Draft Decision

AusNet Gas Services
Access Arrangement 2023 to 2028

(1 July 2023 to 30 June 2028)

Attachment 4
Regulatory depreciation

December 2022

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's draft decision on the access arrangement that will apply to AusNet Gas Services (AusNet) for the 2023–28 access arrangement period. It should be read with all other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 – Services covered by the access arrangement

Attachment 2 – Capital base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency carryover mechanism

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Attachment 11 – Non-tariff components

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4 Regulatory depreciation

Depreciation is a method used in our determination to allocate the cost of an asset over its useful life. It is the amount provided so capital investors recover their investment over the economic life of the asset (otherwise referred to as 'return of capital'). When determining the total revenue for AusNet, we include an amount for the depreciation of the projected capital base.[1] Under the building block framework, regulatory depreciation consists of the net total of the straight-line depreciation less the indexation of the capital base.

This attachment outlines our draft decision on AusNet's annual regulatory depreciation amount for the 2023–28 access arrangement period (2023–28 period). Our consideration of specific matters that affect the estimate of regulatory depreciation is also outlined in this attachment. These include:

- the standard asset lives for depreciating new assets associated with forecast capital expenditure (capex)
- year-by-year tracking approach to depreciating assets in the capital base
- proposed accelerated depreciation relating to uncertainty around the future of gas networks
- proposed accelerated depreciation relating to reduced asset lives for mains and services pipelines, and cathodic protection assets.

4.1 Draft decision

We determine a regulatory depreciation amount of $217.7 million ($ nominal) for AusNet for the 2023–28 period. This represents a reduction of $167.3 million (43.4%) from AusNet's proposed regulatory depreciation amount of $385.0 million ($nominal). The key reasons for the decrease compared to AusNet's proposal are:

- we do not accept AusNet's proposed accelerated depreciation of $200 million, and instead we approve a lower amount of $83 million
- our higher expected inflation rate for the 2023–28 period, which increases the adjustment for indexation of the capital base that is offset against straight-line depreciation in determining regulatory depreciation.

Table 4.1 sets out our draft decision on AusNet's regulatory depreciation amount over the 2023–28 period.

[1] NGR, r. 76(b).

Table 4.1 AER's draft decision on AusNet's forecast depreciation for the 2023–28 period ($ million, nominal)

	2023	2024	2025	2026	2027	Total
Straight-line depreciation	98.5	100.5	109.9	119.6	126.8	555.3
Less: Indexation on opening capital base	62.9	65.4	68.0	70.0	71.2	337.6
Regulatory depreciation	**35.6**	**35.1**	**41.9**	**49.6**	**55.6**	**217.7**

Source: AER analysis.

The forecast regulatory depreciation amount in AusNet's proposal is an 82.4% increase from the 2018–22 period ($2022–23). There are a number of drivers of this outcome. They include AusNet's proposed accelerated depreciation of $200 million and the offsetting impact of a higher expected inflation relative to the 2018–22 period.

The regulatory depreciation amount is the net total of the straight-line depreciation less the inflation indexation of the capital base.

AusNet's straight-line depreciation is impacted by our decisions on accelerated depreciation, its opening capital base as at 1 July 2023 (Attachment 2), forecast capex (Attachment 5) and standard asset lives (section 4.4.4). Our draft decision straight-line depreciation for AusNet is $119.9 million ($nominal) lower than that proposed by AusNet. This is largely driven by our decision to reduce the amount of accelerated depreciation.

The indexation on the capital base is impacted by our decision on AusNet's accelerated depreciation, its opening capital base (Attachment 2), forecast capex (Attachment 5) and the expected inflation rate (Attachment 3).[2] Our draft decision indexation on AusNet's projected capital base is $47.3 million higher than proposed by AusNet. This is largely because of our decision to reduce AusNet's accelerated depreciation and the higher expected inflation rate of 3.37% per annum for the 2023–28 period compared to 3.00% per annum as proposed by AusNet.[3]

In coming to this decision on AusNet's straight-line depreciation:

- We accept AusNet's proposed straight-line depreciation method used to calculate the regulatory depreciation amount.
- We accept AusNet's proposal to use the year-by-year tracking method to calculate real straight-line depreciation for its existing assets. This is a continuation of the approach we approved for AusNet in the 2018–22 access arrangement. However, we have amended some inputs in AusNet's application of the year-by-year tracking method in its proposed depreciation model (section 4.4.1).

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2 Capex enters the capital base net of forecast disposals (and capital contributions where relevant). It includes equity raising costs (where relevant) and the half-year WACC to account for the timing assumptions in the AER's PTRM. Our draft decision on the capital base (Attachment 2) also reflects our updates to the WACC for the 2023–28 period.

3 Our estimate of inflation will be updated for our final decision.

- We accept AusNet's proposal for accelerated depreciation regarding uncertainty for the future of gas. However, we have determined a reduced amount of $83 million compared to the $200 million proposed by AusNet. This is discussed in section 4.4.2.

  To implement this, we have accepted AusNet's proposed accelerated depreciation involving reduced asset lives of cathodic protection assets but not for mains and services pipelines. We have reallocated the balance of our reduced accelerated depreciation amount to AusNet's 'Accelerated depreciation – future of gas' asset class consistent with its proposed approach. This is discussed in section 4.4.3.

4.2 AusNet's proposal

AusNet proposed a total forecast regulatory depreciation amount of $385.0 million ($ nominal) for the 2023–28 period, as set out in Table 4.2.

Table 4.2 AusNet's proposed forecast depreciation amount for the 2023–28 period ($ million, nominal)

	2023	2024	2025	2026	2027	Total
Straight-line depreciation	120.8	123.7	133.8	144.3	152.6	675.2
Less: Indexation on opening capital base	55.9	57.3	58.6	59.3	59.2	290.2
Regulatory depreciation	**65.0**	**66.4**	**75.2**	**85.0**	**93.3**	**385.0**

Source: AusNet, *2023–28 Access Arrangement – Post-tax revenue model*, September 2022.

To calculate the depreciation amount, AusNet proposed to use:

- the straight-line depreciation method employed in the AER's post-tax revenue model (PTRM)
- the closing capital base value as at 30 June 2023 derived from the AER's amended 5.5 year roll forward model (RFM)
- its forecast capex for the 2023–28 period
- an expected inflation rate of 3.00% per annum for the 2023–28 period
- the AER's amended year-by-year tracking depreciation model, which implements the straight-line method to calculate the forecast depreciation (over the 2023–28 period) of the opening capital base at 1 July 2023
- new asset classes including:
  - 'Transmission pipelines - post 1998', 'Distribution pipelines - post 1998' and 'Service pipes - post 1998' and 'Cathodic protection - post 1998'. It reallocated the majority of existing assets to these new asset classes from the existing 'Transmission pipelines', Distribution pipelines' and 'Service pipes' and 'Cathodic protection' asset classes. AusNet submitted that historically, a shorter standard asset life of 50 years should have been applied to these types of assets instead of the approved life of 60 years. For these new asset classes, it therefore assigned remaining asset lives as part of the final year adjustments that reflected this reduction to the historical standard life. It also proposed a new asset class 'Accelerated depreciation - long life assets' for accelerated depreciation of some of these assets over the 2023–28 period reflecting the additional depreciation that would have applied to the historical

capex, had the shorter life been applied previously. Further, it proposed that the reduced standard asset life of 50 years apply for depreciating 2023–28 forecast capex for these assets.

- 'Accelerated depreciation - future of gas' to account for the balance of its proposed $200 million accelerated depreciation
- 'Capitalised leases 1 July 2023' for future property and land related expenditure relating to existing leases.

The other asset classes and standard asset lives associated with forecast capex for the 2023–28 period were consistent with those approved in the 2018–22 access arrangement.

4.3 Assessment approach

In the AusNet 2023–28 access arrangement proposal, AusNet must provide a forecast depreciation schedule for the 2023–28 period. The depreciation schedule sets out the basis on which the pipeline assets constituting the capital base are to be depreciated for the purpose of determining a reference tariff.[4] It may consist of a number of separate schedules, each relating to a particular asset or class of asset.[5]

In making a decision on the proposed depreciation schedule, we assess the compliance of the proposed depreciation schedule with the depreciation criteria set out in the National Gas Rules (NGR). The depreciation criteria[6] state that the depreciation schedule should be designed:

- so that reference tariffs will vary, over time, in a way that promotes efficient growth in the market for reference services[7]
- so that each asset or group of assets is depreciated over the economic life of that asset or group of assets[8]
- so as to allow, as far as reasonably practicable, for adjustment reflecting changes in the expected economic life of a particular asset, or a particular group of assets[9]
- so that (subject to the rules about capital redundancy), an asset is depreciated only once,[10] and
- so as to allow for the service provider's reasonable needs for cash flow to meet financing, non-capital and other costs.[11]

4 NGR, r. 88(1).
5 NGR, r. 88(2).
6 NGR, r. 89.
7 NGR, r. 89(1)(a).
8 NGR, r. 89(1)(b).
9 NGR, r. 89(1)(c).
10 NGR, r. 89(1)(d).
11 NGR, r. 89(1)(e).

The NGR also provide that compliance with the depreciation criteria may involve the deferral of a substantial amount of depreciation in circumstances where investment is made on the expectation of future demand growth.[12]

The NGR require that any forecast must be arrived at on a reasonable basis and must represent the best forecast or estimate possible in the circumstances.[13]

Our assessment takes into account revenue and pricing principles (RPP) and seeks to promote the National Gas Objective (NGO).[14] The NGO is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.[15] We are required, when carrying out our economic regulatory functions under the NGL and NGR, to make a decision that will contribute, or will be likely to contribute, to the achievement of the NGO.[16] In addition, when exercising our decision-making powers on those parts of an access arrangement relating to a reference tariff, we are required to take into account the RPP.[17] This includes the principle that a service provider should be provided with effective incentives in order to promote efficient investment in, provision of and use of pipeline services, and the principle that we should have regard to the economic costs and risks of the potential for under-and over-investment in a pipeline, and utilisation of a pipeline when making such decisions.[18]

In April 2020, we published our first version of the RFM and PTRM for gas pipeline service providers under new provisions in the NGR relating to financial models.[19] Gas distribution businesses are required to use these models for the purposes of their access arrangement proposals. The PTRM sets out the method for calculating the forecast depreciation schedule and the approach for indexing the capital base. We have also published a separate depreciation module to the RFM that applies the year-by-year tracking depreciation approach. This module is used for calculating the depreciation of existing assets under that approach, and the output from this module will feed into the PTRM. For the Victorian distribution 2023–28 access arrangements, pursuant to the Orders in Council made on 30 September 2021, we developed an amended version of this depreciation module that we required the distributors use in their proposals.[20] Our amended module allows for the additional half year 2023 extension period in calculating depreciation of the existing assets at 1 July 2023 and AusNet has used this amended module in its proposal.

The regulatory depreciation approach in the PTRM involves two components:

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12 NGR, r. 89(2).

13 NGR, r. 74(2).

14 NGL, s. 28; NGR r. 100(1).

15 NGL, s. 23.

16 NGL, s. 28(1)(a).

17 NGL, s. 28(2).

18 NGL, s. 24.

19 NGR, rr. 75A–75B.

20 Minister for Energy, Environment and Climate Change, *Order Setting Requirements for Modifications and Variations to Instruments – Section 64 National Gas (Victoria) Act 2008, Victoria Government Gazette, No. G39*, 30 September 2021, pp. 2078–80.

1. A straight-line depreciation component calculated by dividing the asset value by its standard asset life (for new assets) or remaining asset life (for existing assets under the weighted average approach). We consider that the straight-line method satisfies the NGR's depreciation criteria.[21] This is because the straight-line method smooths changes in the reference tariffs, promotes efficient growth of the market, allows assets to be depreciated only once over its economic life, and allows for a service provider's reasonable needs for cash flow.
2. An offsetting adjustment for indexation of the value of assets in the capital base. This component is necessary to prevent double counting of inflation when a nominal rate of return is applied to the inflation indexed capital base. Therefore, we remove the revaluation (indexation) gain on the capital base from the depreciation building block when setting total revenue.

The regulatory depreciation amount is an output of our PTRM. We therefore assessed AusNet's proposed regulatory depreciation amount by analysing the proposed inputs to the PTRM for calculating that amount. Key inputs include the:

- opening capital base at 1 July 2023
- forecast net capex in the 2023–28 period[22]
- indexation adjustment—based on the forecast capital base and expected inflation rate for the 2023–28 period
- standard asset life for each asset class—used for calculating the depreciation of new assets associated with forecast net capex in the 2023–28 period
- the depreciation of existing assets in the opening capital base as at 1 July 2023—calculated in a separate year-by-year depreciation tracking module.

Our draft decision on AusNet's regulatory depreciation amount reflects our determinations on its opening capital base, expected inflation and forecast net capex (the first three inputs in the above list).[23] Our determinations on these components of AusNet's proposal are discussed in Attachments 2, 3 and 5, respectively. In this Attachment 4, we discuss our assessment on the proposed standard asset life for each asset class and the year-by-year tracking depreciation approach to calculate depreciation of the opening capital base at 1 July 2023 (the last two inputs in the above list).

In general, we consider that consistency in the standard asset life for each asset class across access arrangement periods will allow reference tariffs to vary over time in a manner which would promote efficient growth in the market for reference services. Our assessment on standard asset life of an asset class also takes into account the technical life (or the engineering designed life) of the assets associated with the asset class. We also benchmark

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21 NGR, r. 89.

22 Capex enters the capital base, 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. Our draft decision on the capital base (Attachment 2) also reflects our updates to the WACC for the 2023–28 period.

23 Our final decision will update the opening capital base as at 1 January 2023 for revised estimates of actual capex and inflation.

AusNet's standard asset lives with those used by other gas service providers for similar asset classes.

Our PTRM provides for two approaches for calculating the straight-line depreciation for the existing assets:

- the 'weighted average remaining lives' (WARL) approach: This approach calculates the remaining asset life for an asset class by weighting together its remaining asset life at the beginning of the access arrangement period with the new capex added to the asset class during that period. The residual asset values are used as weights to calculate the remaining asset life at the end of that period. The WARL for the asset classes are calculated in our RFM and are inputs to the PTRM. We consider this approach meets the depreciation criteria of the NGR.
- the 'year-by-year tracking' approach: Under this approach, the capex (in addition to grouping assets by type via asset classes) for each year of an access arrangement period is depreciated separately and tracked on a year-by-year basis over the assigned standard life for the asset class. This approach does not require assessment of a remaining asset life at each access arrangement review. We consider that this approach would also meet the depreciation criteria of the NGR. Our depreciation tracking module conducts the detailed calculations required under this approach. The output of this module is then recorded in the PTRM.

AusNet has proposed to continue applying the year-by-year tracking depreciation approach and its proposal includes the depreciation tracking module. Therefore, we must assess whether AusNet has appropriately implemented the year-by-year tracking depreciation approach, including checking the proposed inputs to this module. Our assessment on this aspect of AusNet's proposal is discussed in section 4.4.1.

AusNet's proposal included accelerated depreciation of assets which relates to uncertainty of future gas demand for its network. Our assessment approach for this (section 4.4.2) has regard to our Information paper on *Regulating gas pipelines under uncertainty*, which includes consideration of the impact on price stability in the 2023–28 period as well as longer term price stability.[24]

AusNet also proposed accelerated depreciation of some of its existing mains and services pipelines, and cathodic protection assets because it submitted that, historically, a shorter standard asset life should have been applied to those types of assets. It further proposed the reduced standard life should apply to new capex for these assets. Our assessment of this aspect of the proposed accelerated depreciation is discussed in section 4.4.3.

[24] AER, *Information paper on regulating gas pipelines under uncertainty,* 15 November 2021.

4.3.1 Interrelationships

The regulatory depreciation amount is a building block component of the total revenue requirement.[25] Higher (or quicker) depreciation leads to higher revenues over the access arrangement period. It also causes the capital base to reduce more quickly (excluding the impact of new capex being added to the capital base). This reduces the return on capital amount, although this impact is usually smaller than the increased depreciation amount in the short to medium term.[26] Over the life of the assets, the total revenues being recovered are in net present value (NPV) neutral terms—that is, returning the initial cost of the capital base.

Ultimately, however, a service provider can only recover the capex that it incurred on assets once.[27] The depreciation amount reflects how quickly the capital base is being recovered and is based on the remaining and/or standard asset lives used in the depreciation calculation. It also depends on the level of the opening capital base and the forecast capex. Any increase in these factors also increases the depreciation amount.

Our standard approach is to maintain the capital base in real terms, meaning the capital base is indexed for expected inflation. The return on capital building block has to be calculated using a nominal rate of return or weighted average cost of capital (WACC) applied to the opening capital base.[28] The total revenue requirement is calculated by adding the return on capital, depreciation, operating expenditure (opex), tax and revenue adjustments building blocks.[29] Because inflation on the capital base is accounted for in both the return on capital (based on a nominal rate of return) and the depreciation calculations (based on an indexed capital base), an adjustment must be made to the revenue requirement to prevent compensating twice for inflation.

To avoid this double compensation, we make an adjustment by subtracting the annual indexation gain on the capital base from the calculation of total revenue. Our standard approach is to subtract the indexation of the opening capital base—the opening capital base multiplied by the expected inflation for the year—from the capital base depreciation. The net result of this calculation is referred to as regulatory depreciation (or return of capital).[30] Regulatory depreciation is the amount used in the building block calculation of total revenue to ensure that the revenue equation is consistent with the use of a capital base, which is indexed for inflation annually. Figure 4.1 shows where the inflation components are included in the building block costs.

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25 The PTRM distinguishes between straight-line depreciation and regulatory depreciation, the difference being that regulatory depreciation is the straight-line depreciation minus the indexation amount on the projected capital base.

26 This is generally the case because the reduction in the capital base amount feeds into the higher depreciation building block, whereas the reduced return on capital building block is proportionate to the lower capital base multiplied by the WACC.

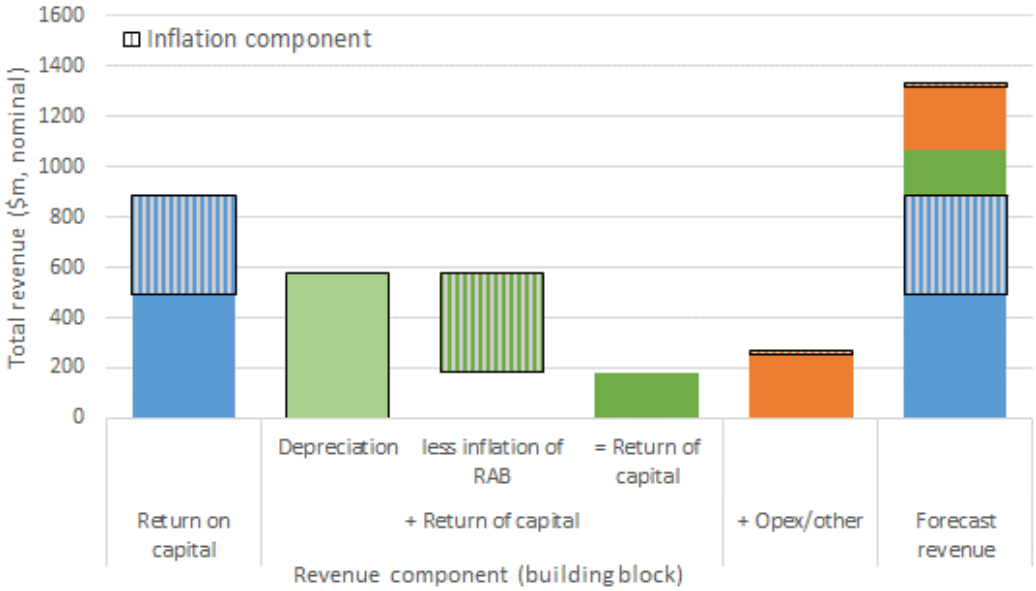
27 NGR, r. 89(1)(d).

28 NGR, r. 87.

29 NGR, r. 76.

30 If the asset lives are extremely long, such that the capital base depreciation rate is lower than the inflation rate, then negative regulatory depreciation can emerge. The indexation adjustment is greater than the capital base depreciation in such circumstances.

Figure 4.1 Inflation components in revenue building blocks – example



Source: AER analysis.

This approach produces the same total revenue requirement and capital base as if a real rate of return had been used in combination with an indexed capital base. Under an alternative approach where a nominal rate of return was used in combination with an un-indexed (historical cost) capital base, no adjustment to the depreciation calculation of total revenue would be required. This alternative approach produces a different time path of total revenue compared to our standard approach. In particular, overall revenues (and therefore prices) would be higher early in the asset's life (as a result of more depreciation being returned to the service provider) and lower in the future—producing a steeper downward sloping profile of total revenue.[31] Under both approaches, the total revenues being recovered are in NPV neutral terms.

Figure 4.2 shows the recovery of revenue under both approaches using a simplified example.[32] Indexation of the capital base and the offsetting adjustment made to depreciation results in a smoother revenue recovery profile over the life of an asset than if the capital base was un-indexed. The indexation of the capital base also reduces price shocks when the asset is replaced at the end of its life.[33]

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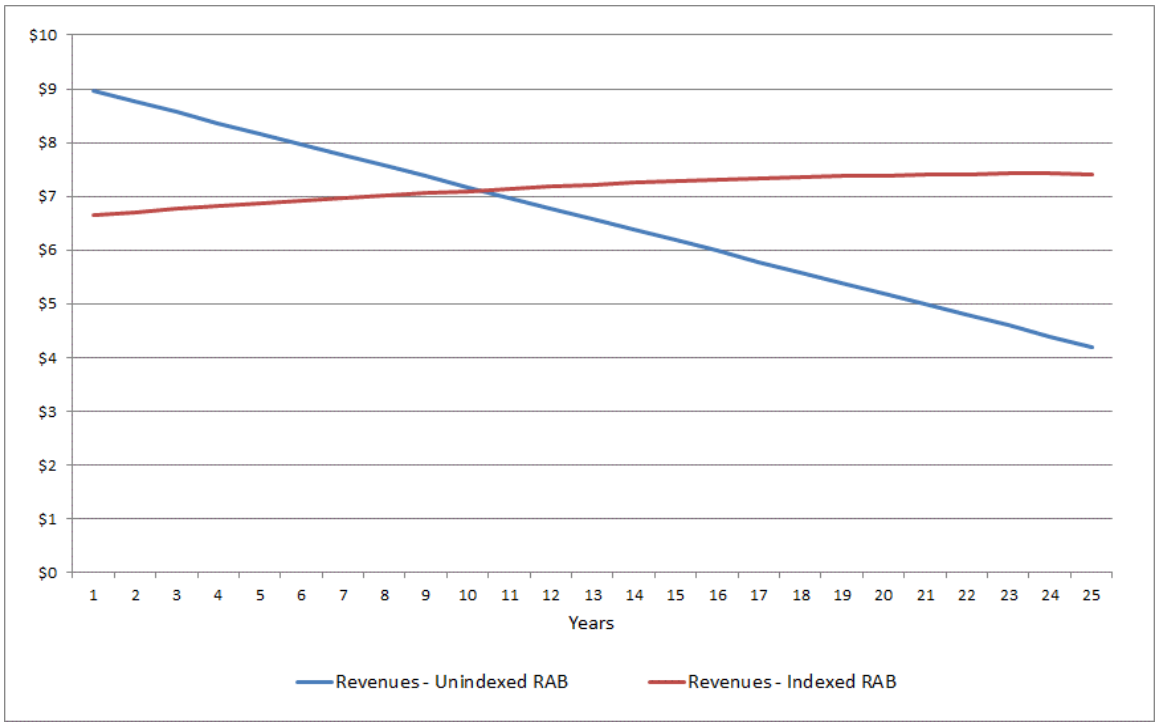
31 A change of approach from an indexed capital base to an un-indexed capital base would result in an initial step change increase in revenues to preserve NPV neutrality.

32 The example is based on the initial cost of an asset of $100, a standard economic life of 25 years, a real WACC of 2.5%, expected inflation of 2.4% and nominal WACC of 4.96%. Other building block components such as opex, tax and capex are ignored for simplicity as they would affect both approaches equally.

33 In year 26 the revenues in the example for the un-indexed approach would jump from about $4 to $9, assuming the asset is replaced by an asset of roughly similar replacement cost as the initial asset. In contrast, in the same circumstances, the indexed approach would see revenues stay at roughly $7.

Figure 4.2 Revenue path example – indexed vs un-indexed capital base ($ nominal)



Source: AER analysis.

Figure 2.1 (in Attachment 2) shows the relative size of the inflation indexation and straight-line depreciation, and their impact on the capital base using AusNet's proposal. A 10% increase in the straight-line depreciation causes revenues to increase by about 5.7%.

4.4 Reasons for draft decision

We accept AusNet's proposed straight-line depreciation method for calculating the regulatory depreciation amount as set out in the PTRM and the year-by-year tracking approach to implement this method, subject to updating some inputs in the depreciation module. However, we have reduced AusNet's proposed forecast regulatory depreciation by $167.3 million (43.4 %) to $217.7 million ($nominal) for the 2023–28 period. This reduction is mainly due to our reduction to accelerated depreciation and the higher expected inflation rate we applied in this draft decision compared to AusNet's proposal (Attachment 3).

Our assessment of AusNet's continuation of the year-by-year tracking depreciation approach, accelerated depreciation, and its proposed standard asset lives are discussed in turn in the following subsections.

4.4.1 Year-by-year tracking approach

AusNet proposed to continue with the year-by-year tracking approach for calculating the depreciation schedule for its existing assets consistent with that approved for the 2018–22 access arrangement. We accept AusNet's proposed year-by-year tracking approach meets the requirements of the NGR in that it will result in depreciation schedules that allow:

- the reference tariffs to vary over time in a manner that would promote efficient growth in the market for reference services[34]
- assets to be depreciated only once[35] and over its economic lives[36]
- for a service provider's reasonable needs for cash flow.[37]

AusNet has used our amended template depreciation tracking module to implement year-by-year tracking. We have reviewed AusNet's application of this module, and to reflect our decision on accelerated depreciation as discussed in sections 4.4.2 and 4.4.3 we have:

- amended the end of period adjustments for the 'Transmission pipelines', 'Distribution pipelines', 'Service pipes', 'Accelerated depreciation – long life assets', 'Accelerated depreciation – future of gas' asset classes
- removed the proposed new asset classes 'Transmission pipelines – post 1998', 'Distribution pipelines – post 1998' and 'Service pipes – post 1998'.

We have also updated some inputs to align with our draft decision on the capital base roll forward including:

- amending the half year 2023 extension period inputs for nominal WACC and inflation as discussed in Attachment 2
- amending the end of period adjustment for the 'Capitalised leases 1 July 2023' asset class as discussed in section 4.4.4 and Attachment 2
- amending 2021–23 gross capex for the 'Other – IT' asset class reflecting amendments for software-as-a-service (SaaS) capex as discussed in Attachment 2.

4.4.2 Accelerated depreciation for future of gas and risk of network stranding

For our draft decision, we do not accept AusNet's proposed accelerated depreciation of $200 million ($2022–23) and instead determine a reduced amount of $83.0 million. Our reasons for this decision are discussed below.

In its September 2022 addendum, AusNet proposed revised accelerated depreciation in relation to the future uncertainty of gas demand and the associated risk of its network stranding.

The proposed accelerated depreciation adds about $200 million ($2022–23) to straight-line depreciation over the 2023–28 period, and we calculate the proposed accelerated depreciation is 17.4 % of the proposed total revenue.[38] This amount is an increase from the $150 million in AusNet's July 2022 proposal.

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34 NGR, r. 89(1)(a).

35 NGR, r. 89(1)(d).

36 NGR, r. 89(1)(b).

37 NGR, r. 89(1)(e).

38 Based on proposed total revenue in real ($2022–23) terms and excluding ancillary reference services.

4.4.2.1 Case for accelerated depreciation

In accepting some accelerated depreciation for AusNet, we recognise that the publication of the Gas Substitution Roadmap (the Roadmap) indicates that the Victorian Government is committed to the net zero emissions target by 2050.[39] This will likely mean a limited role for gas beyond this date. The Roadmap included several initiatives that will reduce the role for gas in Victoria, such as incentives for residential customers to switch to electric appliances, the removal of planning provisions requiring new housing developments to connect to gas and higher energy efficiency requirements for housing. Residential customers currently make up the largest proportion of demand, and under the high-electrification scenarios submitted by AusNet as part of its future of gas modelling, both residential and commercial demand is forecast to decline going forward. The demand from industrial customers is relatively low and uncertain while the future role for hydrogen is uncertain at this time.

While these changes are likely to eventuate, the pace of change remains uncertain. We consider that approving some amount of accelerated depreciation in the 2023–28 period is consistent with our Information paper on *Regulating gas pipelines under uncertainty* which stated "the opportunity and flexibility for adjustment is greatest when we act as soon as we can to minimise the adverse impact of a decline in gas demand".[40]

AusNet's proposed accelerated depreciation is supported by the reduced forecast connections/growth capex for 2023–28 capex in its addendum proposal reflecting the increased rate of decline in demand. This is also supported by AusNet's exclusion of hydrogen readiness capex from its proposal.

We consider that accepting some accelerated depreciation leaves open the option to change course at future reviews, where more accelerated depreciation or reversals at a future date may be required to promote efficient growth (including negative growth) of the market as required under the NGR.[41]

4.4.2.1.1 Stakeholder submissions

While some stakeholders still hold concerns on accelerated depreciation, we consider aspects of the distributors' process are consistent with the expectations listed in our information paper including to "actively and meaningfully engage with their customers on the range of available options" and "that good consultation will involve a range of scenarios being put to consumers with respect to demand forecasts, expenditure and any stranding mitigation measures, together with the price impacts of those scenarios".[42]

On the issue of accelerated depreciation, we received seven submissions from the CCP28, Origin, Evoenergy, Energy Users' Association of Australia (EUAA), Friends of the Earth (FoE) Melbourne, Darebin Climate Action Now (DCAN) and Brotherhood of St. Laurence (BSL).

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39 Victorian State Government, *Gas Substitution Roadmap*, July 2022.

40 AER, *Information paper on regulating gas pipelines under uncertainty,* 15 November 2021, p. 44.

41 NGR, r. 89.

42 AER, *Information paper on regulating gas pipelines under uncertainty,* 15 November 2021, p. 47.

There was a mixed range of views expressed by stakeholders on this issue. Consistent with our information paper, we consider that approving any form of accelerated depreciation is a balancing act between preserving the right incentives for network investments and maintaining price affordability of gas network services, avoiding price shocks and further gas substitution where possible.[43]

Origin, Evoenergy and EUAA agreed that asset stranding risk has materially increased under the Roadmap and were therefore largely supportive of the accelerated depreciation proposals. There is consensus that the Roadmap indicates that demand will fall, however, there is uncertainty around how much and how quickly this will occur.

Given this uncertainty, stakeholder submissions in support of the proposed accelerated depreciation are of the view that some form of accelerated depreciation is appropriate to ensure that the networks can recover their efficient costs and a reasonable return of and return on capital.

CCP28, FoE, DCAN and BSL do not support the distributors' proposals for accelerated depreciation as it simply transfers asset stranding risk to consumers. They submitted that consumers should not be the ones bearing this risk.

Concerns were also raised that accelerated depreciation will increase costs for consumers at a time when there are cost of living pressures as well as significant equity impacts given lower income consumers (including renters) will be disproportionately burdened due to difficulty in changing energy source or adopting efficiency measures.

We consider our draft decision to accept some accelerated depreciation is guarding against risk of an earlier wind down of the network and the price spike that may result if demand falls faster than expected. We note that the gas legislation did not contemplate the possible end of life of networks, and therefore it is an open question in such circumstance as to how much stranding risk consumers should bear. Given the limited scope of this access arrangement review, we have not attempted to resolve the issue of how much stranding risk consumers and AusNet should share for the 2023–28 period. However, while we see the minimisation of stranding risk as an important incentive to investment, we consider there are limits to this proposition. Based on AusNet's future of gas modelling scenarios in which the gas network was to strand in the medium term, it would not recover the full amount of its remaining capital base.

4.4.2.1.2 Future of gas modelling

As part of the July 2022 proposal, AusNet submitted long term modelling which included reference to prices, demand and revenue. AusNet updated this modelling in its September 2022 addendum to reflect changes arising from the Roadmap.

AusNet co-designed with the Australian Gas Infrastructure Group (AGIG, comprising AGN and MGN) an expert panel which developed the narratives of 4 long-term future scenarios with varying degrees of electrification and take-up of hydrogen. We consider the scenario setting is consistent with one of the expectations listed in our Information paper for "regulated

[43] AER, *Information paper on regulating gas pipelines under uncertainty,* 15 November 2021, p. 28.

businesses to provide plausible future energy scenarios that cover a spectrum of outlooks from the most pessimistic to the most optimistic for their networks".[44]

However, the distributors' approach deviates from that outlined in the information paper in that it did not estimate the likelihood/probability for each of these 4 core scenarios. We note that in the addendum material provided in September 2022 AusNet did provide a qualitative assessment of how some of the likelihoods had changed as a result of the Roadmap.

Unlike AGIG, who commissioned Incenta Economic Consulting to provide opinion on the approach to accelerated depreciation, AusNet did not provide any such consultant report specifically relating to its accelerated depreciation approach. However, we note that the engagement and future of gas model development was largely a joint collaboration by AusNet and AGIG and we consider the 3 networks are largely aligned with regard to their approach to accelerated depreciation.

AusNet's future of gas model tests the suitability of a proposed accelerated depreciation amount rather than solves for an optimised accelerated depreciation amount. It applies a 'tilt' which front-loads accelerated depreciation to the 2023–28 period but also applies accelerated depreciation to subsequent access arrangement periods.[45]

As noted in our information paper, bringing forward the cost recovery of the efficient investments that regulated businesses have already made would increase the certainty that incurred costs would be recovered, thereby reducing stranded asset risk and the potential need for material upwards price adjustments in the future.[46]

AusNet's future of gas modelling from its addendum proposal shows that where stranding occurs, accelerated depreciation both in the 2023–28 period and subsequent periods extends the life of the network because the associated higher revenue and tariffs in the shorter term are not enough to strand the asset and this is followed by lower tariffs due to the reduction to the capital base.

Overall, we consider the future of gas modelling submitted by AusNet and AGIG was a useful tool to consider relative long-term impacts of accelerated depreciation on price and demand under a range of scenarios. Further, the various inputs and assumptions for the modelling were largely well-documented. While we consider the overall approach to be reasonable, our draft decision on AusNet's accelerated depreciation is limited to the 2023–28 period and so does not extend to any accelerated depreciation in subsequent periods implied by the tilt in the future of gas model.

4.4.2.1.3 Consultation by the distributors

AusNet has undertaken extensive consumer engagement including on the topic of accelerated depreciation for the future of gas uncertainty. This has included customer workshops, stakeholder roundtables, retailer reference groups and deep dives. We consider

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44 AER, *Information paper on regulating gas pipelines under uncertainty*, 15 November 2021, p. 45.

45 In the future of gas model, the assumed accelerated depreciation trends down over time until at a certain point in the future, it goes to zero then negative. The point of this cross-over depends on the tilt factor.

46 AER, *Information paper on regulating gas pipelines under uncertainty*, 15 November 2021, p. 29.

that this level of early engagement from AusNet and AGIG is an important and appropriate step in trying to inform stakeholders on a difficult concept.

We also note that the distributors discussed their future of gas modelling with us prior to the lodgement of the July 2022 proposals and provided us with early versions of the future of gas models for feedback. We found this early engagement useful and allowed us to familiarise ourselves with these models. We provided feedback to the distributors on some model inputs which they considered and made adjustments where relevant, for example, the S-curve assumptions which represented the rate of switching between electric and gas appliances.

CCP28 raised that the distributors did not directly engage with consumers since 31 March 2022.[47] We consider that this concern is valid, and we think there is a need for customers to be further consulted. This need is emphasised by the increases to AusNet's proposed accelerated depreciation from $130 million in the January 2022 draft plan to $150 million in the July 2022 proposal (the final plan) and further to $200 million for the September 2022 addendum proposal.[48] AusNet's addendum proposal detailed the further stakeholder engagement it undertook subsequent to the Roadmap with the Victorian Gas Networks Stakeholder Roundtable and Retailer Reference Group.[49] While we note the relatively short time available for consultation, we consider AusNet now has the opportunity to further consult directly with its customers on the topic of accelerated depreciation, including the price impact of its proposed amount and the outcomes of this draft decision.

AusNet's engagement on this topic would be helped by considering WACC and inflation inputs that reflect the updated economic conditions, and the resulting impact to the revenue and prices in the 2023–28 period. In its addendum proposal, AusNet submitted that it expects the RBA to "materially increase" its inflation forecasts for the 2023–28 period and therefore the impact on regulatory depreciation from AusNet's increased accelerated depreciation would be offset by the higher indexation of the capital base. AusNet's addendum proposal slightly increased the expected inflation rate to 3.00% per annum from 2.95% per annum in its July 2022 proposal. However, it did not update the forecast WACC from the July 2022 proposal which was an average of 4.99% over the 2023–28 period. In comparison, for this draft decision the latest WACC is an average of 5.87% over the period.[50] All else being equal, a higher WACC increases the overall revenue while higher expected inflation will reduce revenue. For this draft decision, the impact of the increased WACC is only partially offset by the impact of higher inflation.

We note that with the other draft decision updates, including for WACC and expected inflation, we calculate that AusNet's proposed accelerated depreciation of $200 million would result in:[51]

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47 CCP28, *Advice to the AER Victorian Gas Distribution Network Access Arrangement 2023–28 Proposals*, 30 September 2022, p. 7.

48 AusNet, *Draft Regulatory Proposal Gas access arrangement review FY 2024-28*, January 2022, p. 23.

49 AusNet, *Access Arrangement Information Gas access arrangement review 2024-28 Addendum to proposal,* 2 September 2022, p. 15.

50 Based on a simple average of the nominal vanilla WACC for the 5 years of the 2023–28 period.

51 The price path calculations are based on P0 = X factors, i.e. setting the year 1 change (P0) equal to the change for years 2 to 5 and smoothing. The nominal path reflects our draft decision expected inflation.

- real price path increases of 3.8% per annum on average or 20.4% in total over the 2023–28 period.
- nominal price path increases of 7.3% per annum on average or 42.2% in total over the 2023–28 period.

AusNet has submitted that price stability is important to avoid a disconnection 'death spiral'. We consider that while long term price stability should be considered, the price stability for the 2023–28 period should be the focus noting the current cost of living pressures and the concerns submitted by stakeholders.

4.4.2.1.4 Targeting a real price path of 0% per annum

Based on the material before us, our draft decision has considered the balance between accepting some accelerated depreciation and price stability. This is consistent with our information paper on *Regulating gas pipelines under uncertainty* which stated that:[52]

> "… regulated depreciation or risk compensation cannot be adjusted without constraint to guarantee cost recovery for the regulated businesses. [The AER] must have regard to consumers' interest in having affordable and stable or reasonably predictable gas access prices to encourage their use of the gas infrastructure. Having said that, it is fair to note that regulated businesses also have an interest to maintain price affordability to avoid further decline in gas customer numbers."

This is also consistent with stakeholder submissions which raised concerns about escalating distribution prices in the face of rising cost of living stresses. They pointed out that accelerated depreciation and the resulting higher prices would potentially lead to customers increasingly disconnecting from the network sooner than necessary. AusNet's future of gas modelling also considered price path stability as a central condition to avoid such disconnection spirals.

For the purposes of this draft decision, we have therefore reduced AusNet's proposed amount of accelerated depreciation to $83 million ($2022–23) which would allow an average real price path of 0% per annum to be achieved.[53]

We note with the expected inflation value of 3.37% per annum, a real price path change of 0% per annum would translate to a total nominal increase of 18.0% over the 2023–28 period.[54]

We further note that although AusNet's proposed accelerated depreciation amount is higher than those proposed by the other Victorian gas distribution businesses, it has forecast a lower expected decline in demand over the 2023–28 period.

While we have targeted a 0% per annum real price path for this draft decision, we note there may be scope to choose a different target price path for consideration in the final decision if there is sufficient supporting evidence and adequate further customer consultation is

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52 AER, *Information paper on regulating gas pipelines under uncertainty*, 15 November 2021, p. 29.

53 Our actual draft decision revenue smoothing and resulting price path (section 2.2 of the overview) sets P0 and X factors equal to 0%.

54 The price path calculation is based on P0 = X factors, i.e. setting the year 1 change (P0) equal to the change for years 2 to 5 and smoothing. The nominal path reflects our draft decision expected inflation.

undertaken. We acknowledge that economic conditions will evolve further before the final decision, and this will impact the values of the WACC and expected inflation.

We consider that where possible, values of WACC and expected inflation based on most recent market information should be used as a basis when the business engages with its customers. AusNet's engagement with its consumers on accelerated depreciation would similarly benefit from analysing the revenue and price impacts based on updated WACC and expected inflation parameters, including sensitivity analyses.

4.4.3 Accelerated depreciation for reduced asset lives for mains and services and cathodic protection

AusNet proposed to implement total accelerated depreciation of $200 million by the following method:[55]

- The recovery of $86.3 million of its mains and services pipelines, and cathodic protection assets by applying a reduced standard life of 50 years instead of the approved life of 60 years for these types of assets:
  - for the depreciation of existing (post-1998) assets[56]
  - for the depreciation of 2023–28 forecast capex.
- The remaining accelerated depreciation amount of $113.7 million is then recovered via the new 'Accelerated depreciation – future of gas' asset class with a remaining asset life of 5 years. AusNet proposed that any reductions to the depreciation amount associated with the first adjustment for shortened asset lives should be reallocated to this second adjustment to rebalance the total accelerated depreciation amount at $200 million.

For the first depreciation adjustment component relating to mains, services and cathodic protection assets, AusNet submitted that a shorter standard asset life of 50 years for each of these types of assets aligns with the technical life. For this adjustment, it proposed 5 new asset classes: 'Transmission pipelines – post 1998', 'Distribution pipelines – post 1998' and 'Service pipes – post 1998' and 'Cathodic protection – post 1998' and 'Accelerated depreciation – long life assets'. For the 4 new 'post-1998' asset classes, AusNet reallocated the majority of existing assets from their existing equivalent asset classes and proposed remaining asset lives[57] that reflected this reduction to the historical standard life.[58] For its proposed new asset class 'Accelerated depreciation - long life assets', AusNet proposed a remaining asset life of 5 years to reflect the additional depreciation of historical capex, based

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55 The accelerated depreciation is implemented through end of period adjustments in the RFM. The amounts of $86.3 million and $113.7 million refer to the net impact on straight-line depreciation rather than reallocated amounts in the RFM. The relocated amounts are higher because there is an offsetting impact from the reduced depreciation of the asset classes from which the assets have been reallocated.

56 AusNet submitted that it excluded assets which formed part of its 1998 opening capital base from this component, due to their low risk of stranding and to avoid a significant increase to prices. AusNet, *Access arrangement information, Gas access arrangement review 2024–28*, July 2022, p. 150.

57 The remaining asset lives were set in the final year adjustments section of the RFM.

58 The existing asset classes are 'Transmission pipelines', Distribution pipelines' and 'Service pipes' and 'Cathodic protection'.

on the reduced life of 50 years.[59] AusNet also proposed the reduced standard asset life of 50 years to the 4 new 'post-1998' asset classes for the depreciation of 2023–28 forecast capex.

AusNet's proposal for changing the standard asset life of the mains transmission and distribution pipelines is based on recorded data suggesting that the typical age of asset disposal is around 50 years. We requested additional information from AusNet that supported this component of its proposed accelerated depreciation. Having reviewed the material provided by AusNet in its response, we consider there is insufficient evidence to justify a shortening of asset lives for the 'Transmission pipelines', 'Distribution pipelines' and 'Service pipelines' asset classes.[60] We further note that AusNet is replacing the original steel mains pipelines with longer lived plastic mains pipelines and consider this contradicts a proposal for shorter standard asset life.

AusNet also submitted that a reduced standard asset life of 50 years would be consistent with the approved life for MGN for similar asset classes. We agree that the same asset types should have the same standard asset life applied barring any environmental factors that may impact on the useful life of the asset. However, each asset class used in the PTRM is not for a single asset type, but covers a group of assets. We consider it is reasonable that these assets may have different useful lives. The standard asset life of each asset class should represent the average standard asset life of the capex allocated to that asset class. As the overall make-up of assets entering a certain asset class may differ by business, we consider it reasonable for there to be variation in the average standard asset life applied across businesses. For example, we note that AGN has a standard asset life of 60 years for its asset class for mains and services.

Therefore, for both the existing (post-1998) assets and new assets we do not accept AusNet's proposed shortened asset life of 50 years for the 'Transmission pipelines', 'Distribution pipelines' and 'Service pipelines' asset classes and instead maintain the original life of 60 years. Consequently, we do not accept AusNet's proposed new asset classes 'Transmission pipelines - post 1998', 'Distribution pipelines - post 1998' and 'Service pipes - post 1998'. For our draft decision, we allocate relevant forecast capex to the existing 'Transmission pipelines', 'Distribution pipelines' and 'Service pipes' asset classes.

For the cathodic protection assets, we consider that given gas distribution networks are progressively adopting plastic mains pipelines, the need for cathodic protection systems is reduced. We therefore consider AusNet's proposal to reduce the economic standard asset life for this asset class to be appropriate and we accept the reduced asset life of 50 years for these assets associated with the new 'Cathodic protection - post 1998' asset class.

Our draft decision on AusNet's proposal for shortening the standard asset lives of its assets, reduces the accelerated depreciation of this component to $0.2 million.

To implement our overall draft decision accelerated depreciation of $83.0 million, we have therefore adjusted the accelerated depreciation amount for AusNet's 'Accelerated

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59 The remaining asset life of 5 years was set in the final year adjustments section of the RFM.

60 AusNet, *Response to Information Request #014*, email received 14 September 2022.

depreciation – future of gas' asset class to be $82.8 million, consistent with AusNet's proposed approach.[61] This is shown in Table 4.3.

Table 4.3 AER's draft decision on AusNet's accelerated depreciation ($ million, 2022–23)

Accelerated depreciation	AusNet proposal	AER draft decision
Total	200.0	83.0
Component for reduced asset lives for existing mains & services, cathodic protection	86.3	0.2
Balancing component	113.7	82.8

Source: AER analysis.

4.4.4 Standard asset lives

We accept the majority of AusNet's proposed standard asset lives as they are consistent with those approved for the 2018–22 period. For our draft decision we:

- accept the reduced standard life of 50 years for cathodic protection assets for the reasons detailed in section 4.4.3
- do not accept a reduced standard life of 50 years for mains and services pipelines and instead maintain the existing 60 year standard asset life for the reasons detailed in section 4.4.3
- do not assign a standard asset life for AusNet's proposed new asset class 'Capitalised leases 1 July 2023' as it reflects only existing leases. There is zero forecast capex (reflecting no new leases) for the 2023–28 period and so a standard asset life is not required for this asset class
- update the standard asset life of equity raising costs by taking the weighted average of the standard asset lives of total forecast capex for each asset class over the 2023–28 period
- do not assign a standard asset life for AusNet's proposed new asset classes of 'Accelerated depreciation - long life assets' and 'Accelerated depreciation - future of gas' as they are not used for allocating capex (i.e. have zero forecast capex for the 2023–28 period).

The standard asset life for the 'Equity raising costs' asset class needs to be reviewed each access arrangement period. We consider the standard asset life for this asset class should reflect the lives of the mix of assets making up the approved forecast net capex, because the equity raising cost benchmark is associated with that forecast.[62] AusNet's proposed PTRM used our standard approach to reflect the weighted average of the standard asset lives of all depreciable asset classes over the 2023–28 period, resulting in a proposed standard life of

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61 The accelerated depreciation is implemented through end of period adjustments in the RFM. The listed amounts refer to the net impact on straight-line depreciation rather than reallocated amounts in the RFM. The relocated amounts are higher because there is an offsetting impact from the reduced depreciation of the existing asset classes from which the assets have been reallocated.

62 For this reason, we used forecast net capex as the weights to establish the weighted average standard asset life for amortising equity raising costs.

36.1 years. For this draft decision, our amendments to the standard asset lives for other asset classes mean we have determined an updated standard asset life of 41.9 years for the 'Equity raising costs' asset class.

AusNet also proposed a new asset class of 'Capitalised leases 1 July 2023' for future property and land related expenditure for existing leases. It did not assign a standard asset life for this asset class. We note AusNet's proposal PTRM did not forecast any such capex (reflecting no new leases) for the 2023–28 period and so we agree with AusNet not assigning a standard asset life for this asset class. AusNet's proposal also included an end of period adjustment (reflecting existing leases) for this asset class where it proposed a remaining asset life of 4.8 years. As discussed in Attachment 2, we have amended the amount of this adjustment. In response to an information request, AusNet has provided the remaining terms of its existing leases which are to be capitalised as an end of period adjustment (30 June 2023) to the capital base.[63] From this information, we have therefore amended the remaining asset life for the adjustment associated with this asset class to be 6.6 years, which we are satisfied reflects the weighted average remaining life of AusNet's existing leases as at 30 June 2023.

Table 4.3 sets out our draft decision on AusNet's standard asset lives for the 2023−28 period. We are satisfied the asset lives approved in this draft decision will result in a depreciation schedule that reflects the depreciation criteria of the NGR.[64]

Table 4.3 AER's draft decision on AusNet's standard asset lives for the 2023–28 period

Asset class	Standard asset life
Transmission pipelines	60.0
Distribution pipelines	60.0
Service pipes	60.0
Cathodic protection	60.0
Supply regulators/valve stations	50.0
Meters	15.0
SCADA and remote control	15.0
Other - IT	5.0
Other - non IT	5.0
Buildings	40.0
Land	n/a
Capitalised leases 1 July 2023	n/a
Cathodic protection - post 1998	50.0
Accelerated depreciation - long life assets	n/a
Accelerated depreciation - future of gas	n/a
Equity raising costs	41.9

Source: AER analysis.

63 AusNet, *response to IR#017*, email received 6 October 2022.

64 NGR, r. 89.

n/a not applicable. We have not assigned a standard asset life to some asset classes because the assets allocated to them are not subject to depreciation or they have no forecast capex.

4.5 Revisions

We require the following revisions to make the access arrangement proposal acceptable as set out in Table 4.3.

Table 4.3 AusNet's regulatory depreciation revisions

Revision	Amendment
Revision 4.1	Make all necessary amendments to reflect this draft decision on the regulatory depreciation amounts for the 2023–28 access arrangement period.

Glossary

Term	Definition
AER	Australian Energy Regulator
AGIG	Australian Gas Infrastructure Group
AGN	Australian Gas Networks (Victoria and Albury)
AusNet	AusNet Gas Services
Capex	capital Expenditure
MGN	Multinet Gas Networks
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
NPV	net present value
Opex	operating expenditure
PTRM	post-tax revenue model
RFM	roll forward model
RPP	revenue and pricing principles
WACC	weighted average cost of capital
WARL	weighted average remaining lives