

# Nelson Electricity Limited

## **DEFAULT PRICE QUALITY PATH COMPLIANCE STATEMENT**

**FOR THE ASSESSMENT DATE 31 MARCH 2017**

*Pursuant to the Electricity Distribution Services Default Price-Quality  
Path Determination 2015*

16 June 2017

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## 1) Compliance with the Price Path (Clause 11.2(a)(i))

Nelson Electricity Limited **does not** comply with the price path at the assessment date, 31 March 2017, as specified in the *Electricity Distribution Services Default Price-Quality Path Determination 2015*.

**Clause 8.3** - The notional revenue of a Non-exempt EDB in an Assessment Period must not exceed the allowable notional revenue for the Assessment Period.

Non-Compliance is demonstrated in the following table. The table demonstrates that notional revenue derived using posted prices during the Assessment Period is **greater** than the allowable notional revenue.

Test:	$NR_{2017} \leq ANR_{2017}$
NR <sub>2017</sub> :	\$ 6,781,860
ANR <sub>2017</sub> :	\$ 6,690,067
Result:	1.0137 > 1
Result:	Price Path has been exceeded

### Reasons for non-compliance Clause 11.4(a)

This non-compliance with the Price Path has arisen due to an error in the Allowable Notional Revenue (ANR<sub>2017</sub>) assessment used as a basis for setting prices for the year ending 31 March 2017. This was the Allowable Notional Revenue for year two of the five year period and as such should have complied with Schedule 3B of the Electricity Distribution Services Default Price-Quality Path Determination 2015. The error was found to be that the assessed ANR<sub>2017</sub> was based on using estimated 2015 quantities instead of the actual quantities derived from billing data.

The pricing levels were set in late 2015 to not exceed the ANR<sub>2017</sub> and were endorsed by the Nelson Electricity Board on that basis. Unfortunately given the error, meant that the limit was inadvertently higher than it should have been and as such the ANR<sub>2017</sub> limit was exceeded.

Nelson Electricity has in the setting of prices for the year ending 31 March 2018 made an allowance for passing back the excess revenue to consumers.

### Actions to mitigate any non-compliance and to prevent similar non-compliance in future Assessment Periods Clause 11.4(b)

The issue arose from referencing to an incorrect quantity assessment for the 2015 year. The 2015 quantities had not referenced the audited 2015 quantities as disclosed in the 2015 Information Disclosure.

Key Actions:

- All PxQ tables used in any disclosure are clearly identified within the Nelson Electricity file system.
- Using links to quantities rather than hard wiring values to provide an easier review process.

**Supporting evidence is presented in Appendices A,B,C,D,E and F**

## 2) Compliance with the Quality Standards (Clause 11.2(a)(ii))

Nelson Electricity Limited does comply with all requirements of the quality standards at the assessment date, 31 March 2017, as specified in the *Electricity Distribution Services Default Price-Quality Path Determination 2015*.

### 2016 Reliability Assessment (9.1(a))

**Clause 9.1(a) requires compliance with Clause 9.2:** To comply with the annual reliability assessment for the current Assessment Period:

- a Non-exempt EDB's SAIDI Assessed Values for the Assessment Period must not exceed the SAIDI Limit specified in Schedule 4A; and
- a Non-exempt EDB's SAIFI Assessed Values for the Assessment Period must not exceed the SAIFI Limit specified in Schedule 4A.

**Compliance is demonstrated in the following tables.**

**Clause 9.2(a)** - A Non-exempt EDB's SAIDI Assessed Value for the Assessment Period must not exceed the SAIDI Limit specified in Schedule 4A.

Test:	$SAIDI_{Assess\ 2017} \leq SAIDI_{Limit}$	
SAIDI <sub>Assess 2017</sub>	10.64	
SAIDI <sub>Limit</sub>	22.23	
Result:	0.4786 < 1	
Result:	SAIDI Limit has not been exceeded	

**Clause 9.2(b)** - A Non-exempt EDB's SAIFI Assessed Value for the Assessment Period must not exceed the SAIFI Limit specified in Schedule 4A.

Test:	$SAIFI_{Assess\ 2017} \leq SAIFI_{Limit}$	
SAIFI <sub>Assess 2017</sub>	0.101	
SAIFI <sub>Limit</sub>	0.241	
Result:	0.4191 < 1	
Result:	SAIFI Limit has not been exceeded	

### Prior Period Reliability Assessment (9.1(b))

Clause 9.1(b): A Non-exempt EDB must have complied with the annual reliability assessments in each of the two preceding Assessment Periods.

Compliance is demonstrated in the following tables.

#### Reliability Assessment for Period Ending 31 March 2016

SAIDI <sub>Assess 2016</sub>	5.76	SAIFI <sub>Assess 2016</sub>	0.079
SAIDI <sub>Limit</sub>	22.23	SAIFI <sub>Limit</sub>	0.241
	0.2591 < 1	Result:	0.3297 < 1
	SAIDI Limit has not been exceeded	Result:	SAIFI Limit has not been exceeded

#### Reliability Assessment for Period Ending 31 March 2015

SAIDI <sub>Assess 2015</sub>	19.940	SAIFI <sub>Assess 2015</sub>	1.570
SAIDI <sub>Limit</sub>	71.536	SAIFI <sub>Limit</sub>	1.126
	0.2787 < 1	Result:	1.3948 > 1
	SAIDI Limit has not been exceeded	Result:	SAIFI Limit has been exceeded

### Compliance Summary

**Clause 9.1** A Non-exempt EDB must, in respect of each Assessment Period, either:

- (a) comply with the annual reliability assessment specified in clause 9.2 for that Assessment Period; or
- (b) have complied with the annual reliability assessment in each of the two preceding Assessment Periods

	SAIDI	SAIFI	Compliance
<b>Compliance with 9.1(a)</b>			
2017 Assessment Period	Does not exceed Limit	Does not exceed Limit	Complies
or			
<b>Compliance with 9.1(b)</b>			
2016 Assessment Period	Does not exceed Limit	Does not exceed Limit	Complies
2015 Assessment Period	Does not exceed Limit	Exceeds Limit	Does not comply
<b>Clause 9.1 Result:</b>	<b>Complies with Quality Standard</b>		

- Clause 11.5(a) Not required due to complying with Clause 11.2(a)
- Clause 11.5(b) Not required due to complying with Clause 11.2(a)

**Supporting evidence is presented in Appendices G and H**

### **3) Director Certification (Clause 11.3(a))**

I, Oliver Rupert Kearney, being director of Nelson Electricity Limited certify that, having made all reasonable enquiry, to the best of my knowledge and belief, the attached Annual Compliance Statement of Nelson Electricity Limited, and related information, prepared for the purposes of the *Electricity Distribution Services Default Price-Quality Path Determination 2015* are true and accurate.



16 June 2017

## **INDEPENDENT ASSURANCE REPORT TO THE DIRECTORS OF NELSON ELECTRICITY LIMITED AND THE COMMERCE COMMISSION**

The Auditor-General is the auditor of Nelson Electricity Limited (the company). The Auditor-General has appointed me, Paul Bryden, using the staff and resources of Deloitte Limited, to provide an opinion, on his behalf, on whether the Annual Compliance Statement for the year ended on 31 March 2017 on pages 2 to 6 and 10 to 28 has been prepared, in all material respects, with the Electricity Distribution Services Default Price-Quality Path Determination 2015 (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.

### **Our 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 (Revised): *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* and the Standard on Assurance Engagements 3100: *Compliance Engagements* issued by the External Reporting Board. Copies of these standards are available on the External Reporting Board's website.

These standards require that we comply with ethical requirements and plan and perform our assurance engagement to provide reasonable assurance about whether the Annual Compliance Statement has been prepared in all material respects in accordance with the Determination.

We have performed procedures to obtain evidence about the amounts and disclosures in the Annual Compliance Statement. The procedures selected depend on our 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, we considered internal control relevant to the company's preparation of the Annual Compliance Statement in order to design 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 assessing the disclosures about compliance with the price path in clause 8 of the Determination for the assessment period ended on 31 March 2017, our assurance engagement included examination, on a test basis, of evidence relevant to the amounts and disclosures contained on pages 2 to 6 and 10 to 28 of the Annual Compliance Statement.

In assessing the disclosures about compliance with the quality standards in clause 9 of the Determination for the assessment period ended on 31 March 2017, our assurance engagement included examination, on a test basis, of evidence relevant to the amounts and disclosures contained on pages 2 to 6 and 10 to 28 of the Annual Compliance Statement.

Our assurance engagement 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 evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### **Use of this report**

This independent assurance report has been prepared solely for the directors of the company and for the Commerce Commission for the purpose of providing those parties with reasonable assurance about whether the Annual Compliance Statement 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 a reasonable assurance 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 Annual Compliance Statement nor do we guarantee complete accuracy of the Annual Compliance Statement. Also we did not evaluate the security and controls over the electronic publication of the Annual Compliance Statement.

The opinion expressed in this independent assurance report has been formed on the above basis.

### **Independence and quality control**

When carrying out the engagement, we complied with the Auditor-General's:

- independence and other ethical requirements, which incorporate the independence and ethical requirements of Professional and Ethical Standard 1 (Revised) issued by the New Zealand Auditing and Assurance Standards Board; and
- quality control requirements, which incorporate the quality control requirements of Professional and Ethical Standard 3 (Amended) issued by the New Zealand Auditing and Assurance Standards Board.

We also complied with the independent auditor requirements specified in the Determination.

The Auditor-General, and his employees, and Deloitte Limited 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:

- as far as appears from an examination, the information used in the preparation of the Annual Compliance Statement has been properly extracted from the company's accounting and other records, and has been sourced, where appropriate, from its financial and non-financial systems; and
- the Annual Compliance Statement of company for the year ended on 31 March 2017, has been prepared, in all material respects, in accordance with the Determination.

In forming our opinion, we have obtained sufficient recorded evidence and all the information and explanations we have required.



**Paul Bryden**  
Deloitte Limited  
On behalf of the Auditor-General  
Christchurch, New Zealand  
16 June 2017

## Appendix A – Price Path Compliance Calculation (Clause 11.4(c))

### Price Path Inputs and Calculations for the Assessment Date 31 March 2017

#### Clause 8.4

Allowable Notional Revenue 31 March 2017		
Term	Description	Value \$
<i>ANR<sub>2017</sub></i>	Allowable Notional Revenue for year ending 31 March 2017	6,690,067

#### Clause 8.5

Notional Revenue for the year ending March 2017		
Term	Description	Value \$
<i>DP<sub>2017</sub> * Q<sub>2015</sub></i>	Distribution Prices at 31 March 2017 multiplied by 31 March 2015 Base Quantities	6,781,860
<i>NR<sub>2017</sub></i>	Notional Revenue for the year ending 31 March 2017	6,781,860

Supported by P\*Q  
schedules presented in  
Appendix B

## Allowable Notional Revenue Calculation for year ending 31 March 2017

- The allowable notional revenue for all Assessment Periods other than the first Assessment Period of a Regulatory Period or CPP Regulatory Period must be calculated in accordance with the formula -

$$ANR_t = \left( \sum_i DP_{i,t-1} Q_{i,t-2} + (ANR_{t-1} - NR_{t-1}) \right) (1 + \Delta CPI_t) (1 - X)$$

where-

$t$	is the year in which the Assessment Period ends;
$i$	denotes each Distribution Price;
$DP_{i,t-1}$	is the $i^{th}$ Distribution Price during any part of the Assessment Period ending the year prior to year $t$ ;
$Q_{i,t-2}$	is the Quantity for the Assessment Period ending 2 years prior to year $t$ corresponding to the $i^{th}$ Distribution Price;
$ANR_{t-1} - NR_{t-1}$	is the difference between allowable notional revenue and notional revenue for the Assessment Period ending the year prior to year $t$ ;
$X$	is the annual rate of change applicable to the Non-exempt EDB, as specified in Schedule 2; and
$\Delta CPI_t$	is the derived change in the CPI to be applied for the Assessment Period ending in year $t$ , being equal to:

$$\frac{CPI_{Dec,t-3} + CPI_{Mar,t-2} + CPI_{Jun,t-2} + CPI_{Sep,t-2}}{CPI_{Dec,t-4} + CPI_{Mar,t-3} + CPI_{Jun,t-3} + CPI_{Sep,t-3}} - 1$$

where-

$CPI_{g,t-n}$  is the CPI for the quarter year ending  $g$  in the 12 month period  $n$  years prior to year  $t$ .

$DP_{2016} \times Q_{2015} =$	<b>\$6,594,767</b>
$ANR_{2016} =$	<b>\$6,741,085</b>
$NR_{2016} =$	<b>\$6,676,473</b>
$\Delta CPI_{2017} =$	<b>0.4608%</b>
$X =$	<b>0.0000</b>

$$\begin{aligned}
 ANR_{2017} &= (DP_{2016} \times Q_{2015} + (ANR_{2016} - NR_{2016})) \times (1 + CPI_{2017}) \times (1 - X) \\
 &= (\$6,594,767 + \$64,612) \times 1.004608 \times 1 \\
 ANR_{2017} &= \mathbf{\$6,690,067}
 \end{aligned}$$

Distribution Price Revenue Table using 31 March 2017 Prices and 2014/2015 Quantities

Number of Days:	365										
Tariff or Fee	Number of ICPS at 31/03/2015 From Registry	Billed kWh at 31/3/2015	Billed kVA at 31/3/2015	Billed Days at 31/3/2015	Distribution Charges			Notional Distribution Revenue (\$)		Total Revenue (\$)	
					Fixed		Variable (c/kWh)	Fixed	Variable		
					\$/day	c/kVA/day				Other	
Group 0											
Streetlights	1	1,193,618		365	226.910	0.000	0.000	0.000	82,822	-	82,822
Unmetered Fixed	31			9,938	0.061	0.000	0.000	0.000	606	-	606
Unmetered Capacity			1056		0.000	60.740	0.000	0.000	641	-	641
Builders Temp	20			5,121	0.636	0.000	0.000	0.000	3,257	-	3,257
BT-kWh		30,590			0.000	0.000	0.000	6.460	-	1,976	1,976
Group 1											
Fixed	3069		11,399,096		0.000	0.980	0.000	0.000	111,711	-	111,711
Anytime		9,191,397			0.000	0.000	0.000	6.460	-	593,764	593,764
Controlled		4,460,743			0.000	0.000	0.000	3.914	-	174,593	174,593
Nightrate		387,995			0.000	0.000	0.000	2.440	-	9,467	9,467
DG		55,013			0.000	0.000	0.000	0.500	-	275	275
Group 2											
Fixed	6000		46,598,307		0.000	6.328	0.000	0.000	2,948,741	-	2,948,741
Anytime		54,616,432			0.000	0.000	0.000	2.050	-	1,119,637	1,119,637
Controlled		11,437,078			0.000	0.000	0.000	1.368	-	156,459	156,459
Nightrate		1,269,156			0.000	0.000	0.000	1.072	-	13,605	13,605
DG		75,129			0.000	0.000	0.000	0.500	-	376	376
Time of Use											
Metered Installation Charge	90			32,509	1.220	0.000	0.000	0.000	39,661	-	39,661
Energy		34,033,050			0.000	0.000	0.000	0.194	-	66,024	66,024
Winter Demand			3,994,525		0.000	12.530	0.000	0.000	500,514	-	500,514
Capacity Supply (Sum of kVA)			10,245,087		0.000	5.089	0.000	0.000	521,393	-	521,393
Power Factor (kVAr)			7,003		0.000	0.000	6.500	0.000	45,517	-	45,517
DG					0.000	0.000	0.000	0.000			
TOU Sealord											
Fixed	1	13,512,927			0.000	0.000	204,572	0.000	204,572	-	204,572
Power Factor (kVAr)			197		0.000	0.000	6.500	0.000	1,280	-	1,280
					0.000	0.000	0.000	0.000			
Direct Connection											
Energy		9,650,307			0.000	0.000	0.000	0.194	-	18,722	18,722
Installation	2			730	1.220	0.000	0.000	0.000	891	-	891
Winter Demand			708,729		0.000	12.530	0.000	0.000	88,804	-	88,804
Capacity Supplied			1,423,500		0.000	5.089	0.000	0.000	72,445	-	72,445
Power Factor (kVAr)			632		0.000	0.000	6.500	0.000	4,107	-	4,107
Transpower Cold Storage					0.000	0.000	0.000	0.000	-	-	-
Transpower NMDHB					0.000	0.000	0.000	0.000	-	-	-
DG					0.000	0.000	0.000	0.000	-	-	-
Σ DP, 2017 Q, 2015	9,214	139,783,291									6,781,860

## Appendix B – Portion of Distribution and Pass-Through Prices (Clause 11.4(d))

Price Summary Table using 31 March 2017 Prices

Price Description	Type	PRICES			SPLIT %	
		Distribution Price (DP <sub>2017</sub> )	Pass Through Price (PTP <sub>2017</sub> )	Total (P <sub>2017</sub> )	Distribution Price (DP <sub>2017</sub> )	Pass Through Price (PTP <sub>2017</sub> )
<b>Group 0</b>						
Streetlights	\$/Day	226.910	69.090	296.000	77%	23%
Unmetered Fixed	\$/Day	0.061	0.001	0.062	98%	2%
Unmetered Capacity	cents/kWh/day	60.740	53.260	114.000	53%	47%
Builders Temp	\$/Day	0.636	0.014	0.650	98%	2%
BT-kWh	cents/kWh	6.460	3.140	9.600	67%	33%
<b>Group 1</b>						
Fixed	cents/kVA/day	0.980	0.020	1.000	98%	2%
Anytime	cents/kWh	6.460	3.140	9.600	67%	33%
Controlled	cents/kWh	3.914	1.786	5.700	69%	31%
Nightrate	cents/kWh	2.440	1.060	3.500	70%	30%
DG	cents/kWh	0.500	0.000	0.500	100%	0%
<b>Group 2</b>						
Fixed	cents/kVA/day	6.328	0.132	6.460	98%	2%
Anytime	cents/kWh	2.050	3.050	5.100	40%	60%
Controlled	cents/kWh	1.368	1.732	3.100	44%	56%
Nightrate	cents/kWh	1.072	1.028	2.100	51%	49%
DG	cents/kWh	0.500	0.000	0.500	100%	0%
<b>Time of Use</b>						
Metered Installation Charge	\$/Day	1.220	0.030	1.250	98%	2%
Energy	cents/kWh	0.194	1.406	1.600	12%	88%
Winter Demand	cents/kVA/day	12.530	10.470	23.000	54%	46%
Capacity Supply (Sum of kVA)	cents/kVA/day	5.089	0.111	5.200	98%	2%
Power Factor (kVAr)	\$/kVAr/month	6.500	0.000	6.500	100%	0%
<b>TOU Sealord</b>						
Fixed	\$/year	204,572	262,264	466,836	44%	56%
Power Factor (kVAr)	\$/kVAr/month	6.500	0.000	6.500	100%	0%
<b>Direct Connection</b>						
Energy	cents/kWh	0.194	0.006	0.200	97%	3%
Installation	\$/Day	1.220	0.030	1.250	98%	2%
Winter Demand	cents/kVA/day	12.530	0.270	12.800	98%	2%
Capacity Supplied	cents/kVA/day	5.089	0.111	5.200	98%	2%
Power Factor (kVAr)	\$/kVAr/month	6.500	0.000	6.500	100%	0%
Transpower Cold Storage	\$/year	0.000	28,248.469	28,248	0%	100%
Transpower NMDHB	\$/year	0.000	115,693.997	115,694	0%	100%

## **Appendix C – Methodology used to calculate Distribution and Pass-Through Prices (Clause 11.4(e))**

In setting of prices Nelson Electricity attempts to provide consumers a smooth price path attempting to reduce annual variations while complying with the Electricity Distribution Services Default Price-Quality Path Determination 2015.

### ***Distribution prices***

Distribution Prices are set to recover indirect operating costs, direct operating costs, depreciation and cost of capital. The setting of the prices also takes into account historical charging practices and methodologies.

We recover our costs to serve each load group via our distribution prices. The cost allocation is based on the following:

- Operating Costs - Operational Expenditure Budget that covers both the planned and unplanned network R&M expenditure on the network. The Operational Expenditure Budget is split into the different asset types as per the Regulatory Asset Value of System Fixed Assets table groups. The asset group expenses are then allocated to each load group first based on whether the Group utilises that class of asset (eg Group 4 does not utilise the 400V network so does not contribute towards those associated costs) then through the assessed balance of each groups kWh consumption (60%) and Winter Demand contribution (40%). This percentage allocation attempts to provide a balance between a Groups peak demand utilisation and overall usage. Some re balancing is required for load group specific costs.
- Overhead Costs – Are apportioned by using two measures; the number of network connections and the maximum demand of the load group. This gives a balance of spreading overhead costs between the business of selling capacity and the number of consumers connected.
- Depreciation – This is apportioned by using the assessed depreciation using the NEL Regulatory Asset Base model as a base and follows the same rationale as Operating Costs (except without re-allocation of Load Group specific costs).
- Target Return - This is apportioned to load groups as per the Regulatory Asset Base % split per load group as per the rationale of the operating costs.

### ***Pass-Through Prices***

The Pass-Through prices as have been applied for the year ending 31 March 2017 include both the Pass-Through costs and Recoverable Costs as specified in the Electricity Distribution Services Default Price-Quality Path Determination 2015. The methodology to calculate the Pass-Through and Recoverable Costs differs and described below.

#### ***Pass-Through Cost and setting of Price***

Nelson Electricity forecasts Pass-Through costs (where not known at time of setting prices) based on the previous year's costs plus an adjustment based on the best information available. Typically the adjustment has been a growth factor linked to previous year's historical change of costs. For example, the Electricity Authority

Levies were assessed to have a 2% increase and Local Authority Rates 4% (for the unknown period July 2016 – March 2017).

For the purposes of setting Prices, the forecasted Pass-Through costs also includes any Recoverable Cost (excluding transmission).

The costs are originally included in the setting of the Distribution Prices (so are allocated in the same manner as the Distribution Prices) then separated back out based on the percentage of Pass-Through (excluding transmission) divided by Distribution price. This then allocates the Pass-Through costs in a fair manner across all consumers.

#### *Recoverable cost and Setting of Price*

The major component in transmission costs (90%) is the Interconnection charge - Regional Coincident Peak Demand (RCPD) of the top of the south. Transmission peaks are typically encountered during the winter period. Transmission costs are apportioned based on each group's influence. This is achieved through peak demand analysis of each Load Group. Groups 0, 1 and 2 currently recover transmission costs 100% via the kWh charge and for Groups 3 and 4 via a mixture of winter control period demand charge (45%) and a kWh charge (55%).

The Nelson Electricity cost allocation methodology has remained relatively stable for a number of years but does from time to time make adjustments to account for changes in Transmission Costs or the methodology used to determine Transmission Costs. When making changes to the allocation methodology Nelson Electricity attempts to align the allocation methodology with the way costs are incurred as far as is reasonable considering the practicalities of allocating these to the different Load groups.

## Appendix D – Pass-Through Balance Assessment (Clauses 11.4(f), (g) and (k))

### Nelson Electricity - Pass-Through Balance for Year Ending 31 March 2017

		31 March 2016	31 March 2017
<b>Actual Assessed Pass-Through Prices X Quantities</b>		<u>\$3,551,257</u>	<u>\$3,663,292</u>
less			
<b>Pass-Through Costs</b>			
	Local Authority Rates	\$29,548	\$30,408
	Electricity Authority Levies	\$45,240	\$40,267
	Commerce Commission Levies	\$13,671	\$16,953
	Electricity and Gas Complaints Commissioner Scheme	<u>\$3,934</u>	<u>\$4,606</u>
		<u>\$92,393</u>	<u>\$92,234</u>
<b>Recoverable Costs</b>			
	Transmission	\$3,386,186	\$3,425,376
Schedule 5A	Energy Efficiency	\$0	\$0
Schedule 5B	Quality Incentive Adjustment	\$0	\$0
Schedule 5C	Claw Back	\$0	\$0
Schedule 5D	2013 - 2015 NPV Washup	\$0	\$0
Schedule 5E	Avoided transmission costs	\$0	\$0
Schedule 5F	Transmission Asset Wash-up Adj	\$0	\$0
Schedule 5G	Opex and Capex Incentive	\$0	\$0
Schedule 5H	Extended Reserve Allowance	\$0	\$0
Capex Washup		<u>\$0</u>	<u>\$24,000</u>
		<u>\$3,386,186</u>	<u>\$3,449,376</u>
<b>Total</b>		<u><u>\$3,478,579</u></u>	<u><u>\$3,541,610</u></u>
<b>Equals (Over or Under Recovery)</b>		<u><u>\$72,678</u></u>	<u><u>\$121,682</u></u>
plus			
<b>Pass-Through Balance from Previous Period</b>		<u><u>\$0</u></u>	<u><u>\$72,678</u></u>
<b>Cost of Debt</b>			
	Risk Free Rate	4.09%	
	Debt Premium	1.65%	
	Debt Issuance Costs	0.35%	
			6.09%
<b>Pass-Through Balance x Cost of Debt</b>		<u><u>\$0</u></u>	<u><u>\$77,104</u></u>
<b>Pass-Through Balance as at 31 March 2017 (Positive is over recovery)</b>		<u><u>\$72,678</u></u>	<u><u>\$198,786</u></u>



## Clause 11.4(f)

### Pass-Through Cost Recovery Schedule for Assessment Period Ending 31 March 2017

#### Pass-Through Cost Recovery - Revenue Table using 31 March 2017 Prices and 2016/2017 Quantities

Number of Days:		365									
Tariff or Fee	Number of ICPs at 31/03/2017 From Registry	Billed kWh at 31/3/2017	Billed kVA at 31/3/2017	Billed Days at 31/3/2017	Pass-Through Prices				Pass-Through Revenue (\$)		Total Revenue (\$)
					Fixed			Variable (c/kWh)	Fixed	Variable	
					\$/day	c/kVA/day	Other				
											PTP <sub>2017</sub> Q <sub>2017</sub>
Group 0											
Streetlights	1	1,046,902	-	365	69.090	0.000	0.000	0.000	25,218	-	25,218
Unmetered Fixed	33	-	-	10,316	0.001	0.000	0.000	0.000	10	-	10
Unmetered Capacity	0	-	1,469	-	0.000	53.260	0.000	0.000	782	-	782
Builders Temp	15	-	-	5,120	0.014	0.000	0.000	0.000	72	-	72
BT-kWh	0	5,988	-	-	0.000	0.000	0.000	3.140	-	188	188
Group 1											
Fixed	3580	-	19,461,030	-	0.000	0.020	0.000	0.000	3,892	-	3,892
Anytime	0	12,351,319	-	-	0.000	0.000	0.000	3.140	-	387,831	387,831
Controlled	0	5,741,802	-	-	0.000	0.000	0.000	1.786	-	102,549	102,549
Nightrate	0	462,862	-	-	0.000	0.000	0.000	1.060	-	4,906	4,906
DG	0	77,192	-	-	0.000	0.000	0.000	0.000	-	-	-
Group 2											
Fixed	5483	-	42,497,354	-	0.000	0.132	0.000	0.000	56,097	-	56,097
Anytime	0	52,106,204	-	-	0.000	0.000	0.000	3.050	-	1,589,239	1,589,239
Controlled	0	9,878,682	-	-	0.000	0.000	0.000	1.732	-	171,099	171,099
Nightrate	0	1,030,895	-	-	0.000	0.000	0.000	1.028	-	10,598	10,598
DG	0	155,800	-	-	0.000	0.000	0.000	0.000	-	-	-
Time of Use											
Metered Installation Charge	91	-	-	32,859	0.030	0.000	0.000	0.000	986	-	986
Energy	0	34,165,927	-	-	0.000	0.000	0.000	1.406	-	480,373	480,373
Winter Demand	0	-	3,896,698	-	0.000	10.470	0.000	0.000	407,984	-	407,984
Capacity Supply (Sum of kVA)	0	-	10,214,407	-	0.000	0.1108	0.000	0.000	11,318	-	11,318
Power Factor	0	-	6,427	-	0.000	0.000	0.000	0.000	-	-	-
DG											
TOU Sealord	0	-	-	-	0.000	0.000	0.000	0.000			
Fixed	1	13,095,498	-	-	0.000	0.000	262,264	0.000	262,264	-	262,264
Power Factor	0	-	-	-	0.000	0.000	0.000	0.000	-	-	-
Direct Connection											
Energy	0	9,720,631	-	-	0.000	0.000	0.000	0.006	-	583	583
Installation	2	-	-	730	0.030	0.000	0.000	0.000	22	-	22
Winter Demand	0	-	652,391	-	0.000	0.270	0.000	0.000	1,761	-	1,761
Capacity Supplied	0	-	1,423,500	-	0.000	0.111	0.000	0.000	1,577	-	1,577
Power Factor	0	-	1,319	-	0.000	0.000	0.000	0.000	-	-	-
Transpower Cold Storage	0	-	-	-	0.000	0.000	28,248	0.000	28,248	-	28,248
Transpower NMDHB	0	-	-	-	0.000	0.000	115,694	0.000	115,694	-	115,694
DG											
Σ PTP <sub>2017</sub> Q <sub>2017</sub>	9,206	139,606,711									3,663,292

## Pass-Through Cost Recovery Schedule for Assessment Period Ending 31 March 2016

Pass-Through Cost Recovery - Revenue Table using 31 March 2016 Prices and 2015/2016 Quantities

Number of Days:		366									
Tariff or Fee	Number of ICPs at 31/03/2016 From Registry	Billed kWh at 31/3/2016	Billed kVA at 31/3/2016	Billed Days at 31/3/2016	Pass Through Prices				Pass Through Revenue (\$)		Total Revenue (\$)  PTP <sub>2016</sub> Q <sub>2016</sub>
					Fixed			Variable (c/kWh)	Fixed	Variable	
					\$/day	c/kVA/day	Other				
Group 0											
Streetlights	1	1,159,348	-	366	64.665	0.000	0.000	0.000	23,667	-	23,667
Unmetered Fixed	33	-	-	10,532	0.001	0.000	0.000	0.000	11	-	11
Unmetered Capacity	0	-	4,490	-	0.000	51.260	0.000	0.000	2,302	-	2,302
Builders Temp	16	-	-	5,926	0.007	0.000	0.000	0.000	41	-	41
BT-kWh	0	36,422	-	-	0.000	0.000	0.000	2.971	-	1,082	1,082
Group 1											
Fixed	3466	-	16,508,310	-	0.000	0.011	0.000	0.000	1,816	-	1,816
Anytime	0	11,277,356	-	-	0.000	0.000	0.000	2.970	-	334,937	334,937
Controlled	0	5,170,613	-	-	0.000	0.000	0.000	1.743	-	90,124	90,124
Nightrate	0	460,492	-	-	0.000	0.000	0.000	1.030	-	4,743	4,743
DG	0	84,660	-	-	0.000	0.000	0.000	0.000	-	-	-
Group 2											
Fixed	5589	-	43,811,839	-	0.000	0.066	0.000	0.000	28,916	-	28,916
Anytime	0	53,534,373	-	-	0.000	0.000	0.000	2.925	-	1,565,880	1,565,880
Controlled	0	10,398,308	-	-	0.000	0.000	0.000	1.716	-	178,435	178,435
Nightrate	0	1,197,479	-	-	0.000	0.000	0.000	1.014	-	12,142	12,142
DG	0	144,433	-	-	0.000	0.000	0.000	0.000	-	-	-
Time of Use											
Metered Installation Charge	91	-	-	32,940	0.013	0.000	0.000	0.000	428	-	428
Energy	0	34,076,873	-	-	0.000	0.000	0.000	1.403	-	478,099	478,099
Winter Demand	0	-	3,907,233	-	0.000	10.135	0.000	0.000	395,998	-	395,998
Capacity Supply (Sum of kVA)	0	-	10,197,858	-	0.000	0.055	0.000	0.000	5,609	-	5,609
Power Factor	0	-	7,951	-	0.000	0.000	0.000	0.000	-	-	-
DG	0	-	-	-	0.000	0.000	0.000	0.000	-	-	-
TOU Sealord											
Fixed	1	13,707,565	-	-	0.000	0.000	271,993.577	0.000	271,994	-	271,994
Power Factor	0	-	-	-	0.000	0.000	0.000	0.000	-	-	-
Direct Connection											
Energy	0	9,305,849	-	-	0.000	0.000	0.000	0.003	-	279	279
Installation	2	-	-	732	0.013	0.000	0.000	0.000	10	-	10
Winter Demand	0	-	658,983	-	0.000	0.135	0.000	0.000	890	-	890
Capacity Supplied	0	-	1,427,400	-	0.000	0.055	0.000	0.000	785	-	785
Power Factor	0	-	450	-	0.000	0.000	0.000	0.000	-	-	-
Transpower Cold Storage	0	-	-	-	0.000	0.000	42,180.240	0.000	42,180	-	42,180
Transpower NMDHB	0	-	-	-	0.000	0.000	110,889.239	0.000	110,889	-	110,889
DG	0	-	-	-	0.000	0.000	0.000	0.000	-	-	-
Σ PTP <sub>2016</sub> Q <sub>2016</sub>	9,199	140,324,679									3,551,257

## Appendix E – Pass-Through Costs (Clauses 11.4(i) and (j))

### Pass-Through and Recoverable Costs for the Assessment Date 31 March 2017

Pass Through and Recoverable Costs for year ending 31 March 2017				
K <sub>2017</sub> and V <sub>2017</sub>	Actual (\$)	Forecast (\$)	Variance (\$)	Variance (%)
<b>Recoverable Costs V<sub>2017</sub></b>				
Transmission	3,425,376	3,457,626	(32,250)	(0.94%)
Schedule 5A - Energy Efficiency	-	-	-	-
Schedule 5B - Quality Incentive Adjustment	-	68,240	(68,240)	(100.00%)
Schedule 5C - Claw Back	-	-	-	-
Schedule 5D - NPV Washup Allowances	-	-	-	-
Schedule 5E - Avoided Transmission Costs	-	-	-	-
Schedule 5F - Transmission Asset Wash-up Adj	-	-	-	-
Schedule 5G - Opex and Capex Adjustment	-	-	-	-
Schedule 5H - Extended Reserve Allowance	-	-	-	-
Capex Washup	24,000	24,000	-	-
<b>Pass-through Costs K<sub>2017</sub></b>				
Rates	30,408	31,128	(720)	(2.37%)
Electricity Authority Levies	40,267	40,356	(89)	(0.22%)
Commerce Act Levies	16,953	14,176	2,777	16.38%
EGCC	4,606	4,625	(19)	(0.41%)
Total Pass Through and Recoverable Costs	3,541,610	3,640,151	(98,541)	(2.78%)

Explanation:

The table above represents the variances between the forecast Pass-Through and Recoverable Costs versus the Actual Costs for the year ending 31 March 2017.

The key variances were:

- Commerce Act Levies - actual costs were 16.38% higher than forecast. This variance is a result of an annual wash-up being higher than estimated.
- Quality Incentive Adjustment – Nelson Electricity Pricing incorrectly included the Quality Incentive as a Pass-Through cost for the year. This incentive will not be realised until the year ending 31 March 2018.

The other variances are within acceptable limits.

**Appendix F – Transmission Assets, Transactions and Restructuring of Prices (Clauses 11.2(d), 11.4(h) and 11.6 – 11.8)**

**Clauses 11.2(d)(i), 11.7 and 11.8** – Nelson Electricity Limited did not undertake a Restructure of its Prices that first applied during the current or preceding Assessment Period and therefore clauses 8.7 - 8.10 did not apply during the Assessment Period.

**Clause 11.2(d)(ii)** – Nelson Electricity Limited did not receive a transfer of transmission assets from Transpower that became system fixed assets, or transferred system fixed assets to Transpower during the Assessment Period.

**Clauses 11.2(d)(iii)-(iv) and 11.6** – Nelson Electricity Limited did not participate in an Amalgamation, a Merger or Major Transaction for the Assessment Period. Clauses 10.1 – 10.4 therefore did not apply for the Assessment Period.

**Clauses 11.4(h)** Nelson Electricity Limited did not enter into any new investment contracts during the assessment period.

## Appendix G – Quality Standard Compliance Calculations (Clauses 11.5(c), (d) and (f))

### Quality Standard Compliance Calculations

#### Reliability Limits and Boundary Values

<b>SAIDI and SAIFI Limits</b>	
SAIDI Limit 2015-2020 regulatory period	22.23
SAIFI Limit 2015-2020 regulatory period	0.241
SAIDI Unplanned Boundary Value 2015-2020 regulatory period	2.699
SAIFI Unplanned Boundary Value 2015-2020 regulatory period	0.033
SAIDI Limit 2010-2015 regulatory period	71.536
SAIFI Limit 2010-2015 regulatory period	1.126

#### Reliability Assessment Calculations (2017 Assessment Period)

<b>SAIDI Assessed Values</b>					
<b>Raw Data</b>			<b>Adjusted Data</b>		
SAIDI <sub>B</sub>	Planned SAIDI	8.83	SAIDI <sub>B</sub>	Planned SAIDI multiplied by 0.5	4.41
SAIDI <sub>C</sub>	Unplanned SAIDI	27.43	SAIDI <sub>C</sub>	Normalised Unplanned SAIDI	6.23
SAIDI <sub>Assess (B+C)</sub>					10.64

<b>SAIFI Assessed Values</b>					
<b>Raw Data</b>			<b>Adjusted Data</b>		
SAIFI <sub>B</sub>	Planned SAIFI	0.066	SAIFI <sub>B</sub>	Planned SAIFI multiplied by 0.5	0.033
SAIFI <sub>C</sub>	Unplanned SAIFI	0.167	SAIFI <sub>C</sub>	Normalised Unplanned SAIFI	0.068
SAIFI <sub>Assess (B+C)</sub>					0.101



## Normalisation

### *Days Exceeding SAIDI Boundary Value within the 2016/17 Assessment Dataset*

Date	Pre-Normalised unplanned SAIDI	Normalised unplanned SAIDI
14-Nov-16	21.118	2.699
1-Jan-17	5.491	2.699

### *Days Exceeding SAIFI Boundary Value within the 2016/17 Assessment Dataset*

Date	Pre-Normalised unplanned SAIFI	Normalised unplanned SAIFI
14-Nov-16	0.132	0.033

## Prior Period Assessed Values

### **Assessed SAIDI Value 2016**

SAIDI <sub>2016</sub>	5.76	The sum of daily SAIDI values in the 1 April 2015 - 31 March 2016 Normalised Assessment Dataset
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### **Assessed SAIFI Value 2016**

SAIFI <sub>2016</sub>	0.08	The sum of daily SAIFI values in the 1 April 2015 - 31 March 2016 Normalised Assessment Dataset
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### **Assessed SAIDI Value 2015**

SAIDI <sub>2015</sub>	19.94	The sum of daily SAIDI values in the 1 April 2014 - 31 March 2015 Normalised Assessment Dataset
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### **Assessed SAIFI Value 2015**

SAIFI <sub>2015</sub>	1.57	The sum of daily SAIFI values in the 1 April 2014 - 31 March 2015 Normalised Assessment Dataset
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**Quality Incentive Calculations**  
**Quality Incentive Adjustment (2017 Assessment Period)**

Quality Incentive Adjustment		
Term	Description	Value \$
$S_{SAIDI}$	SAIDI Incentive	\$30,897
$S_{SAIFI}$	SAIFI Incentive	\$33,450
$S_{TOTAL}$	SAIDI Incentive plus SAIFI Incentive	\$64,348

SAIDI Incentive		
Term	Description	Value \$
$SAIDI_{Target}$	SAIDI Target specified in DPP Determination	16.2056
$SAIDI_{Collar}$	SAIDI incentive range Collar specified in DPP Determination	10.1810
$SAIDI_{Cap}$	SAIDI incentive range Cap specified in DPP Determination	22.2302
$MAR$	Maximum allowable revenue for 2016/17 year	\$6,690,067
$REV_{RISK}$	Revenue at (equal to 1% of MAR)	\$66,901
$SAIDI_{IR}$	SAIDI incentive rate per unit (equal to 50% of revenue at risk divided by Cap minus Target)	\$5,552
$SAIDI_{ASSESS}$	Assessed SAIDI value for purpose of incentive	10.64
$S_{SAIDI}$	<b>SAIDI incentive adjustment assessment</b> $SAIDI_{ASSESS}$ between $SAIDI_{Collar}$ and $SAIDI_{Cap}$ = $SAIDI_{IR}$ multiplied by ( $SAIDI_{Target}$ minus $SAIDI_{ASSESS}$ ), or $SAIDI_{ASSESS}$ below $SAIDI_{Collar}$ = 50% of $REV_{RISK}$ , or $SAIDI_{ASSESS}$ above $SAIDI_{Cap}$ = -50% of $REV_{RISK}$	\$30,897

SAIFI Incentive		
Term	Description	Value \$
$SAIFI_{Target}$	SAIFI Target specified in DPP Determination	0.1751
$SAIFI_{Collar}$	SAIFI incentive range Collar specified in DPP Determination	0.1091
$SAIFI_{Cap}$	SAIFI incentive range Cap specified in DPP Determination	0.2411
$MAR$	Maximum allowable revenue for 2016/17 year	\$6,690,067
$REV_{RISK}$	Revenue at (equal to 1% of MAR)	\$66,901
$SAIFI_{IR}$	SAIFI incentive rate per unit (equal to 50% of revenue at risk divided by Cap minus Target)	\$506,823
$SAIFI_{ASSESS}$	Assessed SAIFI value for purpose of incentive	0.101
$S_{SAIFI}$	<b>SAIFI incentive adjustment assessment</b> $SAIFI_{ASSESS}$ between $SAIFI_{Collar}$ and $SAIFI_{Cap}$ = $SAIFI_{IR}$ multiplied by ( $SAIFI_{Target}$ minus $SAIFI_{ASSESS}$ ), or $SAIFI_{ASSESS}$ below $SAIFI_{Collar}$ = 50% of $REV_{RISK}$ , or $SAIFI_{ASSESS}$ above $SAIFI_{Cap}$ = -50% of $REV_{RISK}$	\$33,450

**Clause 11.5(d)** - There were no recalculations of Limits, Boundary Values, Targets, Caps or Collars required for the assessment period.

**Clause 11.5(f) – Description of the cause of each Major Event Day**

14/11/2016	Emano Street	Kaikoura Earthquake
01/01/2017	Stanley Crescent	Car V's Pole



## **Appendix H – Policies and Procedures for Recording SAIDI and SAIFI (Clause 11.5(e))**

Nelson Electricity Limited follows the procedure “NEL Network System Outage Statistics” to record SAIDI and SAIFI statistics. The procedure covers the collection of customer numbers, the assessments required to assess the numbers of customers affected, the times outages occur and where the data is to be stored.

Wherever possible outage times are collected from an accurate electronic source, the SCADA being the preferred source, other sources are from phone records from the Nelson Electricity call centre, fault forms received from the Nelson Electricity fault contractor or referring to written switching instructions.

Calculations of customer minutes are prepared on the switching record for each individual outage based on switching times and ICP records. The customer minutes for each event are then added to the SAIDI/SAIFI Spreadsheet which summarises all events for the year and is used to calculate the annual SAIDI and SAIFI. The numbers of outages on the Nelson Electricity network are low compared to other Electricity Line Companies and so it is a relatively easy task to manage these data requirements. A hard copy summary of each outage is held on file.

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## NEL Network System Outage Statistics Procedure

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### **Background:**

Nelson Electricity has to collect and record accurate information regarding all transmission, sub-transmission and 11kV outages. The methods and information used has to be robust as the information is used in the disclosure of both SAIDI and SAIFI statistics as part of the Quality Threshold disclosure.

### **Purpose:**

To ensure all information used in the outage statistic information is as accurate as possible. Evidence of outage times and consumer numbers must also be collected.

### **Scope:**

Applies to all outages both planned and unplanned regarding transmission, sub-transmission and 11kV.

### **Procedure:**

The Asset Manager is responsible for the collection, assessment and reporting of all network outage statistics. The information used in the assessments can be from many sources:

- ICP Database
- New Connections
- SCADA system
- Fault forms
- Call Care (fault call reports)
- Control room switching instructions

These sources of information are all valid and defensible sources of information.

### **ICP Database and New Connections:**

The ICP Database and New Connections are updated as ICPs are added and removed from the network. The Business Systems Administrator ensures that these databases are maintained and accurate.

### **SCADA System:**

The SCADA System installed in 2004 has a detailed reporting function. All reports are time stamped. This gives accurate timings of any 33kV or 11kV feeder outages and restoration times.

### **Fault Forms:**

Fault forms provided by the NEL fault provider contain times of fault and restoration times recorded from the contractors who were working on the fault. This source of information is used if there are no other sources.

**Call Care:**

All fault calls are initially answered by the NEL answer phone service provided by Call Care. All calls are logged and time stamped and all faults reported to NEL the next day. This source of information is used as NEL receives calls as soon as an outage occurs.

**Control Room Switching Instructions:**

The switching instructions are a valuable source of information. This is used mainly for the restoration times especially when backfeeding areas in the restoration phase.

The Asset Manager uses all these sources to evaluate the outage statistics in the SAIDI Stats Spreadsheet.

Calculations of customer minutes are prepared on the switching record for each individual outage based on switching times and ICP records. The customer minutes for each event are then added to the SAIDI/SAIFI Spreadsheet which summarises all events for the year and is used to calculate the annual SAIDI and SAIFI. The numbers of outages on the Nelson Electricity network are low compared to other Electricity Line Companies and so it is a relatively easy task to manage these data requirements. A hard copy summary of each outage is held on file.

The Asset Manager reports to the General Manager all individual unplanned outage statistics and provides monthly summaries, which are used and reported to NEL Directors.

The outage statistics are also collected and accumulated for the year from 1 April – 31 March the following year. This accumulated result is used in all the information disclosures including the Quality Assessment disclosure.

The Business System Administrator audits the results to ensure process and results are accurate.

## Outage Statistics Reporting Flow Chart

