



FINAL DECISION
Endeavour Energy
Distribution Determination

2019 to 2024

Attachment 4
Regulatory depreciation

April 2019

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Note

This attachment forms part of the AER's final decision on the distribution determination that will apply to Endeavour Energy for the 2019–2024 regulatory control period. It should be read with all other parts of the final decision.

As a number of issues were settled at the draft decision stage or required only minor updates, we have not prepared all attachments. The attachments have been numbered consistently with the equivalent attachments to our longer draft decision. In these circumstances, our draft decision reasons form part of this final decision.

The final decision includes the following attachments:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 9 – Capital expenditure sharing scheme

Attachment 10 – Service target performance incentive scheme

Attachment 12 – Classification of services

Attachment 13 – Control mechanisms

Attachment 15 – Alternative control services

Attachment 18 – Tariff structure statement

Attachment A – Negotiating framework

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Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
capex	capital expenditure
CPI	consumer price index
disposal	asset disposal
DV	diminishing value
ITAA	Income Tax Assessment Act 1997
NER	National Electricity Rules
PTRM	post-tax revenue model
RAB	regulatory asset base
RFM	roll forward model
WACC	weighted average cost of capital

4 Regulatory depreciation

Depreciation is the allowance provided so capital investors recover their investment over the economic life of the asset (return of capital). In deciding whether to approve the depreciation schedules submitted by Endeavour Energy (Endeavour), we make determinations on the indexation of the regulatory asset base (RAB) and depreciation building blocks for Endeavour's 2019–24 regulatory control period.¹

The regulatory depreciation allowance is the net total of the straight-line depreciation less the indexation of the RAB.

This attachment sets out our final decision on Endeavour's regulatory depreciation allowance, including an assessment of the proposed standard and remaining asset lives used for forecasting depreciation.

4.1 Final decision

Our final decision is to determine a regulatory depreciation allowance of \$637.2 million (\$nominal) for Endeavour for the 2019–24 regulatory control period. This amount represents an increase of \$7.4 million (or 1.2 per cent) on the \$629.8 million (\$nominal) in Endeavour's revised proposal. It is \$5.5 million (or 0.9 per cent) higher than the regulatory depreciation allowance determined in the draft decision. In coming to this decision:

- We accept Endeavour's revised proposed straight-line method to calculate the regulatory depreciation allowance, which is consistent with our draft decision. We also accept Endeavour's revised proposed period-by-period tracking approach to implement straight-line depreciation, which results in separate asset classes being created for each regulatory control period. This is consistent with our draft decision.
- Further, we accept Endeavour's proposed weighted average method to calculate the remaining asset lives as at 1 July 2019 for depreciating its existing assets. In accepting the weighted average method, we have updated Endeavour's remaining asset lives as at 1 July 2019 to reflect our update to the RAB roll forward for the 2014–19 regulatory control period for 2018–19 actual inflation (attachment 2). We have also corrected a remaining asset life input error in Endeavour's revised proposed PTRM which has resulted in the increase to the regulatory depreciation allowance in the final decision.
- We also accept Endeavour's revised proposed asset classes and standard asset lives subject to:
 - some changes arising from the tax review (attachment 7).
 - an aggregation of the land and easement asset classes.

¹ NER, cl. 6.12.1, 6.4.3.

- We made determinations on other components of Endeavour’s revised proposal, which affects the RAB and in turn impacts the forecast regulatory depreciation allowance. Our adjustments to the opening RAB as at 1 July 2019 and projected RAB over the 2019–24 regulatory control period (attachment 2) also affect the final decision regulatory depreciation allowance.²

Table 4.1 sets out our final decision on the forecast regulatory depreciation allowance for Endeavour's 2019–24 regulatory control period.

Table 4.1 AER's final decision on Endeavour’s forecast regulatory depreciation allowance for the 2019–24 regulatory control period (\$million, nominal)

	2019–20	2020–21	2021–22	2022–21	2023–24	Total
Straight-line depreciation	265.9	286.2	302.4	316.3	317.9	1488.7
Less: inflation indexation on opening RAB	158.2	164.7	170.3	176.0	182.2	851.5
Regulatory depreciation	107.7	121.4	132.0	140.3	135.7	637.2

Source: AER analysis.

Period-by-period tracking approach

For this final decision, we accept Endeavour’s revised proposal to use the period-by-period tracking approach to calculate its forecast straight-line depreciation. This approach (in addition to grouping assets by type via asset classes) groups the assets by each regulatory control period. This means Endeavour creates separate asset classes for each regulatory control period for depreciating its capex and it adopts the weighted average method to calculate remaining asset lives as at 1 July 2019 for its existing assets.³ A new set of asset classes is then used for depreciating forecast capex over the 2019–24 regulatory control period. This is consistent with Endeavour’s initial proposal and our draft decision.

Endeavour’s suggestion to review straight-line depreciation method

In its revised proposal, Endeavour stated that our adoption of the diminishing value (DV) method for tax depreciation purposes suggests that we should also review applying DV for the purposes of depreciating the RAB.⁴ In particular Endeavour noted

² Capex enters the RAB net of forecast disposals and capital contributions. It includes equity raising costs (where relevant) and the half-year WACC to account for the timing assumptions in the PTRM. We have accepted Endeavour’s revised proposed forecast capex for the 2019–24 regulatory control period (attachment 5). However, we have amended the revised proposed rate of return (section 2.2 of the overview). Therefore, our final decision on the forecast RAB also reflects our amendments to the rate of return for the 2019–24 regulatory control period (attachment 2).

³ This involves grouping assets at 1 July 2014 with its set of asset classes and then creating a separate set of asset classes to group the assets acquired over 2014–19.

⁴ Endeavour, *Revised regulatory proposal*, January 2019, p. 19.

inter-generational and long term pricing benefits of applying DV for tax purposes. We note that these benefits that emerge under the DV method in the area of tax are due to the fact that the approach minimises the tax liability of the business and therefore the amount that is ultimately passed through to customers. Minimising the tax liability is in the long term interest of customers who have to pay for network charges. In contrast, applying DV depreciation to the RAB maximises the amount customers pay early in an asset's life.

We discussed the problems with the DV method of depreciation for the RAB in our draft decision for AusNet Services' transmission determination.⁵ AusNet Services did not pursue the approach in its revised proposal and instead adopted our draft decision approach for using straight-line depreciation. The key problems with the DV method of depreciation for RAB purposes were:⁶

- We did not agree with AusNet Services that the utilisation of assets suggests front loading of depreciation was appropriate. No compelling evidence was provided by AusNet Services supporting its claim of broad based falling utilisation on its network. For the DV method to have relevance, demand should be expected to continually fall over the life the assets and across all asset classes, so that customers today are not paying more than those in the future. With the capacity of an asset generally unaltered over the life of the asset, we would expect prices to be relatively flat based on the nature of the asset—that is, before considering any trend in utilisation. The straight-line method of depreciating the RAB, in combination with the indexation of the RAB, promotes such an outcome. It also implies relatively stable utilisation rates. The networks we regulate are relatively mature, so we would expect to see relatively stable utilisation.
- We were concerned that the higher prices under the DV method as proposed by AusNet Services could encourage lower utilisation, thereby creating a self-fulfilling outcome that would be inefficient.
- We considered the DV method could lead to inefficient use and management (such as early replacement) of the assets. Even if we were convinced that demand for new assets were to continually fall, it is unlikely we would also accept the steep recovery profile that would result from the DV multiplier under tax law.⁷ Tax law allows a DV multiplier of 200 per cent that doubles the initial amount of depreciation compared to the straight-line method.⁸ It is an arbitrary multiplier. For RAB purposes it is likely that no multiplier would be adopted. It would be difficult for

⁵ AER, *Draft decision, AusNet Services transmission determination, 2017–18 to 2021–22, Attachment 5 – Regulatory depreciation*, July 2016.

⁶ We also noted that the DV method results in a residual value at the end of the asset's economic life. This means the sum of the real value of the depreciation attributable to new assets is not equivalent to the value at which those assets were first included in the RAB. NER, cl. 6.5.5.3(b)(2).

⁷ The tax law does not take account of inflation (unlike our approach under the RAB). It makes sense in such circumstances to depreciate as quick as possible to minimise a business's exposure to inflation

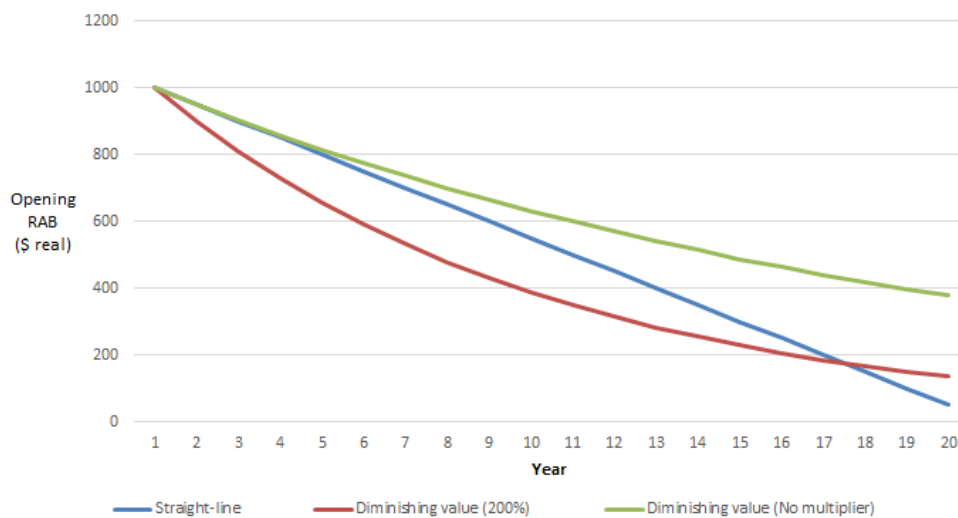
⁸ Section 40.72 of the ITAA, http://www5.austlii.edu.au/au/legis/cth/consol_act/itaa1997240/s40.72.html. This section applies to assets acquired after 9 May 2006.

the AER to approve broad capex programs if steep falls in asset utilisation are expected. With no multiplier, the implied rate of decline in utilisation is much slower under the DV method, which better supports the requirements for new capex.

- The no multiplier DV and straight-line methods produce the same amount of depreciation at the start of the asset’s life, but under the no multiplier DV method the amount of depreciation then declines. There is no initial price shock from the change of approach with no multiplier.

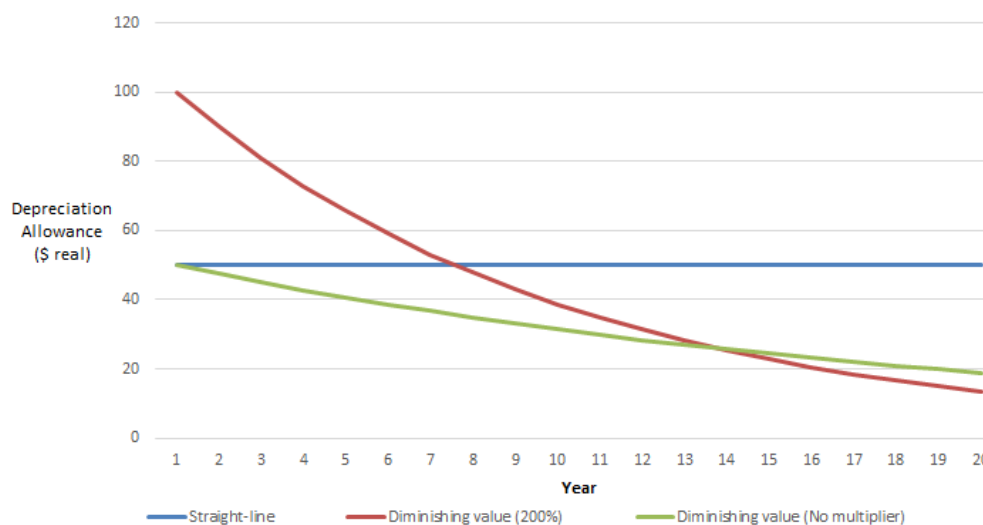
Figure 4.1 and Figure 4.2 compares the three approaches.

Figure 4.1 Depreciation approach comparison—opening RAB (\$real)



Source: AER analysis.

Figure 4.2 Depreciation approach comparison—depreciation allowance (\$real)



Source: AER analysis.

Standard asset lives for 2019–24

For this final decision, we accept Endeavour’s revised proposed standard asset lives for its asset classes in respect of the forecast capex to be incurred for the 2019–24 regulatory control period subject to some changes arising from the tax review (attachment 7).

The changes relate to different methods of calculation of tax depreciation for different asset classes, which resulted in the addition of two new asset classes to the PTRM and a reallocation of forecast capex.⁹ However, these changes do not impact the regulatory depreciation allowance because we assign the same standard asset lives as the classes for which the forecast capex were originally allocated.

The two new asset classes are:

- ‘2019-20 to 2023-24 In-house software’ – where the forecast capex was originally allocated to the ‘2019-20 to 2023-24 Information & communication technology’ asset class
- ‘2019-20 to 2023-24 Buildings (system)’ – where the forecast capex was originally allocated to the ‘2019-20 to 2023-24 Substations’ asset class.

For each asset class we have assigned a standard asset life that is consistent with the asset class from which the forecast capex were reallocated. Therefore, for the ‘2019-20 to 2023-24 In-house software’ asset class we have assigned a standard asset life of 5 years that is consistent with the ‘2019-20 to 2023-24 Information & communication technology’ asset class. Similarly, we have assigned a standard asset life of 40 years to the ‘2019-20 to 2023-24 Buildings (system)’ asset class that is consistent with the ‘2019-20 to 2023-24 Substations’ asset class. Endeavour has not raised any concerns with this approach.¹⁰

Our final decision amends Endeavour’s revised proposal PTRM by aggregating the various asset classes which relate to land and easements into a single asset class labelled as ‘Land and easements’. Land and easements are non-depreciating assets and therefore do not need to be disaggregated for the period-by-period tracking depreciation approach.

Table 4.2 sets out our final decision on Endeavour’s standard asset lives for the 2019–24 regulatory control period. We are satisfied the standard asset lives would lead to a depreciation schedule that reflects the nature of the assets over the economic lives of the asset classes. Further, the sum of the real value of the depreciation attributable to

⁹ In addition, the asset class previously labelled as ‘Buildings’ for the 2019–24 regulatory control period has been renamed to ‘Buildings (non-system)’. For this asset class the standard asset life (50 years) and allocation of forecast capex are unchanged.

¹⁰ Endeavour, *Response to AER email: Implementation of the tax review - Endeavour*, dated 15 March 2019.

the assets is equivalent to the value at which the assets was first included in the RAB for Endeavour.¹¹

Table 4.2 AER’s final decision on Endeavour’s standard asset lives for the 2019–24 regulatory control period (years)

Asset class	Standard asset life
Land & easements	n/a
2019-20 to 2023-24 Sub-transmission lines and cables	47.4
2019-20 to 2023-24 Distribution lines and cables	50.6
2019-20 to 2023-24 Substations	40.0
2019-20 to 2023-24 Transformers	44.3
2019-20 to 2023-24 Low voltage lines and cables	52.4
2019-20 to 2023-24 Customer metering and load control	25.0
2019-20 to 2023-24 Communication	8.4
2019-20 to 2023-24 Emergency spares (major plant, excludes inventory)	23.6
2019-20 to 2023-24 Information & communication technology	5.0
2019-20 to 2023-24 Furniture, fittings, plant and equipment	13.0
2019-20 to 2023-24 Motor vehicles	8.0
2019-20 to 2023-24 In-house software	5.0
2019-20 to 2023-24 Buildings (system)	40.0
2019-20 to 2023-24 Buildings (non-system)	50.0
2019-20 to 2023-24 Equity raising costs	41.7

Source: AER analysis.

n/a not applicable. We have not assigned a standard asset life to some asset classes because the assets allocated to those asset classes are not subject to depreciation.

Remaining asset lives as at 1 July 2019

For this final decision, we accept Endeavour’s revised proposed weighted average method to calculate the remaining asset lives as at 1 July 2019. The revised proposed method applies the approach as set out in our RFM. In accepting the weighted average method, we have updated Endeavour’s remaining asset lives to reflect our adjustment to the revised proposed RFM for 2018–19 actual CPI. As discussed in attachment 2, we made an update to inputs in Endeavour’s revised proposed RFM and accordingly updated the remaining asset lives as at 1 July 2019. This is because some of the

¹¹ NER, cl. 6.5.5(b)(1)–(2).

inputs in the RFM, such as actual inflation, affect the value of assets in the RAB and in turn, the calculation of the remaining asset lives as at 1 July 2019. Our approach to updating is consistent with our draft decision.

As discussed above, we have aggregated the various asset classes which relate to land and easements into a single asset class labelled as 'Land and easements'. For this final decision, we have not assigned a remaining asset life for the newly aggregated 'Land and easement' asset class as these assets are non-depreciating. We therefore record 'n/a' in the PTRM for this asset class. We have also corrected an input error in Endeavour's revised proposed PTRM relating to the remaining asset life for the '2014-15 to 2018-19 Land' asset class. This input error has been removed in the final decision PTRM as a result of aggregating the land and easements asset classes.

For the new '2019-20 to 2023-24 In-house software' and '2019-20 to 2023-24 Buildings (system)' asset classes we have not assigned remaining asset lives as there are no opening asset values for these asset classes, only forecast capex are being allocated to these asset classes over the 2019–24 regulatory control period. We therefore record 'n/a' in the PTRM for these asset classes.

Table 4.3 sets out our final decision on the remaining asset lives as at 1 July 2019 for Endeavour.

Table 4.3 AER’s final decision on Endeavour’s remaining asset lives as at 1 July 2019 (years)

Asset class	Remaining asset life
Land & easements	n/a
2013-14 ORAB Sub-transmission lines and cables	25.4
2013-14 ORAB Distribution lines and cables	33.3
2013-14 ORAB Substations	23.2
2013-14 ORAB Transformers	19.9
2013-14 ORAB Low voltage lines and cables	22.9
2013-14 ORAB Customer metering and load control	17.8
2013-14 ORAB Communication	2.1
2013-14 ORAB Equity raising costs	32.0
2013-14 ORAB Emergency spares (major plant, excludes inventory)	5.8
2013-14 ORAB Information & communication technology	5.0
2013-14 ORAB Furniture, fittings, plant and equipment	2.8
2013-14 ORAB Motor vehicles	0.6
2013-14 ORAB Buildings	39.7
2013-14 ORAB Other non-system assets	5.0
2014-15 to 2018-19 Sub-transmission lines and cables	45.1
2014-15 to 2018-19 Distribution lines and cables	48.9
2014-15 to 2018-19 Substations	38.1
2014-15 to 2018-19 Transformers	42.1
2014-15 to 2018-19 Low voltage lines and cables	50.3
2014-15 to 2018-19 Customer metering and load control	23.0
2014-15 to 2018-19 Communication	7.3
2014-15 to 2018-19 Equity raising costs	40.5
2014-15 to 2018-19 Emergency spares (major plant, excludes inventory)	22.8
2014-15 to 2018-19 Information & communication technology	4.2
2014-15 to 2018-19 Furniture, fittings, plant and equipment	11.5
2014-15 to 2018-19 Motor vehicles	7.2
2014-15 to 2018-19 Buildings	47.2

Source: AER analysis.

n/a not applicable. We have not assigned a standard asset life to some asset classes because the assets allocated to those asset classes are not subject to depreciation.

4.2 Assessment approach

We did not change our assessment approach for regulatory depreciation from our draft decision. Attachment 4 (section 4.3) of our draft decision details that approach.¹²

¹² AER, *Endeavour Energy 2019–24 – Draft decision – Attachment 4 – Regulatory depreciation*, November 2018, pp. 7–9.