REVENUE PROPOSAL 2019 - 2023

Attachment 5

Regulatory Depreciation

28 March 2017

ElectraNet

Company Information

ElectraNet Pty Ltd (ElectraNet) is the principal electricity transmission network service provider (TNSP) in South Australia.

For information about ElectraNet visit www.electranet.com.au.

Contact

For enquiries about this Revenue Proposal please contact:

Simon Appleby
Senior Manager Regulation and Land Management
ElectraNet
52-55 East Terrace
Adelaide SA 5000

revenue.reset@electranet.com.au

Copyright and Disclaimer

Note

This attachment forms part of our Revenue Proposal for the 2018-19 to 2022-23 regulatory control period. It should be read in conjunction with the other parts of the Revenue Proposal.

Our Revenue Proposal comprises the overview and attachments listed below, and the supporting documents that are listed in Attachment 15:

Revenue Proposal Overview

Attachment 1 – Maximum allowed revenue

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Value of imputation credits

Attachment 5 – Regulatory depreciation (this document)

Attachment 6 – Capital expenditure

Attachment 7 – Operating expenditure

Attachment 8 – Corporate income tax

Attachment 9 – Efficiency benefit sharing scheme

Attachment 10 – Capital expenditure sharing scheme

Attachment 11 – Service target performance incentive scheme

Attachment 12 – Pricing methodology

Attachment 13 – Pass through events

Attachment 14 – Negotiated services

Attachment 15 – List of supporting documents

Contents

Figures

Tables

5. Regulatory Depreciation

5.1 Key points

- Our proposed approach to depreciation is consistent with the Rules requirements and the Australian Energy Regulator's (AER's) recent determinations.
- We are proposing to improve the accuracy of our depreciation allowance by adopting the 'year by year' tracking approach, which has been approved by the AER as an accepted approach in recent decisions.
- We are proposing a name change for the 'Transmission Lines – Life Extension 2013-18' asset class by removing reference to a date in its title to reflect its continuation, which is consistent with the approach adopted by Powerlink and TransGrid.
- We are proposing a minor change to the standard asset life for new telecommunication assets to reflect current technology and contemporary practice, and we are proposing a new asset class to cater for the potential requirement for synchronous condensers to be installed in the network during the forthcoming regulatory period.
- While our proposed approach to depreciation is substantially unchanged, we estimate that our total depreciation costs will increase by approximately 79% from $212 million over the current regulatory period to $379 million in the forthcoming regulatory period.
- This increase largely reflects changes in input data that are beyond our control, such as movements in inflation. Furthermore, as assets are depreciated only once, the increase in depreciation costs in the current period will put downward pressure on prices and revenues in subsequent regulatory periods.

5.2 Introduction

This attachment presents our forecast regulatory depreciation costs in relation to prescribed transmission assets during the forthcoming regulatory period of 2018-19 to 2022-23. The information and calculations presented in this attachment are consistent with the Rules requirements and the AER's recent determinations on regulatory depreciation.

The remainder of this attachment is structured as follows:

- Section 5.3 describes our depreciation methodology.
- Section 5.4 sets out our asset classes and standard asset lives.
- Section 5.5 sets out our depreciation forecast for the forthcoming regulatory period.

5.3 Depreciation methodology

Our regulatory depreciation methodology is consistent with Accounting Standard AASB 116 (property, plant and equipment), and meets the requirements of clause 6A.6.3 of the Rules. We use economic depreciation, based on a straight-line method and standard asset lives, for each regulatory asset class. Straight-line depreciation is a well-established method used to reflect the decline in the service potential of an asset over its economic life.

The key inputs to determine regulatory depreciation are:

- the opening RAB as at 1 July 2018 as per Attachment 2;
- the expected inflation rate for the forthcoming regulatory period as set out in Attachment 3;
- the forecast net capital expenditure for the forthcoming regulatory period as set out in Attachment 6; and
- the standard asset life for each asset class as set out below.

Moving forward, we are proposing to use the year-by-year tracking method, consistent with the approach the AER has approved in its recent decisions. This method replaces the 'weighted average remaining life' approach, which establishes a single average remaining life for each asset class, and has become accepted as a more accurate approach.

The year-by-year tracking method captures the timing of new additions for each asset class in the relevant year, which provides more granular and accurate information on the remaining asset lives. These calculations are made in a separate depreciation model, and the depreciation amounts are substituted directly into the post-tax revenue model (PTRM). Both of these models are supplied with this Revenue Proposal.

The year-by-year tracking method does not affect the total depreciation charge, which is unchanged in whole-of-life terms. However, it does lead to slightly increased depreciation costs in the forthcoming regulatory period compared to the previous weighted average remaining life approach (and correspondingly, reduced depreciation amounts in later periods).

We note that Schedule S6A.1.3(7) of the Rules requires us to provide the depreciation schedules by location. We understand that this requirement relates to clause 6A.6.3, which requires special treatment of assets dedicated to one user or a small group of users (not being a DNSP) with value exceeding $20 million. We do not have any transmission assets that fall within this category. Our depreciation schedules are also supplied with this Revenue Proposal.

5.4 Standard asset lives

Accounting standards recognise that a characteristic common to all physical assets held on a long-term basis, with the exception generally of land and easements, is that their useful lives are limited because their service potential declines over time.

This decline can occur due to factors such as wear and tear, technical obsolescence and commercial obsolescence. The possibility of obsolescence, both technical and commercial, is a factor which exists regardless of the physical use of an asset.

The useful life of an asset is "*the period over which an asset is expected to be available for use by an entity*"[1] usually assessed and expressed on a time basis defined in terms of the asset's expected utility to the entity. In determining the useful life, the following factors need to be considered:

- the expected usage of the asset assessed by reference to the asset's expected capacity or physical output;
- expected physical wear and tear, which depends on operational factors such as the environmental conditions in which the asset is to be used and the repair and maintenance program;
- the anticipated technical life of the asset, that is, the period of time over which the asset can be expected to remain efficient having regard to technical obsolescence;
- the expected commercial life of the asset, corresponding to the commercial life of its product or output; and
- in the case of certain rights and entitlements, the legal life of the asset, that is, the period of time during which the right or entitlement exists.

We propose the following minor changes to our standard asset lives:

- The adoption of a standard asset life of 10 years for new telecommunications assets (compared with the standard asset life of 15 years for existing telecommunications assets). This change better reflects the expected economic life of the technology now being deployed, is consistent with recent AER decisions for other transmission networks, and supported by expert advice from GHD[2]; and
- The addition of a new asset class for synchronous condensers with a standard asset life of 30 years, based on expert advice from GHD[3]. While there is no investment in synchronous condensers included in our ex ante capital expenditure forecast, the purpose of this change is to provide for this possibility in the coming regulatory period, noting that the potential need for such equipment has been identified by the Australian Energy Market Operator (AEMO).[4] Synchronous condensers are also amongst the potential options being considered through the South Australian Energy Transformation RIT-T[5] and are the subject of a proposed contingent project for the coming regulatory period (see Attachment 6).

In the current regulatory period, the AER accepted our proposal to write down the residual values associated with assets scheduled to be replaced, such as substation and communications assets. In the forthcoming regulatory period, we propose to continue to write down the value of assets that are no longer required. In particular, we propose to write down assets no longer required and to be decommissioned following the closure of Alinta's Northern Power Station in May 2016, together with assets scheduled for replacement in the period.

For the current regulatory period, the AER approved a new asset class 'Transmission lines refit – insulators replacement 2013-18', with a standard asset life of 27 years. We

1 Accounting Standard AASB 116 Property, Plant and Equipment.

2 Letter of advice from GHD dated 14 February 2017 (ENET039).

3 Letter of advice from GHD dated March 2017 (ENET062).

4 AEMO, *National Transmission Network Development Plan* 2016, available at http://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/NTNDP/2016/Dec/2016-NATIONAL-TRANSMISSION-NETWORK-DEVELOPMENT-PLAN.pdf.

5 Further information on this initiative is available on our website at https://www.electranet.com.au/projects/south-australian-energy-transformation/.

propose to rename this asset class 'Transmission lines - Life Extension' and retain the standard asset life of 27 years.

This proposed change recognises that we will continue to invest to extend the asset life of transmission lines during the forthcoming regulatory period, efficiently deferring the need for whole line replacement. Our proposed approach is closely aligned with the AER's recent decisions for Powerlink and TransGrid, where:

- Powerlink's 'Transmission lines – refit' asset class has a 30 year standard life; and
- TransGrid's 'Transmission lines Life Extension' asset class has a 25 year standard life.

With the exception of these relatively minor changes, our proposed asset categories and standard asset lives are unchanged from the current regulatory period, and are set out in Table 5.1 below. Average remaining lives of each asset category as at 1 July 2018 are also shown[6].

Table 5.1: Asset categories and asset lives (years)

Asset Category	Standard Life	Average Remaining Life
Substation Primary Plant	44.8	32
Substation Establishment	55	51
Substation Demountable Buildings	15	13
Substation Fences	35	31
Substation Secondary Systems – Electromechanical	27	11
Substation Secondary Systems – Electronic	15	12
Transmission Lines – Overhead	55	30
Transmission Lines – Underground	40	32
Transmission Lines – Life Extension	27	27
Network Switching Centres (e.g. SCADA)	5	4
Communication – Civil	55	49
Communication – Other (pre-2018)	15	10
Communication – Other (post-2018)	10	n/a
Commercial Buildings	30	23
Computers, Software and Office Machines	4	3
Office Furniture, Movable Plant and Miscellaneous	10	7
Accelerated depreciation	5	5
Refurbishment projects 2008-13	12.5	5
Equity raising costs – 2003 opening RAB and 2003-08 capital expenditure	43	33
Equity raising costs –2013-18	43	n/a
Synchronous condensers	30	n/a
Easements	n/a	n/a
Land	n/a	n/a

[6] For completeness, it is also noted that the assets assigned to the "Refurbishment 2003-2008" Asset category (which had a 10 year standard life) will have been fully written down prior to the forthcoming regulatory period. This asset category is therefore no longer required moving forward and has been removed from the schedule above.

5.5 Forecast depreciation for the forthcoming regulatory period

Our forecast depreciation for the forthcoming regulatory period has been prepared in accordance with the methodology described in Section 5.3. The resulting regulatory depreciation allowance for the forthcoming regulatory period is shown in Table 5.2.

Table 5.2: Forecast regulatory depreciation schedule ($m nominal)

	2018-19	2019-20	2020-21	2021-22	2022-23	Total
Straight line depreciation	105.5	126.8	131.9	135.8	137.6	**637.5**
Inflation adjustment on RAB	(50.3)	(51.2)	(51.8)	(52.5)	(53.1)	**(258.8)**
Regulatory depreciation	55.3	75.6	80.2	83.2	84.5	**378.7**

Figure 5.1 below show the five factors that are driving the increase in forecast depreciation.

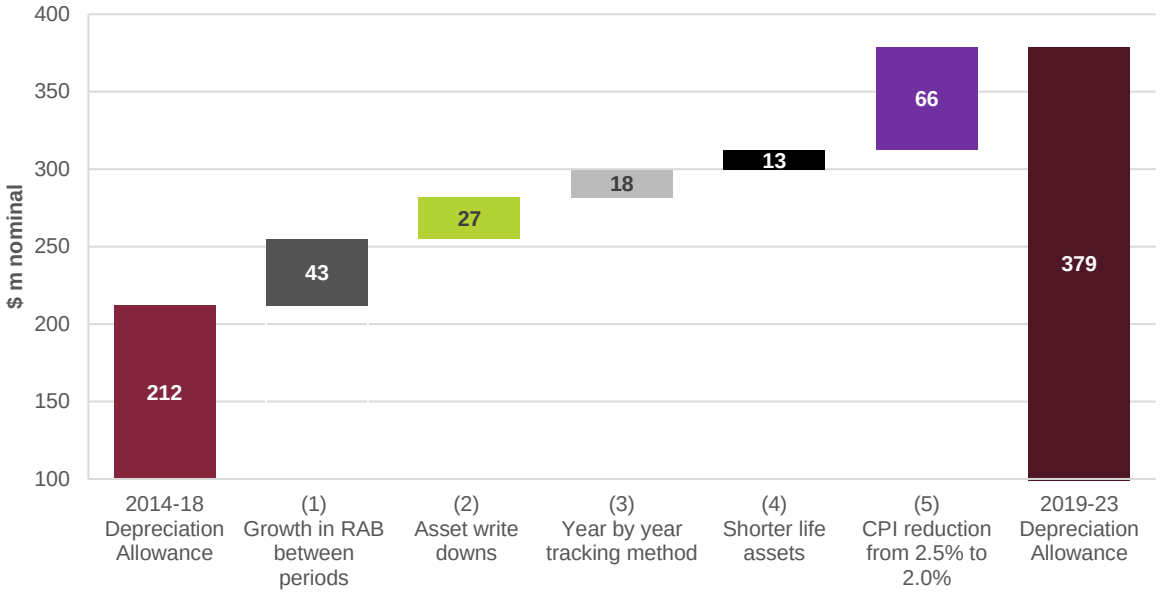

Figure 5.1: Movements in regulatory depreciation $m (nominal)

These factors are explained in turn below:

1. Growth in RAB between periods

As the value of the RAB (in nominal terms) is expected to increase in the next regulatory period (2018-19 to 2022-23) compared with the current regulatory period (2013-14 to 2017-18) the level of depreciation will also increase.

2. Asset write downs

Asset write downs enable us to recover the cost of assets that are no longer in use following the closure of Alinta's Northern Power Station. Similarly, the residual value of assets scheduled for decommissioning and replacement in the forthcoming regulatory period will also be written down, consistent with normal regulatory practice.

3. Year-by-year tracking method

As already noted, this approach to depreciation provides a more accurate depreciation charge because it recognises the actual year that assets are commissioned.

4. Shorter asset lives

Our investment plans will have the effect of changing the mix of the asset base. In the forthcoming regulatory period, the percentage of assets with shorter asset lives will increase, as the capital program focuses more heavily on replacement of individual component assets rather than large scale rebuilds. Consequently, the depreciation charge will tend to be higher than the current period, as the cost of these assets are recovered more quickly compared to longer lived assets.

Based on expert advice, we have also adopted a shorter asset life for our new telecommunication assets of 10 years rather than 15 years, more accurately reflecting the economic life of these assets based on current technology and contemporary practice across transmission networks. This results in the earlier write down of these assets.

These factors, together with other net movements, result in a minor depreciation increase.

5. Inflation

We have adopted a market based inflation forecast of 1.97% as explained in Attachment 3. This is lower than historical inflation assumptions of around 2.5%. This results in two opposite movements in depreciation:

- a lower inflation adjustment being applied to the RAB (being the indexation of the RAB) under the AER's PTRM; and
- a corresponding increase in regulatory depreciation, which is the net amount of straight line depreciation less RAB indexation[7].

The overall effect of applying a lower inflation forecast is to increase the regulatory depreciation charge.

The combined effect of these five factors is to increase the total depreciation forecast from $212 million over the current regulatory period to $379 million in the forthcoming regulatory period. While this increase in depreciation will put upward pressure on revenues and prices in the forthcoming regulatory period, it will also provide a compensating downward pressure in future periods. In accordance with the Rules requirements, assets are depreciated only once.

[7] Where: Regulatory Depreciation = Straight Line Depreciation – RAB Indexation. Therefore, as RAB indexation falls, regulatory depreciation increases correspondingly.

ElectraNet

electranet.com.au

PO Box 7096
Hutt St Post Office
ADELAIDE SA 5000

1800 243 853