



Nelson Electricity Ltd Asset Management Plan Update

April 2014 – March 2024

April 2014



Nelson Electricity Ltd central Nelson city view

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

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

Clause 2.9.1 of section 2.9

We, Paul Donald LeGros and John McCliskie, 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 clause 2.4.1, clause 2.6.1 and sub-clauses 2.6.3(4) and 2.6.5(3) 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.

Signed



Date

7 April 2014

Signed



Date

7 April 2014

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SECTION 1 – Asset Management Plan Update

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 2013 – 2014 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.

SECTION 2 – Development Plan – Material Changes

The Development Plan as disclosed in the 2013 Asset Management Plan was revised in August 2014. This revision was as a result of the re-assessment of the growth assumptions. Both peak demand (MW) and kWh growth assumptions were reduced from 1.0% per year to 0.5% per year.

The growth downgrade reflected the ongoing negative to flat growth experienced by the network in recent years. It is however expected that the longer term forecast will return positive but only at a low growth rate of 0.5% per year.

The impact on the Asset Management Plan was the removal of a number of capital expenditure projects that related to growth. The financial impact is outlined in Section 4.

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

There was one material change to the lifecycle management. Operational Expenditure had to be increased by 25% for the 2013/2014 year as a result of works undertaken to lower or add additional mechanical protection to underground cables that Nelson Electricity assessed as posing an increased risk to public and contractor safety. Original estimates included \$150k in the capital expenditure budget and \$100k in the operational expenditure budget. During the 2013/2014 financial year, it was determined that most of the work required excavation and lowering of existing cables which meant most of the costs of the work was operational and not capital in nature.

The number of areas and costs to undertake potholing and subsequent excavation and reinstatement was also higher than original estimates. Given the work was to remedy an identified safety issue, the work has proceeded and completed with haste accepting that budgeted allowances would be exceeded.

There was no ability for Nelson Electricity to offset this additional cost by reducing costs in other areas.

The financial impact is outlined in Section 4.

SECTION 4 – Capital and Operational Expenditure Forecast – Material Changes

Capital Expenditure

As outlined in Section 2, the revised growth forecast reduction has had an impact on growth related projects in the Asset Management Plan. There is an overall reduction in the forecast expenditure of \$3,000k (excluding the Haven Road zone substation replacement and new 33kV sub transmission feeder Projects) in capital expenditure over the five years including the current year to 31 March 2014.

Major changes due to growth reforecast -

- 11kV Feeder - Main Sub to Snows Hill delayed from 2014 to 2018 (\$525k)
- 11kV Cable - Brook Valley Reinforcement deferred 7 - 8 years (\$350k)
- 11kV Switchgear - GPO and Emano St VCB Switch delayed 4 -6 years (\$470k)
- Transformer Uprates halved in first 2 years (\$200k)

The new zone substation year end cost estimates have increased as major components to the substation costs have been altered after competitive tender processes have been completed. The net result was the forecasted expenditure projects has lifted from \$9,400 up to \$11,800.

Major changes due to new zone substation and 33kV sub transmission feeder

- Building and building services - the significant increase has been in the cost of the building and building services, where the initial estimate of \$1,000k has been increased to \$2,500. The reason for this is the additional seismic engineering costs and complexity of the substation design.
- Other – additional reinstatement costs on the 33kV feeder route, additional engineering support services costs account for most of the rest of the variances.

Operational Expenditure

The operational expenditure for the year 2013/2014 will be estimated at \$919k which is \$230k over the original 2013 Asset Management Plan estimate of \$686k. This is due to the additional works to lower or protect vulnerable underground cables as outlined in Section 3.

The 2014/2015 year also has a one off additional allowance for subsequent operational expenditure of \$100k due to the new zone substation with peripheral operational works.

Subsequent years are back to normal expenditure trends.

SECTION 5 – Changes in Asset Management Practises

There are no material changes to existing asset management practises. The commissioning of the new zone substation and 33kV sub transmission feeder has required some changes given that the old zone substation will be disconnected and removed off the network.

SECTION 6 – Asset management Plan Disclosure Schedules

| | |
|---------------------|------------------------------|
| Company Name | Nelson Electricity Ltd |
| AMP Planning Period | 1 April 2014 – 31 March 2024 |

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 14 | 31 Mar 15 | 31 Mar 16 | 31 Mar 17 | 31 Mar 18 | 31 Mar 19 | 31 Mar 20 | 31 Mar 21 | 31 Mar 22 | 31 Mar 23 | 31 Mar 24 |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | 11a(i): Expenditure on Assets Forecast | \$000 (in nominal dollars) | | | | | | | | | | |
| 10 | Consumer connection | | | | | | | | | | | |
| 11 | System growth | 8,991 | 235 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| 12 | Asset replacement and renewal | 625 | 520 | 710 | 530 | 1,285 | 1,257 | 1,352 | 1,237 | 1,322 | 1,371 | 1,122 |
| 13 | Asset relocations | | | | | | | | | | | |
| 14 | Reliability, safety and environment: | | | | | | | | | | | |
| 15 | Quality of supply | | | | | | | | | | | |
| 16 | Legislative and regulatory | | | | | | | | | | | |
| 17 | Other reliability, safety and environment | 115 | 130 | 30 | 300 | 30 | 120 | 300 | 430 | 260 | 80 | 154 |
| 18 | Total reliability, safety and environment | 115 | 130 | 30 | 300 | 30 | 120 | 300 | 430 | 260 | 80 | 154 |
| 19 | Expenditure on network assets | 9,731 | 885 | 890 | 980 | 1,465 | 1,527 | 1,802 | 1,817 | 1,732 | 1,601 | 1,426 |
| 20 | Non-network assets | 56 | | | 76 | | | 18 | 60 | | 20 | |
| 21 | Expenditure on assets | 9,787 | 885 | 890 | 1,056 | 1,465 | 1,527 | 1,820 | 1,877 | 1,732 | 1,621 | 1,426 |
| 22 | | | | | | | | | | | | |
| 23 | plus Cost of financing | | | | | | | | | | | |
| 24 | less Value of capital contributions | 48 | 30 | | | | | | | | | |
| 25 | plus Value of vested assets | 48 | 30 | | | | | | | | | |
| 26 | | | | | | | | | | | | |
| 27 | Capital expenditure forecast | 9,787 | 885 | 890 | 1,056 | 1,465 | 1,527 | 1,820 | 1,877 | 1,732 | 1,621 | 1,426 |
| 28 | | | | | | | | | | | | |
| 29 | Value of commissioned assets | 9,787 | 885 | 890 | 1,056 | 1,465 | 1,527 | 1,820 | 1,877 | 1,732 | 1,621 | 1,426 |
| 30 | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | |
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| 43 | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | |
| 46 | Subcomponents of expenditure on assets (where known) | | | | | | | | | | | |
| 47 | Energy efficiency and demand side management, reduction of energy losses | | | | | | | | | | | |
| 48 | Overhead to underground conversion | | | | | | | | | | | |
| 49 | Research and development | | 20 | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-----|------|---|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 57 | | | Current Year CY | CY+1 | CY+2 | CY+3 | CY+4 | CY+5 | CY+6 | CY+7 | CY+8 | CY+9 | CY+10 | |
| 58 | | | for year ended | 31 Mar 14 | 31 Mar 15 | 31 Mar 16 | 31 Mar 17 | 31 Mar 18 | 31 Mar 19 | 31 Mar 20 | 31 Mar 21 | 31 Mar 22 | 31 Mar 23 | 31 Mar 24 |
| 59 | | Difference between nominal and constant price forecasts | \$000 | | | | | | | | | | | |
| 60 | | Consumer connection | - | - | - | - | - | - | - | - | - | - | - | - |
| 61 | | System growth | - | (2) | (5) | (8) | (11) | (14) | (19) | (22) | (26) | (29) | (33) | (33) |
| 62 | | Asset replacement and renewal | - | (5) | (21) | (27) | (92) | (117) | (171) | (184) | (227) | (267) | (246) | (246) |
| 63 | | Asset relocations | - | - | - | - | - | - | - | - | - | - | - | - |
| 64 | | Reliability, safety and environment: | | | | | | | | | | | | |
| 65 | | Quality of supply | - | - | - | - | - | - | - | - | - | - | - | - |
| 66 | | Legislative and regulatory | - | - | - | - | - | - | - | - | - | - | - | - |
| 67 | | Other reliability, safety and environment | - | (1) | (1) | (15) | (2) | (11) | (38) | (64) | (45) | (16) | (34) | (34) |
| 68 | | Total reliability, safety and environment | - | (1) | (1) | (15) | (2) | (11) | (38) | (64) | (45) | (16) | (34) | (34) |
| 69 | | Expenditure on network assets | - | (9) | (27) | (50) | (105) | (142) | (227) | (270) | (297) | (312) | (312) | (312) |
| 70 | | Non-network assets | - | - | - | (4) | - | - | 18 | 60 | - | 20 | - | - |
| 71 | | Expenditure on assets | - | (9) | (27) | (54) | (105) | (142) | (209) | (210) | (297) | (292) | (312) | (312) |
| 72 | | | | | | | | | | | | | | |
| 73 | | | Current Year CY | CY+1 | CY+2 | CY+3 | CY+4 | CY+5 | | | | | | |
| | | for year ended | 31 Mar 14 | 31 Mar 15 | 31 Mar 16 | 31 Mar 17 | 31 Mar 18 | 31 Mar 19 | | | | | | |
| 74 | | 11a(ii): Consumer Connection | | | | | | | | | | | | |
| 75 | | Consumer types defined by EDB* | \$000 (in constant prices) | | | | | | | | | | | |
| 76 | | [EDB consumer type] | | | | | | | | | | | | |
| 77 | | [EDB consumer type] | | | | | | | | | | | | |
| 78 | | [EDB consumer type] | | | | | | | | | | | | |
| 79 | | [EDB consumer type] | | | | | | | | | | | | |
| 80 | | [EDB consumer type] | | | | | | | | | | | | |
| 81 | | *include additional rows if needed | | | | | | | | | | | | |
| 82 | | Consumer connection expenditure | - | - | - | - | - | - | - | - | - | - | - | - |
| 83 | less | Capital contributions funding consumer connection | | | | | | | | | | | | |
| 84 | | Consumer connection less capital contributions | - | - | - | - | - | - | - | - | - | - | - | - |
| 85 | | 11a(iii): System Growth | | | | | | | | | | | | |
| 86 | | Subtransmission | 1,200 | - | - | - | - | - | - | - | - | - | - | - |
| 87 | | Zone substations | 7,576 | - | - | - | - | - | - | - | - | - | - | - |
| 88 | | Distribution and LV lines | - | - | - | - | - | - | - | - | - | - | - | - |
| 89 | | Distribution and LV cables | - | - | - | - | - | - | - | - | - | - | - | - |
| 90 | | Distribution substations and transformers | 165 | 187 | 52 | 53 | 54 | 55 | | | | | | |
| 91 | | Distribution switchgear | - | - | - | - | - | - | - | - | - | - | - | - |
| 92 | | Other network assets | 50 | 51 | 103 | 105 | 107 | 109 | | | | | | |
| 93 | | System growth expenditure | 8,991 | 237 | 155 | 158 | 161 | 164 | | | | | | |
| 94 | less | Capital contributions funding system growth | | | | | | | | | | | | |
| 95 | | System growth less capital contributions | 8,991 | 237 | 155 | 158 | 161 | 164 | | | | | | |
| 103 | | | Current Year CY | CY+1 | CY+2 | CY+3 | CY+4 | CY+5 | | | | | | |
| 104 | | for year ended | 31 Mar 14 | 31 Mar 15 | 31 Mar 16 | 31 Mar 17 | 31 Mar 18 | 31 Mar 19 | | | | | | |
| 105 | | 11a(iv): Asset Replacement and Renewal | \$000 (in constant prices) | | | | | | | | | | | |
| 106 | | Subtransmission | - | - | - | - | - | - | - | - | - | - | - | - |
| 107 | | Zone substations | - | - | - | - | - | - | - | - | - | - | - | - |
| 108 | | Distribution and LV lines | - | - | - | - | - | - | - | - | - | - | - | - |
| 109 | | Distribution and LV cables | 545 | 394 | 598 | 368 | 1,184 | 1,101 | | | | | | |
| 110 | | Distribution substations and transformers | | | | | | | | | | | | |
| 111 | | Distribution switchgear | 30 | 30 | 31 | 32 | 32 | 33 | | | | | | |
| 112 | | Other network assets | 50 | 101 | 103 | 158 | 161 | 241 | | | | | | |
| 113 | | Asset replacement and renewal expenditure | 625 | 525 | 731 | 557 | 1,377 | 1,374 | | | | | | |
| 114 | less | Capital contributions funding asset replacement and renewal | | | | | | | | | | | | |
| 115 | | Asset replacement and renewal less capital contributions | 625 | 525 | 731 | 557 | 1,377 | 1,374 | | | | | | |

| | | | | | | | |
|-----|---|---|---|---|---|---|---|
| 116 | 11a(v):Asset Relocations | | | | | | |
| 117 | <i>Project or programme*</i> | | | | | | |
| 118 | [Description of material project or programme] | | | | | | |
| 119 | [Description of material project or programme] | | | | | | |
| 120 | [Description of material project or programme] | | | | | | |
| 121 | [Description of material project or programme] | | | | | | |
| 122 | [Description of material project or programme] | | | | | | |
| 123 | <i>*include additional rows if needed</i> | | | | | | |
| 124 | All other asset relocations projects or programmes | | | | | | |
| 125 | Asset relocations expenditure | - | - | - | - | - | - |
| 126 | less Capital contributions funding asset relocations | | | | | | |
| 127 | Asset relocations less capital contributions | - | - | - | - | - | - |
| 128 | | | | | | | |
| 129 | 11a(vi):Quality of Supply | | | | | | |
| 130 | <i>Project or programme*</i> | | | | | | |
| 131 | [Description of material project or programme] | | | | | | |
| 132 | [Description of material project or programme] | | | | | | |
| 133 | [Description of material project or programme] | | | | | | |
| 134 | [Description of material project or programme] | | | | | | |
| 135 | [Description of material project or programme] | | | | | | |
| 136 | <i>*include additional rows if needed</i> | | | | | | |
| 137 | All other quality of supply projects or programmes | | | | | | |
| 138 | Quality of supply expenditure | - | - | - | - | - | - |
| 139 | less Capital contributions funding quality of supply | | | | | | |
| 140 | Quality of supply less capital contributions | - | - | - | - | - | - |
| 141 | | | | | | | |
| 142 | 11a(vii): Legislative and Regulatory | | | | | | |
| 143 | <i>Project or programme*</i> | | | | | | |
| 144 | [Description of material project or programme] | | | | | | |
| 145 | [Description of material project or programme] | | | | | | |
| 146 | [Description of material project or programme] | | | | | | |
| 147 | [Description of material project or programme] | | | | | | |
| 148 | [Description of material project or programme] | | | | | | |
| 149 | <i>*include additional rows if needed</i> | | | | | | |
| 150 | All other legislative and regulatory projects or programmes | | | | | | |
| 151 | Legislative and regulatory expenditure | - | - | - | - | - | - |
| 152 | less Capital contributions funding legislative and regulatory | | | | | | |
| 153 | Legislative and regulatory less capital contributions | - | - | - | - | - | - |
| 161 | | | | | | | |

| | | | | | | | | |
|-----|---|---|----------------------------|-----------|-----------|-----------|-----------|-----------|
| 162 | | | Current Year CY | CY+1 | CY+2 | CY+3 | CY+4 | CY+5 |
| | | for year ended | 31 Mar 14 | 31 Mar 15 | 31 Mar 16 | 31 Mar 17 | 31 Mar 18 | 31 Mar 19 |
| 163 | 11a(viii): Other Reliability, Safety and Environment | | | | | | | |
| 164 | <i>Project or programme*</i> | | \$000 (in constant prices) | | | | | |
| 165 | Security | | 115 | 111 | 31 | 315 | 32 | 131 |
| 166 | Solar Installation | | | 20 | | | | |
| 167 | [Description of material project or programme] | | | | | | | |
| 168 | [Description of material project or programme] | | | | | | | |
| 169 | [Description of material project or programme] | | | | | | | |
| 170 | <i>*include additional rows if needed</i> | | | | | | | |
| 171 | All other reliability, safety and environment projects or programmes | | | | | | | |
| 172 | Other reliability, safety and environment expenditure | | 115 | 131 | 31 | 315 | 32 | 131 |
| 173 | less | Capital contributions funding other reliability, safety and environment | | | | | | |
| 174 | Other reliability, safety and environment less capital contributions | | 115 | 131 | 31 | 315 | 32 | 131 |
| 175 | | | | | | | | |
| 176 | | | | | | | | |
| 177 | | | | | | | | |
| 178 | 11a(ix): Non-Network Assets | | | | | | | |
| 179 | Routine expenditure | | | | | | | |
| 180 | <i>Project or programme*</i> | | | | | | | |
| 181 | Purchase of New Vehicles | | - | - | | 62 | - | - |
| 182 | Computers | | 16 | - | - | 18 | - | - |
| 183 | Computer Network File Server | | 40 | - | - | - | - | - |
| 184 | Office Equipment | | - | - | - | - | - | - |
| 185 | [Description of material project or programme] | | | | | | | |
| 186 | <i>*include additional rows if needed</i> | | | | | | | |
| 187 | All other routine expenditure projects or programmes | | | | | | | |
| 188 | Routine expenditure | | 56 | - | - | 80 | - | - |
| 189 | Atypical expenditure | | | | | | | |
| 190 | <i>Project or programme*</i> | | | | | | | |
| 191 | [Description of material project or programme] | | | | | | | |
| 192 | [Description of material project or programme] | | | | | | | |
| 193 | [Description of material project or programme] | | | | | | | |
| 194 | [Description of material project or programme] | | | | | | | |
| 195 | [Description of material project or programme] | | | | | | | |
| 196 | <i>*include additional rows if needed</i> | | | | | | | |
| 197 | All other atypical projects or programmes | | | | | | | |
| 198 | Atypical expenditure | | - | - | - | - | - | - |
| 199 | | | | | | | | |
| 200 | Non-network assets expenditure | | 56 | - | - | 80 | - | - |

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.

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| 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 |
| | All | Overhead Line | Concrete poles / steel structure | No. | | | 80.00% | 20.00% | | 4 | 1.00% |
| | All | Overhead Line | Wood poles | No. | | 60.00% | 20.00% | 20.00% | | 4 | 1.00% |
| | All | Overhead Line | Other pole types | No. | | | | | | [Select one] | |
| | HV | Subtransmission Line | Subtransmission OH up to 66kV conductor | km | | 100.00% | | | | 3 | 100.00% |
| | HV | Subtransmission Line | Subtransmission OH 110kV+ conductor | km | | | | | | [Select one] | |
| | HV | Subtransmission Cable | Subtransmission UG up to 66kV (XLPE) | km | | | 100.00% | | | 2 | - |
| | HV | Subtransmission Cable | Subtransmission UG up to 66kV (Oil pressurised) | km | | | | | | [Select one] | |
| | HV | Subtransmission Cable | Subtransmission UG up to 66kV (Gas pressurised) | km | | | | | | [Select one] | |
| | HV | Subtransmission Cable | Subtransmission UG up to 66kV (PILC) | km | | | 100.00% | | | 2 | - |
| | HV | Subtransmission Cable | Subtransmission UG 110kV+ (XLPE) | km | | | | | | [Select one] | |
| | HV | Subtransmission Cable | Subtransmission UG 110kV+ (Oil pressurised) | km | | | | | | [Select one] | |
| | HV | Subtransmission Cable | Subtransmission UG 110kV+ (Gas Pressurised) | km | | | | | | [Select one] | |
| | HV | Subtransmission Cable | Subtransmission UG 110kV+ (PILC) | km | | | | | | [Select one] | |
| | HV | Subtransmission Cable | Subtransmission submarine cable | km | | | | | | [Select one] | |
| | HV | Zone substation Buildings | Zone substations up to 66kV | No. | | | | 100.00% | | 4 | 100.00% |
| | HV | Zone substation Buildings | Zone substations 110kV+ | No. | | | | | | [Select one] | |
| | HV | Zone substation switchgear | 22/33kV CB (Indoor) | No. | | | | | | [Select one] | |
| | HV | Zone substation switchgear | 22/33kV CB (Outdoor) | No. | | | | 100.00% | | 4 | 100.00% |
| | HV | Zone substation switchgear | 33kV Switch (Ground Mounted) | No. | | | | | | [Select one] | |
| | HV | Zone substation switchgear | 33kV Switch (Pole Mounted) | No. | | | | 100.00% | | 4 | 100.00% |
| | HV | Zone substation switchgear | 33kV RMU | No. | | | | | | [Select one] | |
| | HV | Zone substation switchgear | 50/66/110kV CB (Indoor) | No. | | | | | | [Select one] | |
| | HV | Zone substation switchgear | 50/66/110kV CB (Outdoor) | No. | | | | | | [Select one] | |
| | HV | Zone substation switchgear | 3.3/6.6/11/22kV CB (ground mounted) | No. | | | 100.00% | | | 3 | 1.00% |
| | HV | Zone substation switchgear | 3.3/6.6/11/22kV CB (pole mounted) | No. | | | | | | [Select one] | |
| Asset condition at start of planning period (percentage of units by grade) | | | | | | | | | | | |

| 43 | | | | | | | | | | | |
|----|---------|-----------------------------|--|-------|---------|---------|---------|---------|---------------|---------------------|--|
| | 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 | | | | | | | | | | | |
| 45 | HV | Zone Substation Transformer | Zone Substation Transformers | No. | | | | 100.00% | | 4 | 100.00% |
| 46 | HV | Distribution Line | Distribution OH Open Wire Conductor | km | | | 90.00% | 10.00% | | 3 | - |
| 47 | HV | Distribution Line | Distribution OH Aerial Cable Conductor | km | | | | | | [Select one] | |
| 48 | HV | Distribution Line | SWER conductor | km | | | 100.00% | | | 3 | - |
| 49 | HV | Distribution Cable | Distribution UG XLPE or PVC | km | | | 90.00% | 10.00% | | 2 | - |
| 50 | HV | Distribution Cable | Distribution UG PILC | km | | | 60.00% | 40.00% | | 2 | 7.00% |
| 51 | HV | Distribution Cable | Distribution Submarine Cable | km | | | | | | [Select one] | |
| 52 | HV | Distribution switchgear | 3.3/6.6/11/22kV CB (pole mounted) - reclosers and sectionalisers | No. | | | 100.00% | | | 4 | - |
| 53 | HV | Distribution switchgear | 3.3/6.6/11/22kV CB (Indoor) | No. | | 23.00% | 64.00% | 13.00% | | 3 | - |
| 54 | HV | Distribution switchgear | 3.3/6.6/11/22kV Switches and fuses (pole mounted) | No. | | | | 100.00% | | 3 | - |
| 55 | HV | Distribution switchgear | 3.3/6.6/11/22kV Switch (ground mounted) - except RMU | No. | | | | 100.00% | | 3 | - |
| 56 | HV | Distribution switchgear | 3.3/6.6/11/22kV RMU | No. | | 1.00% | 49.00% | 50.00% | | 3 | - |
| 57 | HV | Distribution Transformer | Pole Mounted Transformer | No. | | | 40.00% | 60.00% | | 3 | 1.00% |
| 58 | HV | Distribution Transformer | Ground Mounted Transformer | No. | | 10.00% | 75.00% | 15.00% | | 3 | - |
| 59 | HV | Distribution Transformer | Voltage regulators | No. | | | | | | [Select one] | |
| 60 | HV | Distribution Substations | Ground Mounted Substation Housing | No. | | | 80.00% | 20.00% | | 3 | 1.00% |
| 61 | LV | LV Line | LV OH Conductor | km | | | 100.00% | | | 3 | - |
| 62 | LV | LV Cable | LV UG Cable | km | | 20.00% | 60.00% | 20.00% | | 2 | 0.50% |
| 63 | LV | LV Streetlighting | LV OH/UG Streetlight circuit | km | | 30.00% | 60.00% | 10.00% | | 2 | - |
| 64 | LV | Connections | OH/UG consumer service connections | No. | | | 60.00% | 40.00% | | 3 | - |
| 65 | All | Protection | Protection relays (electromechanical, solid state and numeric) | No. | | | 10.00% | 90.00% | | 3 | 10.00% |
| 66 | All | SCADA and communications | SCADA and communications equipment operating as a single system | Lot | | | 10.00% | 90.00% | | 3 | - |
| 67 | All | Capacitor Banks | Capacitors including controls | No. | | | | | | [Select one] | |
| 68 | All | Load Control | Centralised plant | Lot | | | | | | [Select one] | |
| 69 | All | Load Control | Relays | No. | | | | | | [Select one] | |
| 70 | All | Civils | Cable Tunnels | km | | | | | | [Select one] | |

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 table should relate to the operation of the network in its normal steady state configuration.

sch ref

7

12b(i): System Growth - Zone Substations

8

| Existing Zone Substations | 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 |
|---------------------------|----------------------------|-------------------------------------|--|----------------------------|---|--|--|---|-------------|
| New Haven Road | 33 | 48 | N-1 | 4 | 69% | 48 | 71% | No constraint within +5 years | |
| [Zone Substation_02] | | | | | - | | | [Select one] | |
| [Zone Substation_03] | | | | | - | | | [Select one] | |
| [Zone Substation_04] | | | | | - | | | [Select one] | |
| [Zone Substation_05] | | | | | - | | | [Select one] | |
| [Zone Substation_06] | | | | | - | | | [Select one] | |
| [Zone Substation_07] | | | | | - | | | [Select one] | |
| [Zone Substation_08] | | | | | - | | | [Select one] | |
| [Zone Substation_09] | | | | | - | | | [Select one] | |
| [Zone Substation_10] | | | | | - | | | [Select one] | |
| [Zone Substation_11] | | | | | - | | | [Select one] | |
| [Zone Substation_12] | | | | | - | | | [Select one] | |
| [Zone Substation_13] | | | | | - | | | [Select one] | |
| [Zone Substation_14] | | | | | - | | | [Select one] | |
| [Zone Substation_15] | | | | | - | | | [Select one] | |
| [Zone Substation_16] | | | | | - | | | [Select one] | |
| [Zone Substation_17] | | | | | - | | | [Select one] | |
| [Zone Substation_18] | | | | | - | | | [Select one] | |
| [Zone Substation_19] | | | | | - | | | [Select one] | |
| [Zone Substation_20] | | | | | - | | | [Select one] | |

9

1

Extend forecast capacity table as necessary to disclose all capacity by each zone substation

29

30

31

32

33

34

35

36

12b(ii): Transformer Capacity

| | |
|---|-------|
| | (MVA) |
| Distribution transformer capacity (EDB owned) | 93 |
| Distribution transformer capacity (Non-EDB owned) | - |
| Total distribution transformer capacity | 93 |
| Zone substation transformer capacity | 48 |

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

12c(i): Consumer Connections

Number of ICPs connected in year by consumer type

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) |

Connections total

*include additional rows if needed

Distributed generation

Number of connections

Installed connection capacity of distributed generation (MVA)

| | Number of connections | | | | | |
|----------------|------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| for year ended | Current Year CY 31 Mar 14 | CY+1 31 Mar 15 | CY+2 31 Mar 16 | CY+3 31 Mar 17 | CY+4 31 Mar 18 | CY+5 31 Mar 19 |
| | 38 | 40 | 42 | 44 | 46 | 48 |
| | 2,555 | 2,755 | 2,955 | 3,155 | 3,355 | 3,555 |
| | 5,068 | 4,918 | 4,768 | 4,618 | 4,468 | 4,318 |
| | 1,409 | 1,414 | 1,419 | 1,424 | 1,429 | 1,434 |
| | 95 | 96 | 97 | 98 | 99 | 100 |
| | 9,165 | 9,223 | 9,281 | 9,339 | 9,397 | 9,455 |
| | 31 | 60 | 100 | 150 | 210 | 280 |
| | 2 | 2 | 2 | 2 | 3 | 3 |

12c(ii) System Demand

Maximum coincident system demand (MW)

GXP demand

plus Distributed generation output at HV and above

Maximum coincident system demand

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

Demand on system for supply to consumers' connection points

| | Current Year CY 31 Mar 14 | CY+1 31 Mar 15 | CY+2 31 Mar 16 | CY+3 31 Mar 17 | CY+4 31 Mar 18 | CY+5 31 Mar 19 |
|--|------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | 33 | 33 | 33 | 33 | 34 | 34 |
| | - | - | - | - | - | - |
| | 33 | 33 | 33 | 33 | 34 | 34 |
| | | | | | | |
| | 33 | 33 | 33 | 33 | 34 | 34 |

Electricity volumes carried (GWh)

Electricity supplied from GXPs

less Electricity exports to GXPs

plus Electricity supplied from distributed generation

less Net electricity supplied to (from) other EDBs

Electricity entering system for supply to ICPs

less Total energy delivered to ICPs

Losses

Load factor

Loss ratio

| | | | | | | |
|--|------|------|------|------|------|------|
| | 149 | 149 | 150 | 150 | 151 | 152 |
| | - | - | - | - | - | - |
| | 0 | 0 | 0 | 0 | 0 | 1 |
| | - | - | - | - | - | - |
| | 149 | 149 | 150 | 151 | 152 | 152 |
| | 142 | 143 | 143 | 144 | 145 | 146 |
| | 7 | 7 | 7 | 7 | 7 | 7 |
| | 51% | 51% | 51% | 51% | 51% | 51% |
| | 4.4% | 4.4% | 4.4% | 4.4% | 4.4% | 4.4% |

| | |
|----------------------------|------------------------------|
| Company Name | Nelson Electricity Ltd |
| AMP Planning Period | 1 April 2014 – 31 March 2024 |
| Network / Sub-network Name | Nelson Electricity Ltd |

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 SAIFI and SAIDI on the expenditures forecast provided in Schedule 11a and Schedule 11b.

sch ref

| | | Current Year CY | CY+1 | CY+2 | CY+3 | CY+4 | CY+5 |
|----|--|-----------------|-----------|-----------|-----------|-----------|-----------|
| | for year ended | 31 Mar 14 | 31 Mar 15 | 31 Mar 16 | 31 Mar 17 | 31 Mar 18 | 31 Mar 19 |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | SAIDI | | | | | | |
| 11 | Class B (planned interruptions on the network) | 1.5 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 12 | Class C (unplanned interruptions on the network) | 21.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| 13 | SAIFI | | | | | | |
| 14 | Class B (planned interruptions on the network) | 0.08 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| 15 | Class C (unplanned interruptions on the network) | 0.29 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 |