Addendum to proposal for a customised price-quality path

12 April 2013

Table of contents

Table of Contents

1 Introduction

1 Introduction

1.1 Purpose

The purpose of this addendum is to provide additional explanatory information in support of our CPP application and proposal. The explanations included in this addendum have been prepared subsequent to submitting our CPP application to the Commission on 21 February 2013. They have been prepared in direct response to clarifications sought from us, by the Commission, after the Commission's preliminary assessment of our CPP proposal.

1.2 Content

The additional information and explanations included in this addendum address two topics:

- our approach to determining some of the inputs into the price path
- the contractual relationships we have with our contractors, including our related party, Connetics.

These topics are addressed in sections 2 and 3 of this addendum, respectively. Additional supporting information is included in Appendices 1 and 2.

As this addendum forms part of our CPP application, it must be certified by Directors. This requirement is explained in section 4 of this addendum, and the certificate is included in Appendix 3.

2 Price path information

2 Price path information

2.1 Alternative depreciation

2.1.1 How alternative depreciation better meets the purpose of Part 4

Clause 5.4.12(3)(g) of the IMs requires a specific explanation and supporting evidence as to why the alternative depreciation method proposed by Orion better meets the purpose of Part 4 than the standard depreciation method.

2.1.2 Proposed alternative method

Our proposed alternative depreciation method is set out in section 7.5.3 of our CPP proposal.

The standard depreciation method must be used outside of the CPP period. Within the CPP period we propose to use the standard depreciation method for:

- assets in the initial RAB
- assets we commission between FY10 and FY13
- assets acquired from another regulated supplier (regardless of year).

We propose to use an alternative depreciation method for all assets commissioned between FY14 and FY18, excluding those acquired from another regulated supplier.

As explained in our CPP proposal, the standard depreciation method uses the following formula, as specified in clause 5.3.7(2) of the IMs:

$$depreciation = \frac{opening\ RAB\ value}{remaining\ asset\ life}$$

For the assets for which we propose to use the alternative method during the CPP period, we have used the following formula to determine depreciation:

$$depreciation = \frac{opening\ RAB\ value}{remaining\ asset\ life^{1.6}}$$

We propose to use this alternative deprecation method to better match the depreciation profile with the expected demand for those assets over the CPP regulatory period. This assists us to smooth the price increases proposed in this CPP application as it defers depreciation within the CPP period relative to the standard method.

2.1.3 Better meeting the purpose of Part 4

Alternative depreciation should be considered in conjunction with all other elements of our CPP proposal – not in isolation. We believe that our balanced package of CPP proposals meets the Part 4 purpose statement. As our CPP proposals involve significant price increases for consumers, we have sought mechanisms within the CPP IMs to mitigate the price impacts on them.

We have proposed three mechanisms to mitigate short/medium term price impacts on consumers - while still ensuring present value (PV) equivalent recovery of efficient costs:

- deferred claw-back – shifts $43m to the next regulatory period
- alternative depreciation – shifts $30m of costs to future regulatory periods
- alternative X factor – shifts some impacts away from earlier years within the CPP period.

Our proposed alternative depreciation method reduces our CPP depreciation allowance (and prices) within the CPP period, relative to the standard depreciation method. The impact is a reduction in the initial price path from a MAR of $169.8m to a MAR of $164.8m in FY15. This reduces the initial price step from 18.5% in real terms to 15% in real terms.

Alternative depreciation was integral to the make-up and profile of our proposed price path within our draft proposal and we consulted with consumers on this basis.

As noted above, alternative depreciation is one part of our proposed (balanced) approach to smoothing cost recovery.

We were influenced by the Commission's deliberations on caps to initial price increases in the DPP Determination in order to mitigate price shocks for consumers. Our draft CPP proposal approved by the board for consumer feedback on 14 November 2012 was based on the Commission's draft view that initial DPP reset price increases ought to be capped at 15%.

The proposed ten year claw-back recovery period also contributed to achieving this initial capped price step, by spreading the recovery of claw-back over two regulatory periods. In our view this proposal reflects a reasonable balance between price impacts on consumers, by deferring $43m into the second regulatory period, and regulatory certainty for Orion, by ensuring this is fully recovered within two regulatory periods.

Alternative depreciation has an ongoing impact beyond the CPP period, resulting in higher depreciation charges (and prices) in future years. It applies to assets yet to be commissioned and therefore first depreciated within the CPP period (FY14- FY18). The higher depreciation costs after the CPP period extend to the end of the lives of these assets and we propose to recover those higher costs after the CPP period over the lives of the assets, through higher prices.

The standard and alternative depreciation methods are equivalent in present value terms and both methods retain our incentives to continue to invest, in the long term interests of consumers.

The IM Reasons Paper dated 22 December 2010 notes the following:

> *"There are a number of benefits associated with CPI-indexed straight-line depreciation, there are also likely to be a limited number of circumstances in which alternative approaches may better meet the Part 4 Purpose. For example, the output or utilisation of an asset may reasonably be expected to vary over time. In workably competitive markets where this is the case, the pricing profile may be adjusted so that consumers pay the same price per unit in real terms over time."*
>
> and
>
> *"While there are a number of reasons for favouring CPI-indexed straight-line depreciation over alternative forms, the Commission agreed with submissions that there are likely to be certain situations in which an element of flexibility may be appropriate. The Commission*

considers that as part of the customised price quality path proposal process, EDBs and GPBs should be permitted some flexibility in deciding which alternative approach would better meet their particular circumstances."

Our proposed alternative depreciation *better* meets the Part 4 purpose statement, because it better deals with the post earthquake circumstances we and our consumers face, as highlighted in the Reasons Paper.

Alternative depreciation must be considered in conjunction with all other elements of our CPP proposal and in light of our post earthquake circumstances.

2.1.4 Impact of alternative depreciation over asset life

Clause 5.4.12 of the IMs requires information regarding each type of asset for which a proposed method of depreciation other than the "standard depreciation method" is proposed. Clauses 5.4.12(3) (e) and (f) specifically require forecast depreciation over the asset life to be provided for both the proposed alternative method and the standard method.

Appendix 1 sets out the information required in respect of clause 5.4.12(3)(e), namely forecast depreciation over the life of the asset for the type of asset to which alternative depreciation applies, using the alternative depreciation approach. The roll forward of depreciation has been undertaken using the alternative method, as described in section 7.5.3 of our CPP proposal for the FY15-FY19 period, and the standard method for FY20 onwards. There are no other assumptions applied.

Appendix 2 sets out the information required in respect of clause 5.4.12(3)(f), namely forecast depreciation over the life of the asset for the type of asset to which alternative depreciation applies, using the standard depreciation approach. This roll forward of depreciation has been undertaken using the standard method for FY15 onwards. There are no other assumptions applied.

2.2 Alternative X factor

2.2.1 How the alternative X factor better meets the purpose of Part 4

Clause 5.4.8(4) requires a specific explanation and supporting evidence as to why the alternative X factor proposed by Orion for the CPP regulatory period better meets the purpose of Part 4.

2.2.2 Proposed X factor

The X factor is the change in real prices in year two to five of the CPP regulatory period which underlies the MAR before tax series. It is the percentage change in MAR, after removing the effect of forecast inflation and changes in weighted average quantities.

In section 7.2.4 of our CPP proposal we explain that we have proposed an alternative X factor. This is because we have capped the initial change in real prices. The X factor determines the rate of change in subsequent years required to recover our BBAR (and a portion of our proposed claw-back). We have proposed an X factor of -1.19%. The default X factor is 0%. This alternative generates a price path which

involves a 15% increase in real prices in FY15, and real increases of 1.19% for the next four years.

2.2.3 Better meeting the purpose of Part 4

As for our alternative depreciation, our alternative X factor should be considered in conjunction with all other elements of our CPP proposal – not in isolation. We believe that our balanced package of CPP proposals meets the Part 4 purpose statement. As our CPP proposals involve significant price increases for consumers, we have sought mechanisms within the CPP IMs to mitigate the price impacts on them.

As stated above, we have proposed three mechanisms to mitigate short/medium term price impacts on consumers - while still ensuring PV equivalent recovery of efficient costs:

- deferred claw-back – shifts $43m to the next regulatory period
- alternative depreciation – shifts $30m of costs to future regulatory periods
- alternative X factor – shifts some impacts away from earlier years within the CPP period.

An alternative X factor allows us to alter the rate of revenue recovery within the CPP regulatory period relative to the default X factor. This complements our proposed alternative depreciation and deferred claw-back, both of which defer revenue recovery beyond the CPP regulatory period.

The standard and alternative X factors are equivalent in present value terms and both methods retain our incentives to continue to invest, in the long term interests of consumers.

The IM Reasons Paper states that the appropriate balance between P0/X will be situation-specific and depend, among other things, upon the cash flow needs of the CPP applicant and the extent of possible price-shocks to its consumers. We have placed emphasis on mitigating that price shock impact.

The Reasons Paper goes on to state that suppliers will propose the P0/X combination that they consider best fits their circumstances and this will be evaluated by the Commission in light of the Part 4 Purpose. That is what we believe we have done.

We believe that our proposed alternative X factor *better* meets the Part 4 purpose statement because it better deals with the post earthquake circumstances we and our consumers face and because any business would look to avoid price shock and look for ways to smooth increases over time. That is what we have done and we believe that consumers prefer our proposed approach.

2.3 Demonstration of PV equivalence

2.3.1 PV equivalence test

Clause 5.4.8(7) of the IMs requires us to demonstrate how MAR before tax and MAR after tax for each disclosure year of the CPP regulatory period have been derived from BBAR after tax.

Clause 5.3.4(1) of the IMs requires that the present value of the MAR after tax series must equal the present value of the BBAR after tax series less any value of claw-back. The claw-back treatment described in the IMs is for a recovery of excess revenue. Conversely, where there is a claim for a shortfall in revenue, as outlined in our CPP proposal, the value of claw-back should be added rather than subtracted from the PV of BBAR series.

Additional explanatory information required includes:

a) a re-run of the MAR before tax and MAR after tax price paths to include the proposed claw-back amount
b) a demonstration of the PV equivalence required by clause 5.4.8(7)
c) an analysis of the effect (if any) of the change above on the overall price path (e.g., in PV terms, the percentage increase in CPP period starting prices).

2.3.2 PV equivalence in the CPP proposal

Our proposal is that recovery of claw-back is included in the MAR before tax price path. We have determined the value of claw-back to be included with pre-tax MAR using a cost of debt assumption for the purpose of discounting, for the reasons set out in section 7.2.2 of our CPP proposal. This generates a lower recovery (by $1.218m) than had we used the CPP WACC for the purpose of discounting. This is demonstrated below.

Our proposed price path is therefore more conservative than had the CPP WACC been used to discount the claw-back component of MAR.

In order to complete the CPP information requirements, below we demonstrate the PV equivalence of claw-back which was not included in our CPP proposal. This highlights the impact of the different discounting assumptions.

Section 7.2.1 of our CPP proposal sets out the PV of MAR after tax (before claw-back recovery) and BBAR after tax, as follows, and demonstrates PV equivalence between the two series. This data is presented before the inclusion of claw-back.

PV of MAR after tax equals PV of BBAR after tax ($000 nominal)	CPP Period				
	FY15	FY16	FY17	FY18	FY19
MAR after tax	141,364	146,394	152,536	159,002	165,688
BBAR after tax	137,585	148,857	153,012	158,912	167,168
	PV at 1 April 2014				
PV of series of MAR after tax	**642,505**				
PV of series of BBAR after tax	**642,505**				

Note: The discount rate used to calculate the PV is the 5-year CPP WACC (6.92%)

The CPP proposal also includes a value of claw-back to be recovered within the MAR series. The PV of this is $43.13m. The claw-back recovery to be included with the MAR (in addition to the MAR derived from BBAR shown above) is illustrated below.

PV of of claw-back recovery equals value of claw-back ($000 nominal)	CPP Period				
	PV at 1 April 2014				
PV of claw-back to be recovered over CPP period	**43,130**				
	FY15	FY16	FY17	FY18	FY19
Claw-back recovery	9,175	9,560	9,964	10,389	10,822
	PV at 1 April 2014				
PV of claw-back recovery	**43,130**				

Note: The discount rate used to calculate the PV is the 5-year CPP cost of debt (5.89%)

As discussed in our CPP proposal, we have applied the CPP WACC to the MAR after tax (before claw-back recovery) series. For the reasons set out in section 7.2.2 of the CPP proposal we have applied the cost of debt (derived from the CPP WACC) to the claw-back component of MAR.

2.3.3 Additional evidence

We have re-run the MAR series above, and have included the claw-back series. The PV of this series differs to the PV of the BBAR series plus our proposed claw-back recovery (during the CPP period) by $1.218m. The reason for this is that we have used the CPP WACC for the MAR after tax series derived from the BBAR after tax series, and the cost of debt for the claw-back recovery to be included in MAR. This is illustrated below.

PV equivalence test using WACC as discount rate, with claw-back determined using cost of debt ($000 nominal)		CPP Period				
	PV at 1 April 2014	FY15	FY16	FY17	FY18	FY19
MAR after tax		141,364	146,394	152,536	159,002	165,688
Claw-back recovery (using cost of debt)		9,175	9,560	9,964	10,389	10,822
TFREV		1.03	1.03	1.03	1.03	1.03
MAR after tax plus claw-back recovery (year end)		154,679	160,244	166,969	174,049	181,365
PV of MAR after tax plus claw-back	**684,417**					
BBAR after tax		137,585	148,857	153,012	158,912	167,168
TFREV		1.03	1.03	1.03	1.03	1.03
BBAR after tax (year end)		141,369	152,951	157,220	163,282	171,765
PV of BBAR after tax	**642,505**					
Value of claw-back	**43,130**					
PV of BBAR after tax plus value of claw-back	**685,635**					
Difference	**-1,218**					

If we apply the CPP WACC to the claw-back component of MAR, the two series are PV equivalent – as demonstrated below.

PV equivalence test with revised claw-back recovery, determined using WACC ($000 nominal)		CPP Period				
	PV at 1 April 2014	FY15	FY16	FY17	FY18	FY19
MAR after tax		141,364	146,394	152,536	159,002	165,688
Claw-back recovery (using WACC)		9,441	9,838	10,253	10,691	11,137
TFREV		1.03	1.03	1.03	1.03	1.03
MAR after tax plus claw-back recovery (year end)		154,953	160,529	167,266	174,359	181,688
PV of MAR after tax plus claw-back	**685,635**					
BBAR after tax		137,585	148,857	153,012	158,912	167,168
TFREV		1.03	1.03	1.03	1.03	1.03
BBAR after tax (year end)		141,369	152,951	157,220	163,282	171,765
PV of BBAR after tax	**642,505**					
Value of claw-back	**43,130**					
PV of BBAR after tax plus value of claw-back	**685,635**					

Our proposed CPP price path is MAR before tax including claw-back of $164.8m in FY15 and an X factor of -1.19% for FY16-FY19. This MAR series, which includes the recovery of claw-back is illustrated below, and is included in section 7.1.2 of our CPP proposal.

CPP Proposal MAR ($000 nominal)	CPP Period				
	FY15	FY16	FY17	FY18	FY19
MAR before tax	155,598	162,136	168,974	176,185	183,540
Claw-back recovery	9,175	9,560	9,964	10,389	10,822
MAR before tax (including claw-back recovery)	164,773	171,696	178,937	186,574	194,362

Under the alternative scenario applying the CPP WACC to the discounting of the claw-back component, the pre-tax MAR series inclusive of claw-back recovery is slightly higher than that included in our CPP proposal. Under this scenario the MAR before tax increases to $165.0m in FY15, with the same X factor. This is equivalent to an increase of 0.16% to our proposed MAR before tax. Alternatively, holding the FY15 MAR constant at $164.8m, changes the X factor for FY16-FY19 to -1.28%. These two pre-tax MAR series, which include the recovery of claw-back, are illustrated below.

MAR with revised claw-back recovery and CPP Proposal X factor ($000 nominal)	CPP Period				
	FY15	FY16	FY17	FY18	FY19
MAR before tax	155,598	162,136	168,974	176,185	183,540
Claw-back recovery (revised)	9,441	9,838	10,253	10,691	11,137
MAR before tax (including claw-back recovery)	165,040	171,974	179,227	186,876	194,677

MAR with revised claw-back recovery and CPP Proposal FY15 MAR ($000 nominal)	CPP Period				
	FY15	FY16	FY17	FY18	FY19
MAR before tax (revised for new X-factor)	155,347	162,008	168,981	176,339	183,852
Claw-back recovery (revised)	9,426	9,830	10,253	10,700	11,156
MAR before tax (including claw-back recovery)	164,773	171,838	179,234	187,039	195,008

Accordingly our proposed price path is marginally conservative (ie: results in lower revenue recovery) relative to the alternative scenario where the CPP WACC is used to discount the claw-back component.

2.4 Treatment of capital contributions

2.4.1 Capital contributions not assigned to assets

Clause 5.4.14(2)(b) in the IMs requires information regarding the amount of capital contributions taken into account in the value of commissioned assets for the period FY10 to FY19, and the policies relevant to the capital contributions.

In section 7.5.5 of our CPP proposal we explain that capital contributions are not netted off against individual assets as anticipated by clause 5.3.11(1)(h) in the IMs. Instead, we treat contributions that are not allocated, together as contributions towards the network as a whole.

In section 7.5.3 of our CPP proposal we explain that we depreciate the capital contributions using a weighted average asset life of 56.4 years. This is the average of the IM standard physical asset lives for distribution assets weighted by the sum of the initial RAB values for these asset types. We treat the capital contributions as a negative asset and we calculate negative depreciation accordingly.

We provide additional explanatory information below.

2.4.2 Connections and extensions policy

In section 9.16 of our CPP proposal we outline our policy for deriving capital contribution revenue. Consumers seeking new connections contribute to the costs of the activity in accordance with our connections and extensions policy NW70.00.45. This is published on our website here:
http://www.oriongroup.co.nz/downloads/ConnectionsAndExtensionsPolicy.pdf.

2.4.3 Approach adopted

As explained in section 7.5.3 of our CPP proposal, our approach reflects the fact that capital contributions are made towards the cost of providing new connection and asset relocation services, rather than as a contribution to a specific new or existing asset. Accordingly it is not possible to assign contribution revenue to individual assets.

As the value of contributions is to be deducted from the asset base, in accordance with clause 5.3.11(1)(h), we have deducted the total value of contributions forecast to be received each year from the total value of commissioned assets forecast for that year. This is done by entering the value of contributions as negative assets in the RAB. These are then rolled forward using the roll forward method set out in the IMs and therefore are subject to the same depreciation and revaluation effects as the remainder of the asset base.

This approach is consistent with the guidance provided by the Commission in response to RAB roll forward questions during the data collection process for the DPP reset, as follows:[1]

> *Question 20 - How should the capital contribution be recorded if it does not relate to a specific asset that has been created?*

[1] Refer Section 53ZD notice information request for EDBs' 2010-15 EDB DPP starting prices, Commerce Commission responses to requests for technical guidance/clarification, 10 May 2011 Issues Register

Commission Response - The EDB should select an appropriate asset relating to the services supplied in connection with the customer's contribution, or if this cannot be done, create a 'stand-alone' negative asset.

As explained in section 7.5.5 of our CPP proposal, the capital contributions that we receive are designed to help fund a number of different assets. The trigger for the receipt of capital contributions is typically a connection to the network rather than the incurrence of the upstream capital expenditure which they ultimately fund. Other contributions are received towards the cost of relocation of existing assets, including overhead to underground conversion.

2.4.4 Impact of this approach

As described above, we are not able to assign contribution revenue to individual assets. We create negative assets, include them in the RAB, and depreciate them and revalue them using the same methods which apply to all other assets in the RAB. In order to implement the depreciation method it is necessary to assign a physical life to the contributions. This reflects the physical asset lives of the mix of assets which the contributions ultimately fund. This is described further below.

The table below shows the RAB value of the capital contributions for the FY10–FY19 period as included in the CPP proposal, including the composition of the RAB roll forward each year. As stated above, the depreciation is calculated using a weighted average physical life (of 56.4 years).

RAB roll-forward - weighted average ($000 nominal)	Current Period			Assessment Period	
	FY10	FY11	FY12	FY13	FY14
Total opening RAB value	-	(3,376)	(6,206)	(10,291)	(12,491)
less Total depreciation	-	(60)	(111)	(186)	(228)
plus Total revaluation	-	(82)	(97)	(185)	(221)
plus Sum of the value of commissioned assets	(3,376)	(2,808)	(4,099)	(2,200)	(7,073)
less Sum of the value of disposed assets	-	-	-	-	-
Total closing RAB value	(3,376)	(6,206)	(10,291)	(12,491)	(19,557)

	CPP Period				
	FY15	FY16	FY17	FY18	FY19
Total opening RAB value	(19,557)	(23,091)	(29,462)	(34,490)	(38,119)
less Total depreciation	(243)	(253)	(267)	(280)	(290)
plus Total revaluation	(454)	(501)	(639)	(748)	(827)
plus Sum of the value of commissioned assets	(3,323)	(6,123)	(4,656)	(3,161)	(2,631)
less Sum of the value of disposed assets	-	-	-	-	-
Total closing RAB value	(23,091)	(29,462)	(34,490)	(38,119)	(41,286)

In order to demonstrate the impact of this approach on RAB, we have also recalculated the RAB roll forward using a more granular approach. In order to do this we have assigned the capital contribution revenue received each year to asset categories. This is a notional allocation for the reasons outlined above. In the absence of asset specific capital contribution revenue, we have applied the same proportions as those used in deriving our weighted average physical life (refer below) in order to assign the annual value to asset categories.

The following table illustrates a RAB roll forward for capital contributions, where the roll forward has been calculated after assigning the contribution revenue received each year to asset categories. We have also calculated the difference between the RAB roll forward for capital contributions using this approach and that which was used in preparing our CPP proposal. As demonstrated below, the difference increases gradually over the CPP period, and reaches a maximum of 0.2% of the RAB value of capital contributions in FY19. If this approach had been used in the CPP proposal, the impact on our proposed price path would have been immaterial.

RAB roll-forward - sum of individual roll forwards ($000 nominal)	Current Period			Assessment Period	
	FY10	FY11	FY12	FY13	FY14
Total opening RAB value	-	(3,376)	(6,204)	(10,285)	(12,479)
less Total depreciation	-	(62)	(115)	(192)	(236)
plus Total revaluation	-	(82)	(97)	(186)	(221)
plus Sum of the value of commissioned assets	(3,376)	(2,808)	(4,099)	(2,200)	(7,073)
less Sum of the value of disposed assets	-	-	-	-	-
Total closing RAB value	(3,376)	(6,204)	(10,285)	(12,479)	(19,538)

	CPP Period				
	FY15	FY16	FY17	FY18	FY19
Total opening RAB value	(19,538)	(23,063)	(29,425)	(34,441)	(38,059)
less Total depreciation	(251)	(262)	(277)	(290)	(301)
plus Total revaluation	(454)	(500)	(638)	(747)	(825)
plus Sum of the value of commissioned assets	(3,323)	(6,123)	(4,656)	(3,161)	(2,631)
less Sum of the value of disposed assets	-	-	-	-	-
Total closing RAB value	(23,063)	(29,425)	(34,441)	(38,059)	(41,214)

RAB roll-forward - difference ($000 nominal)	Current Period			Assessment Period	
	FY10	FY11	FY12	FY13	FY14
Total opening RAB value	-	-	(2)	(6)	(12)
less Total depreciation	-	2	4	6	8
plus Total revaluation	-	0	(0)	0	0
plus Sum of the value of commissioned assets	-	-	-	-	-
less Sum of the value of disposed assets	-	-	-	-	-
Total closing RAB value	-	(2)	(6)	(12)	(19)
Difference (%)	0.0%	0.0%	0.1%	0.1%	0.1%

	CPP Period				
	FY15	FY16	FY17	FY18	FY19
Total opening RAB value	(19)	(28)	(38)	(48)	(60)
less Total depreciation	8	9	10	10	11
plus Total revaluation	(0)	(1)	(1)	(1)	(2)
plus Sum of the value of commissioned assets	-	-	-	-	-
less Sum of the value of disposed assets	-	-	-	-	-
Total closing RAB value	(28)	(38)	(48)	(60)	(72)
Difference (%)	0.1%	0.1%	0.1%	0.2%	0.2%

2.4.5 Derivation of weighted average life assumption

The weighted average asset life for capital contribution assets has been derived by weighting the total lives for each asset category for upstream assets by their initial RAB values. The calculations for determining the weighted average asset lives for capital contribution assets are illustrated in the following table.

Calculation of weighted average total life for capital contributions			
Asset type	RAB as at 1/4/2009 ($000)	IM Standard Life	Weight
66kV Overhead lines (wood pole)	3,747	45	1%
66kV Overhead lines (steel tower and steel pole)	462	55	0%
66kV Underground cables (PILC & Oil filled)	24,167	70	7%
66kV Underground cables (XLPE)	10,045	55	3%
33kV Overhead lines (wood pole)	1,446	45	0%
33kV Overhead lines (mixed construction)	8,010	52	2%
33kV Underground cables (PILC & Oil filled)	1,095	70	0%
33kV Underground cables (XLPE)	2,746	55	1%
Power transformers	26,224	45	8%
11 kV Overhead lines (wood pole)	15,117	45	4%
11kV Overhead lines (mixed construction)	47,997	52	14%
11kV Underground cables (PILC)	92,076	70	27%
11kV Underground cables (XLPE)	43,657	55	13%
Distribution transformers (pole)	21,933	45	6%
Distribution transformers (pad)	42,155	45	12%
Weighted average total life		**56.4**	**100%**

2.5 Network spares

2.5.1 Treatment of spares in the RAB

Clause 5.3.7(3)(a)(iii) of the IMs prescribes a specific depreciation treatment for network spares. The following explanation clarifies how spares have been accounted for from a historical cost perspective and quantifies the value of spares in the RAB roll-forward.

2.5.2 Value of spares

Our initial RAB includes a value for spares of $4.616m as at 1 April 2009. We have assumed that this is an appropriate level of spares in order to meet our operational requirements. This is consistent with the quantity of spares approved by an independent engineer during our 2004 ODV review.

We have assumed that this value of spares is carried in our RAB until the end of the CPP period. It is therefore not depreciated, consistent with IM clause 5.3.7(3)(iii). It is revalued in accordance with IM clause 5.3.10(1). This is illustrated in the following table which shows the value of spares included in our RAB for FY10–FY19.

RAB roll forward of network spare assets in initial RAB ($000 nominal)	Current Period			Assessment Period	
	FY10	FY11	FY12	FY13	FY14
Opening RAB	4,616	4,711	4,825	4,900	4,989
Depreciation	-	-	-	-	-
Revaluation	94	114	76	88	88
Closing RAB	4,711	4,825	4,900	4,989	5,077
	CPP Period				
	FY15	FY16	FY17	FY18	FY19
Opening RAB	5,077	5,195	5,308	5,423	5,540
Depreciation	-	-	-	-	-
Revaluation	118	113	115	118	120
Closing RAB	5,195	5,308	5,423	5,540	5,661

This approach assumes that we maintain a value of spares which remains constant in real terms during the assessment and CPP regulatory periods. In practice, items will be removed from store and commissioned on the network, and some of these items will be replaced. Our spare replacement purchases are included in our CPP replacement capex budgets. We assume that this expenditure is commissioned in the year in which it occurs, and therefore do not assign 'spares' in our replacement budgets.

Thus while spares move from store onto the network and are replaced in store, we assume this occurs within year with no impact on the level of spares we carry in the RAB.

3 Related party information

3 Related party information

3.1 Procurement

3.1.1 Our outsource model

As stated in section 9.11.2 of our CPP proposal, we operate a contracting outsource model for much of the actual maintenance and capex on our network. We invite tenders from a limited but sustainable pool of approved competent contractors; those who have met our standards. Virtually all of our tenders are awarded on a lowest price conforming tender basis.

As it is not practicable to assign the responsibility for emergency spares to more than one party, our urban and rural emergency works contracts are each assigned to a different contractor.

We have a wholly-owned subsidiary company, Connetics which along with unrelated contractors, tenders for our works. Connetics also tenders for and undertakes works for other parties.

We believe that our outsourced field work model facilitates competition in our local contracting market and enables Orion to acquire the most efficient prices for its works programme commensurate with the quality of service, skill levels and expertise we require for our network.

3.1.2 Meeting the information requirements:

Sections 9.11 and 9.25 of our CPP proposal include explanations and evidence relevant to our outsource model, our tendering processes and the projects and programmes undertaken by Connetics during the current period.

In addition we include below, further explanation pertaining to:

- procurement policies
- contracts and contract implementation.

3.2 Additional explanation

3.2.1 Procurement policies

Section 9.25.3 of our CPP proposal lists the relevant policies for our contract and tendering processes. These are included in Appendix 32 of the proposal. In addition we have a delegation of authority policy (OR00.00.19) which has been provided to the Commission.

These policies relate to emergency works and scheduled works (opex and capex) over delegated management thresholds, and show how our procurement policy is intended to operate in contracting work.

3.2.2 Contracts and contract implementation

Non-scheduled works and emergency maintenance

As described in section 9.19.13 of our CPP proposal, our emergency works are delivered primarily under two emergency works contracts.

We had defined emergency response (works) and non-scheduled (minor works) contracts in place with Connetics (related) and Independent Lines Services (ILS) (non related) for many years. These have recently been renegotiated. The previous contracts were negotiated in 2006 and were due to expire March 2011. However, due to the earthquakes they were extended until new contracts could be formalised, which occurred in October 2012. The new contracts have a three year term (expiring on 30 September 2015), with a possible two year extension, subject to satisfactory performance reviews.

These emergency response contracts are critical to Orion being able to respond to customer expectations of service and electricity supply 24/7, 365 days of the year. Emergency response can be defined as immediate response to situations for safety reasons or loss of power. These events range from large network wide events to small individual repairs from the Orion network to the connection on the customer premises. In general these repairs can fall into one of three functional areas: lines, cables, or substations, all with their own specialisation.

Emergency contracts were targeted at two contractors: Connetics, and ILS, to ensure we obtain optimal outcomes of performance, safety, quality and service. Past experience has shown that a single focus is not optimal for long life assets and that a number of factors need to be considered to ensure the best lifecycle outcomes. These contracts are area contracts for first response with back up major emergency support able to be bought in to support major events.

The reasons we take a targeted approach with our contractors in this instance include economic viability of undertaking this work and the specialist expertise we need.

As we have improved and targeted our maintenance over the years we have reduced the volume of emergency reactive maintenance necessary on our network to the point that all our contractors have now indicated to us that had it not been for their access to non emergency work they would decline to tender for this work. This has resulted in the closure of two of four maintenance bases. Given this, it is difficult to garner interest from other contractors for this type of work.

Finding contractors with appropriate expertise, and maintaining that expertise, can be problematic. Connetics is currently the only contractor that can provide a comprehensive service in all three areas - lines, cables and substations. ILS expertise is predominantly in the lines area, and they will use other contractors where they need that expertise.

Emergency contractors face extra costs, complexities and complications around standby and stand-down issues (including pay) related to this work. Having two contractors doing this work provides a necessary competitive tension. It does provide us with the ability to benchmark to compare their pricing and performance. In areas where the work becomes more technical and the volumes are lower we struggle to keep personnel competent to ensure rapid restoration of service and have to often

supplement training to ensure good performance outcomes. To this extent we have formed a partnership with the Christchurch Polytechnic Institute of Technology (CPIT) and invested in and developed a distribution training area for our contractors to train in to ensure their trade skills are optimal.

Other skills are contracted in as required, to ensure we are not carrying overheads unnecessarily, however the down side of this is to expose us to a potential lack of skilled resource when needed rapidly or at short notice. To ensure we are not captured by Connetics or ILS we are able to compare the schedules of rates between the two parties as well as compare their competitive pricing of tendered similar other works and make allowance for the additional factors such as unsociable hours etc. The contract then becomes a negotiated outcome, but tightly controlled.

Appendix 31 of our CPP proposal includes relevant contract terms which explain the nature of the services to be provided under the emergency works contract. In addition, copies of umbrella contracts and supporting documentation (including a log of works orders) have been provided to the Commission on a confidential basis.

Scheduled works (opex and capex)

Our procurement policies are explained in more detail in section 9.11.2 of our CPP proposal. The following policies apply:

- OR00.00.19 - Procurement
- OR00.00.11 - Delegation of authority
- NW73.00.03 - Contract management
- NW73.10.15 - Authorised contractors.

Where the value of work is over $20,000 it is performed as a separate tender contract. We have provided to the Commission, on a confidential basis, a list of contracts and samples of those contracts with related parties and non-related parties.

Work less than $20,000 is not separately tendered. We have provided to the Commission, on a confidential basis, a list of scheduled works undertaken with related and non-related parties and examples of supporting documentation.

4 Certification

4 Certification

4.1 Certification requirements

Clause 5.1.5 of the CPP IMs requires that director certification in writing is to be provided (by no fewer than two directors) in accordance with the requirements of Clause 5.5.4.

4.2 Certificate

Appendix 3 contains our directors' certificate in respect of the information contained in this addendum, in accordance with the requirements of Clause 5.1.5.

Appendices for CPP Addendum

Appendix 1

Alternative depreciation by asset type to end of life for affected assets

Alternative depreciation ($000)	Current Period			Assessment Period		CPP Period				
	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	-	-	-	-	-	0	3	3	6	15
66 kV Overhead lines (towers)	-	-	-	-	-	0	0	4	4	4
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	-	-	-	-	-	41	56	103	114	120
33 kV Overhead lines (wood pole)	-	-	-	-	-	1	2	3	4	6
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	-	-	-	-	-	-	-	-	0	0
Pilot / Communications Circuits	-	-	-	-	-	1	1	2	3	3
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	-	-	-	-	-	3	9	13	16	25
Power Transformers	-	-	-	-	-	10	21	22	36	54
Protection (electromechanical)	-	-	-	-	-	-	-	0	0	0
Protection (digital)	-	-	-	-	-	36	62	93	129	176
Outdoor Structure (concrete pole)	-	-	-	-	-	0	0	0	0	0
DC Supplies, batteries and inverters	-	-	-	-	-	1	2	2	3	5
Other items	-	-	-	-	-	0	0	0	0	0
Distribution network										
11 kV Overhead lines (wood pole)	-	-	-	-	-	9	16	26	37	48
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	-	-	-	-	-	19	40	60	80	100
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	-	-	-	-	-	6	12	19	25	32
Distribution transformers (pad)	-	-	-	-	-	5	11	16	22	28
Distribution substations mount (pole)	-	-	-	-	-	0	1	2	3	4
Distribution substations mount (pad)	-	-	-	-	-	3	6	9	12	16
Distribution substation mount (building & in customer building)	-	-	-	-	-	0	1	1	2	2
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	-	-	-	-	-	-	-	-	-	0
Indoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	15	38	59	81	108
Outdoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	7	18	33	51	72
11kV Disconnectors & Dropout fuses	-	-	-	-	-	2	5	8	11	14
11kV voltage regulators	-	-	-	-	-	1	1	2	2	2
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Alternative depreciation ($000)	Current Period			Assessment Period		CPP Period				
	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Low voltage distribution network										
LV Overhead lines (wood pole)	-	-	-	-	-	2	3	6	8	11
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	-	-	-	-	-	9	20	31	43	55
Link Pillars & LV customer service connections	-	-	-	-	-	11	18	29	40	49
Supporting or secondary systems										
Ripple Injection Plant	-	-	-	-	-	7	12	27	39	57
SCADA and communications	-	-	-	-	-	34	73	114	159	214
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	-	-	-	-	-	1	2	3	4	5
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	-	-	-	-	-	(11)	(17)	(27)	(35)	(40)
Power factor correction plant	-	-	-	-	-	1	1	2	3	3
EDB-owned mobile substations and generators	-	-	-	-	-	-	-	12	14	15
Non system fixed assets										
Office Buildings	-	-	-	-	-	28	31	33	36	39
Information and Technology Systems	-	-	-	-	-	148	429	837	1,475	2,990
Office Furniture and Equipment	-	-	-	-	-	169	234	324	461	694
Tools, Plant and Machinery	-	-	-	-	-	10	24	41	66	101
Vehicles	-	-	-	-	-	51	82	158	275	483
Total	**-**	**-**	**-**	**-**	**-**	**621**	**1,221**	**2,073**	**3,232**	**5,512**

Alternative depreciation ($000)										
	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	157	160	164	167	171	175	179	183	187	191
66 kV Overhead lines (towers)	50	51	52	54	55	56	57	59	60	61
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	1,333	1,362	1,393	1,423	1,455	1,487	1,520	1,554	1,588	1,623
33 kV Overhead lines (wood pole)	56	57	59	60	61	63	64	65	67	68
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	2	2	2	2	2	2	2	2	2	3
Pilot / Communications Circuits	35	35	36	37	38	39	39	40	41	42
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	324	331	338	345	353	361	369	377	385	394
Power Transformers	543	555	567	580	593	606	619	633	647	662
Protection (electromechanical)	0	0	0	0	0	0	0	0	0	0
Protection (digital)	1,061	1,086	1,111	1,137	1,163	1,191	1,219	1,248	1,278	1,310
Outdoor Structure (concrete pole)	2	2	2	2	2	3	3	3	3	3
DC Supplies, batteries and inverters	31	32	33	34	34	35	36	37	38	39
Other items	3	3	3	4	4	4	4	4	4	4
Distribution network										
11 kV Overhead lines (wood pole)	477	488	499	510	521	533	545	557	569	582
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	1,124	1,149	1,175	1,201	1,227	1,254	1,282	1,311	1,340	1,369
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	318	325	332	339	347	354	362	370	379	387
Distribution transformers (pad)	311	318	325	332	340	347	355	363	371	379
Distribution substations mount (pole)	41	42	43	44	45	46	47	48	49	50
Distribution substations mount (pad)	175	179	183	187	191	195	199	204	208	213
Distribution substation mount (building & in customer building)	32	33	34	35	35	36	37	38	38	39
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	1	1	1	1	1	1	1	1	1	1
Indoor circuit breakers and switchgear (66/33/11kV)	1,071	1,095	1,120	1,144	1,170	1,196	1,223	1,250	1,278	1,306
Outdoor circuit breakers and switchgear (66/33/11kV)	672	687	702	718	734	750	767	784	802	820
11kV Disconnectors & Dropout fuses	123	126	129	132	135	138	141	144	147	151
11kV voltage regulators	26	26	27	27	28	29	29	30	30	31
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Alternative depreciation ($000)										
	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Low voltage distribution network										
LV Overhead lines (wood pole)	106	108	111	113	116	118	121	123	126	129
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	622	636	650	665	679	694	710	726	742	758
Link Pillars & LV customer service connections	482	493	504	515	526	538	550	562	575	588
Supporting or secondary systems										
Ripple Injection Plant	348	356	364	372	381	390	399	409	419	429
SCADA and communications	1,071	1,096	1,122	1,150	1,178	1,207	1,238	1,271	1,307	1,350
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	36	37	37	38	39	40	41	42	43	44
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	(490)	(501)	(512)	(523)	(535)	(546)	(559)	(571)	(584)	(597)
Power factor correction plant	28	29	29	30	31	31	32	33	33	34
EDB-owned mobile substations and generators	78	80	82	84	86	88	90	92	95	98
Non system fixed assets										
Office Buildings	362	370	378	386	395	404	413	422	432	441
Information and Technology Systems	2,908	1,741	994	212	2	-	-	-	-	-
Office Furniture and Equipment	1,714	1,344	347	234	142	57	-	-	-	-
Tools, Plant and Machinery	295	301	224	159	102	49	-	-	-	-
Vehicles	1,160	782	683	456	229	-	-	-	-	-
Total	**16,689**	**15,018**	**13,342**	**12,406**	**12,076**	**11,970**	**12,135**	**12,414**	**12,702**	**13,003**

Alternative depreciation ($000)										
	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	195	199	204	208	213	218	223	228	233	238
66 kV Overhead lines (towers)	63	64	65	67	68	70	71	73	75	76
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	1,659	1,696	1,734	1,773	1,812	1,852	1,894	1,936	1,979	2,023
33 kV Overhead lines (wood pole)	70	71	73	75	76	78	80	82	83	85
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	3	3	3	3	3	3	3	3	3	3
Pilot / Communications Circuits	43	44	45	46	47	48	49	50	52	53
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	402	411	420	430	439	449	459	469	479	490
Power Transformers	677	692	707	723	739	756	773	790	808	826
Protection (electromechanical)	0	0	0	0	0	0	0	0	0	0
Protection (digital)	1,343	1,377	1,414	1,454	1,502	1,098	853	607	345	-
Outdoor Structure (concrete pole)	3	3	3	3	3	3	3	3	3	3
DC Supplies, batteries and inverters	40	41	42	43	44	37	29	22	14	-
Other items	4	4	4	4	5	5	5	5	5	5
Distribution network										
11 kV Overhead lines (wood pole)	595	608	622	636	650	665	680	695	711	727
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	1,400	1,431	1,463	1,495	1,528	1,562	1,597	1,633	1,669	1,707
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	396	405	414	423	433	442	452	462	473	484
Distribution transformers (pad)	387	396	405	414	423	432	442	452	462	472
Distribution substations mount (pole)	51	52	54	55	56	57	58	60	61	63
Distribution substations mount (pad)	218	223	227	233	238	243	248	254	260	265
Distribution substation mount (building & in customer building)	40	41	42	43	44	45	46	47	48	49
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	1	1	1	1	1	1	2	2	2	2
Indoor circuit breakers and switchgear (66/33/11kV)	1,336	1,365	1,396	1,427	1,459	1,492	1,526	1,560	1,595	1,631
Outdoor circuit breakers and switchgear (66/33/11kV)	838	857	877	896	917	937	959	980	1,003	1,026
11kV Disconnectors & Dropout fuses	154	158	161	165	169	173	177	181	185	189
11kV voltage regulators	32	33	33	34	35	36	36	37	38	39
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Alternative depreciation ($000)										
	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39
Low voltage distribution network										
LV Overhead lines (wood pole)	132	135	138	141	144	147	151	154	158	161
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	775	792	810	828	846	865	884	904	924	945
Link Pillars & LV customer service connections	601	614	628	642	656	671	686	702	718	734
Supporting or secondary systems										
Ripple Injection Plant	439	451	462	475	490	413	376	237	137	-
SCADA and communications	1,042	741	484	253	-	-	-	-	-	-
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	45	46	47	48	49	50	51	53	54	55
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	(610)	(623)	(637)	(651)	(666)	(681)	(696)	(711)	(727)	(743)
Power factor correction plant	35	36	36	37	38	39	40	41	42	43
EDB-owned mobile substations and generators	101	105	-	-	-	-	-	-	-	-
Non system fixed assets										
Office Buildings	451	462	472	483	494	505	516	528	540	552
Information and Technology Systems	-	-	-	-	-	-	-	-	-	-
Office Furniture and Equipment	-	-	-	-	-	-	-	-	-	-
Tools, Plant and Machinery	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-
Total	**12,960**	**12,933**	**12,849**	**12,906**	**12,956**	**12,713**	**12,673**	**12,537**	**12,430**	**12,204**

Alternative depreciation ($000)										
	FY40	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48	FY49
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	244	249	255	261	267	273	279	285	292	299
66 kV Overhead lines (towers)	78	80	81	83	85	87	89	91	93	95
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	2,069	2,115	2,162	2,211	2,261	2,312	2,364	2,417	2,472	2,528
33 kV Overhead lines (wood pole)	87	89	91	93	95	98	100	102	105	107
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	3	3	3	3	4	4	4	4	4	4
Pilot / Communications Circuits	54	55	56	58	59	60	62	63	65	66
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	501	512	523	535	547	559	571	584	597	610
Power Transformers	845	864	884	904	925	946	968	990	1,013	1,037
Protection (electromechanical)	0	0	0	0	0	0	0	0	0	0
Protection (digital)	-	-	-	-	-	-	-	-	-	-
Outdoor Structure (concrete pole)	4	4	4	4	4	4	4	4	4	4
DC Supplies, batteries and inverters	-	-	-	-	-	-	-	-	-	-
Other items	5	5	5	6	6	6	6	6	6	6
Distribution network										
11 kV Overhead lines (wood pole)	744	760	778	795	814	832	852	871	891	912
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	1,745	1,784	1,824	1,865	1,907	1,949	1,993	2,038	2,084	2,131
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	495	506	517	529	541	554	566	580	593	607
Distribution transformers (pad)	483	494	505	516	528	539	552	564	577	590
Distribution substations mount (pole)	64	65	67	68	70	72	73	75	77	78
Distribution substations mount (pad)	271	277	284	290	296	303	310	317	324	331
Distribution substation mount (building & in customer building)	50	51	52	53	55	56	57	58	60	61
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	2	2	2	2	2	2	2	2	2	2
Indoor circuit breakers and switchgear (66/33/11kV)	1,668	1,706	1,745	1,785	1,826	1,868	1,911	1,955	2,000	2,047
Outdoor circuit breakers and switchgear (66/33/11kV)	1,049	1,073	1,098	1,124	1,150	1,177	1,205	1,233	1,263	1,294
11kV Disconnectors & Dropout fuses	194	198	203	208	213	218	224	230	236	244
11kV voltage regulators	40	41	41	42	43	44	45	46	47	48
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Alternative depreciation ($000)										
	FY40	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48	FY49
Low voltage distribution network										
LV Overhead lines (wood pole)	165	169	172	176	180	184	189	193	198	202
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	966	987	1,010	1,032	1,055	1,079	1,103	1,128	1,154	1,180
Link Pillars & LV customer service connections	751	768	785	803	821	840	860	880	900	921
Supporting or secondary systems										
Ripple Injection Plant	-	-	-	-	-	-	-	-	-	-
SCADA and communications	-	-	-	-	-	-	-	-	-	-
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	57	58	60	61	64	38	26	12	6	-
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	(760)	(777)	(794)	(812)	(830)	(849)	(868)	(888)	(908)	(928)
Power factor correction plant	44	45	46	47	48	49	51	52	54	55
EDB-owned mobile substations and generators	-	-	-	-	-	-	-	-	-	-
Non system fixed assets										
Office Buildings	565	578	591	605	619	634	649	664	680	697
Information and Technology Systems	-	-	-	-	-	-	-	-	-	-
Office Furniture and Equipment	-	-	-	-	-	-	-	-	-	-
Tools, Plant and Machinery	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-
Total	**12,960**	**12,933**	**12,849**	**12,906**	**12,956**	**12,713**	**12,673**	**12,537**	**12,430**	**12,204**

Alternative depreciation ($000)										
	FY50	FY51	FY52	FY53	FY54	FY55	FY56	FY57	FY58	FY59
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	306	313	320	328	336	344	353	361	371	381
66 kV Overhead lines (towers)	97	99	102	104	106	109	111	114	116	119
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	2,585	2,644	2,704	2,766	2,830	2,895	2,962	3,030	3,101	3,174
33 kV Overhead lines (wood pole)	110	112	115	118	120	123	127	130	134	138
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	4	4	4	4	4	5	5	5	5	5
Pilot / Communications Circuits	68	69	71	73	74	76	78	80	83	85
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	624	638	652	666	681	696	712	728	744	761
Power Transformers	1,061	1,086	1,112	1,139	1,167	1,196	1,227	1,259	1,294	1,335
Protection (electromechanical)	0	0	0	0	0	0	0	-	-	-
Protection (digital)	-	-	-	-	-	-	-	-	-	-
Outdoor Structure (concrete pole)	4	5	5	5	5	5	5	5	5	5
DC Supplies, batteries and inverters	-	-	-	-	-	-	-	-	-	-
Other items	7	7	7	7	7	-	-	-	-	-
Distribution network										
11 kV Overhead lines (wood pole)	934	956	979	1,002	1,027	1,053	1,079	1,108	1,139	1,175
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	2,180	2,229	2,280	2,332	2,386	2,440	2,497	2,554	2,614	2,675
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	621	636	651	667	683	700	718	737	758	782
Distribution transformers (pad)	603	617	631	645	660	675	691	707	723	740
Distribution substations mount (pole)	80	82	84	86	88	90	93	95	98	101
Distribution substations mount (pad)	339	347	355	363	371	379	388	397	406	416
Distribution substation mount (building & in customer building)	62	64	65	67	68	70	71	73	74	76
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	2	2	2	2	-	-	-	-	-	-
Indoor circuit breakers and switchgear (66/33/11kV)	2,095	2,145	2,196	2,249	2,304	2,361	2,422	2,486	2,555	2,635
Outdoor circuit breakers and switchgear (66/33/11kV)	1,326	1,359	1,395	1,433	1,476	1,325	1,102	795	435	-
11kV Disconnectors & Dropout fuses	197	149	100	50	-	-	-	-	-	-
11kV voltage regulators	50	51	52	53	54	56	57	58	59	61
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Alternative depreciation ($000)										
	FY50	FY51	FY52	FY53	FY54	FY55	FY56	FY57	FY58	FY59
Low voltage distribution network										
LV Overhead lines (wood pole)	207	212	217	222	228	233	239	245	252	260
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	1,207	1,234	1,262	1,291	1,321	1,351	1,382	1,414	1,447	1,481
Link Pillars & LV customer service connections	943	965	988	1,012	1,037	1,063	1,090	1,120	1,151	1,189
Supporting or secondary systems										
Ripple Injection Plant	-	-	-	-	-	-	-	-	-	-
SCADA and communications	-	-	-	-	-	-	-	-	-	-
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	-	-	-	-	-	-	-	-	-	-
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	(949)	(971)	(993)	(1,015)	(1,038)	(1,062)	(1,087)	(1,112)	(1,137)	(1,164)
Power factor correction plant	38	30	20	11	-	-	-	-	-	-
EDB-owned mobile substations and generators	-	-	-	-	-	-	-	-	-	-
Non system fixed assets										
Office Buildings	715	733	752	773	796	824	516	63	47	29
Information and Technology Systems	-	-	-	-	-	-	-	-	-	-
Office Furniture and Equipment	-	-	-	-	-	-	-	-	-	-
Tools, Plant and Machinery	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-
Total	**15,515**	**15,817**	**16,128**	**16,453**	**16,792**	**17,008**	**16,838**	**16,454**	**16,475**	**16,461**

Alternative depreciation ($000)										
	FY60	FY61	FY62	FY63	FY64	FY65	FY66	FY67	FY68	FY69
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	388	308	315	251	-	-	-	-	-	-
66 kV Overhead lines (towers)	122	124	127	130	133	136	140	143	146	150
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	3,249	3,327	3,407	3,490	3,576	3,667	3,763	3,865	3,980	4,120
33 kV Overhead lines (wood pole)	115	90	62	32	-	-	-	-	-	-
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	5	5	5	5	6	6	6	6	6	6
Pilot / Communications Circuits	71	56	38	20	-	-	-	-	-	-
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	778	796	813	832	851	870	890	910	931	952
Power Transformers	1,062	769	798	450	-	-	-	-	-	-
Protection (electromechanical)	-	-	-	-	-	-	-	-	-	-
Protection (digital)	-	-	-	-	-	-	-	-	-	-
Outdoor Structure (concrete pole)	6	6	6	6	6	6	6	7	7	7
DC Supplies, batteries and inverters	-	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-	-
Distribution network										
11 kV Overhead lines (wood pole)	931	750	517	251	-	-	-	-	-	-
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	2,738	2,803	2,870	2,939	3,011	3,087	3,166	3,250	3,342	3,449
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	626	466	300	142	-	-	-	-	-	-
Distribution transformers (pad)	758	776	794	813	833	854	876	899	925	954
Distribution substations mount (pole)	95	71	48	24	-	-	-	-	-	-
Distribution substations mount (pad)	426	436	446	457	468	480	492	505	520	536
Distribution substation mount (building & in customer building)	78	80	81	83	85	87	89	91	93	95
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	-	-	-	-	-	-	-	-	-	-
Indoor circuit breakers and switchgear (66/33/11kV)	2,256	1,628	1,119	606	-	-	-	-	-	-
Outdoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	-	-	-	-	-
11kV Disconnectors & Dropout fuses	-	-	-	-	-	-	-	-	-	-
11kV voltage regulators	62	64	65	67	69	70	72	74	76	79
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Alternative depreciation ($000)										
	FY60	FY61	FY62	FY63	FY64	FY65	FY66	FY67	FY68	FY69
Low voltage distribution network										
LV Overhead lines (wood pole)	217	172	115	56	-	-	-	-	-	-
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	1,515	1,551	1,588	1,627	1,667	1,708	1,752	1,798	1,848	1,907
Link Pillars & LV customer service connections	870	707	428	177	-	-	-	-	-	-
Supporting or secondary systems										
Ripple Injection Plant	-	-	-	-	-	-	-	-	-	-
SCADA and communications	-	-	-	-	-	-	-	-	-	-
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	-	-	-	-	-	-	-	-	-	-
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	(1,191)	(1,219)	(1,248)	(1,277)	(1,308)	(1,340)	(1,374)	(1,409)	(1,446)	(1,486)
Power factor correction plant	-	-	-	-	-	-	-	-	-	-
EDB-owned mobile substations and generators	-	-	-	-	-	-	-	-	-	-
Non system fixed assets										
Office Buildings	11	-	-	-	-	-	-	-	-	-
Information and Technology Systems	-	-	-	-	-	-	-	-	-	-
Office Furniture and Equipment	-	-	-	-	-	-	-	-	-	-
Tools, Plant and Machinery	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-
Total	**15,187**	**13,765**	**12,696**	**11,182**	**9,397**	**9,631**	**9,877**	**10,140**	**10,428**	**10,771**

Alternative depreciation ($000)										
	FY70	FY71	FY72	FY73	FY74	FY75	FY76	FY77	FY78	FY79
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (towers)	154	158	162	166	171	161	168	13	-	-
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	2,481	2,005	216	-	-	-	-	-	-	-
33 kV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	7	7	7	-	-	-	-	-	-	-
Pilot / Communications Circuits	-	-	-	-	-	-	-	-	-	-
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	974	996	1,019	1,043	1,067	1,092	1,118	1,145	1,172	1,201
Power Transformers	-	-	-	-	-	-	-	-	-	-
Protection (electromechanical)	-	-	-	-	-	-	-	-	-	-
Protection (digital)	-	-	-	-	-	-	-	-	-	-
Outdoor Structure (concrete pole)	7	7	7	8	8	1	-	-	-	-
DC Supplies, batteries and inverters	-	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-	-
Distribution network										
11 kV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	2,747	1,989	1,299	620	-	-	-	-	-	-
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pad)	760	565	366	170	-	-	-	-	-	-
Distribution substations mount (pole)	-	-	-	-	-	-	-	-	-	-
Distribution substations mount (pad)	420	313	207	99	-	-	-	-	-	-
Distribution substation mount (building & in customer building)	97	100	102	104	107	109	112	114	117	120
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	-	-	-	-	-	-	-	-	-	-
Indoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	-	-	-	-	-
Outdoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	-	-	-	-	-
11kV Disconnectors & Dropout fuses	-	-	-	-	-	-	-	-	-	-
11kV voltage regulators	46	43	16	9	-	-	-	-	-	-
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Alternative depreciation ($000)										
	FY70	FY71	FY72	FY73	FY74	FY75	FY76	FY77	FY78	FY79
Low voltage distribution network										
LV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	1,569	1,198	783	384	-	-	-	-	-	-
Link Pillars & LV customer service connections	-	-	-	-	-	-	-	-	-	-
Supporting or secondary systems										
Ripple Injection Plant	-	-	-	-	-	-	-	-	-	-
SCADA and communications	-	-	-	-	-	-	-	-	-	-
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	-	-	-	-	-	-	-	-	-	-
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	(1,531)	(1,288)	(981)	(671)	(332)	(87)	0	0	0	0
Power factor correction plant	-	-	-	-	-	-	-	-	-	-
EDB-owned mobile substations and generators	-	-	-	-	-	-	-	-	-	-
Non system fixed assets										
Office Buildings	-	-	-	-	-	-	-	-	-	-
Information and Technology Systems	-	-	-	-	-	-	-	-	-	-
Office Furniture and Equipment	-	-	-	-	-	-	-	-	-	-
Tools, Plant and Machinery	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-
Total	**7,730**	**6,092**	**3,203**	**1,931**	**1,021**	**1,277**	**1,398**	**1,272**	**1,290**	**1,321**

Alternative depreciation ($000)										
	FY80	FY81	FY82	FY83	FY84	FY85	FY86	FY87	FY88	FY89
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (towers)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	-	-	-	-	-	-	-	-	-	-
33 kV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	-	-	-	-	-	-	-	-	-	-
Pilot / Communications Circuits	-	-	-	-	-	-	-	-	-	-
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	1,231	1,262	1,295	1,331	1,372	1,235	860	649	487	-
Power Transformers	-	-	-	-	-	-	-	-	-	-
Protection (electromechanical)	-	-	-	-	-	-	-	-	-	-
Protection (digital)	-	-	-	-	-	-	-	-	-	-
Outdoor Structure (concrete pole)	-	-	-	-	-	-	-	-	-	-
DC Supplies, batteries and inverters	-	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-	-
Distribution network										
11 kV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	-	-	-	-	-	-	-	-	-	-
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pad)	-	-	-	-	-	-	-	-	-	-
Distribution substations mount (pole)	-	-	-	-	-	-	-	-	-	-
Distribution substations mount (pad)	-	-	-	-	-	-	-	-	-	-
Distribution substation mount (building & in customer building)	123	126	130	133	138	109	84	57	29	-
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	-	-	-	-	-	-	-	-	-	-
Indoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	-	-	-	-	-
Outdoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	-	-	-	-	-
11kV Disconnectors & Dropout fuses	-	-	-	-	-	-	-	-	-	-
11kV voltage regulators	-	-	-	-	-	-	-	-	-	-
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Alternative depreciation ($000)										
	FY80	FY81	FY82	FY83	FY84	FY85	FY86	FY87	FY88	FY89
Low voltage distribution network										
LV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	-	-	-	-	-	-	-	-	-	-
Link Pillars & LV customer service connections	-	-	-	-	-	-	-	-	-	-
Supporting or secondary systems										
Ripple Injection Plant	-	-	-	-	-	-	-	-	-	-
SCADA and communications	-	-	-	-	-	-	-	-	-	-
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	-	-	-	-	-	-	-	-	-	-
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	0	0	0	0	0	0	0	0	0	0
Power factor correction plant	-	-	-	-	-	-	-	-	-	-
EDB-owned mobile substations and generators	-	-	-	-	-	-	-	-	-	-
Non system fixed assets										
Office Buildings	-	-	-	-	-	-	-	-	-	-
Information and Technology Systems	-	-	-	-	-	-	-	-	-	-
Office Furniture and Equipment	-	-	-	-	-	-	-	-	-	-
Tools, Plant and Machinery	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-
Total	**1,354**	**1,388**	**1,425**	**1,464**	**1,509**	**1,344**	**943**	**705**	**515**	**0**

Appendix 2

Standard depreciation by asset type to end of life for affected assets

Standard depreciation ($000)	Current Period			Assessment Period		CPP Period				
	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	-	-	-	-	-	2	31	33	59	147
66 kV Overhead lines (towers)	-	-	-	-	-	4	4	42	46	47
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	-	-	-	-	-	451	610	1,111	1,195	1,221
33 kV Overhead lines (wood pole)	-	-	-	-	-	8	18	28	40	52
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	-	-	-	-	-	-	-	-	2	2
Pilot / Communications Circuits	-	-	-	-	-	5	11	18	25	32
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	-	-	-	-	-	34	113	162	202	305
Power Transformers	-	-	-	-	-	98	204	208	338	502
Protection (electromechanical)	-	-	-	-	-	-	-	0	0	0
Protection (digital)	-	-	-	-	-	214	360	514	682	902
Outdoor Structure (concrete pole)	-	-	-	-	-	2	2	2	2	2
DC Supplies, batteries and inverters	-	-	-	-	-	4	9	13	19	27
Other items	-	-	-	-	-	3	3	3	3	3
Distribution network										
11 kV Overhead lines (wood pole)	-	-	-	-	-	87	157	245	344	439
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	-	-	-	-	-	207	432	642	851	1,043
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	-	-	-	-	-	56	115	177	237	292
Distribution transformers (pad)	-	-	-	-	-	57	116	176	236	289
Distribution substations mount (pole)	-	-	-	-	-	3	11	20	29	38
Distribution substations mount (pad)	-	-	-	-	-	34	66	99	132	162
Distribution substation mount (building & in customer building)	-	-	-	-	-	6	12	18	24	30
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	-	-	-	-	-	-	-	-	-	1
Indoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	145	371	563	759	987
Outdoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	68	163	291	441	619
11kV Disconnectors & Dropout fuses	-	-	-	-	-	21	42	65	88	111
11kV voltage regulators	-	-	-	-	-	9	10	18	21	24
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Standard depreciation ($000)	Current Period			Assessment Period		CPP Period				
	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Low voltage distribution network										
LV Overhead lines (wood pole)	-	-	-	-	-	16	33	54	76	98
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	-	-	-	-	-	102	214	339	461	579
Link Pillars & LV customer service connections	-	-	-	-	-	111	175	277	372	441
Supporting or secondary systems										
Ripple Injection Plant	-	-	-	-	-	44	71	152	215	301
SCADA and communications	-	-	-	-	-	173	354	522	683	865
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	-	-	-	-	-	11	17	24	28	31
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	-	-	-	-	-	(125)	(185)	(294)	(378)	(436)
Power factor correction plant	-	-	-	-	-	7	11	15	20	25
EDB-owned mobile substations and generators	-	-	-	-	-	-	-	61	62	64
Non system fixed assets										
Office Buildings	-	-	-	-	-	265	278	291	304	318
Information and Technology Systems	-	-	-	-	-	388	944	1,498	1,968	2,674
Office Furniture and Equipment	-	-	-	-	-	530	606	680	758	842
Tools, Plant and Machinery	-	-	-	-	-	33	69	106	146	188
Vehicles	-	-	-	-	-	148	198	339	501	716
Total	**-**	**-**	**-**	**-**	**-**	**3,219**	**5,646**	**8,512**	**10,989**	**13,984**

Standard depreciation ($000)										
	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	151	154	157	161	165	168	172	176	180	184
66 kV Overhead lines (towers)	48	49	50	51	52	53	55	56	57	58
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	1,248	1,276	1,304	1,333	1,363	1,393	1,424	1,455	1,487	1,520
33 kV Overhead lines (wood pole)	53	54	55	56	58	59	60	62	63	64
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	2	2	2	2	2	2	2	2	2	2
Pilot / Communications Circuits	33	33	34	35	36	36	37	38	39	40
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	312	319	326	333	340	348	356	363	371	380
Power Transformers	513	524	536	548	560	572	585	598	612	625
Protection (electromechanical)	0	0	0	0	0	0	0	0	0	0
Protection (digital)	922	943	965	988	1,011	1,035	1,059	1,084	1,111	1,138
Outdoor Structure (concrete pole)	2	2	2	2	2	2	2	2	3	3
DC Supplies, batteries and inverters	28	28	29	30	30	31	32	33	33	34
Other items	3	3	3	3	3	3	3	3	4	4
Distribution network										
11 kV Overhead lines (wood pole)	449	459	469	480	490	501	513	524	536	548
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	1,067	1,090	1,114	1,139	1,164	1,190	1,216	1,243	1,271	1,299
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	298	305	311	318	325	333	340	348	355	363
Distribution transformers (pad)	295	302	308	315	322	329	337	344	352	360
Distribution substations mount (pole)	39	40	41	41	42	43	44	45	46	47
Distribution substations mount (pad)	166	170	173	177	181	185	189	193	198	202
Distribution substation mount (building & in customer building)	31	32	32	33	34	35	35	36	37	38
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	1	1	1	1	1	1	1	1	1	1
Indoor circuit breakers and switchgear (66/33/11kV)	1,009	1,031	1,054	1,077	1,101	1,126	1,151	1,177	1,203	1,230
Outdoor circuit breakers and switchgear (66/33/11kV)	633	647	661	676	691	707	722	739	755	772
11kV Disconnectors & Dropout fuses	114	117	119	122	125	127	130	133	136	139
11kV voltage regulators	24	25	25	26	26	27	27	28	29	29
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Standard depreciation ($000)										
	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Low voltage distribution network										
LV Overhead lines (wood pole)	100	102	104	106	109	111	114	116	119	122
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	592	605	618	632	646	660	675	690	705	721
Link Pillars & LV customer service connections	451	461	471	482	493	504	515	526	538	550
Supporting or secondary systems										
Ripple Injection Plant	308	315	322	330	338	345	354	362	371	380
SCADA and communications	886	907	928	951	974	998	1,024	1,051	1,081	1,115
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	32	33	33	34	35	36	36	37	38	39
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	-	-	-	-	-	-	-	-	-	-
Power factor correction plant	26	26	27	27	28	29	29	30	31	31
EDB-owned mobile substations and generators	65	67	69	70	72	74	76	78	80	82
Non system fixed assets										
Office Buildings	325	332	340	347	355	363	371	379	388	397
Information and Technology Systems	1,838	1,291	820	180	2	-	-	-	-	-
Office Furniture and Equipment	869	704	251	185	120	51	-	-	-	-
Tools, Plant and Machinery	193	197	163	126	86	44	-	-	-	-
Vehicles	716	576	526	379	203	-	-	-	-	-
Total	**13,839**	**13,222**	**12,448**	**11,798**	**11,586**	**11,522**	**11,687**	**11,954**	**12,230**	**12,517**

Standard depreciation ($000)										
	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	188	192	196	201	205	210	214	219	224	229
66 kV Overhead lines (towers)	60	61	62	64	65	67	68	70	71	73
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	1,554	1,589	1,624	1,660	1,697	1,735	1,774	1,813	1,854	1,895
33 kV Overhead lines (wood pole)	66	67	69	70	72	74	75	77	79	80
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	3	3	3	3	3	3	3	3	3	3
Pilot / Communications Circuits	41	42	42	43	44	45	46	47	49	50
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	388	397	405	414	423	433	442	452	462	472
Power Transformers	639	653	668	683	698	714	730	747	763	781
Protection (electromechanical)	0	0	0	0	0	0	0	0	0	0
Protection (digital)	1,166	1,196	1,228	1,263	1,303	987	785	570	331	-
Outdoor Structure (concrete pole)	3	3	3	3	3	3	3	3	3	3
DC Supplies, batteries and inverters	35	36	37	38	39	34	27	21	13	-
Other items	4	4	4	4	4	4	4	4	4	4
Distribution network										
11 kV Overhead lines (wood pole)	560	572	585	598	612	626	640	654	669	684
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	1,328	1,357	1,387	1,418	1,450	1,482	1,515	1,549	1,583	1,619
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	371	380	388	397	406	415	424	434	444	454
Distribution transformers (pad)	368	376	384	393	401	410	419	429	438	448
Distribution substations mount (pole)	48	50	51	52	53	54	55	57	58	59
Distribution substations mount (pad)	206	211	216	221	225	230	236	241	246	252
Distribution substation mount (building & in customer building)	39	39	40	41	42	43	44	45	46	47
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	1	1	1	1	1	1	1	2	2	2
Indoor circuit breakers and switchgear (66/33/11kV)	1,257	1,285	1,314	1,344	1,374	1,405	1,436	1,469	1,502	1,536
Outdoor circuit breakers and switchgear (66/33/11kV)	790	807	825	844	863	883	903	923	944	966
11kV Disconnectors & Dropout fuses	142	146	149	152	156	159	163	167	171	175
11kV voltage regulators	30	31	31	32	33	33	34	35	36	37
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Standard depreciation ($000)										
	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39
Low voltage distribution network										
LV Overhead lines (wood pole)	124	127	130	133	136	139	142	145	148	152
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	737	753	770	787	804	822	841	859	878	898
Link Pillars & LV customer service connections	562	575	588	601	615	628	643	657	672	687
Supporting or secondary systems										
Ripple Injection Plant	389	399	409	421	434	374	344	223	131	-
SCADA and communications	894	660	445	240	-	-	-	-	-	-
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	40	41	42	43	44	45	46	47	48	49
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	-	-	-	-	-	-	-	-	-	-
Power factor correction plant	32	33	34	34	35	36	37	38	38	39
EDB-owned mobile substations and generators	85	88	-	-	-	-	-	-	-	-
Non system fixed assets										
Office Buildings	406	415	424	434	443	454	464	474	485	496
Information and Technology Systems	-	-	-	-	-	-	-	-	-	-
Office Furniture and Equipment	-	-	-	-	-	-	-	-	-	-
Tools, Plant and Machinery	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-
Total	**12,555**	**12,588**	**12,556**	**12,631**	**12,684**	**12,547**	**12,558**	**12,473**	**12,397**	**12,190**

Standard depreciation ($000)										
	FY40	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48	FY49
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	234	240	245	251	257	262	268	275	281	288
66 kV Overhead lines (towers)	74	76	78	79	81	83	85	87	89	91
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	1,938	1,981	2,025	2,071	2,117	2,165	2,214	2,264	2,315	2,367
33 kV Overhead lines (wood pole)	82	84	86	88	90	92	94	96	99	101
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	3	3	3	3	3	4	4	4	4	4
Pilot / Communications Circuits	51	52	53	54	56	57	58	59	61	62
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	483	493	504	516	527	539	551	563	575	588
Power Transformers	798	817	835	854	874	894	914	935	957	980
Protection (electromechanical)	0	0	0	0	0	0	0	0	0	0
Protection (digital)	-	-	-	-	-	-	-	-	-	-
Outdoor Structure (concrete pole)	3	3	3	4	4	4	4	4	4	4
DC Supplies, batteries and inverters	-	-	-	-	-	-	-	-	-	-
Other items	5	5	5	5	5	5	5	5	6	6
Distribution network										
11 kV Overhead lines (wood pole)	699	715	732	748	765	783	801	820	839	858
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	1,655	1,692	1,730	1,769	1,808	1,849	1,891	1,933	1,977	2,022
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	464	475	485	497	508	520	532	544	556	569
Distribution transformers (pad)	458	468	479	490	501	512	523	535	547	560
Distribution substations mount (pole)	60	62	63	65	66	68	69	71	73	74
Distribution substations mount (pad)	257	263	269	275	281	288	294	301	307	314
Distribution substation mount (building & in customer building)	48	49	50	51	52	54	55	56	57	59
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	2	2	2	2	2	2	2	2	2	2
Indoor circuit breakers and switchgear (66/33/11kV)	1,571	1,606	1,643	1,680	1,719	1,758	1,799	1,840	1,883	1,927
Outdoor circuit breakers and switchgear (66/33/11kV)	988	1,011	1,034	1,058	1,083	1,108	1,134	1,161	1,189	1,218
11kV Disconnectors & Dropout fuses	179	183	187	192	197	202	207	212	218	225
11kV voltage regulators	37	38	39	40	41	42	43	44	45	46
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Standard depreciation ($000)										
	FY40	FY41	FY42	FY43	FY44	FY45	FY46	FY47	FY48	FY49
Low voltage distribution network										
LV Overhead lines (wood pole)	155	159	162	166	170	174	178	182	186	190
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	918	939	960	981	1,003	1,026	1,049	1,073	1,097	1,122
Link Pillars & LV customer service connections	703	719	735	752	769	787	805	823	843	862
Supporting or secondary systems										
Ripple Injection Plant	-	-	-	-	-	-	-	-	-	-
SCADA and communications	-	-	-	-	-	-	-	-	-	-
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	51	52	53	55	57	35	24	11	6	-
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	-	-	-	-	-	-	-	-	-	-
Power factor correction plant	40	41	42	43	44	45	47	48	49	51
EDB-owned mobile substations and generators	-	-	-	-	-	-	-	-	-	-
Non system fixed assets										
Office Buildings	508	519	531	544	557	570	583	597	611	626
Information and Technology Systems	-	-	-	-	-	-	-	-	-	-
Office Furniture and Equipment	-	-	-	-	-	-	-	-	-	-
Tools, Plant and Machinery	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-
Total	**12,555**	**12,588**	**12,556**	**12,631**	**12,684**	**12,547**	**12,558**	**12,473**	**12,397**	**12,190**

Standard depreciation ($000)										
	FY50	FY51	FY52	FY53	FY54	FY55	FY56	FY57	FY58	FY59
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	294	301	308	316	323	331	339	348	357	367
66 kV Overhead lines (towers)	93	95	97	99	101	104	106	108	111	113
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	2,421	2,476	2,533	2,591	2,650	2,711	2,774	2,838	2,905	2,973
33 kV Overhead lines (wood pole)	103	106	108	111	114	116	119	122	126	130
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	4	4	4	4	4	4	4	5	5	5
Pilot / Communications Circuits	64	65	67	68	70	72	74	76	78	80
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	601	615	628	642	657	671	686	702	718	734
Power Transformers	1,003	1,026	1,051	1,076	1,102	1,130	1,158	1,189	1,222	1,260
Protection (electromechanical)	0	0	0	0	0	0	0	-	-	-
Protection (digital)	-	-	-	-	-	-	-	-	-	-
Outdoor Structure (concrete pole)	4	4	4	4	4	5	5	5	5	5
DC Supplies, batteries and inverters	-	-	-	-	-	-	-	-	-	-
Other items	6	6	6	6	7	-	-	-	-	-
Distribution network										
11 kV Overhead lines (wood pole)	878	899	921	943	966	990	1,015	1,042	1,071	1,105
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	2,068	2,115	2,163	2,212	2,263	2,315	2,368	2,423	2,479	2,537
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	583	597	611	626	641	657	674	692	711	734
Distribution transformers (pad)	572	585	599	612	626	641	655	671	686	702
Distribution substations mount (pole)	76	78	80	81	83	86	88	90	92	95
Distribution substations mount (pad)	322	329	336	344	352	360	368	377	386	395
Distribution substation mount (building & in customer building)	60	61	63	64	65	67	68	70	71	73
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	2	2	2	2	-	-	-	-	-	-
Indoor circuit breakers and switchgear (66/33/11kV)	1,973	2,019	2,067	2,117	2,169	2,223	2,280	2,340	2,405	2,480
Outdoor circuit breakers and switchgear (66/33/11kV)	1,248	1,280	1,313	1,349	1,390	1,257	1,055	769	425	-
11kV Disconnectors & Dropout fuses	184	141	96	49	-	-	-	-	-	-
11kV voltage regulators	47	48	49	50	51	52	53	55	56	57
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Standard depreciation ($000)										
	FY50	FY51	FY52	FY53	FY54	FY55	FY56	FY57	FY58	FY59
Low voltage distribution network										
LV Overhead lines (wood pole)	195	200	204	209	214	220	225	231	238	245
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	1,147	1,173	1,200	1,227	1,255	1,284	1,314	1,344	1,375	1,407
Link Pillars & LV customer service connections	883	903	925	948	971	995	1,021	1,048	1,078	1,113
Supporting or secondary systems										
Ripple Injection Plant	-	-	-	-	-	-	-	-	-	-
SCADA and communications	-	-	-	-	-	-	-	-	-	-
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	-	-	-	-	-	-	-	-	-	-
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	-	-	-	-	-	-	-	-	-	-
Power factor correction plant	36	28	20	10	-	-	-	-	-	-
EDB-owned mobile substations and generators	-	-	-	-	-	-	-	-	-	-
Non system fixed assets										
Office Buildings	642	658	676	694	715	740	465	60	45	28
Information and Technology Systems	-	-	-	-	-	-	-	-	-	-
Office Furniture and Equipment	-	-	-	-	-	-	-	-	-	-
Tools, Plant and Machinery	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-
Total	**15,508**	**15,815**	**16,130**	**16,457**	**16,795**	**17,030**	**16,917**	**16,604**	**16,644**	**16,639**

Standard depreciation ($000)										
	FY60	FY61	FY62	FY63	FY64	FY65	FY66	FY67	FY68	FY69
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	374	301	307	246	-	-	-	-	-	-
66 kV Overhead lines (towers)	116	119	121	124	127	130	133	136	140	143
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	3,043	3,116	3,191	3,268	3,349	3,434	3,524	3,620	3,727	3,858
33 kV Overhead lines (wood pole)	109	86	60	31	-	-	-	-	-	-
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	5	5	5	5	5	6	6	6	6	6
Pilot / Communications Circuits	68	53	37	19	-	-	-	-	-	-
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	750	767	784	802	820	839	858	877	897	918
Power Transformers	1,016	747	775	441	-	-	-	-	-	-
Protection (electromechanical)	-	-	-	-	-	-	-	-	-	-
Protection (digital)	-	-	-	-	-	-	-	-	-	-
Outdoor Structure (concrete pole)	5	5	5	6	6	6	6	6	6	6
DC Supplies, batteries and inverters	-	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-	-
Distribution network										
11 kV Overhead lines (wood pole)	886	721	502	247	-	-	-	-	-	-
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	2,597	2,659	2,722	2,788	2,856	2,928	3,003	3,082	3,169	3,271
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	594	447	291	140	-	-	-	-	-	-
Distribution transformers (pad)	719	736	753	772	791	810	831	853	877	905
Distribution substations mount (pole)	90	68	47	24	-	-	-	-	-	-
Distribution substations mount (pad)	404	413	423	434	444	455	467	479	493	509
Distribution substation mount (building & in customer building)	75	76	78	80	82	83	85	87	89	91
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	-	-	-	-	-	-	-	-	-	-
Indoor circuit breakers and switchgear (66/33/11kV)	2,141	1,564	1,086	594	-	-	-	-	-	-
Outdoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	-	-	-	-	-
11kV Disconnectors & Dropout fuses	-	-	-	-	-	-	-	-	-	-
11kV voltage regulators	59	60	61	63	65	66	68	70	72	74
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Standard depreciation ($000)										
	FY60	FY61	FY62	FY63	FY64	FY65	FY66	FY67	FY68	FY69
Low voltage distribution network										
LV Overhead lines (wood pole)	206	166	112	55	-	-	-	-	-	-
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	1,440	1,475	1,510	1,546	1,584	1,624	1,665	1,709	1,757	1,812
Link Pillars & LV customer service connections	826	677	414	173	-	-	-	-	-	-
Supporting or secondary systems										
Ripple Injection Plant	-	-	-	-	-	-	-	-	-	-
SCADA and communications	-	-	-	-	-	-	-	-	-	-
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	-	-	-	-	-	-	-	-	-	-
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	-	-	-	-	-	-	-	-	-	-
Power factor correction plant	-	-	-	-	-	-	-	-	-	-
EDB-owned mobile substations and generators	-	-	-	-	-	-	-	-	-	-
Non system fixed assets										
Office Buildings	11	-	-	-	-	-	-	-	-	-
Information and Technology Systems	-	-	-	-	-	-	-	-	-	-
Office Furniture and Equipment	-	-	-	-	-	-	-	-	-	-
Tools, Plant and Machinery	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-
Total	**15,533**	**14,260**	**13,286**	**11,858**	**10,129**	**10,381**	**10,645**	**10,926**	**11,233**	**11,594**

Standard depreciation ($000)										
	FY70	FY71	FY72	FY73	FY74	FY75	FY76	FY77	FY78	FY79
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (towers)	147	150	154	159	163	154	161	13	-	-
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	2,354	1,911	209	-	-	-	-	-	-	-
33 kV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	6	7	7	-	-	-	-	-	-	-
Pilot / Communications Circuits	-	-	-	-	-	-	-	-	-	-
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	939	960	983	1,005	1,029	1,053	1,078	1,104	1,130	1,158
Power Transformers	-	-	-	-	-	-	-	-	-	-
Protection (electromechanical)	-	-	-	-	-	-	-	-	-	-
Protection (digital)	-	-	-	-	-	-	-	-	-	-
Outdoor Structure (concrete pole)	7	7	7	7	7	1	-	-	-	-
DC Supplies, batteries and inverters	-	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-	-
Distribution network										
11 kV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	2,629	1,922	1,267	609	-	-	-	-	-	-
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pad)	728	546	357	167	-	-	-	-	-	-
Distribution substations mount (pole)	-	-	-	-	-	-	-	-	-	-
Distribution substations mount (pad)	402	302	201	98	-	-	-	-	-	-
Distribution substation mount (building & in customer building)	93	96	98	100	102	105	107	110	113	115
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	-	-	-	-	-	-	-	-	-	-
Indoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	-	-	-	-	-
Outdoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	-	-	-	-	-
11kV Disconnectors & Dropout fuses	-	-	-	-	-	-	-	-	-	-
11kV voltage regulators	44	41	16	8	-	-	-	-	-	-
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Standard depreciation ($000)										
	FY70	FY71	FY72	FY73	FY74	FY75	FY76	FY77	FY78	FY79
Low voltage distribution network										
LV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	1,504	1,158	763	378	-	-	-	-	-	-
Link Pillars & LV customer service connections	-	-	-	-	-	-	-	-	-	-
Supporting or secondary systems										
Ripple Injection Plant	-	-	-	-	-	-	-	-	-	-
SCADA and communications	-	-	-	-	-	-	-	-	-	-
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	-	-	-	-	-	-	-	-	-	-
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	-	-	-	-	-	-	-	-	-	-
Power factor correction plant	-	-	-	-	-	-	-	-	-	-
EDB-owned mobile substations and generators	-	-	-	-	-	-	-	-	-	-
Non system fixed assets										
Office Buildings	-	-	-	-	-	-	-	-	-	-
Information and Technology Systems	-	-	-	-	-	-	-	-	-	-
Office Furniture and Equipment	-	-	-	-	-	-	-	-	-	-
Tools, Plant and Machinery	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-
Total	**8,852**	**7,099**	**4,061**	**2,532**	**1,302**	**1,313**	**1,346**	**1,226**	**1,243**	**1,273**

Standard depreciation ($000)										
	FY80	FY81	FY82	FY83	FY84	FY85	FY86	FY87	FY88	FY89
Sub-transmission network										
66 kV Overhead lines (concrete pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
66 kV Overhead lines (towers)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
66 kV Underground cables (XLPE)	-	-	-	-	-	-	-	-	-	-
33 kV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
33 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
33 kV Underground cables (XLPE)	-	-	-	-	-	-	-	-	-	-
Pilot / Communications Circuits	-	-	-	-	-	-	-	-	-	-
Substations										
Zone sub land	-	-	-	-	-	-	-	-	-	-
Zone sub site development and buildings	1,187	1,217	1,248	1,283	1,322	1,195	840	638	480	-
Power Transformers	-	-	-	-	-	-	-	-	-	-
Protection (electromechanical)	-	-	-	-	-	-	-	-	-	-
Protection (digital)	-	-	-	-	-	-	-	-	-	-
Outdoor Structure (concrete pole)	-	-	-	-	-	-	-	-	-	-
DC Supplies, batteries and inverters	-	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-	-
Distribution network										
11 kV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
11 kV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
11 kV Underground cables (XLPE)	-	-	-	-	-	-	-	-	-	-
Distribution sub land	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pole, 1ph/2ph/3ph)	-	-	-	-	-	-	-	-	-	-
Distribution transformers (pad)	-	-	-	-	-	-	-	-	-	-
Distribution substations mount (pole)	-	-	-	-	-	-	-	-	-	-
Distribution substations mount (pad)	-	-	-	-	-	-	-	-	-	-
Distribution substation mount (building & in customer building)	118	121	124	128	132	105	81	55	28	-
Switchgear cabinet	-	-	-	-	-	-	-	-	-	-
Switchgear										
Surge Diverters (3ph, 66/33kV) / Air break isolators (66/33kV)	-	-	-	-	-	-	-	-	-	-
Indoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	-	-	-	-	-
Outdoor circuit breakers and switchgear (66/33/11kV)	-	-	-	-	-	-	-	-	-	-
11kV Disconnectors & Dropout fuses	-	-	-	-	-	-	-	-	-	-
11kV voltage regulators	-	-	-	-	-	-	-	-	-	-
11kV Circuit breaker/recloser & sectionalisers	-	-	-	-	-	-	-	-	-	-
11kV MSU and oil switches	-	-	-	-	-	-	-	-	-	-

Standard depreciation ($000)										
	FY80	FY81	FY82	FY83	FY84	FY85	FY86	FY87	FY88	FY89
Low voltage distribution network										
LV Overhead lines (wood pole)	-	-	-	-	-	-	-	-	-	-
LV Overhead lines (mixed construction)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (PILC)	-	-	-	-	-	-	-	-	-	-
LV Underground cables (XLPE)	-	-	-	-	-	-	-	-	-	-
Link Pillars & LV customer service connections	-	-	-	-	-	-	-	-	-	-
Supporting or secondary systems										
Ripple Injection Plant	-	-	-	-	-	-	-	-	-	-
SCADA and communications	-	-	-	-	-	-	-	-	-	-
Peak load generator	-	-	-	-	-	-	-	-	-	-
Metering systems	-	-	-	-	-	-	-	-	-	-
Easements	-	-	-	-	-	-	-	-	-	-
Network Spares	-	-	-	-	-	-	-	-	-	-
Finance leases	-	-	-	-	-	-	-	-	-	-
Capital Contributions	-	-	-	-	-	-	-	-	-	-
Power factor correction plant	-	-	-	-	-	-	-	-	-	-
EDB-owned mobile substations and generators	-	-	-	-	-	-	-	-	-	-
Non system fixed assets										
Office Buildings	-	-	-	-	-	-	-	-	-	-
Information and Technology Systems	-	-	-	-	-	-	-	-	-	-
Office Furniture and Equipment	-	-	-	-	-	-	-	-	-	-
Tools, Plant and Machinery	-	-	-	-	-	-	-	-	-	-
Vehicles	-	-	-	-	-	-	-	-	-	-
Total	**1,305**	**1,338**	**1,373**	**1,411**	**1,454**	**1,300**	**922**	**693**	**509**	**-**

Appendix 3

Directors’ certificate

CERTIFICATION OF "COMPLETENESS" INFORMATION FOR CPP PROPOSAL

In accordance with clause 5.5.4 of the Commerce Act (Electricity Distribution Services Input Methodologies) Determination 2010 (*Determination*), we, Craig David Boyce and Paul Jason Munro, being directors of Orion New Zealand Limited (*Orion*), certify in respect of the additional information supplied to the Commerce Commission on or about 4 April 2013 to complete Orion's CPP proposal dated 19 February 2013:

Information of a quantitative nature

That, in the case of all information of a quantitative nature, other than forecast information, provided in accordance with Part 5 of the Determination, we believe that:

a) the information was derived and is provided in accordance with the relevant requirements and

b) it properly represents the results of financial or non-financial operations as the case may be.

Information of a qualitative nature

That, in the case of all information of a qualitative nature, other than forecast information, provided in accordance with Part 5 of the Determination, we believe that:

a) the information is provided in accordance with the relevant requirements and

b) it properly represents the events that occurred during the current period.

Forecast information

That, in the case of all forecast information provided in accordance with Part 5 of the Determination, we believe that:

a) the information was derived and is provided in accordance with the relevant requirements and

b) the assumptions made are reasonable.

For and on behalf of the board:

Craig Boyce
Director
4 April 2013

Paul Munro
Director

ORION NEW ZEALAND LIMITED
200 Armagh Street, PO Box 13896, Armagh, Christchurch 8141, New Zealand
PHONE +64 3 363 9898 | FAX +64 3 363 9899 | oriongroup.co.nz