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# Nelson Electricity Ltd Asset Management Plan Update

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**April 2017 - March 2027**

**April 2017**



*Nelson Electricity Ltd central Nelson city view*

**In accordance with the Commerce Act  
Electricity Distribution Information Disclosure Determination 2012**

**Nelson Electricity Limited - Asset Management Plan Update 2017- 2027**

**SCHEDULE 17  
Certification of Year-beginning Disclosures**

Clause 2.9.1

We, Oliver Rupert Kearney and David William Richard Dew, being directors of Nelson Electricity Limited certify that, having made all reasonable inquiry, to the best of our knowledge:

- a) The following attached information of Nelson Electricity Limited prepared for the purposes of clauses 2.4.1, 2.6.1, 2.6.3, 2.6.6 and 2.7.2 of the Electricity Distribution Information Disclosure Determination 2012 in all material respects complies with that determination.
- b) The prospective financial or non-financial information included in the attached information has been measured on a basis consistent with regulatory requirements or recognised industry standards.
- c) The forecasts in Schedules 11a, 11b, 12a, 12b, 12c and 12d are based on objective and reasonable assumptions which both align with Nelson Electricity Limited's corporate vision and strategy and are documented in retained records.

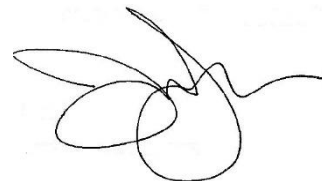
Signed



Date

31 March 2017

Signed



Date

31 March 2017

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## **SECTION 1 – Asset Management Plan Update**

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This Asset Management Plan is prepared as the key internal asset planning document for Nelson Electricity. It is also designed to meet Electricity Distribution Information Disclosure Determination 2012.

Nelson Electricity has reviewed the 2017 – 2027 Asset Management Plan and has determined that there has not been any significant material changes to the plan and forecasts and has opted to disclose an update as per Electricity Distribution Information Disclosure Determination 2012 clause 2.6.3 instead of disclosing a full Asset Management Plan.

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## SECTION 2 – Development Plan – Material Changes

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The Development Plan that is used as a basis for this AMP update is not materially different from that disclosed in the 2016 -2026 Asset Management Plan. This update is based on the peak demand (MW) remaining unchanged and kWh consumption reducing by 1.0% per year. The 2016/17 year is tracking at 1% below last year's volumes.

Figure 1: Nelson Electricity Historical Peak Demand and Forecast Demand

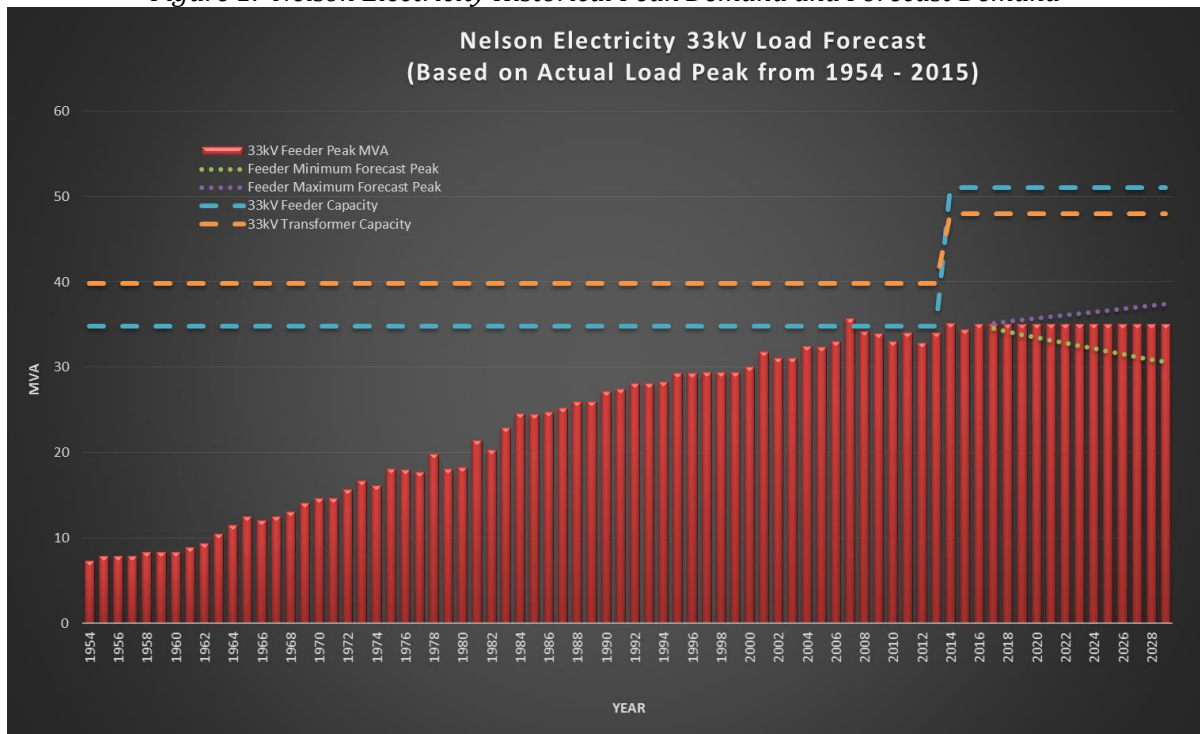
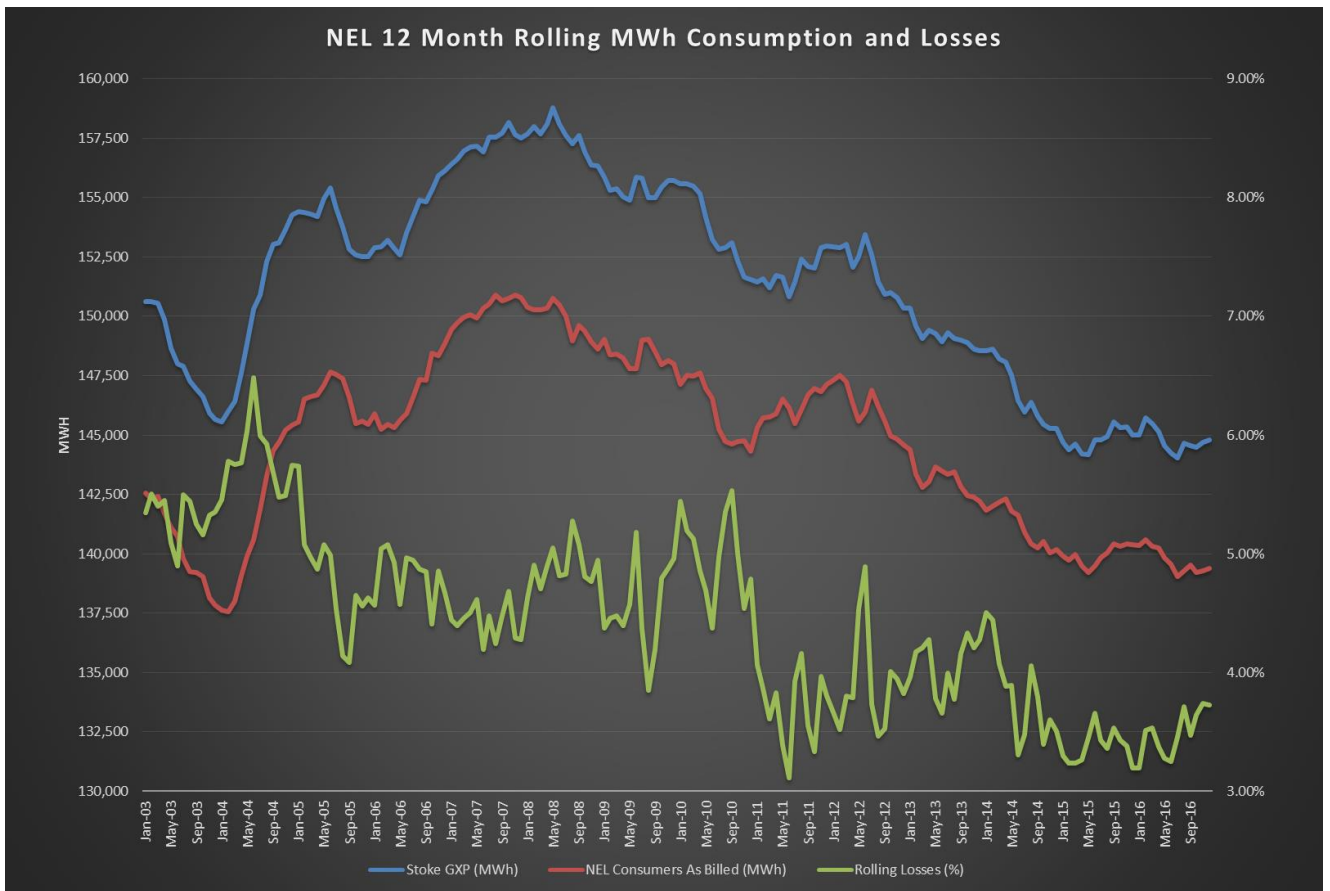


Figure 2: Nelson Electricity Historical GXP and Billed Consumption MWh



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## **SECTION 3 – Lifecycle Management (Maintenance and Renewal) – Material Changes**

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There were no material changes to the lifecycle management since the April 2016 Asset Management Plan disclosure.

Operational Expenditure is in line with forecast of \$710k.

The 2017-2018 year will see operational expenditure will be in line with the 2016 – 2026 Asset management Plan forecast of \$724k.

The financial impact is outlined in Section 4.

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## **SECTION 4 – Capital and Operational Expenditure Forecast – Material Changes**

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### **Capital Expenditure**

There is no material change to the Asset Management Plan for the period 2017 to 2027, however the plan is continuously reviewed resulting in the following minor changes and updates:

- As outlined in Section 2, the growth forecast reduction has had an impact on growth related projects and NEL has re-categorised some of the existing projects between System Growth and Consumer Connections in Schedule 11a.
- NEL has re-prioritised several Reliability, Safety and Environment projects to accommodate a 4 year programme of lowering the 7 remaining pole top non-dedicated transformer substations to the ground.
- A replacement programme for the aging 11kV OCB's in the first out substations has been added to the plan.
- Ongoing development at Port Nelson requiring short notice customer driven works has resulted in deferment of some 2016 projects to the 2017/18/19 years due to demands on resource.

### **Operational Expenditure**

The operational expenditure for the year 2017 to 2027 will be estimated at the budget of \$724,000. There are no material changes to operational expenditure.



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## **SECTION 5 – Changes in Asset Management Practises**

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There are no material changes to existing asset management practises.

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## **SECTION 6 – Asset management Plan Disclosure Schedules**

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Note: Schedule 11b has been restated as at 6 April 2017. Constant Prices for Schedule 11a Network Opex recalculated as the Nominal dollars had included a margin for increasing costs not relating to CPI. This has a minor impact of 1% per year in constant prices compounding for the 2016/17 – 2022/23 years and 0.5% compounding for every year thereafter for the planning period.

**SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE**

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e., the value of RAB additions)

EDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes).

This information is not part of audited disclosure information.

sch ref

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
	for year ended 31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
<b>11a(i): Expenditure on Assets Forecast</b>	<b>\$000 (in nominal dollars)</b>										
Consumer connection	-	81	86	107	36	-	-	-	-	-	-
System growth	132	100	101	46	118	156	158	160	162	165	167
Asset replacement and renewal	397	530	490	690	992	1,121	1,153	1,303	1,090	1,429	1,450
Asset relocations	117	-	-	-	52	-	-	-	-	-	-
Reliability, safety and environment:											
Quality of supply	75	30	116	-	258	-	-	-	-	-	-
Legislative and regulatory	-	50	-	-	-	-	-	-	-	-	-
Other reliability, safety and environment	84	179	182	-	52	499	378	197	502	110	112
<b>Total reliability, safety and environment</b>	<b>159</b>	<b>259</b>	<b>298</b>	<b>-</b>	<b>309</b>	<b>499</b>	<b>378</b>	<b>197</b>	<b>502</b>	<b>110</b>	<b>112</b>
<b>Expenditure on network assets</b>	<b>805</b>	<b>970</b>	<b>975</b>	<b>843</b>	<b>1,507</b>	<b>1,776</b>	<b>1,689</b>	<b>1,660</b>	<b>1,755</b>	<b>1,703</b>	<b>1,729</b>
Expenditure on non-network assets	49	98	63	22	43	84	65	45	24	90	47
<b>Expenditure on assets</b>	<b>854</b>	<b>1,068</b>	<b>1,037</b>	<b>865</b>	<b>1,550</b>	<b>1,861</b>	<b>1,754</b>	<b>1,705</b>	<b>1,779</b>	<b>1,794</b>	<b>1,776</b>
plus Cost of financing											
less Value of capital contributions	93										
plus Value of vested assets											
<b>Capital expenditure forecast</b>	<b>761</b>	<b>1,068</b>	<b>1,037</b>	<b>865</b>	<b>1,550</b>	<b>1,861</b>	<b>1,754</b>	<b>1,705</b>	<b>1,779</b>	<b>1,794</b>	<b>1,776</b>
Assets commissioned	761	1,068	1,037	865	1,550	1,861	1,754	1,705	1,779	1,794	1,776
	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
	for year ended 31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
	<b>\$000 (in constant prices)</b>										
Consumer connection	-	81	85	105	35	-	-	-	-	-	-
System growth	132	100	100	45	115	150	150	150	150	150	150
Asset replacement and renewal	397	530	485	676	963	1,077	1,097	1,221	1,007	1,300	1,300
Asset relocations	117	-	-	-	50	-	-	-	-	-	-
Reliability, safety and environment:											
Quality of supply	75	30	115	-	250	-	-	-	-	-	-
Legislative and regulatory	-	50	-	-	-	-	-	-	-	-	-
Other reliability, safety and environment	84	179	180	-	50	480	360	185	464	100	100
<b>Total reliability, safety and environment</b>	<b>159</b>	<b>259</b>	<b>295</b>	<b>-</b>	<b>300</b>	<b>480</b>	<b>360</b>	<b>185</b>	<b>464</b>	<b>100</b>	<b>100</b>
<b>Expenditure on network assets</b>	<b>805</b>	<b>970</b>	<b>965</b>	<b>826</b>	<b>1,463</b>	<b>1,707</b>	<b>1,607</b>	<b>1,556</b>	<b>1,621</b>	<b>1,550</b>	<b>1,550</b>
Expenditure on non-network assets	49	98	62	22	42	81	62	42	22	82	42
<b>Expenditure on assets</b>	<b>854</b>	<b>1,068</b>	<b>1,027</b>	<b>848</b>	<b>1,505</b>	<b>1,788</b>	<b>1,669</b>	<b>1,598</b>	<b>1,643</b>	<b>1,632</b>	<b>1,592</b>
<b>Subcomponents of expenditure on assets (where known)</b>											
Energy efficiency and demand side management, reduction of energy losses											
Overhead to underground conversion	14	40	80	200	200	-	-	-	-	-	-
Research and development											

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
<b>Difference between nominal and constant price forecasts</b>	\$000										
Consumer connection	-	-	1	2	1	-	-	-	-	-	-
System growth	-	-	1	1	3	6	8	10	12	15	17
Asset replacement and renewal	-	-	5	14	29	44	56	82	83	129	150
Asset relocations	-	-	-	-	2	-	-	-	-	-	-
Reliability, safety and environment:											
Quality of supply	-	-	1	-	8	-	-	-	-	-	-
Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
Other reliability, safety and environment	-	-	2	-	2	19	18	12	38	10	12
<b>Total reliability, safety and environment</b>	-	-	3	-	9	19	18	12	38	10	12
<b>Expenditure on network assets</b>	-	-	10	17	44	69	82	104	134	153	179
Expenditure on non-network assets	-	-	1	0	1	3	3	3	2	8	5
<b>Expenditure on assets</b>	-	-	10	17	46	73	85	107	136	162	184

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22
<b>11a(ii): Consumer Connection</b>						
<i>Consumer types defined by EDB*</i>	\$000 (in constant prices)					
Group 2		81	85	105	35	-
<i>*include additional rows if needed</i>						
<b>Consumer connection expenditure</b>	-	81	85	105	35	-
less Capital contributions funding consumer connection						
<b>Consumer connection less capital contributions</b>	-	81	85	105	35	-

<b>11a(iii): System Growth</b>						
Subtransmission		-	-	-	-	-
Zone substations		-	-	-	-	-
Distribution and LV lines		-	-	-	-	-
Distribution and LV cables	18	-	-	-	-	-
Distribution substations and transformers	114	55	40	-	15	50
Distribution switchgear		-	-	-	-	-
Other network assets		45	60	45	100	100
<b>System growth expenditure</b>	132	100	100	45	115	150
less Capital contributions funding system growth	44					
<b>System growth less capital contributions</b>	88	100	100	45	115	150

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22
<b>11a(iv): Asset Replacement and Renewal</b>						
<i>\$000 (in constant prices)</i>						
Subtransmission		-	-	-	-	-
Zone substations		-	-	-	-	-
Distribution and LV lines		-	-	-	-	-
Distribution and LV cables	251	460	460	471	713	827
Distribution substations and transformers	56	-	-	-	-	-
Distribution switchgear	20	15	15	175	210	205
Other network assets	70	55	10	30	40	45
<b>Asset replacement and renewal expenditure</b>	397	530	485	676	963	1,077
less Capital contributions funding asset replacement and renewal						
<b>Asset replacement and renewal less capital contributions</b>	397	530	485	676	963	1,077

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for year ended *Current Year CY* *CY+1* *CY+2* *CY+3* *CY+4* *CY+5*  
**31 Mar 17** **31 Mar 18** **31 Mar 19** **31 Mar 20** **31 Mar 21** **31 Mar 22**

**11a(v):Asset Relocations**

*Project or programme\**

Normanby Bridge substation relocation
St Vincent St North sub relocation
Low St substation relocation

\$000 (in constant prices)						
		-	-	-	50	-
	64					
	53					

*\*include additional rows if needed*

All other project or programmes - asset relocations

<b>Asset relocations expenditure</b>	117	-	-	-	50	-
<i>less</i> Capital contributions funding asset relocations	49					
<b>Asset relocations less capital contributions</b>	68	-	-	-	50	-

for year ended *Current Year CY* *CY+1* *CY+2* *CY+3* *CY+4* *CY+5*  
**31 Mar 17** **31 Mar 18** **31 Mar 19** **31 Mar 20** **31 Mar 21** **31 Mar 22**

**11a(vi):Quality of Supply**

*Project or programme\**

Transformer spares

\$000 (in constant prices)						
	75					

*\*include additional rows if needed*

All other projects or programmes - quality of supply

		30	115	-	250	-
<b>Quality of supply expenditure</b>	75	30	115	-	250	-
<i>less</i> Capital contributions funding quality of supply						
<b>Quality of supply less capital contributions</b>	75	30	115	-	250	-

for year ended *Current Year CY* *CY+1* *CY+2* *CY+3* *CY+4* *CY+5*  
**31 Mar 17** **31 Mar 18** **31 Mar 19** **31 Mar 20** **31 Mar 21** **31 Mar 22**

**11a(vii): Legislative and Regulatory**

*Project or programme\**


\$000 (in constant prices)						

*\*include additional rows if needed*

All other projects or programmes - legislative and regulatory

		50	-	-	-	-
<b>Legislative and regulatory expenditure</b>	-	50	-	-	-	-
<i>less</i> Capital contributions funding legislative and regulatory						
<b>Legislative and regulatory less capital contributions</b>	-	50	-	-	-	-



**SCHEDULE 11b: REPORT ON FORECAST OPERATIONAL EXPENDITURE**

This schedule requires a breakdown of forecast operational expenditure for the disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. EDBs must provide explanatory comment on the difference between constant price and nominal dollar operational expenditure forecasts in Schedule 14a (Mandatory Explanatory Notes). This information is not part of audited disclosure information.

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	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
	for year ended 31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
<b>Operational Expenditure Forecast</b>	<b>\$000 (in nominal dollars)</b>										
Service interruptions and emergencies	150	125	128	130	133	135	138	141	144	146	149
Vegetation management	34	35	36	37	37	38	39	40	40	41	42
Routine and corrective maintenance and inspection	250	234	239	243	248	253	258	264	269	274	280
Asset replacement and renewal	280	330	337	343	350	357	364	372	379	387	394
<b>Network Opex</b>	<b>714</b>	<b>724</b>	<b>739</b>	<b>753</b>	<b>769</b>	<b>784</b>	<b>800</b>	<b>816</b>	<b>832</b>	<b>849</b>	<b>865</b>
System operations and network support	300	250	253	255	258	260	260	264	268	272	276
Business support	1,100	1,150	1,162	1,173	1,185	1,197	1,197	1,215	1,233	1,251	1,270
<b>Non-network opex</b>	<b>1,400</b>	<b>1,400</b>	<b>1,414</b>	<b>1,428</b>	<b>1,442</b>	<b>1,457</b>	<b>1,457</b>	<b>1,479</b>	<b>1,501</b>	<b>1,523</b>	<b>1,546</b>
<b>Operational expenditure</b>	<b>2,114</b>	<b>2,124</b>	<b>2,153</b>	<b>2,182</b>	<b>2,211</b>	<b>2,241</b>	<b>2,256</b>	<b>2,294</b>	<b>2,333</b>	<b>2,372</b>	<b>2,412</b>

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
	for year ended 31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
	<b>\$000 (in constant prices)</b>										
Service interruptions and emergencies	150	125	126	127	129	130	131	132	133	133	134
Vegetation management	34	35	36	36	36	37	37	37	37	38	38
Routine and corrective maintenance and inspection	250	234	236	239	241	243	246	247	248	249	251
Asset replacement and renewal	280	330	333	337	340	343	347	348	350	352	354
<b>Network Opex</b>	<b>714</b>	<b>724</b>	<b>731</b>	<b>739</b>	<b>746</b>	<b>753</b>	<b>761</b>	<b>765</b>	<b>768</b>	<b>772</b>	<b>776</b>
System operations and network support	300	250	250	250	250	250	250	250	250	250	250
Business support	1,100	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150
<b>Non-network opex</b>	<b>1,400</b>	<b>1,400</b>	<b>1,400</b>	<b>1,400</b>	<b>1,400</b>	<b>1,400</b>	<b>1,400</b>	<b>1,400</b>	<b>1,400</b>	<b>1,400</b>	<b>1,400</b>
<b>Operational expenditure</b>	<b>2,114</b>	<b>2,124</b>	<b>2,131</b>	<b>2,139</b>	<b>2,146</b>	<b>2,153</b>	<b>2,161</b>	<b>2,165</b>	<b>2,168</b>	<b>2,172</b>	<b>2,176</b>

**Subcomponents of operational expenditure (where known)**

Energy efficiency and demand side management, reduction of energy losses											
Direct billing*											
Research and Development											
Insurance											

\* Direct billing expenditure by suppliers that direct bill the majority of their consumers

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
	for year ended 31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
<b>Difference between nominal and real forecasts</b>	<b>\$000</b>										
Service interruptions and emergencies	-	-	1	3	4	5	7	9	11	13	15
Vegetation management	-	-	0	1	1	1	2	2	3	4	4
Routine and corrective maintenance and inspection	-	-	2	5	7	10	13	16	21	25	29
Asset replacement and renewal	-	-	3	7	10	14	18	23	29	35	41
<b>Network Opex</b>	<b>-</b>	<b>-</b>	<b>7</b>	<b>15</b>	<b>23</b>	<b>31</b>	<b>39</b>	<b>51</b>	<b>64</b>	<b>76</b>	<b>90</b>
System operations and network support	-	-	3	5	8	10	10	14	18	22	26
Business support	-	-	12	23	35	47	47	65	83	101	120
<b>Non-network opex</b>	<b>-</b>	<b>-</b>	<b>14</b>	<b>28</b>	<b>42</b>	<b>57</b>	<b>57</b>	<b>79</b>	<b>101</b>	<b>123</b>	<b>146</b>
<b>Operational expenditure</b>	<b>-</b>	<b>-</b>	<b>21</b>	<b>43</b>	<b>65</b>	<b>87</b>	<b>96</b>	<b>130</b>	<b>164</b>	<b>200</b>	<b>236</b>

### SCHEDULE 12a: REPORT ON ASSET CONDITION

This schedule requires a breakdown of asset condition by asset class as at the start of the forecast year. The data accuracy assessment relates to the percentage values disclosed in the asset condition columns. Also required is a forecast of the percentage of units to be replaced in the next 5 years. All information should be consistent with the information provided in the AMP and the expenditure on assets forecast in Schedule 11a. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref

Asset condition at start of planning period (percentage of units by grade)											
	Voltage	Asset category	Asset class	Units	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy (1-4)	% of asset forecast to be replaced in next 5 years
7											
8											
9											
10	All	Overhead Line	Concrete poles / steel structure	No.			80.00%	20.00%		4	1.00%
11	All	Overhead Line	Wood poles	No.		60.00%	20.00%	20.00%		4	1.00%
12	All	Overhead Line	Other pole types	No.						N/A	
13	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km						N/A	-
14	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km						N/A	
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km			100.00%			2	-
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km						N/A	
17	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km						N/A	
18	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km			100.00%			2	-
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km						N/A	
20	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km						N/A	
21	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km						N/A	
22	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km						N/A	
23	HV	Subtransmission Cable	Subtransmission submarine cable	km						N/A	
24	HV	Zone substation Buildings	Zone substations up to 66kV	No.				100.00%		4	
25	HV	Zone substation Buildings	Zone substations 110kV+	No.						N/A	
26	HV	Zone substation switchgear	22/33kV CB (Indoor)	No.						N/A	
27	HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.						N/A	
28	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.				100.00%		4	
29	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.						N/A	
30	HV	Zone substation switchgear	33kV RMU	No.						N/A	
31	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.						N/A	
32	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.						N/A	
33	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.				100.00%		4	
34	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.						N/A	



		Asset condition at start of planning period (percentage of units by grade)									
	Voltage	Asset category	Asset class	Units	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy (1-4)	% of asset forecast to be replaced in next 5 years
44	HV	Zone Substation Transformer	Zone Substation Transformers	No.				100.00%		4	
45	HV	Distribution Line	Distribution OH Open Wire Conductor	km			90.00%	10.00%		3	5.00%
46	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km					N/A		
47	HV	Distribution Line	SWER conductor	km			100.00%			3	-
48	HV	Distribution Cable	Distribution UG XLPE or PVC	km			90.00%	10.00%		2	-
49	HV	Distribution Cable	Distribution UG PILC	km			60.00%	40.00%		2	7.00%
50	HV	Distribution Cable	Distribution Submarine Cable	km					N/A		
51	HV	Distribution switchgear	3.3/6.6/11/22kV CB (pole mounted) - reclosers and sectionalisers	No.			100.00%			4	-
52	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.		23.00%	64.00%	13.00%		3	-
53	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.				100.00%		3	-
54	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.				100.00%		3	-
55	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.		1.00%	49.00%	50.00%		3	4.00%
56	HV	Distribution Transformer	Pole Mounted Transformer	No.			40.00%	60.00%		3	20.00%
57	HV	Distribution Transformer	Ground Mounted Transformer	No.		10.00%	75.00%	15.00%		3	4.00%
58	HV	Distribution Transformer	Voltage regulators	No.					N/A		
59	HV	Distribution Substations	Ground Mounted Substation Housing	No.			80.00%	20.00%		3	2.00%
60	LV	LV Line	LV OH Conductor	km			100.00%			3	2.00%
61	LV	LV Cable	LV UG Cable	km		20.00%	60.00%	20.00%		2	0.50%
62	LV	LV Streetlighting	LV OH/UG Streetlight circuit	km		30.00%	60.00%	10.00%		2	-
63	LV	Connections	OH/UG consumer service connections	No.			60.00%	40.00%		3	-
64	All	Protection	Protection relays (electromechanical, solid state and numeric)	No.			10.00%	90.00%		3	2.00%
65	All	SCADA and communications	SCADA and communications equipment operating as a single system	Lot			10.00%	90.00%		3	-
66	All	Capacitor Banks	Capacitors including controls	No.					N/A		
67	All	Load Control	Centralised plant	Lot				100.00%		4	
68	All	Load Control	Relays	No.					N/A		
69	All	Civils	Cable Tunnels	km					N/A		

### SCHEDULE 12b: REPORT ON FORECAST CAPACITY

This schedule requires a breakdown of current and forecast capacity and utilisation for each zone substation and current distribution transformer capacity. The data provided should be consistent with the information provided in the AMP. Information provided in this

sch ref

7	12b(i): System Growth - Zone Substations									
8		Current Peak Load (MVA)	Installed Firm Capacity (MVA)	Security of Supply Classification (type)	Transfer Capacity (MVA)	Utilisation of Installed Firm Capacity %	Installed Firm Capacity +5 years (MVA)	Utilisation of Installed Firm Capacity + 5yrs %	Installed Firm Capacity Constraint +5 years (cause)	Explanation
9	Existing Zone Substations									
10	[Zone Substation_01]	35	48	N-1	4	73%	48	71%	No constraint within +5 years	
11	[Zone Substation_02]					-			[Select one]	
12	[Zone Substation_03]					-			[Select one]	
13	[Zone Substation_04]					-			[Select one]	
14	[Zone Substation_05]					-			[Select one]	
15	[Zone Substation_06]					-			[Select one]	
16	[Zone Substation_07]					-			[Select one]	
17	[Zone Substation_08]					-			[Select one]	
18	[Zone Substation_09]					-			[Select one]	
19	[Zone Substation_10]					-			[Select one]	
20	[Zone Substation_11]					-			[Select one]	
21	[Zone Substation_12]					-			[Select one]	
22	[Zone Substation_13]					-			[Select one]	
23	[Zone Substation_14]					-			[Select one]	
24	[Zone Substation_15]					-			[Select one]	
25	[Zone Substation_16]					-			[Select one]	
26	[Zone Substation_17]					-			[Select one]	
27	[Zone Substation_18]					-			[Select one]	
28	[Zone Substation_19]					-			[Select one]	
29	[Zone Substation_20]					-			[Select one]	
	<sup>1</sup> Extend forecast capacity table as necessary to disclose all capacity by each zone substation									

### SCHEDULE 12b: REPORT ON FORECAST CAPACITY

This schedule requires a breakdown of current and forecast capacity and utilisation for each zone substation and current distribution transformer capacity. The data provided should be consistent with the information provided in the AMP. Information provided in this

sch ref

7	12b(i): System Growth - Zone Substations									
8		Current Peak Load (MVA)	Installed Firm Capacity (MVA)	Security of Supply Classification (type)	Transfer Capacity (MVA)	Utilisation of Installed Firm Capacity %	Installed Firm Capacity +5 years (MVA)	Utilisation of Installed Firm Capacity + 5yrs %	Installed Firm Capacity Constraint +5 years (cause)	Explanation
9	Existing Zone Substations									
10	[Zone Substation_01]	35	48	N-1	4	73%	48	71%	No constraint within +5 years	
11	[Zone Substation_02]					-			[Select one]	
12	[Zone Substation_03]					-			[Select one]	
13	[Zone Substation_04]					-			[Select one]	
14	[Zone Substation_05]					-			[Select one]	
15	[Zone Substation_06]					-			[Select one]	
16	[Zone Substation_07]					-			[Select one]	
17	[Zone Substation_08]					-			[Select one]	
18	[Zone Substation_09]					-			[Select one]	
19	[Zone Substation_10]					-			[Select one]	
20	[Zone Substation_11]					-			[Select one]	
21	[Zone Substation_12]					-			[Select one]	
22	[Zone Substation_13]					-			[Select one]	
23	[Zone Substation_14]					-			[Select one]	
24	[Zone Substation_15]					-			[Select one]	
25	[Zone Substation_16]					-			[Select one]	
26	[Zone Substation_17]					-			[Select one]	
27	[Zone Substation_18]					-			[Select one]	
28	[Zone Substation_19]					-			[Select one]	
29	[Zone Substation_20]					-			[Select one]	
	<sup>1</sup> Extend forecast capacity table as necessary to disclose all capacity by each zone substation									

## SCHEDULE 12C: REPORT ON FORECAST NETWORK DEMAND

This schedule requires a forecast of new connections (by consumer type), peak demand and energy volumes for the disclosure year and a 5 year planning period. The forecasts should be consistent with the supporting information set out in the AMP as well as the assumptions used in developing the expenditure forecasts in Schedule 11a and Schedule 11b and the capacity and utilisation forecasts in Schedule 12b.

sch ref

### 7 12c(i): Consumer Connections

8 Number of ICPs connected in year by consumer type

for year ended	Number of connections					
	Current Year CY 31 Mar 17	CY+1 31 Mar 18	CY+2 31 Mar 19	CY+3 31 Mar 20	CY+4 31 Mar 21	CY+5 31 Mar 22
Consumer types defined by EDB*						
Load Group 0 (Unmetered and Builders Temporary)	-	-	-	-	-	-
Load Group 1 (Low User)	14	24	24	24	24	24
Load Group 2 (Mass Market - Residential)	10	20	20	20	20	20
Load Group 2 (Mass Market - Business)	15	15	15	15	15	15
Load Group 3 (Time of Use)	1	1	1	1	1	1
<b>Connections total</b>	<b>40</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>60</b>

11 Consumer types defined by EDB\*

Load Group 0 (Unmetered and Builders Temporary)
Load Group 1 (Low User)
Load Group 2 (Mass Market - Residential)
Load Group 2 (Mass Market - Business)
Load Group 3 (Time of Use)

17 Connections total

18 \*include additional rows if needed

### 19 Distributed generation

20 Number of connections

21 Capacity of distributed generation installed in year (MVA)

Number of connections	20	30	40	60	60	60
Capacity of distributed generation installed in year (MVA)	0.1	0.1	0.1	0.2	0.2	0.2

### 22 12c(ii) System Demand

#### 24 Maximum coincident system demand (MW)

25 GXP demand

26 plus Distributed generation output at HV and above

27 Maximum coincident system demand

28 less Net transfers to (from) other EDBs at HV and above

29 Demand on system for supply to consumers' connection points

for year ended	Number of connections					
	Current Year CY 31 Mar 17	CY+1 31 Mar 18	CY+2 31 Mar 19	CY+3 31 Mar 20	CY+4 31 Mar 21	CY+5 31 Mar 22
GXP demand	34	34	34	34	34	34
plus Distributed generation output at HV and above	-	-	-	-	-	-
Maximum coincident system demand	34	34	34	34	34	34
less Net transfers to (from) other EDBs at HV and above	-	-	-	-	-	-
Demand on system for supply to consumers' connection points	34	34	34	34	34	34

#### 30 Electricity volumes carried (GWh)

31 Electricity supplied from GXPs

32 less Electricity exports to GXPs

33 plus Electricity supplied from distributed generation

34 less Net electricity supplied to (from) other EDBs

35 Electricity entering system for supply to ICPs

36 less Total energy delivered to ICPs

37 Losses

39 Load factor

40 Loss ratio

Electricity supplied from GXPs	145	143	142	140	139	138
less Electricity exports to GXPs	-	-	-	-	-	-
plus Electricity supplied from distributed generation	0	0	1	1	1	2
less Net electricity supplied to (from) other EDBs	-	-	-	-	-	-
Electricity entering system for supply to ICPs	145	144	142	141	140	140
less Total energy delivered to ICPs	139	138	137	136	135	134
Losses	6	5	5	5	5	6
Load factor	49%	48%	48%	48%	47%	47%
Loss ratio	3.9%	3.7%	3.7%	3.8%	3.8%	4.0%

Company Name

Nelson Electricity Ltd

AMP Planning Period

1 April 2017 - 31 March 2027

Network / Sub-network Name

### SCHEDULE 12d: REPORT FORECAST INTERRUPTIONS AND DURATION

This schedule requires a forecast of SAIFI and SAIDI for disclosure and a 5 year planning period. The forecasts should be consistent with the supporting information set out in the AMP as well as the assumed impact of planned and unplanned

sch ref

		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
	for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22
8							
9							
10	<b>SAIDI</b>						
11	Class B (planned interruptions on the network)	7.6	15.0	15.0	15.0	15.0	15.0
12	Class C (unplanned interruptions on the network)	27.4	30.0	30.0	30.0	30.0	30.0
13	<b>SAIFI</b>						
14	Class B (planned interruptions on the network)	0.07	0.30	0.30	0.30	0.30	0.30
15	Class C (unplanned interruptions on the network)	0.18	0.60	0.60	0.60	0.60	0.60

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## Schedule 14a    Mandatory Explanatory Notes on Forecast Information

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1. This Schedule requires EDBs to provide explanatory notes to reports prepared in accordance with clause 2.6.6.
  
2. This Schedule is mandatory—EDBs must provide the explanatory comment specified below, in accordance with clause 2.7.2. This information is not part of the audited disclosure information, and so is not subject to the assurance requirements specified in section 2.8.

*Commentary on difference between nominal and constant price capital expenditure forecasts (Schedule 11a)*

3. In the box below, comment on the difference between nominal and constant price capital expenditure for the current disclosure year and 10 year planning period, as disclosed in Schedule 11a.

*Box 1: Commentary on difference between nominal and constant price capital expenditure forecasts*

Given the low level of inflation and interest rates, the difference between nominal and constant was assessed at 1% for the 2017/18 – 2022/23 years and 1.5% for every year thereafter for the planning period.

*Commentary on difference between nominal and constant price operational expenditure forecasts (Schedule 11b)*

4. In the box below, comment on the difference between nominal and constant price operational expenditure for the current disclosure year and 10 year planning period, as disclosed in Schedule 11b.

*Box 2: Commentary on difference between nominal and constant price operational expenditure forecasts*

Given the low level of inflation and interest rates, the difference between nominal and constant was assessed at 1% for the 2017/18 – 2022/23 years and 1.5% for every year thereafter for the planning period.