Capital \$(000s)	Total \$(000s)
Less than 100kVA	50,604	20,678	51,696	122,978
100 to 299kVA	1,700	1,811	1,736	5,247
Greater than 300kVA	5,680	10,144	5,803	21,627
Total	57,984	32,633	59,235	149,852

6.1 Fixed and Variable Charges

Distribution costs tend to be fixed in nature rather than related to the delivered energy volumes. The assets employed are expensive and the cost of the assets is not directly related to the usage of the asset, i.e. the cost is the same regardless of whether the assets are being used by an end-consumer at any particular time.

However, Powerco wants to promote efficient use of the network. Line charges are designed to allow end-consumers the opportunity to modify their behaviour to make efficient use of the network.

As with the Eastern Region, Powerco's ability to amend the existing fixed and variable rates is limited by Powerco's policy to avoid price shocks for the end consumer and to meet both the Low fixed Charge regulations and the price path threshold regulations applicable to Powerco under Part 4A of the Commerce Act 1986.

Transpowers AC rental rebates have been excluded from the bundled tariffs and are passed through to retailers directly.

7 STATUTORY DECLARATION IN RESPECT OF STATEMENTS AND INFORMATION SUPPLIED TO COMMERCE COMMISSION

I, _____, of _____, being a director of Powerco Limited, solemnly and sincerely declare that, having made all reasonable enquiry, to the best of my knowledge, the information attached to this declaration is a true copy of information made available to the public by Powerco Limited pursuant to the Commerce Commission's Electricity Information Disclosure Requirements 2004.

And I make this solemn declaration conscientiously believing the same to be true, and by virtue of the Oaths and Declarations Act 1957.

Signed by:

Declared at _____
this _____ day of _____ 2010

Witness

Justice of the Peace (or Solicitor
or other person authorised to take a statutory declaration)