



## **Pricing Methodology Disclosure**

Centralines Limited  
Approved Policy

Issue No. **2.0**

Issue Date: **01/04/2011**

*Pursuant to:*

**Electricity Distribution (Information Disclosure) Requirements 2008**

Status: Draft ; In Service ; Under review ; Archived

Next Review Due: **01/03/2012**

## REVISION TABLE

Date	Issue/Rev	Changes	By	Authorised	Approved	Supersedes
01/04/2010	1.0	Updated Tables with new cost allocations	Commercial Manager	Centralines' Area Manager	CEO	
01/04/2011	2.0	Significant update of document and descriptions of pricing methodology calculations in light of Electricity Authority Guidelines	Regulatory & Pricing	GM Regulatory & Pricing	CEO	1.0

**Next review date: 01/03/2012**

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## 1 BACKGROUND

Centralines owns and operates the distribution network in the Central Hawke's Bay region. It is owned by the Central Hawke's Bay Consumers Power Trust on behalf of local consumers.

Consumer electricity prices consist of a number of components:

- Energy costs, relating to the generation of electricity;
- Transmission costs (generally Transpower charges), covering the cost (or avoided transmission cost) of delivering electricity over the national grid to bulk supply points known as grid exit points. These costs are paid for by distributors and recovered from end-consumers through the distributors' tariffs;
- Distribution costs, covering the cost of delivering electricity from the national grid to end consumers; and
- Retailer costs, which relate to costs of maintaining relationships with consumers, billing etc.

Centralines' Pricing Methodology Disclosure (Disclosure) is focused on the structure and allocation of distribution costs and the pass-through of transmission and avoided transmission charges to consumers and consumer groups. This Disclosure explains how Centralines has developed its prices, based on the allocation of its network costs across consumer groups for the period 1 April 2011 to 31 March 2012.<sup>1</sup>

Centralines reviews its pricing annually to meet company, industry, legislative and regulatory requirements. Pursuant to requirement 14(4) of the Electricity Distribution (Information Disclosure) Requirements 2008, requirements 22 and 23 of the Electricity Information Disclosure Requirements issued 31 March 2004 (Original Requirements) continue to apply.

Requirement 22 of the Original Requirements requires electricity distribution businesses (distributors) to publicly disclose the methodology used as at the beginning of each financial year to determine the line charges payable or to be payable by consumers connected to the distribution network.

For the first time, Centralines' disclosure has also been prepared in accordance with the *Distribution Pricing Principles and Information Disclosure Guidelines* published by the Electricity Commission in February 2010.

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<sup>1</sup> For a description of how Centralines' tariffs apply see Centralines' Pricing Policy, at [www.Centralines.co.nz](http://www.Centralines.co.nz).

## 2 DEFINITIONS

½ RC	means half the replacement cost of network assets
Electricity Industry Act	means the Electricity Industry Act 2010
AMD	means the anytime maximum demand of an ICP in KWh's over one half hour for the year
Authority	Electricity Authority
Avoided Transmission	means the expenses incurred by Centralines as a direct result of a payments to generators for generation or any other activity which substitutes for the use of the transmission system
Commission	Commerce Commission
Consumer	means any person who is supplied electricity
Consumer Group	a category of consumers for which Centralines' develops its tariffs (e.g., commercial consumers)
Code	means the Electricity Industry Participation Code 2010
Distributor or Electricity Distribution Business	means any electricity industry participant who owns or operates a network (that is not an embedded network) other than Transpower
Embedded	means where a generator or another distribution company are physically connected within Centralines' network
GXP	means any point of connection to the national grid
ICP	means the installation control point
Lower North Island RCMD/CMD	means Transpower's cost allocation area, Lower North Island, and the 100 highest coincident demand peaks in KW for the year September to August
N-1 Supply	means an alternative routing for supplying electricity to give a backup in case of primary routing being damaged or failing
Network	means the lines, and associated equipment, owned or operated by a distributor in a contiguous geographic area or areas
Notionally Embedded	means where a generator for all intents and purposes is connected within Centralines' network but the connection is theoretical only
Non TOU	Non time of use (TOU) means a consumer's site where electricity is metered over a period (e.g., month)
Price category	A set of tariffs applicable to a defined set of consumers within a Consumer Group (e.g., CH1 permanent residential consumer)
TOU	Time of use (TOU) means a consumer's site where half hour

metering is installed and these values are used for calculation of charges

### 3 REFERENCES

- Commerce Act 1986
- Electricity Distribution (Information Disclosure) Requirements 2008
- Electricity Information Disclosure Requirements issued 31 March 2004
- Electricity Industry Act 2010
- Electricity Participation Code 2010
- Distribution Pricing Principles and Information Disclosure Guidelines (Guidelines)
- Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004 (SR 2004/272) (as at 01 April 2009) section 14 and 15

### 4 REGULATORY CONTEXT

This section provides an overview of the key regulatory requirements that impact Centralines' pricing and disclosures.

Centralines is regulated by the Commission under Part 4 of the Commerce Act, and by the Authority, which has particular responsibility for monitoring tariff structures and approaches under section 42 of the Electricity Industry Act. Centralines must also comply with requirements to offer a "low-user" fixed charge option to permanent domestic consumers and to maintain the policy intent of a consistent approach between rural and urban consumers.<sup>2</sup>

#### *Disclosure Requirements*

The Commission's Original Requirements require Centralines to provide the following:

#### **23. Contents of pricing methodology disclosures—**

Every disclosure under requirement 22 must—

- (a) Describe the methodology used to calculate the prices charged or to be charged; and
- (b) Include the key components of the revenue required to cover costs and profits of the disclosing entity's line business activities, including cost of capital and transmission charges, which must include the numerical value of each of the components; and
- (c) State the consumer groups used to calculate the prices charged or to be charged, including—
  - (i) The rationale for the consumer grouping; and

<sup>2</sup> Section 113 of the Electricity Industry Act 2010

- (ii) The method by which the disclosing entity determines which group consumers are in; and
  - (iii) For each of these consumer groups, the statistics relating to that group which were used in the methodology; and
- (d) Describe the method by which the disclosing entity allocated the components of the revenue required to cover the costs of its line business activities amongst consumer groups, which must include the numerical values of the different components allocated to each consumer group and the rationale for allocating it in this manner; and
- (e) Describe the method by which the disclosing entity determined the proportion of its charges which are fixed and the proportion which are variable, and the rationale for determining the proportions in this manner.

Following consultation with the industry, in February 2010 the Electricity Commission released the final *Pricing Principles and Information Disclosure (Guidelines)*, which are intended to assist distributors to compile their disclosures. According to the Guidelines, distributors are required to prepare a statement of their pricing alignment with the principles, and disclose this by 31 March 2011. The Authority will then review these disclosures with a view to informing further work in this area.

#### *Regulatory constraints on pricing*

Under Part 4 of the Commerce Act, distributors are subject to price cap regulation, unless they meet certain exemption criteria. Centralines may increase its average charges by the rate of CPI inflation once per annum, plus any change in “pass-through” and “recoverable” costs. These costs include Transpower’s transmission charges and the levies paid by Centralines to fund the Commission and Authority. As regulation is not cost-based (where costs include investors’ required return on their investment) prices may differ from the costs actually incurred. So, although Centralines’ pricing is designed to reflect a cost allocation model, prices may differ from the allocation of costs. In Centralines’ case, due to the price cap applying to it, revenues are currently insufficient to cover a reasonable return on Centraline’s investment, and overall prices need to increase to cover costs.

As noted, Centralines is also required to provide particular tariff options to low use permanent residential consumers, which is effectively providing a subsidy to such consumers. In addition, Centralines is required to keep changes for rural customers consistent with those paid by urban consumers, reflecting a subsidy between urban and rural consumers.

Centralines complies with these obligations and intentions by offering a compliant “low-user fixed charge” option to permanent residential consumers and has tariff options that apply equally to rural and urban consumers.

## **5 CONCEPTUAL APPROACH**

As noted in the Background section, Centralines has prepared this disclosure in context with the Guidelines published by the Electricity Commission in February 2010. The Guidelines set out a number of principles that distributors are expected to formally demonstrate they adhere to.

The Authority’s principles are as follows:

- (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 regulations;
  - (ii) having regard, to the extent practicable, to the level of available service capacity; and
  - (iii) signalling, to the extent practicable, the impact of additional usage on future investment costs.
- (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.
- (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;
  - (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; and
  - (iii) where network economics warrant, encourage investment in transmission and distribution alternatives (e.g. distributed generation or demand response) and technology innovation.
- (d) Development of prices should be transparent, promote price stability and certainty for stakeholders, and changes to prices should have regard to the impact on stakeholders.
- (e) Development of prices should have regard to the impact of transaction costs on retailers and should be economically equivalent across retailers.

In section 15 is an explanation of how Centralines' pricing approach complies with these principles.

## 6 OVERVIEW OF CENTRALINES' METHODOLOGY AND COST ALLOCATION MODEL

To understand Centralines' pricing approach it is important to understand the nature of Centralines' costs and consumer-base. Electricity networks are designed to enable the least cost delivery of electricity to consumers. Rather than have separate electricity lines running from each transmission GXP to each consumer, consumers share network assets (cables, transformers etc). Accordingly, it is impossible to identify the specific costs associated with any individual consumer and some form of cost allocation model must be used to apportion shared asset-related, overhead and other costs to consumers. There is no single "right" way to undertake such allocations, but generally distribution businesses use measures such as volumes consumed, any-time peak demands or co-incident peak demands to allocate costs.<sup>3</sup>

Once costs have been allocated to different consumer groups, a tariff schedule is developed which aims to deliver sufficient revenues to cover the allocated costs. By necessity the

<sup>3</sup> Centralines notes that cost allocation models are discredited in the academic literature, with multiple approaches to cost allocations possible and equally arbitrary (see Baumol and Sidak "How arbitrary is 'arbitrary'? or towards the deserved demise of full cost allocation", Public Utilities Fortnightly, 21, 3 September 1987. Nevertheless, Centralines is obliged to disclose information on cost allocations.

alignment of revenues and costs is imprecise, as distributors have to estimate consumers' usage which may vary year-by-year due to environmental, economic and demographic variations. As noted, Centralines is currently prevented by its price path from earning a reasonable return.

From Centralines' perspective, while it is important to have a cost allocation model to determine a "fair" allocation of costs, it is more important to develop a tariff approach that incentivises desirable consumer behaviours that are beneficial in reducing capital expenditure. In particular, it is essential that consumers face *relative* price signals that reflect the benefits of consuming outside of network peaks, as it is peak demand (not total volumes consumed) that drives Centralines' long-term cost structure.

In summary, Centralines' pricing methodology is as follows:

1. A cost allocation model allocates costs (e.g., direct costs, indirect costs, depreciation etc) to each consumer according to an allocator;
2. Consumers and their corresponding cost allocations are then grouped into consumer groups that have common characteristics (see table 1);
3. These aggregated costs are then compared with the revenues that Centralines expects to receive from those consumers at existing price levels;
4. Review tariff structures to ensure they are effectively signalling desired consumer behaviour and are administratively effective; and
5. Price changes (including tariff structure changes) are made where expected revenues and costs do not align, taking into account:
  - a. the potential for variation (e.g., revenues fluctuate annually for different consumer groups due to weather, economic factors etc);
  - b. the need to promote pricing stability;
  - c. the need to ensure a coherent tariff structure where consumers face a logical progression in tariffs as they increase their usage.

Centralines has redeveloped its cost allocation model over the past year. Previously, Centralines adopted a "top-down" approach with significant assumptions made about different consumers' use of different assets. Centralines has now developed a "bottom-up" approach which directly matches consumers to the assets they use and allocates a share of those assets in proportion to their capacity use. Centralines has adopted the following approach in developing its cost allocation model:

1. Where assets/costs are directly attributable to a specific consumer or region the asset value/cost is entirely allocated to that consumer or region.
2. Where assets are shared by consumers, allocation of the asset value to each consumer is in proportion to their AMD compared to the total AMD of all consumers using that asset. This ensures that all consumers pay for the capacity required to supply them regardless of the duration of their peak load. As a result, consumers with a high peak demand are allocated a representative share of the supplied capacity regardless of their volume consumed. This approach reflects that Centralines must build its assets to meet capacity requirements, not volumes consumed.
3. Centralines uses  $\frac{1}{2}$  RC (using asset prices from its 2006 FRS3 valuation) multiplied by the post-tax WACC to determine the return on investment requirement once assets are

allocated. This approach ensures that charges are steady over time, rather than being very high charges initially then declining over time as assets age.<sup>4</sup>

4. Depreciation charges are recovered over the expected physical life of the assets. The exception to this is where Centralines considers there is a high risk of stranded assets by a consumer defaulting (this generally only occurs where remote consumers require extensive dedicated assets).
5. Centralines' maintenance and operational costs are allocated in proportion to asset values, and then in proportion to AMD of each consumer using each asset. This reflects an assumption that maintenance is incurred in proportion to the value of underlying assets.
6. Interconnection transmission charges are allocated to a consumer's CMD impact at each GXP. This is the charging method used by Transpower to determine Centralines' share of national interconnection costs.
7. Connection transmission charges are allocated in proportion to a consumer's AMD against the total AMD of all consumers at each GXP. Again this matches up with Transpower's charging method.
8. Centralines currently uses kWh's consumed to allocate overhead costs, but will be reviewing this over the year along with a full review of capacity based charging options to ensure a reasonable allocation of corporate overheads across different consumer groups.
9. Centralines then aggregates consumers into groups with similar characteristics and determines an aggregate revenue requirement for each consumer group.

Details of the specific statistics relating to Centralines' consumer groups are set out in section 8.

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<sup>4</sup> Now that the Commerce Commission has established its asset valuation input methodology, Centralines will in future seek to align the asset valuations used in the pricing methodology and under information disclosures.

## 7 CENTRALINES' DETERMINATION OF CONSUMER GROUPS

For the purposes of Centralines' cost allocation model, current consumer categories are determined at a level of aggregation that leads to consumer groups with similar consumer types based on consumption. In principle, Centralines could allocate costs at a price category level (e.g., CH1 consumers). However this approach is problematic as it would lead to discontinuities in tariff structures, especially where there are consumer groups with few consumers. Discontinuities could cause consumers to artificially nominate higher capacities than they require to obtain lower tariffs.

Accordingly, Centralines has determined the following consumer group categories for the purposes of cost allocations, reflecting the relatively narrow extent of its consumer base, and a view that the historically-based volumetric banding of consumers should be evolved to a capacity banding approach:

1. Mass-market consumers (CH1 and CH2);
2. Large customers (CH3 to CH12).

Within these consumer groups, Centralines establishes tariff structures which deliver the costs allocated to each group, albeit this is constrained by the Commission's price cap.

Table 1 below shows the consumer groups, price categories and an example consumer.

**Table 1: Centralines' Consumer Groups**

Consumer Grouping	Usage/capacity	Price Categories	Example consumers
Mass Market	<3,000 Kwh's PA	Unmetered	Street lights
	<8,000 Kwh's PA	CH1	As specified by Low user regulations
	<100,000 Kwh's PA	CH2	Domestic house, retailer
Large customers	<200,000 Kwh's PA	CH3	Large dairy shed
	<300,000 Kwh's PA	CH4	Irrigation pump
	<400,000 Kwh's PA	CH5	Sewerage pumps
	<500,000 Kwh's PA	CH6	Cool store
	<600,000 Kwh's PA	CH7	Heated pool
	<750,000 Kwh's PA	CH8	Town supply water pumps
	<1,000 Mwh's PA	CH9	Super market
	>1,000 Mwh's PA	CH10-Ch12	Industrials

Within each price category, there are different tariff options which seek to signal the benefits of desirable consumer behavior, including consuming outside of network peaks. Depending on whether consumers have TOU or non-TOU metering they are subject to the following tariff options:

Non-TOU metered consumers:

- 24UC – for meter configuration with no ability to control load (e.g., water heating)
- AICO – for meters with the capability to partially control loads for a period
- CTRL – for meters with the capability for Centralines to fully control loads for a period
- NITE - for meters controlled to be on from 11pm to 7am
- CTUD - for twin register meters with consumption during the period 7am to 11pm

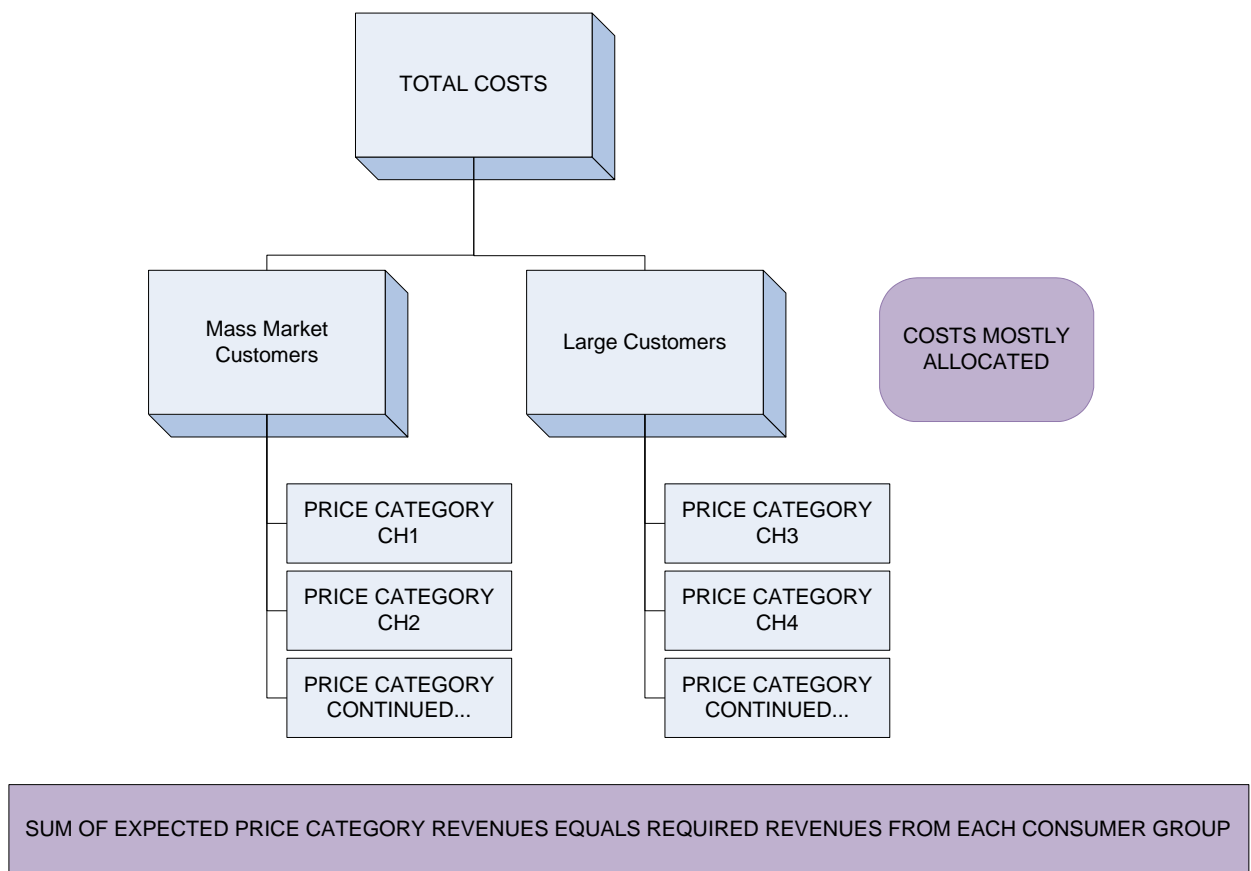
- CTUN - for twin register meters with consumption during the period 11pm to 7am

TOU consumers:

- SOPD – highest peak load during a summer month
- WOPD – highest peak load during a winter month
- DMND – maximum load during the month
- KVAR – a charge for consumption having less than .95 power factor. The lower the power factor, the increased likelihood of causing voltage issues, which may have a negative impact on other consumers.

Figure 1 illustrates Centralines’ overall approach to attributing and allocating costs and developing prices to meet costs in each consumer category:

**Figure1: Centralines’ cost allocations and pricing approach**



## 8 KEY COMPONENTS OF REVENUE RECOVERED AND STATISTICS RELATING TO EACH CONSUMER GROUP

Table 2 sets out the key components of revenue recovered from consumers and the associated allocators:

**Table 2: Costs and associated allocators**

Costs components	Cost type	Allocation method
Asset value		AMD
Direct Costs	load dependent	FRS3 Asset base
Indirect Costs	Load Independent	KWh's
Transmission	Interconnection	CMD
Depreciation	load dependent	FRS3 Asset base
Tax	load dependent	FRS3 Asset base
ROI	load dependent Costs	FRS3 Asset base

Table 3 shows the statistics relating to each consumer group and what would be expected for a fair rate of return over and above costs.

**Table 3: Statistics Relating to Consumer Groups**

Centralines		Connection consumption		
		<100MWh's PA	>100MWh's PA	Total
Allocators	ICP count	8,039	50	8,089
	AMD Total MW's	32,744	9,503	42,247
	CMD total MWs	15,673	4,089	19,762
	1/2 RC Asset value (000's)	42,936	1,713	44,650
Financial metrics (000's)	Indirect	\$880	\$565	\$1,445
	Direct	\$1,647	\$68	\$1,715
	Interconnection	\$1,008	\$263	\$1,271
	Connection	\$763	\$222	\$985
	ROI	\$2,426	\$97	\$2,522
	Depreciation	\$2,181	\$87	\$2,268
	Tax	\$655	\$26	\$681
Required revenue (000's)		\$9,561	\$1,555	\$10,888

## 9 PROPORTIONS OF FIXED AND VARIABLE CHARGES

Centralines determines the recovery of fixed and variable charges according to the following considerations:

1. In respect of permanent domestic consumers (CH1 and CH2), Centralines' fixed and variable charge approach is established so that we comply with the requirements of the low user fixed charge regulations;
2. For Centralines' large customer group (CH3 to CH12), Centralines signals the additional costs of higher capacity through a stepped increase in fixed charges as consumers progress to higher levels of consumption requirements.

For those consumers that are subject to fixed and variable charges, instead of a specific methodology to determine the proportions, existing tariffs are adjusted each year to comply with regulatory requirements (e.g., low user fixed charge requirements and the default price path) and to ensure appropriate relativities between tariff groups (e.g., provide incentives for consumers to opt for controlled load options by providing a differential between controlled and uncontrolled options). The required strength of such signals is a matter of judgment and experience.

The current proportions of fixed and variable charges reflect historical pricing decisions. Centralines, as part of its development of a capacity-based approach to determining consumer groups, intends to review the proportions of fixed and variable charges.

10 **CLARIFICATION**

Clarification on any matter referred to in this document should be directed to:

Regulatory and Pricing Group  
Centralines Limited  
c/o PO Box 555  
1101 Omahu Rd  
Hastings  
Ph (06) 873 9300  
Fax (06) 873 9311

11 **COMMUNICATION**

The approved Price Methodology Disclosure shall be published on the Centralines’ website;  
<http://www.centralines.co.nz/>

12 **IMPLEMENTATION, REVIEW AND REVISIONS**

- The policy is effective from 1 April 2011
- The policy shall be subject to review annually or as required.
- Revision, consultation and approval processes will be managed by the Regulatory and Pricing Team.

13 **APPROVALS**

Prepared by:  
**Senior Business Analyst**



Signature:  
Date: 31 March 2011

Authorised by:  
**GM Regulatory and Pricing**



Signature:  
Date: 31 March 2011

Approved by:  
**Chief Executive**



Signature:  
Date: 31 March 2011

14 RESULTING TARIFFS APPLICABLE FROM 1 APRIL 2011

Tariff Code	Tariff Description	Units	Total charges 1st April 2011
F-C-U01	Un-metered supply (other than streetlighting) fixed charge	\$/day	\$ 0.0330
E-C-U01	Un-metered supply (other than streetlighting) variable charge	\$/kWh	\$ 0.0900
E-C-U02	Un-metered streetlighting variable charge (night hours table)	\$/kWh	\$ 0.0900
E-C-U03	Un-metered streetlighting variable charge (data logger)	\$/kWh	\$ 0.0900
F-C-T1P	Temporary Builders Supply, single phase fixed charge	\$/day	\$ 1.0000
E-C-T1P-24UC	Temporary Builders Supply, single phase anytime variable charge	\$/kWh	\$ 0.1100
F-C-T3P	Temporary Builders Supply, three phase fixed charge	\$/day	\$ 14.0000
E-C-T3P-24UC	Temporary Builders Supply, three phase anytime variable charge	\$/kWh	\$ 0.0780
F-C-CH1	Low user fixed charge	\$/day	\$ 0.1500
E-C-CH1-24UC	Low user anytime variable charge	\$/kWh	\$ 0.1370
E-C-CH1-AICO	Low user all inclusive variable charge	\$/kWh	\$ 0.1150
E-C-CH1-CTRL	Low user seperately wired controlled meter variable charge	\$/kWh	\$ 0.0820
E-C-CH1-NITE	Low user seperately wired night only variable charge	\$/kWh	\$ 0.0490
E-C-CH1-CTUD	Low user day/night meter - day variable charge	\$/kWh	\$ 0.1430
E-C-CH1-CTUN	Low user day/night meter - night variable charge	\$/kWh	\$ 0.0490
F-C-CH2	High user fixed charge	\$/day	\$ 1.0000
E-C-CH2-24UC	High user anytime variable charge	\$/kWh	\$ 0.0900
E-C-CH2-AICO	High user all inclusive variable charge	\$/kWh	\$ 0.0760
E-C-CH2-CTRL	High user seperately wired controlled meter variable charge	\$/kWh	\$ 0.0550
E-C-CH2-NITE	High user seperately wired night only variable charge	\$/kWh	\$ 0.0340
E-C-CH2-CTUD	High user day/night meter - day variable charge	\$/kWh	\$ 0.0940
E-C-CH2-CTUN	High user day/night meter - night variable charge	\$/kWh	\$ 0.0340
F-C-CH3	>=100,000kWh to <200,000kWh fixed charge	\$/day	\$ 14.0000
E-C-CH3-24UC	>=100,000kWh to <200,000kWh anytime variable charge	\$/kWh	\$ 0.0760
E-C-CH3-CTRL	>=100,000kWh to <200,000kWh controlled charge	\$/kWh	\$ 0.0460
E-C-CH3-NITE	>=100,000kWh to <200,000kWh night charge	\$/kWh	\$ 0.0290
E-C-CH3-CTUD	>=100,000kWh to <200,000kWh day/night meter - day variable charge	\$/kWh	\$ 0.0790
E-C-CH3-CTUN	>=100,000kWh to <200,000kWh day/night meter - night variable charge	\$/kWh	\$ 0.0290
E-C-CH3-Kvar	>=100,000kWh to <200,000kWh TOU anytime variable rate	\$/kVAr/month	\$ 7.0000
E-C-CH3-SOPD	>=100,000kWh to <200,000kWh TOU meter - summer OPD charge	\$/kW/month	\$ 8.5000
E-C-CH3-WOPD	>=100,000kWh to <200,000kWh TOU meter - winter OPD charge	\$/kW/month	\$ 8.5000
E-C-CH3-DMND	>=100,000kWh to <200,000kWh TOU meter - demand charge	\$/kW/month	\$ 5.0000
F-C-CH4	>=200,000kWh to <300,000kWh fixed charge	\$/day	\$ 27.0000
E-C-CH4-Kvar	>=200,000kWh to <300,000kWh TOU anytime variable rate	\$/kVAr/month	\$ 7.0000
E-C-CH4-SOPD	>=200,000kWh to <300,000kWh TOU meter - summer OPD charge	\$/kW/month	\$ 7.5000
E-C-CH4-WOPD	>=200,000kWh to <300,000kWh TOU meter - winter OPD charge	\$/kW/month	\$ 7.5000
E-C-CH4-DMND	>=200,000kWh to <300,000kWh TOU meter - demand charge	\$/kW/month	\$ 3.5000
F-C-CH5	>=300,000kWh to <400,000kWh fixed charge	\$/day	\$ 33.0000
E-C-CH5-Kvar	>=300,000kWh to <400,000kWh TOU anytime variable rate	\$/kVAr/month	\$ 7.0000
E-C-CH5-SOPD	>=300,000kWh to <400,000kWh TOU meter - summer OPD charge	\$/kW/month	\$ 6.5000
E-C-CH5-WOPD	>=300,000kWh to <400,000kWh TOU meter - winter OPD charge	\$/kW/month	\$ 6.5000
E-C-CH5-DMND	>=300,000kWh to <400,000kWh TOU meter - demand charge	\$/kW/month	\$ 3.3000
F-C-CH6	>=400,000kWh to <500,000kWh fixed charge	\$/day	\$ 50.0000
E-C-CH6-Kvar	>=400,000kWh to <500,000kWh TOU anytime variable rate	\$/kVAr/month	\$ 7.0000
E-C-CH6-SOPD	>=400,000kWh to <500,000kWh TOU meter - summer OPD charge	\$/kW/month	\$ 7.5000
E-C-CH6-WOPD	>=400,000kWh to <500,000kWh TOU meter - winter OPD charge	\$/kW/month	\$ 7.5000
E-C-CH6-DMND	>=400,000kWh to <500,000kWh TOU meter - demand charge	\$/kW/month	\$ 3.0000
F-C-CH7	>=500,000kWh to <600,000kWh fixed charge	\$/day	\$ 56.0000
E-C-CH7-SOPD	>=500,000kWh to <600,000kWh TOU meter - summer OPD charge	\$/kW/month	\$ 5.0000
E-C-CH7-WOPD	>=500,000kWh to <600,000kWh TOU meter - winter OPD charge	\$/kW/month	\$ 5.0000
E-C-CH7-DMND	>=500,000kWh to <600,000kWh TOU meter - demand charge	\$/kW/month	\$ 3.5000
F-C-CH8	>=600,000kWh to <750,000kWh fixed charge	\$/day	\$ 74.0000
E-C-CH8-SOPD	>=600,000kWh to <750,000kWh TOU meter - summer OPD charge	\$/kW/month	\$ 5.0000
E-C-CH8-WOPD	>=600,000kWh to <750,000kWh TOU meter - winter OPD charge	\$/kW/month	\$ 5.0000
E-C-CH8-DMND	>=600,000kWh to <750,000kWh TOU meter - demand charge	\$/kW/month	\$ 3.5000
F-C-CH9	>=750,000kWh to <1,000,000kWh fixed charge	\$/day	\$ 82.9500
E-C-CH9-SOPD	>=750,000kWh to <1,000,000kWh TOU meter - summer OPD charge	\$/kW/month	\$ 4.0000
E-C-CH9-WOPD	>=750,000kWh to <1,000,000kWh TOU meter - winter OPD charge	\$/kW/month	\$ 4.0000

F-C-CH10	>=1,000MWh to <50,000MWh fixed charge	\$ 93.0000
E-C-CH10-SOPD	>=1,000MWh to <50,000MWh TOU meter - summer OPD charge	\$ 3.0000
E-C-CH10-WOPD	>=1,000MWh to <50,000MWh TOU meter - winter OPD charge	\$ 3.0000
E-C-CH10-DMND	>=1,000MWh to <50,000MWh TOU meter - demand charge	\$ 1.4000
F-C-CH11	>=1,000MWh to <50,000MWh fixed charge	\$ 446.1200
F-C-CH12	>=1,000MWh to <50,000MWh fixed charge	\$ 1,287.6200
E-C-CH12-SOPD	>=1,000MWh to <50,000MWh TOU meter - summer OPD charge	\$ 3.0000
E-C-CH12-WOPD	>=1,000MWh to <50,000MWh TOU meter - winter OPD charge	\$ 3.0000
E-C-CH12-DMND	>=1,000MWh to <50,000MWh TOU meter - demand charge	\$ 1.3000

## 15 ELECTRICITY AUTHORITY PRICING PRINCIPLES COMPARISON

In this section Centralines sets out how it considers it meets the Authority's pricing principles. Each principle is stated, followed by Centralines' commentary.

### Signal economic costs

*(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;*

Centralines interprets the requirement for subsidy-free prices as requiring that for each particular consumer group, the revenues obtained from that consumer group should not be below the cost of connecting that consumer group to the network (incremental costs), or exceed the costs of serving that consumer group, as if they were the only consumer group (stand-alone costs). These bounds are extremely wide as there are extensive shared assets on Centralines' network. As a result, if Centralines were to cease supplies to any particular consumer-group, there would be a limited reduction in costs and assets as different consumer groups are inter-mingled on the network.

Centralines considers that, by definition, its prices are subsidy-free as it applies a cost allocation model to allocate costs across the consumer base to determine the revenue requirement, which is then used as a basis for establishing prices for each consumer group. Because the cost allocation model allocates the total cost of supplying all Centralines' consumers in proportion to percentage use of particular assets, which (by definition) adds up to 100%, no consumer group pays more than their stand-alone costs, given the economics of providing a network.

In addition, in ensuring that each new connection covers at least its incremental costs, Centralines requires a capital contribution where expected revenues from tariffs will not cover the costs associated with that connection. In 2009/10, Centralines charged contributions of \$270,000.

*(a) Prices are to signal the economic costs of service provision, by:*

- ii. having regard, to the extent practicable, to the level of available service capacity;*  
*and*
- iii. signalling, to the extent practicable, the impact of additional usage on future investment costs.*

Centralines' tariff structure is based on volume-based price categories. This is currently under review with the intention to move to capacity based bands to reflect that network costs are capacity-related: the higher the use of network capacity, the higher the charges should be. The current volumetric charges do not adequately differentiate loads that may be peaky versus those that may be more uniform.

Whilst the volumetric approach to price categories diminishes the relative strength of capacity signals, Centralines does include differentials within each price category between controlled and uncontrolled usage (residential), and its TOU charges to large consumers signal the value

of consuming outside of peak periods (when capacity is less constrained). The impact of such price signals lessens the need to invest in additional network capacity.

As consumers increase in their use of network capacity, where practicable they pay increased line charges:

- For small capacity consumers (e.g., with no TOU metering), it is assumed for now that as volumes increase their use of network capacity increases. Additionally, because Centralines offers different tariff rates for controlled and uncontrolled use, there are incentives for consumers to have controllable loads (e.g., water heating, which makes up a material proportion of consumers consumption, normally around 40% of their usage). In future, as smart meters become ubiquitous, Centralines will enhance its tariff structures to further encourage consumers to shift discretionary loads outside of peak periods;
- For consumers in the large customer group, Centralines signals the costs of additional consumption usage through increasing fixed charges as consumers increase their consumption. For those consumers that have TOU metering (now mandatory on Centralines' network down to 200 MWh's PA consumption), charges are based on on-peak demands, providing a direct price signal to reduce demands in peak periods;
- For 2011, Centralines has lowered its winter on-peak demand rates as analysis has demonstrated there is capacity available on its network for winter load growth. There has been a corresponding increase in summer on-peak demand rates, reflective of the high seasonal demands in summer. These new rates are applicable in the CH3 to CH12 categories and have been designed to be revenue neutral assuming no behavioural change, but affected consumers now have stronger incentives to better manage their summer peaks.

*(b) Where prices 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.*

Centralines interprets this principle as the requirement to implement some form of "multi-part" pricing<sup>5</sup>, with Ramsey<sup>6</sup>-based considerations applied to the mark-up of variable tariffs above incremental costs. However, it is not practicable to assess consumers demand responsiveness and set charges accordingly. Centralines, like all distributors, is forced to use tariff structures which use high proportions of variable charges to recover predominantly fixed charges as the only practical means of differentiating different consumers' elasticity or willingness to pay.

*(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;*

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<sup>5</sup> Multi-part pricing refers to a pricing approach where a consumer pays a combination of fixed and variable charges.

<sup>6</sup> Ramsey-based pricing is an approach where those consumers with inelastic demand face higher charges

- ii. *allow for negotiation to better reflect the economic value of services and enable stakeholders to make price/quality trade-offs or non standard arrangement for services; and*
- iii. *where network economics warrant, and to the extent practicable, encourage investment in transmission and distribution alternatives (e.g. distributed generation or demand response) and technology innovation.*

Centralines' compliance under these principles is achieved as follows:

1. Uneconomic bypass is avoided through Centralines' cost allocation approach to setting tariffs, whereby (by the use of a proportional cost allocation approach) pricing is set below stand-alone costs.
2. Centralines also avoids uneconomic bypass/inefficient disconnection by lowering charges to consumers who, but for the level of line charges, would cease business.
3. Because of Centralines' peak/control-period prices, larger consumers have a clear value against which to assess network alternatives or behaviour changes. Many consumers, particularly major consumers, can turn on generators, reduce demand, or both in response to such signals. The majority of Centralines' residential consumers heat their water through controlled meters in response to Centralines' controlled pricing rates.

A feature of Centralines' network is that 85% of its 8,000 ICPs are on meters capable of recording half-hourly use. In the coming year Centralines intends to develop a strategy for introducing peak/off-peak rates to mass-market consumers that will enhance consumer incentives to shift discretionary loads to off-peak periods. Centralines does not anticipate that it will be able to immediately shift to mandatory use of such tariffs as consumers will need a period to adjust, including through making energy-efficient appliance choices (e.g., appliances that can be set to start during off-peak periods).

### **Stability and transparency**

*(d) Development of prices should be transparent, promote price stability and certainty for stakeholders, and changes to prices should have regard to the impact on stakeholders.*

Centralines' development of prices:

1. Is transparent:
  - (i) through this disclosure statement, Centralines provides information on the costs it allocates to different consumer groups;
  - (ii) In addition to this disclosure Centralines publishes a pricing policy which details the different charges between tariffs and price categories. Consumers can review charges and weigh up costs for changing capacity requirements or load profile and the resulting benefits. Every year there is formal consultation between retailers and Centralines on pricing strategy, price category and tariff development.
  - (iii) An example, of Centralines considering and acting on retailer's feedback is with respect to implementation of mandatory TOU pricing for larger customers. Centralines has changed its implementation programme from its original proposal to allow retailers more time to install TOU meters.

2. Promotes price stability: Centralines updates its cost of service model annually. This year, Centralines has improved the allocation of asset-related costs to different consumer groups by tracing asset connectivity from GXP to each end-consumer, and allocating in proportion to use of each asset. This has resulted in some changes in Centralines' cost allocations to different consumer groups. To ensure price stability to consumers, any price changes made aim to limit price shocks to any particular consumer to less than 10%. As distribution charges make up around 40% of a typical consumer's bill, this aims to ensure that no consumer would face more than a 4% price increase due to changes in distribution charges.

As noted above, in designing new winter and summer on-peak demand charges to better reflect the specific seasonal demands impacting on the network, Centralines sought to ensure revenue neutrality for consumers in setting the new rates, thus providing stability to consumers.

3. Promotes certainty: Centralines endeavours to maintain its tariff structures and differentials between tariffs, so that consumers who make investments (for example in controllable loads) due to the savings between controlled and uncontrolled rates are able to realise the savings expected when the original investment was made. As noted above, with the introduction of smart meters, Centralines intends to take a circumspect approach to developing and implementing TOU tariffs. This is so that consumers are not unduly disadvantaged by the introduction of smart meters. Consumers will have time to consider behavioural changes and investments to avoid adverse bill impacts as Centralines seeks to strengthen differentials between peak and off-peak charges over time.

## **Complexity**

*(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.*

Centralines recognises the need to minimise undue complexity for retailers, subject to its legitimate business needs to signal costs to consumers and ensure equity between consumers. All retailers are subject to the same tariff schedules from Centralines. Therefore, Centralines considers that its prices are economically equivalent across all retailers.

In 2011, Centralines intends to take a complete review of its tariff structures with a view to simplifying tariff structures where possible, subject to ensuring an equitable recovery of its costs across consumers; sending desirable signals to consumers and avoiding undue tariff instability. This includes a likely switch from a consumption based grouping to a capacity based grouping of customers.