Electricity Distribution Services Default Price-Quality Path Determination 2010

Annual Compliance Statement

For the assessment period:
1 April 2011 to 31 March 2012

30 May 2012

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Price path threshold	Compliant
Quality threshold	Non-Compliant
Auditor's report	Compliant

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2 Introduction

This Threshold Compliance Statement is submitted by Eastland Network Ltd pursuant to the Electricity Distribution Services Default Price-Quality Path Determination 2010 and its subsequent amendments (together the Determination):

- Decision 704 – Commerce Act (Electricity Distribution Default Price-Quality Path) Amendment Determination 2010
- Decision 722 – Commerce Act (Electricity Distribution Default Price-Quality Path) Amendment Determination 2011
- Decision NZCC 4 – Electricity Distribution Services Default Price-Quality Path Determination Amendment No.3

This statement therefore provides threshold compliance information applicable to the Assessment Date of 31 March 2012 with the Assessment Period being 1 April 2011 to 31 March 2012.

3 Price path

3.1 Introduction

As required under clause 11 of the Determination, this Statement provides evidence in the form of allowable notional revenue, notional revenue, prices, quantities, units of measurement associated with all numeric data, and other relevant data, information, and calculations, that states Eastland Network's position with respect to the price path threshold as described in clause 8 of the Determination.

3.2 Compliance with price path threshold

Eastland Network complies with clause 8.4 of the Determination as its notional revenue at no time during the Assessment Period exceeded the allowable notional revenue for the Assessment Period:

Defined Calculation Methodology:	Notional revenue for the Assessment Period	At no time is to exceed	The allowable notional for the Assessment Period	**Result**
	NR_{2012}		R_{2012}	
Eastland Network's Result	$20,397,549	<	$21,084,516	Compliant

- **NR_{2012} – Notional revenue from 1 April 2011 to 31 March 2012**

  Eastland Network did not change or restructure any prices during the Assessment Period, therefore the prices that applied on 1 April 2011 applied throughout the entire Assessment Period. Notional revenue for the assessment period is copied from 7.1.1 below.

- **R_{2012} – Allowable notional revenue from 1 April 2011 to 31 March 2012**

  This was calculated in accordance with the method for determining the allowable notional revenue as described in clause 8.4 of the Determination. Allowable notional revenue is copied from 7.1.2 below.

3.3 Restructuring of Prices

Eastland Network did not restructure any prices during the Assessment Period and therefore clause 8.6 and 8.7 of the Determination does not apply.

4 Quality standards

4.1 Introduction

As required under clause 11 of the Determination, this Statement documents the assessed values and reliability limits for the Assessment Period as well as the relevant SAIDI and SAIFI statistics and calculations together with other relevant data and information.

4.2 Compliance with quality standards

Clause 9 of the Determination sets out the quality standards in which Eastland Network must comply with. Under clause 9.1, Eastland Network must either comply with the annual reliability assessment specified in clause 9.2 for the current Assessment Period; or have complied with those annual reliability assessments for the two immediately preceding extant Assessment Periods.

In 2011 Assessment Period, Eastland Network's SAIDI exceeded the Quality Threshold; therefore Eastland Network does not comply with clause 9.1(b) of the Determination as it has not complied with those annual reliability assessments for the two immediately preceding extant Assessment Periods.

4.2.1 SAIDI

The SAIDI quality threshold is as follows:

Assessment Period	SAIDI for the Assessment Period	Is not to exceed	Quality Threshold for the Assessment Period	Result
2010	314.94	<	377.59	Compliant
2011	334.00	<	302.38	Non-Compliant

SAIDI figures for the Assessment Periods have been taken from Eastland Network's Threshold Compliance Statements for that particular Assessment Period and are shown in 8.1.1 below.

4.2.2 SAIFI

The SAIFI quality threshold is as follows:

Assessment Period	SAIFI for the Assessment Period	Is not to exceed	Quality Threshold for the Assessment Period	Result
2010	3.68	<	4.08	Compliant
2011	3.49	<	4.26	Compliant

SAIFI figures for the Assessment Periods have been taken from Eastland Network's Threshold Compliance Statements for that particular Assessment Period and are shown in 8.1.2 below.

4.3 Annual reliability assessment

Clause 9.1(a) of the Determination states that the Assessed Values for an Assessment Period must not exceed the EDB's Reliability Limits for that Assessment Period.

The SAIDI figures shown below do not comply with the SAIDI Reliability Limits for the current Assessment Period. As Eastland Network has not complied with clause 9.1(b) of the Determination either, as stated above in 4.2, Eastland Network has not complied with the Quality Standards for the current Assessment Period.

The factors that are used in the determination of the Reliability Limits are shown in 8.2 below.

4.3.1 SAIDI

The SAIDI Assessment Values and Reliability Limits for the Assessment Period are as follows:

- $SAIDI_{ASSESS,2012} = 392.15$
- $SAIDI_{LIMIT} = 302.38$

4.3.2 SAIFI

The SAIFI Assessment Values and Reliability Limits for the Assessment Period are as follows:

- $SAIFI_{ASSESS,2012} = 3.41$
- $SAIFI_{LIMIT} = 4.26$

4.4 Policies and procedures for recording SAIDI and SAIFI

As required under clause 11.1(b)(v) of the Determination, the following explanation is provided on the policies and procedures used by Eastland Network for recording the SAIDI and SAIFI statistics for the assessment period.

4.4.1 Procedures

Connection Connectivity:

- Individual network connections are linked to a specific distribution transformer via GIS and ICP Billing system data outputs.
- Connection information and network connectivity is updated in GIS and ICP Billing systems from Network Alteration Application forms and/or as built Network Alteration data returns.
- GIS connection counts per network segment are updated and reviewed against ICP Billing system data six monthly.
- The process of Outage Notification to energy retailers provides an audit of connection and connectivity data accuracy.
- **Responsibility:** Project Engineers and Information Manager.

Interruption Data Capture:

- A Supply Interruption Data Input Form is completed for all notifiable outages. Data is captured in accordance with the definitions and requirements of the Electricity Disclosure Requirements 2004 and Reliability Performance Measurement Manual 1994.
- **Responsibility:** System Operator

Interruption Data Analysis and Reporting:

- Interruption data entered into Outage Database and used for internal and external reporting.
- **Responsibility**: GM Electricity Operations

4.4.2 Policies

- Collection and analysis of interruption data is to be completed in accordance with Electricity Disclosure Requirements 2004 and Reliability Performance Measurement Manual 1994.
- Monthly comparison of actual interruption performance with Asset Management Plan and Statement of Corporate Intent targets reported to and reviewed by the Board of Directors.
- Annual audits are undertaken on Connectivity, Interruption data capture and reporting processes to determine the accuracy and compliance of deliverables.

Auditor's Report

Deloitte.

INDEPENDENT AUDITOR'S REPORT

TO THE READERS OF THE ANNUAL COMPLIANCE STATEMENT OF EASTLAND NETWORK LIMITED FOR THE ASSESSMENT PERIOD ENDED ON 31 MARCH 2012

The Auditor-General is the auditor of Eastland Network Limited (the company). The Auditor-General has appointed me, Graham Naylor, using the staff and resources of Deloitte, to provide an opinion, on her behalf, on the company's Annual Compliance Statement for the assessment period ended on 31 March 2012 on pages 3 to 8 and 12 to 23 regarding compliance with the Electricity Distribution Default Price-Quality Path Determination 2010.

We have audited the Annual Compliance Statement in respect of the default price-quality path prepared by the company for the assessment period ended on 31 March 2012 and dated 30 May 2012 for the purposes of clause 11 of the Electricity Distribution Default Price-Quality Path Determination 2010 (the Determination).

Directors' Responsibilities

The Directors of the company are responsible for the preparation of the Annual Compliance Statement in accordance with the Determination and for such internal control as the Directors determine is necessary to enable the preparation of an Annual Compliance Statement that is free from material misstatement, whether due to fraud or error.

Auditor's Responsibilities

Our responsibility is to express an opinion on the Annual Compliance Statement based on our audit. We conducted our audit in accordance with the International Standards on Auditing, International Standards on Auditing (New Zealand) and the New Zealand Institute of Chartered Accountants Standard on Assurance Engagements 3100: *Compliance Engagements*. Those standards require that we comply with ethical and quality control requirements and plan and perform the audit to obtain reasonable assurance about whether the Annual Compliance Statement has been prepared in accordance with the Determination and is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the Annual Compliance Statement. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the Annual Compliance Statement, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation of the Annual Compliance Statement in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control.

In relation to the price path set out in clause 8 of the Determination, our audit included examination, on a test basis, of evidence relevant to the amounts and disclosures contained on pages 3 to 5 and 12 to 20 of the Annual Compliance Statement.

Deloitte.

In relation to the SAIDI and SAIFI statistics for the Reference Period and the Assessment Period ended on 31 March 2012, including the calculation of the Reliability Limits and the Assessed Values, which are relevant to the quality standards set out in clause 9 of the Determination, our audit included examination, on a test basis, of evidence relevant to the amounts and disclosures contained on pages 3 to 4, 6 to 8 and 21 to 23 of the Annual Compliance Statement.

Our audit also included assessment of the significant estimates and judgements, if any, made by the company in the preparation of the Annual Compliance Statement and whether adequate information has been disclosed in accordance with clause 11.1(b) of the Determination.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Limitations and Use of this Independent Auditor's Report

This independent auditor's report has been prepared solely for the Directors of Eastland Network Limited and the Commissioners of the New Zealand Commerce Commission in accordance with the Determination. We disclaim any assumption of responsibility for any reliance on this report to any persons or users other than the Directors of Eastland Network Limited and the Commissioners, or for any purpose other than that for which it was prepared.

Because of the inherent limitations in evidence gathering procedures, it is possible that fraud, error or non-compliance may occur and not be detected. As the procedures performed for this engagement are not performed continuously throughout the assessment period and the procedures performed in respect of the company's compliance with the Determination are undertaken on a test basis, our engagement cannot be relied on to detect all instances where the company may not have complied with the Determination. Our opinion has been formed on the above basis.

Independence

We have no relationship with, or interests in the company other than in our capacities as auditors of the Annual Financial Statements and auditors pursuant to the Electricity Distribution (Information Disclosure Requirements) 2008 on behalf of the Auditor-General.

Opinion

In our opinion, the Annual Compliance Statement of Eastland Network Limited for the Assessment Period ended on 31 March 2012, has been prepared, in all material respects, in accordance with the Determination.

Our audit was completed on 30 May 2012 and our opinion is expressed as at that date.

Graham Naylor
Deloitte
On behalf of the Auditor-General
Hamilton, New Zealand

6 Directors' certificate

DIRECTORS' CERTIFICATE ON ANNUAL COMPLIANCE STATEMENT

We, John Mcfayden Rae and Roger Neil Taylor, being directors of Eastland Network Limited certify that, having made all reasonable enquiry, to the best of our knowledge and belief, the attached Annual Compliance Statement of Eastland Network Limited, and the related information, prepared for the purposes of the Electricity Distribution Default Price-Quality Path Determination 2010 are true and accurate.

John Mcfayden Rae

Roger Neil Taylor

31/5/12

Date

Note: Section 103(2) of the Commerce Act 1986 provides that no person shall attempt to deceive or knowingly mislead the Commission in relation to any matter before it. It is an offence to contravene section 103(2) and any person who does so is liable on summary conviction to a fine not exceeding $10,000 in the case of an individual or $30,000 in the case of a body corporate.

7 Price Path Threshold

7.1 Supporting Calculations for Price Path Threshold

7.1.1 Notional Revenue for the Assessment Period

Notional revenue for the period from 1 April 2011 to 31 March 2012 is calculated in accordance with the following formula:

$$NR_{2012} = \Sigma P_{i,2012} Q_{i,2010} - K_{2012}$$

Definitions:

$P_{i,2012}$ = The Eastland Network prices that applied during the Assessment Period.

$Q_{i,2010}$ = The Eastland Network quantities that applied for the pricing period 1 April 2009 to 31 March 2010.

K_{2012} = the sum of all pass-through costs for the period of 1 April 2011 to 31 March 2012.

The calculation can be shown as follows:

$\Sigma P_{i,2012} Q_{i,2010}$	Line Charge Revenue	$30,296,705
	Less Other Non-Contestable Revenue	$93,951
	TOTAL	**$30,202,754**
K_{2012}	Transpower Charges	$6,749,691
	Avoided Transmission	$2,814,650
	Territorial Rates	$147,286
	Commerce Act and EA Levies	$93,578
	TOTAL	**$9,805,205**
Notional Revenue (NR_{2012})		**$20,397,549**

The supporting tariffs and volumes are given in 7.2 Supporting Tariffs, Volumes and Notional Revenue below.

7.1.2 Allowable Notional Revenue for the Assessment Period

The allowable notional revenue for the period from 1 April 2011 to 31 March 2012 is calculated in accordance with the following formula:

$$R_{2012} = ((\Sigma P_{i,2011} Q_{i,2010} - K_{2011}) + (R_{2011} - NR_{2011})) \times ((1+\Delta CPI_{2012}) \times (1-X))$$

Definitions:

$P_{i,2011}$ = The Eastland Network prices that applied on 31 March 2011.

$Q_{i,2010}$ = The Eastland Network quantities that applied for the pricing period 1 April 2009 to 31 March 2010.

K_{2011} = The sum of all pass-through costs for the period of 1 April 2010 to 31 March 2011 and as shown in the statement for that Period.

R_{2011} = The Allowable Notional Revenue for the period of 1 April 2010 to 31 March 2011 and as shown in the statement for that Period.

NR_{2011} = The Notional Revenue for the period of 1 April 2010 to 31 March 2011 and as shown in the statement for that Period.

$$\Delta CPI_{2012} = \frac{CPI_{Dec,\ 2009} + CPI_{Mar,\ 2010} + CPI_{Jun,\ 2010} + CPI_{Sep,\ 2010}}{CPI_{Dec,\ 2008} + CPI_{Mar,\ 2009} + CPI_{Jun,\ 2009} + CPI_{Sep,\ 2009}} - 1$$

$$= \frac{(1093+1097+1099+1111)}{(1072+1075+1081+1095)} - 1$$

$$= 0.0178$$

X = X factor assigned to Eastland Network, which is 0%

The calculation can be shown as follows:

$\Sigma P_{i,2011}Q_{i,2010}$	Line Charge Revenue	$29,488,336
	Less Other Non-Contestable Revenue	$93,951
	TOTAL	**$29,394,385**
K_{2011}	Transpower Charges	$6,733,846
	Avoided Transmission	$2,397,744
	Territorial Rates	$141,273
	EA Levies	$104,231
	TOTAL	**$9,377,094**
R_{2011}-NR_{2011}	Allowable Notional Revenue (R_{2011})	$20,276,578
	Notional Revenue (NR_{2011})	$19,578,332
	TOTAL	**$698,246**
$((\Sigma P_{i,2011}Q_{i,2010} - K_{2011}+(R_{2011}-NR_{2011}))$		**$20,715,537**
$((1+\Delta CPI_{2012}) \times (1-X))$		**1.0178**
Allowable Notional Revenue (R_{2012})		**$21,084,516**

7.1.3 Pass through cost variation between forecast and actual

As required by clause 11.1(b)(ii) of the Determination, the following discusses the differences between the forecasted pass through costs that were used when Eastland Network set prices and the actual amounts during the Assessment Period.

The forecasted and actual pass through costs was as follows:

Pass through cost	Forecast	Actual	Difference
Transpower Charges	6,772,683	6,749,691	-22,992
Avoided Transmission	2,791,786	2,814,650	22,864
Territorial Rates	101,462	147,286	45,824
Commerce Act and EA Levies	108,000	93,578	-14,422
Total	**$9,773,931**	**$9,805,205**	**$31,274**

Variances are explained as follows:

- **Transpower Charges** – Forecast figures used the amounts notified by Transpower in their Transmission charge notice of 1 December 2010. Subsequently actual figures are very close to those budgeted.
- **Avoided Transmission –** Since pricing design and budgeting was undertaken in November 2010, Eastland Network has been charged for Avoided Transmission charges for the current Assessment Period from a local Hydro operator. At the time budgeting was done, these charges did not exist and were therefore omitted from the budgeted figures.

- **Territorial Rates –** When pricing design and budgeting was undertaken in November 2010, Eastland Network incorrectly allocated Network territorial budgeted rates to a related party entity, which resulted in an understatement of budgeted rates. Since November 2010, Eastland Network has corrected this in its budgeting.
- **Commerce Act and EA Levies –** During the Assessment Period, Eastland Network received refunds from the Electricity Authority for over assessed levies for the 2011 Assessment Period which have been offset against the current Assessment Period levies. When pricing design and budgeting was undertaken in November 2010, it was unknown that Eastland Network would receive any refunds from reconciliation of levy calculations for the previous Assessment Period.

7.2 Supporting Tariffs, Volumes and Notional Revenue

P_{2011}

				Non-TOU Metering				TOU Metering			
				Fixed	UN	CN	NT	EP	MP	OP	NR
Domestic	High Density		PDH0030	0.1500	0.1315	0.0684	0.0132				
	Low Density		PDL0030	0.1500	0.1534	0.0829	0.0153				
Non-Domestic	High Density	Low Capacity (0 to 2.5kVA)	PNH0003	0.2596	0.1285	0.0836	0.0131				
		Assessed Demand (2.5 to 30kVA)	PNH0030	1.5573	0.0964	0.0627	0.0131				
		Assessed Demand (31 to 100kVA)	PNH0100	4.7239	0.0630	0.0409	0.0131				
		Assessed Demand (101 to 300kVA)	PNH0300	9.0845	0.0514	0.0334	0.0131				
		Assessed Demand (301 to 500kVA)	PNH0500	16.8712				0.0479	0.0455	0.0350	0.0158
		Assessed Demand (501 to 1000kVA)	PNH1000	25.9558				0.0479	0.0455	0.0350	0.0158
		Assessed Demand (1001 to 4500kVA)	PNH4500	59.6982				0.0479	0.0455	0.0350	0.0158
		Assessed Demand (4501 to 6500kVA)	PNH6500	90.8451				0.0479	0.0455	0.0350	0.0158
	Low Density	Low Capacity (0 to 2.5kVA)	PNL0003	0.2596	0.1483	0.1038	0.0151				
		Assessed Demand (2.5 to 30kVA)	PNL0030	1.5573	0.1113	0.0723	0.0151				
		Assessed Demand (31 to 100kVA)	PNL0100	4.7239	0.0742	0.0445	0.0151				
		Assessed Demand (101 to 300kVA)	PNL0300	9.0845	0.0593	0.0356	0.0151				
		Assessed Demand (301 to 500kVA)	PNL0500	16.8712				0.0503	0.0478	0.0367	0.0166
		Assessed Demand (501 to 1000kVA)	PNL1000	25.9558				0.0503	0.0478	0.0367	0.0166
		Assessed Demand (1001 to 4500kVA)	PNL4500	59.6982				0.0503	0.0478	0.0367	0.0166
		Assessed Demand (4501 to 6500kVA)	PNL6500	90.8451				0.0503	0.0478	0.0367	0.0166
Generation		Assessed Capacity (301 to 500kVA)	PNG0500	13.0303							
		Assessed Capacity (501 to 1000kVA)	PNG1000	20.0467							
		Assessed Capacity (1001 to 4500kVA)	PNG4500	46.1074							
		Assessed Capacity (4501 to 6500kVA)	PNG6500	70.1634							

P_{2012}

				Non-TOU Metering				TOU Metering			
				Fixed	UN	CN	NT	EP	MP	OP	NR
Domestic	High Density		PDH0030	0.1500	0.1341	0.0697	0.0134				
	Low Density		PDL0030	0.1500	0.1564	0.0845	0.0157				
Non-Domestic	High Density	Low Capacity (0 to 2.5kVA)	PNH0003	0.3010	0.1263	0.0822	0.0129				
		Assessed Demand (2.5 to 30kVA)	PNH0030	1.8065	0.0948	0.0616	0.0129				
		Assessed Demand (31 to 100kVA)	PNH0100	5.4798	0.0620	0.0403	0.0129				
		Assessed Demand (101 to 300kVA)	PNH0300	10.5381	0.0505	0.0328	0.0129				
		Assessed Demand (201 to 300kVA)	PTH0300	16.5598				0.0471	0.0447	0.0344	0.0155
		Assessed Demand (301 to 500kVA)	PNH0500	19.5706				0.0471	0.0447	0.0344	0.0155
		Assessed Demand (501 to 1000kVA)	PNH1000	30.1086				0.0471	0.0447	0.0344	0.0155
		Assessed Demand (1001 to 4500kVA)	PNH4500	69.2499				0.0471	0.0447	0.0344	0.0155
		Assessed Demand (4501 to 6500kVA)	PNH6500	105.3803				0.0471	0.0447	0.0344	0.0155
	Low Density	Low Capacity (0 to 2.5kVA)	PNL0003	0.3010	0.1458	0.1020	0.0148				
		Assessed Demand (2.5 to 30kVA)	PNL0030	1.8065	0.1094	0.0710	0.0148				
		Assessed Demand (31 to 100kVA)	PNL0100	5.4798	0.0729	0.0437	0.0148				
		Assessed Demand (101 to 300kVA)	PNL0300	10.5381	0.0583	0.0350	0.0148				
		Assessed Demand (201 to 300kVA)	PTL0300	16.5598				0.0494	0.0469	0.0361	0.0163
		Assessed Demand (301 to 500kVA)	PNL0500	19.5706				0.0494	0.0469	0.0361	0.0163
		Assessed Demand (501 to 1000kVA)	PNL1000	30.1086				0.0494	0.0469	0.0361	0.0163
		Assessed Demand (1001 to 4500kVA)	PNL4500	69.2499				0.0494	0.0469	0.0361	0.0163
		Assessed Demand (4501 to 6500kVA)	PNL6500	105.3803				0.0494	0.0469	0.0361	0.0163
Generation		Assessed Capacity (301 to 500kVA)	PNG0500	15.1152							
		Assessed Capacity (501 to 1000kVA)	PNG1000	23.2541							
		Assessed Capacity (1001 to 4500kVA)	PNG4500	53.4845							
		Assessed Capacity (4501 to 6500kVA)	PNG6500	81.3895							

Q2010

					Non-TOU Metering			TOU Metering				
				ICPs	UN	CN	NT	EP	MP	OP	NR	Total kWh
Domestic	High Density		PDH0030	13,549	59,351,829	26,481,805	34,891	0	0	0	0	85,868,525
	Low Density		PDL0030	6,122	29,359,598	11,347,700	39,960	0	0	0	0	40,747,258
Non-Domestic	High Density	Low Capacity (0 to 2.5kVA)	PNH0003	87	460,868	0	0	0	0	0	0	460,868
		Assessed Demand (2.5 to 30kVA)	PNH0030	1,703	22,658,735	1,050,957	0	0	0	0	0	23,709,692
		Assessed Demand (31 to 100kVA)	PNH0100	253	21,266,927	487,039	0	0	0	0	0	21,753,966
		Assessed Demand (101 to 300kVA)	PNH0300	50	11,667,298	26,415	5,728	0	0	0	0	11,699,441
		Assessed Demand (301 to 500kVA)	PNH0500	20	0	0	0	1,489,345	2,289,134	2,994,877	2,009,717	8,783,073
		Assessed Demand (501 to 1000kVA	PNH1000	18	0	0	0	4,167,374	6,338,853	8,212,230	7,069,009	25,787,466
		Assessed Demand (1001 to 4500kV/	PNH4500	1	0	0	0	976,328	1,218,085	1,728,350	1,913,542	5,836,305
		Assessed Demand (4501 to 6500kV/	PNH6500	1	0	0	0	2,543,119	3,924,815	4,975,362	4,775,836	16,219,132
	Low Density	Low Capacity (0 to 2.5kVA)	PNL0003	105	263,928	0	0	0	0	0	0	263,928
		Assessed Demand (2.5 to 30kVA)	PNL0030	3,426	16,991,947	1,453,828	41,556	0	0	0	0	18,487,331
		Assessed Demand (31 to 100kVA)	PNL0100	74	4,208,665	156,603	0	0	0	0	0	4,365,268
		Assessed Demand (101 to 300kVA)	PNL0300	10	1,193,235	0	0	0	0	0	0	1,193,235
		Assessed Demand (301 to 500kVA)	PNL0500	3	0	0	0	244,673	383,001	497,401	366,203	1,491,278
		Assessed Demand (501 to 1000kVA	PNL1000	1	0	0	0	79,018	159,552	200,660	158,600	597,830
		Assessed Demand (1001 to 4500kV/	PNL4500	1	0	0	0	2,002,125	3,173,894	3,915,294	3,470,687	12,562,000
		Assessed Demand (4501 to 6500kV/	PNL6500	0	0	0	0	0	0	0	0	0
Generation		Assessed Capacity (301 to 500kVA)	PNG0500	0	0	0	0	0	0	0	0	0
		Assessed Capacity (501 to 1000kVA	PNG1000	6	0	0	0	0	0	0	0	0
		Assessed Capacity (1001 to 4500kV	PNG4500	1	0	0	0	0	0	0	0	0
		Assessed Capacity (4501 to 6500kV	PNG6500	1	0	0	0	0	0	0	0	0
				25,432	167,423,030	41,004,347	122,135	11,501,982	17,487,334	22,524,174	19,763,594	279,826,596

$P_{2011}Q_{2010}$

					Non-TOU Metering			TOU Metering				
				Fixed	UN	CN	NT	EP	MP	OP	NR	Total
Domestic	High Density		PDH0030	741,808	7,805,461	1,810,987	459	0	0	0	0	10,358,714
	Low Density		PDL0030	335,180	4,504,937	940,243	613	0	0	0	0	5,780,973
Non-Domestic	High Density	Low Capacity (0 to 2.5kVA)	PNH0003	8,242	59,240	0	0	0	0	0	0	67,482
		Assessed Demand (2.5 to 30kVA)	PNH0030	968,038	2,184,407	65,856	0	0	0	0	0	3,218,301
		Assessed Demand (31 to 100kVA)	PNH0100	436,233	1,339,484	19,939	0	0	0	0	0	1,795,656
		Assessed Demand (101 to 300kVA)	PNH0300	165,792	599,883	883	75	0	0	0	0	766,633
		Assessed Demand (301 to 500kVA)	PNH0500	123,160	0	0	0	71,347	104,177	104,732	31,755	435,171
		Assessed Demand (501 to 1000kVA)	PNH1000	170,529	0	0	0	199,637	288,478	287,186	111,694	1,057,524
		Assessed Demand (1001 to 4500kVA	PNH4500	21,790	0	0	0	46,771	55,434	60,441	30,235	214,671
		Assessed Demand (4501 to 6500kVA	PNH6500	33,158	0	0	0	121,827	178,616	173,991	75,461	583,054
	Low Density	Low Capacity (0 to 2.5kVA)	PNL0003	9,948	39,151	0	0	0	0	0	0	49,098
		Assessed Demand (2.5 to 30kVA)	PNL0030	1,947,444	1,890,414	105,133	626	0	0	0	0	3,943,618
		Assessed Demand (31 to 100kVA)	PNL0100	127,594	312,152	6,969	0	0	0	0	0	446,715
		Assessed Demand (101 to 300kVA)	PNL0300	33,158	70,801	0	0	0	0	0	0	103,959
		Assessed Demand (301 to 500kVA)	PNL0500	18,474	0	0	0	12,316	18,315	18,278	6,083	73,466
		Assessed Demand (501 to 1000kVA)	PNL1000	9,474	0	0	0	3,978	7,630	7,373	2,635	31,089
		Assessed Demand (1001 to 4500kVA	PNL4500	21,790	0	0	0	100,781	151,776	143,871	57,652	475,871
		Assessed Demand (4501 to 6500kVA	PNL6500	0	0	0	0	0	0	0	0	0
Generation		Assessed Capacity (301 to 500kVA)	PNG0500	0	0	0	0	0	0	0	0	0
		Assessed Capacity (501 to 1000kVA	PNG1000	43,902	0	0	0	0	0	0	0	43,902
		Assessed Capacity (1001 to 4500kV	PNG4500	16,829	0	0	0	0	0	0	0	16,829
		Assessed Capacity (4501 to 6500kV	PNG6500	25,610	0	0	0	0	0	0	0	25,610
				5,258,153	18,805,929	2,950,011	1,773	556,657	804,427	795,872	315,514	29,488,336

$P_{2012}Q_{2010}$

					Non-TOU Metering			TOU Metering				
				Fixed	UN	CN	NT	EP	MP	OP	NR	Total
Domestic	High Density		PDH0030	741,808	7,959,080	1,845,782	468	0	0	0	0	10,547,137
	Low Density		PDL0030	335,180	4,591,841	958,881	627	0	0	0	0	5,886,529
Non-Domestic	High Density	Low Capacity (0 to 2.5kVA)	PNH0003	9,558	58,208	0	0	0	0	0	0	67,766
		Assessed Demand (2.5 to 30kVA)	PNH0030	1,122,911	2,148,048	64,739	0	0	0	0	0	3,335,698
		Assessed Demand (31 to 100kVA)	PNH0100	506,032	1,318,549	19,628	0	0	0	0	0	1,844,209
		Assessed Demand (101 to 300kVA)	PNH0300	192,320	589,199	866	74	0	0	0	0	782,459
		Assessed Demand (201 to 300kVA)	PTH0300	0	0	0	0	0	0	0	0	0
		Assessed Demand (301 to 500kVA)	PNH0500	142,865	0	0	0	70,148	102,324	103,024	31,151	449,512
		Assessed Demand (501 to 1000kVA)	PNH1000	197,814	0	0	0	196,283	283,347	282,501	109,570	1,069,514
		Assessed Demand (1001 to 4500kVA	PNH4500	25,276	0	0	0	45,985	54,448	59,455	29,660	214,825
		Assessed Demand (4501 to 6500kVA	PNH6500	38,464	0	0	0	119,781	175,439	171,152	74,025	578,862
	Low Density	Low Capacity (0 to 2.5kVA)	PNL0003	11,536	38,481	0	0	0	0	0	0	50,017
		Assessed Demand (2.5 to 30kVA)	PNL0030	2,259,010	1,858,919	103,222	615	0	0	0	0	4,221,766
		Assessed Demand (31 to 100kVA)	PNL0100	148,009	306,812	6,844	0	0	0	0	0	461,665
		Assessed Demand (101 to 300kVA)	PNL0300	38,464	69,566	0	0	0	0	0	0	108,030
		Assessed Demand (201 to 300kVA)	PTL0300	0	0	0	0	0	0	0	0	0
		Assessed Demand (301 to 500kVA)	PNL0500	21,430	0	0	0	12,087	17,963	17,956	5,969	75,405
		Assessed Demand (501 to 1000kVA)	PNL1000	10,990	0	0	0	3,903	7,483	7,244	2,585	32,205
		Assessed Demand (1001 to 4500kVA	PNL4500	25,276	0	0	0	98,905	148,856	141,342	56,572	470,951
		Assessed Demand (4501 to 6500kVA	PNL6500	0	0	0	0	0	0	0	0	0
Generation		Assessed Capacity (301 to 500kVA)	PNG0500	0	0	0	0	0	0	0	0	0
		Assessed Capacity (501 to 1000kVA	PNG1000	50,926	0	0	0	0	0	0	0	50,926
		Assessed Capacity (1001 to 4500kV	PNG4500	19,522	0	0	0	0	0	0	0	19,522
		Assessed Capacity (4501 to 6500kV	PNG6500	29,707	0	0	0	0	0	0	0	29,707
				5,927,099	18,938,702	2,999,961	1,784	547,093	789,860	782,674	309,532	30,296,705

8 Quality Threshold – Supporting Statistics

8.1 Compliance with Quality Standards

The 2010 Assessment Period Quality Thresholds have been calculated in accordance with The Commerce Act (Electricity Thresholds Notice) 2004.

The 2011 Assessment Period Quality Thresholds have been calculated in accordance with Schedule 3 of the Electricity Distribution Services Default Price-Quality Path Determination 2010.

8.1.1 SAIDI

The five year average SAIDI to 31 March 2003 used to calculate the 2010 Quality Threshold:

	Class B	Class C	Total (B+C)
$SAIDI_{1999}$	164.23	268.87	433.1
$SAIDI_{2000}$	61.26	194.31	255.57
$SAIDI_{2001}$	23.94	643.05	666.99
$SAIDI_{2002}$	78.44	112.31	190.75
$SAIDI_{2003}$	57.79	283.79	341.58
Total	385.66	1502.33	1,887.99
Divide by 5	**77.13**	**300.47**	**377.59**

The 2011 SAIDI Reliability Limit was determined as follows:

$$SAIDI_{LIMIT} = \mu_{SAIDI} + \delta_{SAIDI}$$

where:

$$\mu_{SAIDI} = 250.29$$

$$\delta_{SAIDI} = 52.09$$

$$SAIDI_{LIMIT} = 302.38$$

8.1.2 SAIFI

The five year average SAIFI to 31 March 2003 used to calculate the 2010 Quality Threshold:

	Class B	Class C	Total (B+C)
$SAIFI_{1999}$	1.21	3.08	4.29
$SAIFI_{2000}$	0.56	2.65	3.21
$SAIFI_{2001}$	0.50	4.81	5.31
$SAIFI_{2002}$	0.41	3.07	3.48
$SAIFI_{2003}$	0.53	3.60	4.13
Total	3.21	17.21	20.42
Divide by 5	**0.64**	**3.44**	**4.08**

The 2011 SAIFI Reliability Limit was determined as follows:

$$SAIFI_{LIMIT} = \mu_{SAIFI} + \delta_{SAIFI}$$

where:

μ_{SAIFI} = 3.50

δ_{SAIFI} = 0.76

$\boldsymbol{SAIFI_{LIMIT}}$ = **4.26**

8.2 Reliability Limit Factors

These factors were determined in accordance with Schedule 3 of the Determination and were used to calculate the 2012 Reliability Limits.

8.2.1 Boundary Values

The SAIDI boundary value was determined as follows:

$$B_{SAIDI} = e^{(\alpha_{SAIDI} + \beta_{SAIDI})}$$

where:

α_{SAIDI} = -0.86

β_{SAIDI} = 1.60

$\boldsymbol{B_{SAIDI}}$ = **22.86**

The SAIFI boundary value was determined as follows:

$$B_{SAIFI} = e^{(\alpha_{SAIFI} + \beta_{SAIFI})}$$

where:

α_{SAIFI} = -5.31

β_{SAIFI} = 1.66

$\boldsymbol{B_{SAIFI}}$ = **0.32**

8.2.2 Reliability Limits

The SAIDI Reliability Limit was determined as follows:

$$SAIDI_{LIMIT} = \mu_{SAIDI} + \delta_{SAIDI}$$

where:

μ_{SAIDI} = 250.29

δ_{SAIDI} = 52.09

$$\boldsymbol{SAIDI_{LIMIT}} = \mathbf{302.38}$$

The SAIFI Reliability Limit was determined as follows:

$$SAIFI_{LIMIT} = \mu_{SAIFI} + \delta_{SAIFI}$$

where:

μ_{SAIFI} = 3.50

δ_{SAIFI} = 0.76

$$\boldsymbol{SAIFI_{LIMIT}} = \mathbf{4.26}$$