



FINAL DECISION
AusNet Services transmission
determination
2017–2022

Attachment 5 – Regulatory
depreciation

April 2017

© Commonwealth of Australia 2017

This work is copyright. In addition to any use permitted under the Copyright Act 1968, all material contained within this work is provided under a Creative Commons Attributions 3.0 Australia licence, with the exception of:

- the Commonwealth Coat of Arms
- the ACCC and AER logos
- any illustration, diagram, photograph or graphic over which the Australian Competition and Consumer Commission does not hold copyright, but which may be part of or contained within this publication. The details of the relevant licence conditions are available on the Creative Commons website, as is the full legal code for the CC BY 3.0 AU licence.

Requests and inquiries concerning reproduction and rights should be addressed to the:

Director, Corporate Communications
Australian Competition and Consumer Commission
GPO Box 4141, Canberra ACT 2601

or publishing.unit@acc.gov.au.

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: 1300 585 165

Email: AERInquiry@aer.gov.au

AER reference: 56417

Note

This attachment forms part of the AER's final decision on AusNet Services' revenue proposal 2017–22. It should be read with other parts of the final decision.

The final decision includes the following documents:

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

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

Contents

Note	5-2
Contents	5-3
Shortened forms	5-4
5 Regulatory depreciation.....	5-6
5.1 Final decision	5-6
5.2 AusNet Services' revised proposal	5-7
5.3 AER's assessment approach.....	5-8
5.4 Reasons for final decision	5-8
5.4.1 Remaining asset lives	5-8
5.4.2 Diminishing value method	5-12
5.4.3 Standard asset lives.....	5-13

Shortened forms

Shortened form	Extended form
AARR	aggregate annual revenue requirement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ASRR	annual service revenue requirement
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
DRP	debt risk premium
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
MAR	maximum allowed revenue
MRP	market risk premium
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
NTSC	negotiated transmission service criteria

Shortened form	Extended form
opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue and pricing principles
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
TNSP	transmission network service provider
TUoS	transmission use of system
WACC	weighted average cost of capital

5 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 AusNet Services, we make determinations on the indexation of the regulatory asset base (RAB) and depreciation building blocks for AusNet Services' 2017–22 regulatory control period.¹ The regulatory depreciation allowance (or return of capital) is the net total of the straight-line depreciation less the indexation of the RAB.

This attachment sets out our final decision on AusNet Services' regulatory depreciation allowance. It also presents our final decision on the revised proposed depreciation schedules, including an assessment of the revised proposed asset lives to be used for forecasting depreciation.

5.1 Final decision

We do not accept AusNet Services' revised proposed regulatory depreciation allowance of \$624.2 million (\$ nominal) for the 2017–22 regulatory control period.² Instead, we determine a regulatory depreciation allowance of \$505.9 million (\$ nominal) for AusNet Services. This amount represents a decrease of \$118.3 (or 19.0 per cent) from the revised proposal. In coming to this decision we:

- reject AusNet Services' revised proposal for accelerated depreciation over the next eight years of assets associated with the Yallourn Power Station (YPS)
- made determinations on other components of AusNet Services' revised proposal which affect the forecast regulatory depreciation allowance—for example, the opening RAB value at 1 April 2017 (attachment 2), expected inflation rate (attachment 3) and forecast capital expenditure (attachment 6). The revision to the expected inflation rate is the largest driver of the reduction in the regulatory depreciation allowance (which is net of the inflation indexation on the opening RAB) from that proposed.

AusNet Services adopted the AER's draft decision to reject the proposed diminishing value method to depreciate new assets. Some final comments on the method are presented below. We have also presented a response to a question from the CCP regarding the circumstances in which the AER may approve proposals for accelerated depreciation.

Table 5.1 sets out our final decision on the annual regulatory depreciation allowance for AusNet Services' 2017–22 regulatory control period.

¹ NER, cl. 6A.5.4(a)(1) and (3).

² AusNet Services, *Revised regulatory proposal*, September 2016, p. 133.

Table 5.1 AER's final decision on AusNet Services' depreciation allowance for the 2017–22 regulatory control period (\$ million, nominal)

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Straight-line depreciation	172.8	177.2	186.6	191.4	175.2	903.3
Less: inflation indexation on opening RAB	76.1	78.3	79.9	81.2	81.9	397.4
Regulatory depreciation	96.7	99.0	106.7	110.2	93.3	505.9

Source: AER analysis.

5.2 AusNet Services' revised proposal

AusNet Services' revised proposal submitted a forecast regulatory depreciation allowance of \$624.2 million (\$ nominal) over the 2017–22 regulatory control period. To calculate the depreciation allowance, AusNet Services' revised proposal used:³

- Straight-line depreciation for all assets, consistent with the method employed in the AER's post-tax revenue model (PTRM). AusNet Services no longer proposed the use of a diminishing value (DV) depreciation method for new assets as it had in its initial proposal.
- A revised closing RAB value at 31 March 2017 derived from the revised proposal roll forward model (RFM).
- The year-by-year tracking approach approved in the draft decision to calculate depreciation on the opening RAB.
- Standard asset lives for depreciating new assets, consistent with those approved in the draft decision.
- Accelerated depreciation for certain assets associated with the YPS. These assets were in addition to those assets identified in the initial proposal, and accepted in the draft decision. AusNet Services' revised proposal submitted that the additional assets should be fully depreciated over eight years.
- A revised expected inflation rate.
- The revised proposed forecast capex for the 2017–22 regulatory control period.

Table 5.2 sets out AusNet Services' revised proposed depreciation allowance for the 2017–22 regulatory control period.

³ AusNet Services, *Revised proposal*, September 2016, Chapter 5 – Depreciation.

Table 5.2 AusNet Services' revised proposed depreciation allowance for the 2017–22 regulatory control period (\$ million, nominal)

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Straight-line depreciation	173.2	176.6	184.7	188.5	172.0	895.0
Less: inflation indexation on opening RAB	52.5	53.6	54.4	55.0	55.3	270.8
Regulatory depreciation	120.8	123.0	130.3	133.5	116.7	624.2

Source: AusNet Services, *Revised proposal PTRM*, September 2016.

5.3 AER's assessment approach

We did not change our assessment approach for the regulatory depreciation allowance from our draft decision. Section 5.3 and the appendices of attachment 5 of our draft decision detail that approach.⁴

5.4 Reasons for final decision

We determine a regulatory depreciation allowance of \$505.9 million (\$ nominal) for AusNet Services over the 2017–22 regulatory control period. This represents a reduction of \$118.3 million (or 19.0 per cent) from AusNet Services' revised proposal. This amendment reflects our:

- decision to reject AusNet Services' revised proposal to accelerate depreciation of assets associated with the Yallourn Power Station (YPS) (section 5.4.1)
- determinations regarding other components of AusNet Services' revised proposal that affect the forecast regulatory depreciation allowance—for example, the opening RAB as at 1 April 2017 (attachment 2), expected inflation rate (attachment 3) and forecast capital expenditure (attachment 6).

5.4.1 Remaining asset lives

The remaining asset lives of AusNet Services' assets are individually tracked based on the year-by-year approach.⁵ In the draft decision we accepted AusNet Services' proposal to continue using the year-by-year tracking approach to calculate the straight-line depreciation of its existing assets, subject to a calculation adjustment to ensure the profiles meet the requirements of the NER. In its revised proposal, AusNet Services adopted this adjustment in the draft decision.⁶ It also proposed to change the

⁴ AER, *Draft decision AusNet Services transmission determination 2017–22 - Attachment 5 – Regulatory depreciation*, April 2016.

⁵ AER, *Draft decision AusNet Services transmission determination 2017–22 - Attachment 5 – Regulatory depreciation*, p. 31.

⁶ Adopted in AusNet Services' revised PTRM.

remaining asset lives of some specific assets compared to those approved in the draft decision. These proposed changes are discussed below.

5.4.1.1 Accelerated depreciation of assets

In the draft decision, we accepted AusNet Services' proposal that a new asset class be created for assets removed, or expected to be removed, from service over the 2017–22 regulatory control period. These assets would be subject to accelerated depreciation and fully depreciated in five years.⁷ These assets have a remaining value of \$11.6 million.⁸

In its revised proposal, AusNet Services has proposed another set of asset classes for the purposes of accelerated depreciation of certain assets over eight years. AusNet Services abandoned its initial proposal to use the DV method to depreciate all new assets (discussed below). Instead, it undertook further targeting of assets for accelerated depreciation in its revised proposal. The additional \$12.8 million of assets identified for accelerated depreciation relate to the YPS.⁹

The main reason made in AusNet Services' revised proposal for the accelerated depreciation is that the YPS will need to close by 2025 due to renewable energy targets proposed by the Victorian government.¹⁰

We accept in principle the targeted approach adopted by AusNet Services. However, we consider that there is significant uncertainty as to the need and timing for any closure of the YPS. Based on the information before us, we do not accept AusNet Services' revised proposal for creating this additional asset class for accelerated depreciation of assets associated with the YPS.

In its revised proposal, AusNet Services presented only one of several scenarios contemplated by the Australian Energy Market Operator (AEMO) in its August 2016 *Electricity Statement of Opportunities for the National Electricity Market* (ESOO). The scenario presented was also not considered by AEMO the most likely.¹¹ We therefore do not agree with AusNet Services that the scenario it presented is likely. A neutral scenario run by AEMO in the same report suggested only 800MW of coal fired generation needs to be closed by 2021–22. A stronger growth scenario suggested only 400MW of coal fired generation needs to be closed by 2021–22. The ESOO does not say which generators would need to close.

As part of our assessment of the revised proposal, we contacted AEMO and the Victorian Department of Environment, Land, Water and Planning to obtain their views

⁷ AusNet, *Revenue proposal 2019–22*, October 2015, p. 178.

⁸ AusNet, *Revenue proposal 2019–22*, October 2015, pp. 178, 189–190.

⁹ We estimate the average remaining life of these assets to be around 30 years.

¹⁰ AusNet Services, *Revised proposal*, September 2016, pp. 132–136.

¹¹ AusNet Service presented only the weak demand scenario modelled by AEMO. The neutral scenario represented AEMO's base case, while there was also a strong demand growth scenario modelled. AEMO, *Electricity Statement of Opportunities for the National Electricity Market*, August 2016, pp13-14.

on the potential closure of YPS by 2025 as AusNet Services submitted. Both these organisations considered such an outcome very unlikely.¹² The details of AEMO's and the Department's views were provided to us confidentially. AusNet Services was advised as to the substance of these views and given an opportunity to respond. AusNet Services submitted that it accepts the advice of AEMO and the Victorian Department, noting that the Hazelwood Power Station closure had not been announced at the time it submitted the revised proposal.¹³ AusNet Services subsequently advised that it was withdrawing the accelerated depreciation of YPS assets in a submission to its revised proposal.¹⁴

The CCP submission on AusNet Services' revised proposal did not support accelerated depreciation of the YPS connection assets. It stated that AusNet Services had not established that the assets are or will become unused during the 2017–22 regulatory control period. It also stated that insufficient consultation has taken place on the proposal to accelerate these assets.¹⁵ We provide some comments in response to the CCP's questions below.

5.4.1.2 Assessing accelerated depreciation proposals

In its submission, the CCP asked the AER for further guidance about the circumstances in which accelerated depreciation could apply.¹⁶ We outlined the economic principles underpinning depreciation in some detail in attachment 5 to our draft decision. We do not propose to expand on that discussion, especially as AusNet Services has withdrawn its initial proposal for accelerated depreciation in respect of the DV method. In assessing proposals for accelerated depreciation it is important to consider the specific circumstances and facts of each situation, which limits the usefulness of general discussions. Nevertheless, we offer the following observations in response to the CCP's questions.

In considering accelerated depreciation, we note that under the current regulatory regime the service providers are not subject to stranding risk. This means accelerated depreciation has no justification in terms of assisting a service provider to recover its asset costs before a customer leaves the network, as these costs can be recovered from the remaining customers.¹⁷ The key issue is the timeframe for recovery of capex, which under the NER must be over the asset's economic life.¹⁸ In the draft decision, we explained that we are cautious in applying accelerated depreciation, particularly when

¹² Both these organisation agreed that the AER could make their overall positions publicly known.

¹³ AusNet Services, email, *RE: AusNet Tx information request #023 - Depreciation of Yallourn assets - contains confidential material*, 30 November 2016.

¹⁴ AusNet Services, *Submission to revised proposal*, 20 December 2016, p. 3.

¹⁵ CCP (sub-panel 5: Mark Henley and Ruth Lavery), *Transmission for the Generations III, Response to revised revenue proposal by AusNet Services for transmission revenue review 2017-22*, October 2016, p. 35.

¹⁶ CCP (sub-panel 5: Mark Henley and Ruth Lavery), *Transmission for the Generations III, Response to revised revenue proposal by AusNet Services for transmission revenue review 2017-22*, October 2016, p. 35.

¹⁷ In its revised proposal, AusNet Services noted it was not subject to stranding risks that lead to unrecovered funds. AusNet Services, *Revised proposal*, September 2016, p.127.

¹⁸ NER, cl. 6A.6.3(b)(1).

the approach proposed to implement it is a general one that affects various assets (of different ages and purpose) in a broad based manner and regions in the same way.¹⁹ In the draft decision, we considered a targeted approach to accelerated depreciation was preferable. A targeted approach looks at particular assets and the circumstances that affect their economic lives.

However, even asset specific analysis can be difficult, particularly where it involves making judgements on future demand. Assessments of changes in the technical lives of assets are relatively straight forward. We have allowed accelerated depreciation, for example, when assets were destroyed (due to cyclones or bushfires) on the basis that their technical (and therefore economic) lives have ended. However, assessments that rely on changes in demand are typically more complex than supply side issues such as the technical life of the assets. This is because it is relatively easier for a service provider to assess that an asset has a technical life of thirty years, for example, than to say how demand may fluctuate (or even stop) for that asset over the thirty years or beyond. We observe that demand may indeed fluctuate over an asset's technical life but we do not generally try to smooth out these fluctuations through the depreciation approach.²⁰ We consider the administrative costs, analysis complexity and imprecision in forecasting are too great to support such an approach. Demand factors therefore typically 'sit in the background' in determining the economic lives of assets, with supply factors dominating the consideration of the assets' remaining economic lives. Assets are typically built to meet a particular level of demand. This demand is presumed to persist over an asset's technical life even if demand fluctuates (or builds up to capacity) over time.²¹

Nonetheless, we have approved accelerated depreciation for assets where a judgement of future use can be reasonably formed. There are specific situations where it is reasonably certain that assets will no longer be used before their technical lives expire. Such situations could include: where replacement of the assets has already been approved over the next regulatory control period,²² or the assets are already no longer being used (and the prospect of an alternative customer using the assets is low). In such circumstances it is consistent with the NER that an asset's remaining economic life be changed to reflect these demand considerations. We have also allowed for accelerated depreciation on assets that are likely to become unused over the next regulatory control period. We have no firm view on how far into the future such assessments could occur. However, we note that the more immediate the timeframe

¹⁹ AER, *Draft decision AusNet Services transmission determination 2017–22 - Attachment 5 – Regulatory depreciation*, pp. 27–28, 36 & 53.

²⁰ Nor is capex typically approved for assets that are not expected to be used over their technical lives.

²¹ The PTRM is also set up for depreciation based on different asset type and the technical lives of the assets. When accelerated depreciation of assets occurs due to changes in expected use, a generic asset class (It may be labelled 'Accelerated depreciation', for example) is created to which the various assets identified are reallocated and a single asset life applied to this new asset class to reflect how long these assets are still expected to be used.

²² For example, the capacity of the connection is to be upgraded.

for such assessments, the more confidence we can have in the expected outcomes of any change to the asset's economic life.²³

5.4.1.3 Inventory depreciation adjustment

AusNet Services' revised proposal included an adjustment to return the value of depreciation it had incorrectly recovered due to an issue with the historical allocation of its as-commissioned inventory movements (see attachment 2).²⁴ The proposed adjustment is made through a new asset class in the PTRM with a negative asset value (-\$1.7 million) and assigning a one year remaining asset life.²⁵ This approach returns the value of depreciation that should not have been recovered back into the RAB, leading to a lower depreciation allowance than otherwise. We have reviewed AusNet Services' proposed approach and the calculations underlying the proposed values. We agree with the calculations, and consider it a reasonable approach to correct the error identified.

5.4.2 Diminishing value method

AusNet Services initially proposed to use the DV method to determining depreciation for new assets. It proposed that the straight-line depreciation method be retained for existing assets. In its revised proposal AusNet Services proposed using straight-line depreciation for all assets. We accept this proposal that is consistent with our draft decision.

Despite adopting the AER's draft decision on this matter, AusNet Services still raised some concerns with our position. AusNet Services stated that the AER had set a high threshold for the evidence it requires before approving accelerated depreciation based on declining future utilisation.²⁶ It also referred to a piece of research published in 1992 that it stated found that regulators are averse to taking early action to potential technology change and that this is inappropriate given the nature and rate of technological change.^{27, 28}

²³ Forecasting demand too far into the future also reduces the prospect of an asset's economic life diverging from its technical life. That is, for prudently acquired assets, any divergences between the economic life and the technical life of the asset would generally only occur after many years of operation. Otherwise the question would need to be asked as to why it was built in the first place. After many years of operation the asset is likely to have relatively little value and technical life remaining, making the impact of any revision to its economic life likely to be relatively modest at that time.

²⁴ AER, *Final decision AusNet Services 2017–22 transmission determination - Attachment 2 - Regulatory asset base*, April 2016, pp. 11–12.

²⁵ This value is equal to the depreciation allowance that was recovered arising from the incorrectly allocated as-commissioned capex.

²⁶ AusNet Services, *Revised proposal*, September 2016, p. 129.

²⁷ AusNet Services, *Revised proposal*, September 2016, p. 129.

²⁸ This article focused on telephone utilities and suggested front loading of depreciation is needed to maintain a firm's financial viability in the face of competing technologies and the potential for stranding of assets. This is not relevant in the current circumstances given that AusNet Services is not subject to stranding risk.

We disagree that we have not taken action in the face of expected changes in utilisation. In the draft decision, we approved the accelerated depreciation of certain assets that were no longer expected to be used in the 2017–22 regulatory control period. This approach pre-empts these assets no longer being used.

However, we do need to be confident in the available evidence upon which we make our decisions and that the evidence has been interpreted appropriately. AusNet Services' initial proposal offered little supporting evidence of expected broad based, significant and sustained declines in utilisation of its network, an expectation upon which its DV method was predicated. In terms of the AEMO material referred to in the initial proposal, the explanation offered by AusNet Services was contradictory to that data.²⁹ We also explained in the draft decision that changing the depreciation approach affects many more aspects of the regulatory regime than a targeted approach (changing the depreciation approach in the manner proposed by AusNet Services was therefore described as a blunt instrument in the draft decision).³⁰ The unintended consequences of using such a blunt instrument to deal with particular issues can be significant. A higher level of caution is therefore warranted in using such approaches to achieve specific outcomes. We agree with AusNet Services' revised proposal that the Victorian transmission network will remain relevant long into the future.³¹ A recent AEMO report highlighted the prospect of gas fired generation relocating to the Latrobe valley and the possibility of industrial sized battery storage in that area too, to take advantage of any excess transmission capacity.³² We consider new technologies offer both challenges and opportunities to network service providers and should not be assumed to cause broad based declining utilisation of networks into the future.

The CCP stated it was 'pleased' that AusNet Services had changed its proposal and abandoned the diminishing value method.³³ It reiterated its concerns regarding AusNet Services' initial proposal regarding the expected impacts of new technologies. It also stated that using intergenerational equity as a reason for accelerated depreciation did not 'sit well with many advocates'.

5.4.3 Standard asset lives

Consistent with our draft decision, we accept AusNet Services' proposed standard asset lives for its existing asset classes because they are:

- consistent with the approved standard asset lives in the determination for AusNet Services' 2014–17 regulatory control period

²⁹ AER, *Draft decision AusNet Services transmission determination 2017–22 - Attachment 5 – Regulatory depreciation*, April 2016, pp. 20–22.

³⁰ AER, *Draft decision AusNet Services transmission determination 2017–22 - Attachment 5 – Regulatory depreciation*, April 2016, pp. 27–28, 36 & 53.

³¹ AusNet Services, *Revised proposal*, September 2016, p. 131.

³² AEMO, *The National Transmission Network Development Plan: For the National Energy Market*, December 2016, p. 40.

³³ CCP, *Response to draft decision*, p. 22.

- comparable with the standard asset lives approved in our recent transmission determinations for other TNSPs.³⁴

Table 5.3 sets out our final decision on AusNet Services' standard asset lives for the 2017–22 regulatory control period. We are satisfied the proposed standard asset lives lead to a depreciation schedule that reflects the nature of the assets over the economic lives of the asset classes.³⁵

Table 5.3 AER's final decision on AusNet Services' standard asset lives (years)

Asset class	Standard asset life
Secondary	15.0
Switchgear	45.0
Transformers	45.0
Reactive	40.0
Towers and conductor	60.0
Establishment	45.0
Communications	15.0
Inventory	n/a
IT	5.0
Vehicles	7.0
Other (non-network)	10.0
Premises	10.0
Land	n/a
Easements	n/a

Source: AusNet Services, *Revised proposal*, September 2016, PTRM.

n/a: not applicable. The 'Land' and 'Easements' asset classes do not have assigned standard asset lives because these assets do not depreciate over time.

Note: Benchmark equity raising costs are generally amortised over the weighted average life of the RAB. AusNet Services does not require any benchmark equity raising costs in respect of its forecast capex for the 2017–22 regulatory control period. Accordingly, we have not assigned a standard asset life for amortising equity raising costs.

³⁴ AER, *Draft decision AusNet Services transmission determination - Attachment 5 - Regulatory depreciation*, July 2016, pp. 28–30.

³⁵ NER, cl. 6A.6.3(b)(1).