



# Electricity Distribution Services Default Price-Quality Path Determination 2012

Annual Compliance Statement

For the assessment period:  
1 April 2013 to 31 March 2014

28 May 2014

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## 1. Summary of Compliance

For the assessment period 1 April 2013 – 31 March 2014, Eastland Network Limited complied with the Price path and the quality standards.

<b>Test</b>	<b>Result</b>	<b>Result</b>
Price path threshold	$\frac{NR_{2014}}{R_{2014}} \leq 1$	Compliant
Quality threshold - SAIDI	$\frac{SAIDI_{ASSESS,2014}}{SAIDI_{LIMIT}} \leq 1$	Compliant
Quality threshold - SAIFI	$\frac{SAIFI_{ASSESS,2014}}{SAIFI_{LIMIT}} \leq 1$	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 2012 (the Determination).

This statement provides threshold compliance information applicable to the Assessment Period of 1 April 2013 to 31 March 2014.

## 3. Price path

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;
- Pass through costs;
- Recoverable costs; 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.

### 3.1 Compliance with the Price Path

ENL is compliant with the 2014 price path if at any time during the Assessment Period its notional revenue ( $NR_{2014}$ ) did not exceed the allowable notional revenue ( $R_{2014}$ );

$$\frac{NR_{2014}}{R_{2014}} \leq 1$$

Where -

$NR_{2014}$  – Notional revenue from 1 April 2013 to 31 March 2014

$R_{2014}$  – Allowable notional revenue from 1 April 2013 to 31 March 2014

The Eastland Network Ltd 2014 price path was 0.99 and is therefore compliant with clause 8.4 of the Default Price-Quality Path Determination 2012.

$$\frac{21,175,833}{21,331,355} = 0.99 < 1$$

## 4 Restructuring of Prices

Eastland Network did not restructure any prices during the Assessment Period and therefore clauses 8.5 and 8.6 of the Determination do not apply.

## 5. Quality standards

### Introduction

As required under clause 9 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.

### 5.1 Compliance with Quality Standards

To comply with Quality standards, Eastland Network Ltd must not exceed its SAIDI or SAIFI reliability limit for

- a) the 2014 Assessment Period; or
- b) the two immediately preceding extant Assessment Periods.

#### 5.1.1 SAIDI

Eastland Network does not exceed its reliability limit if

$$\frac{SAIDI_{ASSESS,2014}}{SAIDI_{LIMIT}} \leq 1$$

The SAIDI Reliability Limit for the 2013/14 Assessment Period is:

$$SAIDI_{LIMIT} = 302.38$$

In 2013/14 Assessment Period, Eastland Network's SAIDI was 279.80 and therefore fell within Quality Thresholds. As a result, Eastland Network complies with clause 9.1(a) of the Determination.

$$SAIDI_{2014} \text{ Reliability Assessment} = \frac{279.80}{302.38} = 0.93 < 1$$

The SAIDI Reliability Assessment for the two preceding periods were:

$$SAIDI_{2013} \text{ Reliability Assessment} = \frac{287.17}{302.38} = 0.94 < 1$$

$$SAIDI_{2012} \text{ Reliability Assessment} = \frac{392.15}{302.38} = 1.30 > 1$$

## 5.1.2 SAIFI

The SAIFI quality threshold performance is as follows:

$$\frac{SAIFI_{ASSESS,2014}}{SAIFI_{LIMIT}} \leq 1$$

The SAIFI Reliability Limit for the 2012/13 Assessment Period is:

$$SAIFI_{LIMIT} = 4.26$$

In 2013/14 Assessment Period, Eastland Network's SAIFI was 2.67 and therefore fell within Quality Thresholds. As a result Eastland Network complies with clause 9.1(a) of the Determination.

$$SAIFI_{2014} \text{ Reliability Assessment} = \frac{2.67}{4.26} = 0.63 < 1$$

The SAIFI Reliability Assessment for the two preceding periods were:

$$SAIFI_{2013} \text{ Reliability Assessment} = \frac{3.82}{4.26} = 0.89 < 1$$

$$SAIFI_{2012} \text{ Reliability Assessment} = \frac{3.41}{4.26} = 0.80 < 1$$

## 5.2 Policies and procedures for recording SAIDI and SAIFI

As required under clause 11.3(i) of the Determination, the policies and procedures used by Eastland Network for recording the SAIDI and SAIFI statistics for the assessment period are described in sections 5.2.1 and 5.2.2 below.

### 5.2.1 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 Distribution Information Disclosure Determination 2012, Electricity Distribution Services Default Price-Quality Path Determination 2012 and Reliability Performance Measurement Manual 1994 (and updates).
- **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

#### 5.2.2 Policies

- Collection and analysis of interruption data is to be completed in accordance with Electricity Distribution Information Disclosure Determination 2012, Electricity Distribution Services Default Price-Quality Path Determination 2012 and Reliability Performance Measurement Manual 1994 (and updates).
- 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.





## **INDEPENDENT AUDITOR'S REPORT**

### **TO THE DIRECTORS OF EASTLAND NETWORK LIMITED AND TO THE COMMERCE COMMISSION**

The Auditor-General is the auditor of Eastland Network Limited (the company). The Auditor-General has appointed me, Andrew Burgess, using the staff and resources of Deloitte, to provide an opinion, on her behalf, on whether the Annual Compliance Statement for the year ended on 31 March 2014 on pages 3 to 8 and 13 to 20 complies, in all material respects, with the Electricity Distribution Services Default Price-Quality Path Determination 2012 (the Determination).

#### **Directors' responsibilities for the Annual Compliance Statement**

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.

#### **Auditor's responsibility for the Annual Compliance Statement**

Our responsibility is to express an opinion on whether the Annual Compliance Statement has been prepared, in all material respects, in accordance with the Determination.

#### **Basis of opinion**

We conducted our engagement in accordance with the International Standard on Assurance Engagements (New Zealand) 3000: *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* issued by the External Reporting Board and the Standard on Assurance Engagements 3100: *Compliance Engagements* issued by the External Reporting Board.

These standards require that we comply with ethical requirements and plan and perform our audit to provide reasonable assurance (which is also referred to as 'audit' assurance) about whether the Disclosure Information has been prepared in all material respects in accordance with the Determination.

An audit involves performing procedures to obtain 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 or non-compliance with the Determination. In making those risk assessments, the auditor considers internal control relevant to the company'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 company'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 13 to 18 of the Annual Compliance Statement.

In relation to the SAIDI and SAIFI statistics for the Reference Period and the Assessment Period ended on 31 March 2014, 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, 6 to 8 and 19 to 20 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.



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

#### **Use of this report**

This independent auditor's report has been prepared for the directors of the company and for the Commerce Commission for the purpose of providing those parties with independent audit assurance about whether the Disclosure Information has been prepared, in all material respects, in accordance with the Determination. We disclaim any assumption of responsibility for any reliance on this report to any person other than the directors of the company or the Commerce Commission, or for any other purpose than that for which it was prepared.

#### **Scope and inherent limitations**

Because of the inherent limitations of an audit engagement, and the test basis of the procedures performed, it is possible that fraud, error or non-compliance may occur and not be detected.

We did not examine every transaction, adjustment or event underlying the Disclosure Information nor do we guarantee complete accuracy of the Disclosure Information. Also we did not evaluate the security and controls over the electronic publication of the Disclosure Information.

The opinion expressed in this independent auditor's report has been formed on the above basis.

#### **Independence**

When carrying out the engagement we followed the independence requirements of the Auditor-General, which incorporate the independence requirements of the External Reporting Board. We also complied with the independent auditor requirements specified in clause 4.1 of the Determination.

The Auditor-General, and her employees, and Deloitte and its partners and employees may deal with the company on normal terms within the ordinary course of trading activities of the company. Other than any dealings on normal terms within the ordinary course of business, this engagement and the annual audit of the company's financial statements, we have no relationship with or interests in the company.

#### **Opinion**

In our opinion, the Annual Compliance Statement of Eastland Network for the year ended on 31 March 2014, has been prepared, in all material respects, in accordance with the Determination.

Our audit was completed on 28 May 2014 and our opinion is expressed as at that date.

Trevor Deed

**Deloitte**

**On behalf of the Auditor-General**

Wellington, New Zealand

This audit report relates to the electronic publication of the annual compliance statement prepared under the Electricity Distribution Default Price-Quality Path Determination 2012 (the "annual compliance statement") of Eastland Network Limited (the company) for the assessment period ended on 31 March 2014. We have not been engaged to report on the integrity of any website on which the annual compliance statement has been published. We accept no responsibility for any changes that may have occurred to the annual compliance statement since it was initially approved and published. This audit report refers only to the annual compliance statement named above. If readers of this audit report are concerned with the inherent risks arising from electronic data communication they should refer to the original published hard copy of the annual compliance statement and related audit report dated 28 May 2014 to confirm the information included in the annual compliance statement published on this website. Legislation in New Zealand governing the preparation and dissemination of financial information may differ from legislation in other jurisdictions.

## 7 Directors' certificate

### DIRECTORS' CERTIFICATE ON ANNUAL COMPLIANCE STATEMENT

We, Margaret Anne Blackburn and JOHN McFADYEN RAE, 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 2012 are true and accurate.



Director



Director



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.

## 8 Price Path Threshold Supporting Calculations

### 8.1 Notional Revenue for the Assessment Period

Notional revenue ( $NR_{2013/14}$ ) for the period from 1 April 2013 to 31 March 2014 is calculated in accordance with the following formula:

$$NR_{2013/14} = \sum P_{i,2013/14} Q_{i,2011/12} - K_{2013/14} - V_{2013/14}$$

#### Definitions:

- $P_{i,2013/14}$  = The Eastland Network prices that applied during the Assessment Period 1 April 2013 to 31 March 2014.
- $Q_{i,2011/12}$  = The Eastland Network quantities that applied for the pricing period 1 April 2011 to 31 March 2012.
- $V_{2013/14}$  = The sum of all Recoverable costs and Indirect Transmission charges during the period 1 April 2013 to 31 March 2014.
- $K_{2013/14}$  = The sum of all pass-through costs for the period of 1 April 2013 to 31 March 2014.

The calculation can be shown as follows:

$\sum P_{i,2013/14} Q_{i,2011/12}$	Line Charge Revenue	32,683,257
	<b>TOTAL</b>	<b>32,683,257</b>
$K_{2013/14}$	Territorial Rates	188,039
	Commerce Act, EA Levies & EGCC Levies	108,948
	<b>TOTAL</b>	<b>296,987</b>
$V_{2013/14}$	Transpower Charges	8,548,203
	Avoided Transmission Costs	2,662,234
	<b>TOTAL</b>	<b>11,210,437</b>
<b>Notional Revenue (<math>NR_{2013/14}</math>)</b>		<b>21,175,833</b>

## 8.2 Allowable Notional Revenue for the Assessment Period

The allowable notional revenue ( $R_{2013/14}$ ) for the period from 1 April 2013 to 31 March 2014 is calculated in accordance with the following formula:

$$R_{2013/14} = ((MAR_{2013/14} + K_{2013/14} + V_{2013/14}) / \Delta D) - K_{2013/14} - V_{2013/14}$$

### Definitions:

- $R_{2013/14}$  = Allowable Notional Revenue for the period of 1 April 2013 to 31 March 2014 and as shown in the statement for that Period.
- $MAR_{2013/14}$  = Maximum Allowable Revenue for the period from 1 April 2013 to 31 March 2014, as specified in Table 4 of the Electricity Distribution Services Default Price-Quality Path Determination 2012 as \$21,200,000.
- $K_{2013/14}$  = Sum of all pass-through costs for the period of 1 April 2013 to 31 March 2014 and as shown in the statement for that Period.
- $V_{2013/14}$  = Sum of all Recoverable Costs and Indirect Transmission Charges relating to the period from 1 April 2013 to 31 March 2014.
- $\Delta D$  = Change in constant price revenue for the period 1 April 2012 to 31 March 2014 as specified in Table 4 of the Electricity Distribution Services Default Price-Quality Path Determination 2012 as 0.996

The calculation can be shown as follows:

MAR <sub>2013/14</sub>	Maximum Allowable Revenue	21,200,000
	TOTAL	21,200,000
K <sub>2013/14</sub>	Territorial Rates	188,039
	Commerce Act, EA Levies & EGCC Levies	108,948
	TOTAL	296,987
V <sub>2013/14</sub>	Transpower Charges	8,548,203
	Avoided Transmission Costs	2,662,234
	TOTAL	11,210,437
ΔD	Change in Price Revenue	0.996
Allowable Notional Revenue (R <sub>2013/14</sub> )		21,331,355

### 8.2.1 Pass through cost variance to forecast

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 are as follows:

Pass through cost	Forecast	Actual	Difference
Territorial Rates	234,164	188,039	46,125
Commerce Act, EA & EGCC	131,150	108,948	22,202
Total	365,314	296,987	68,327

Variance explanation:

- **Territorial rates** – Budget figures were based on prior years' actuals plus a percentage increase. Network rates actually decreased for three of the four instalments paid during the year. Also the budget figure was entered inclusive of GST in error. Further, some network property was transferred into a related party investment property business and not leased back by the Eastland Network.
- **Commerce Act, EA & EGCC Levies** – The forecast incorrectly included \$23,000 for EGCC fines. Actuals are very similar to Comcom EA & EGCC Levies forecast of \$108,150.

The forecasted and actual Recoverable costs are as follows:

Recoverable costs	Forecast	Actual	Difference
Transpower Charges	8,548,203	8,548,203	-
Avoided Transmission	2,527,590	2,662,234	134,644
Total	11,075,793	11,210,437	134,644

Variance explanation:

- **Transpower Charges** – Forecast figures used the amounts notified by Transpower in their Transmission charge notice, consequently actual figures are the same as those budgeted.

- **Avoided Transmission** – The forecast figure was based on prior year costs. Actual costs are higher as actual output from generators was higher than forecast.



### 8.3 Supporting Tariffs, Volumes and Notional Revenue

Prices for period from 1 April 2013 to 31 March 2014

**P** 2013/14

Domestic	High Density Low Density	Assessed Demand (0 to 2.5kVA) Assessed Demand (2.5 to 30kVA) Assessed Demand (31 to 100kVA) Assessed Demand (101 to 300kVA) Assessed Demand (201 to 300kVA) Assessed Demand (301 to 500kVA) Assessed Demand (501 to 1000kVA) Assessed Demand (1001 to 4500kVA) Assessed Demand (4501 to 6500kVA)	Non-TOU Metering					TOU Metering				
			Fixed	UN	CN	NT	EP	MP	OP	NR		
Non-Domestic	High Density	PDH0030	0.1500	0.1453	0.0755	0.0189	-	-	-	-	-	
		PDL0030	0.1500	0.1698	0.0917	0.0221	-	-	-	-	-	
	Low Density	PNH0003	0.3766	0.1312	0.0852	0.0164	-	-	-	-	-	
		PNH0030	2.1540	0.0944	0.0614	0.0164	-	-	-	-	-	
		PNH0100	6.5907	0.0643	0.0417	0.0164	-	-	-	-	-	
		PNH0300	12.4281	0.0525	0.0341	0.0164	-	-	-	-	-	
		PTH0300	20.7135	-	-	-	0.0487	0.0455	0.0358	0.0160	0.0160	
		PNH0500	23.3498	-	-	-	0.0487	0.0455	0.0358	0.0160	0.0160	
		PNH1000	36.1545	-	-	-	0.0487	0.0455	0.0358	0.0160	0.0160	
		PNH4500	90.3863	-	-	-	0.0487	0.0455	0.0358	0.0160	0.0160	
		PNH6500	137.5566	-	-	-	0.0487	0.0455	0.0358	0.0160	0.0160	
		Low Density	PNL0003	0.3766	0.1514	0.0984	0.0189	-	-	-	-	-
			PNL0030	2.1540	0.0984	0.0640	0.0189	-	-	-	-	-
			PNL0100	6.5907	0.0749	0.0487	0.0189	-	-	-	-	-
			PNL0300	12.4281	0.0598	0.0389	0.0189	-	-	-	-	-
			PTL0300	20.7135	-	-	-	0.0510	0.0477	0.0375	0.0169	0.0169
PNL0500	23.3498		-	-	-	0.0510	0.0477	0.0375	0.0169	0.0169		
PNL1000	36.1545		-	-	-	0.0510	0.0477	0.0375	0.0169	0.0169		
PNL4500	90.3863		-	-	-	0.0510	0.0477	0.0375	0.0169	0.0169		
Generation	PNL6500	137.5566	-	-	-	0.0510	0.0477	0.0375	0.0169	0.0169		
	PNG0500	17.3837	-	-	-	-	-	-	-	-		
	PNG1000	26.9166	-	-	-	-	-	-	-	-		
	PNG4500	67.2916	-	-	-	-	-	-	-	-		
		PNG6500	102.4093	-	-	-	-	-	-	-		





Quantities for the period 1 April 2011 to 31 March 2012

Q2011/12

	ICPs	Non-TOU Metering					TOU Metering					Total kWh
		UN	CN	NT	EP	MP	OP	NR				
Domestic	PDH0030	13,847	59,633,373	25,862,948	31,401	0	0	0	0	0	0	85,527,722
	PDL0030	6,292	28,934,356	10,891,903	57,340	0	0	0	0	0	0	39,883,599
High Density	PNH0003	129	551,108	0	0	0	0	0	0	0	0	551,108
	PNH0030	1,750	21,809,377	928,912	1,392	0	0	0	0	0	0	22,739,681
	PNH0100	272	20,471,388	442,125	43,337	0	0	0	0	0	0	20,956,850
	PNH0300	67	12,034,802	22,778	1,429	0	0	0	0	0	0	12,059,009
	PTH0300	3	765,722	0	0	109,924	107,146	167,334	53,012	0	0	1,203,138
	PNH0500	18	0	0	0	1,287,930	2,050,055	2,649,064	1,924,205	0	0	7,911,254
	PNH1000	21	0	0	0	4,177,903	5,997,340	7,988,741	6,923,135	0	0	25,087,119
	PNH4500	1	0	0	0	889,796	1,200,565	1,658,145	1,631,999	0	0	5,380,505
	PNH6500	1	0	0	0	4,002,400	5,365,614	7,381,340	7,679,360	0	0	24,428,714
	PNL0003	109	263,978	0	0	0	0	0	0	0	0	263,978
Low Density	PNL0030	3,460	16,033,618	1,312,066	123,010	0	0	0	0	0	0	17,468,694
	PNL0100	85	4,286,884	139,653	0	0	0	0	0	0	0	4,426,537
	PNL0300	12	1,156,591	1,196	0	0	0	0	0	0	0	1,157,787
	PTL0300	0	0	0	0	0	0	0	0	0	0	0
	PNL0500	3	0	0	0	229,844	344,792	449,332	347,814	0	0	1,371,782
	PNL1000	1	0	0	0	113,218	214,219	274,874	132,238	0	0	734,549
	PNL4500	1	0	0	0	2,081,274	3,004,351	3,931,207	3,516,935	0	0	12,533,767
	PNL6500	0	0	0	0	0	0	0	0	0	0	0
	PNG0500	0	0	0	0	0	0	0	0	0	0	0
	PNG1000	6	0	0	0	0	0	0	0	0	0	0
Generation	PNG4500	1	0	0	0	0	0	0	0	0	0	0
	PNG6500	1	0	0	0	0	0	0	0	0	0	0
		26,080	165,941,197	39,601,581	257,909	12,892,289	18,284,082	24,500,037	22,208,698	0	0	283,685,793



Price for 2013/14 times Quantities for 2011/12

P<sub>2013/14</sub> Q<sub>2011/12</sub>

Domestic	High Density Low Density	Fixed	Non-TOU Metering				TOU Metering				Total
			UN	CN	NT	EP	MP	OP	NR		
		758,123	8,664,729	1,952,653	593	0	0	0	0	0	11,376,098
		344,487	4,913,054	998,788	1,267	0	0	0	0	0	6,257,595
	Low Capacity (0 to 2.5kVA)	17,732	72,305	0	0	0	0	0	0	0	90,038
	Assessed Demand (2.5 to 30kVA)	1,375,868	2,058,805	57,035	23	0	0	0	0	0	3,491,731
	Assessed Demand (31 to 100kVA)	654,325	1,316,310	18,437	711	0	0	0	0	0	1,989,782
	Assessed Demand (101 to 300kVA)	303,929	631,827	777	23	0	0	0	0	0	936,556
	Assessed Demand (201 to 300kVA)	22,681	0	0	0	5,353	4,875	5,991	848	0	39,748
	Assessed Demand (301 to 500kVA)	153,408	0	0	0	62,722	93,278	94,836	30,787	0	435,032
	Assessed Demand (501 to 1000kVA)	277,124	0	0	0	203,464	272,879	285,997	110,770	0	1,150,234
	Assessed Demand (1001 to 4500kVA)	32,991	0	0	0	43,333	54,626	59,362	26,112	0	216,423
	Assessed Demand (4501 to 6500kVA)	50,208	0	0	0	194,917	244,135	264,252	122,870	0	876,382
Non-Domestic	Low Capacity (0 to 2.5kVA)	14,983	39,966	0	0	0	0	0	0	0	54,949
	Assessed Demand (2.5 to 30kVA)	2,720,287	1,577,708	83,972	2,325	0	0	0	0	0	4,384,292
	Assessed Demand (31 to 100kVA)	204,476	321,088	6,801	0	0	0	0	0	0	532,365
	Assessed Demand (101 to 300kVA)	54,435	69,164	47	0	0	0	0	0	0	123,646
	Assessed Demand (201 to 300kVA)	0	0	0	0	0	0	0	0	0	0
	Assessed Demand (301 to 500kVA)	25,568	0	0	0	11,722	16,447	16,850	5,878	0	76,465
	Assessed Demand (501 to 1000kVA)	13,196	0	0	0	5,774	10,218	10,308	2,235	0	41,731
	Assessed Demand (1001 to 4500kVA)	32,991	0	0	0	106,145	143,308	147,420	59,436	0	489,300
	Assessed Demand (4501 to 6500kVA)	0	0	0	0	0	0	0	0	0	0
Generation	Assessed Capacity (301 to 500kVA)	0	0	0	0	0	0	0	0	0	0
	Assessed Capacity (501 to 1000kVA)	58,947	0	0	0	0	0	0	0	0	58,947
	Assessed Capacity (1001 to 4500kVA)	24,561	0	0	0	0	0	0	0	0	24,561
	Assessed Capacity (4501 to 6500kVA)	37,379	0	0	0	0	0	0	0	0	37,379
		7,177,701	19,664,957	3,118,508	4,943	633,430	839,765	885,016	358,936	0	32,683,257



## 8.4 Supporting Statistics for Quality Threshold

The Assessment Period Quality Thresholds have been calculated in accordance with the Commerce Act (Electricity Thresholds Notice) 2004 and the Electricity Distribution Services Default Price-Quality Path Determination 2012.

### 8.4.1 SAIDI

The SAIDI Reliability Limits were determined as follows:

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

where:

$$\mu_{SAIDI} = 250.29$$

$$\delta_{SAIDI} = 52.09$$

$$SAIDI_{LIMIT} = 302.38$$

### 8.4.2 SAIFI

The SAIFI Reliability Limits were determined as follows:

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

where:

$$\mu_{SAIFI} = 3.50$$

$$\delta_{SAIFI} = 0.76$$

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

## 8.5 Reliability Limit Factors

These factors were determined in accordance with Schedule 2 of the Electricity Distribution Services Default Price-Quality Path Determination 2012 and were used to calculate the 2014 Reliability Limits.



### 8.5.1 Boundary Values

The SAIDI boundary value was determined as follows:

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

where:

$$\alpha_{SAIDI} = -0.86$$

$$\beta_{SAIDI} = 1.60$$

$$\mathbf{B_{SAIDI} = 22.86}$$

The SAIFI boundary value was determined as follows:

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

where:

$$\alpha_{SAIFI} = -5.31$$

$$\beta_{SAIFI} = 1.66$$

$$\mathbf{B_{SAIFI} = 0.32}$$

### 8.5.2 Reliability Limits

The SAIDI Reliability Limit was determined as follows:

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

where:

$$\mu_{SAIDI} = 250.29$$

$$\delta_{SAIDI} = 52.09$$

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

The SAIFI Reliability Limit was determined as follows:

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

where:

$$\mu_{SAIFI} = 3.50$$

$$\delta_{SAIFI} = 0.76$$

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

