Draft Decision

SA Power Networks Electricity Distribution Determination 2025 to 2030
(1 July 2025 to 30 June 2030)

Attachment 4
Regulatory depreciation

September 2024

AUSTRALIAN
ENERGY
REGULATOR

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4 Regulatory depreciation

Regulatory depreciation is the amount 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 SA Power Networks, we make determinations on the indexation of the regulatory asset base (RAB) and depreciation building blocks for SA Power Networks' 2025–30 regulatory control period (period).[1] The regulatory depreciation amount is the net total of the straight-line depreciation less the indexation of the RAB.

This attachment sets out our draft decision on SA Power Networks' regulatory depreciation amount. It also presents our draft decision on the proposed depreciation schedules, including an assessment of the proposed standard asset lives used for calculating straight-line depreciation.

4.1 Draft decision

We determine a regulatory depreciation amount of $1,200.6 million ($ nominal) for SA Power Networks for the 2025–30 period. SA Power Networks proposed a regulatory depreciation amount of $1,293.3 million ($ nominal).[2] Our draft decision represents a reduction of $92.8 million (7.2%) from the proposed amount.

This reduction is primarily the result of our draft decision on the expected inflation rate for the 2025–30 period (Attachment 3), which affects the projected RAB over this period. Indexation of the RAB is $88.6 million higher than the proposal, largely due to applying a higher expected inflation rate of 2.85% per annum in this draft decision compared to SA Power Networks' proposal of 2.50% per annum. Consequently, the higher RAB indexation reduces regulatory depreciation (since indexation is deducted from straight-line depreciation). Straight-line depreciation is $4.2 million (0.2%) lower than the proposal due to our reductions to forecast capital expenditure (capex) and the opening RAB at 1 July 2025, which further reduces regulatory depreciation.

For our draft decision on SA Power Networks' regulatory depreciation:

- We accept SA Power Networks' proposed straight-line depreciation method used to calculate the regulatory depreciation amount.

- We accept SA Power Networks' proposal to continue using the 'year-by-year tracking' approach for implementing straight-line depreciation of its existing assets and its forecast capex (section 4.4.1).

- We accept SA Power Networks' proposed existing asset classes and standard asset lives, subject to an amendment for the 'Distribution lines' asset class. This is to reflect the introduction of a separate 'Stobie poles' asset class with a standard asset life of

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[1] Clause 6.12.1 of the National Electricity Rules (NER) sets out the 'constituent decisions' we must make as part of a distribution determination. We must decide whether or not to approve the depreciation schedules submitted by a Distribution Network Service Provider (cl. 6.12.1(8)). This is one of the building blocks we must use to determine the annual revenue requirement: cl. 6.4.3 of the NER.

[2] SA Power Networks, *1.1-Post Tax Revenue Model,* January 2024.

80 years, where this type of expenditure was historically allocated to the 'Distribution lines' asset class (section 4.4.2).

We made determinations on other components of SA Power Networks' proposal which affect the forecast regulatory depreciation—for example, the opening RAB at 1 July 2025 (Attachment 2), expected inflation (Attachment 3), and forecast capex (Attachment 5) including its effect on the projected RAB over the 2025–30 period.[3]

Table 4.1 sets out our draft decision on the annual regulatory depreciation amount for SA Power Networks' 2025–30 period.

Table 4.1   AER's draft decision on SA Power Networks' forecast depreciation for the 2025–30 period ($ million, nominal)

	2025–26	2026–27	2027–28	2028–29	2029–30	Total
Straight-line depreciation	409.8	419.8	421.3	370.8	378.3	1,999.9
Less: inflation indexation on opening RAB	148.2	153.4	159.3	165.5	172.9	799.3
Regulatory depreciation	**261.5**	**266.5**	**262.0**	**205.2**	**205.4**	**1,200.6**

Source: AER analysis.

4.2 SA Power Networks' proposal

For the 2025–30 period, SA Power Networks proposed a total forecast regulatory depreciation amount of $1,293.3 million ($ nominal). To calculate the depreciation amount, SA Power Networks proposed to use:[4]

- the straight-line depreciation method employed in the AER's post-tax revenue model (PTRM)

- the closing RAB value at 30 June 2025 derived from the AER's roll forward model (RFM)

- its forecast capex for the 2025–30 period

- an expected inflation rate of 2.50% per annum for the 2025–30 period

- the AER's year-by-year tracking depreciation module in the RFM, which implements the straight-line method to calculate the forecast depreciation (over the 2025–30 period) of the opening RAB at 1 July 2025[5]

- the same asset classes and standard asset lives for depreciating its forecast capex for the 2025–30 period, which are consistent with those approved in the 2020–25 distribution determination.

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[3]   Capex enters the RAB net of forecast disposals and capital contributions. It includes equity raising costs (where relevant) and the half-year weighted average cost of capital (WACC) to account for the timing assumptions in the PTRM. Our draft decision on the RAB (Attachment 2) also reflects our updates to the WACC for the 2025–30 period.

[4]   SA Power Networks, *1.1–Post Tax Revenue Model,* January 2024.

       SA Power Networks, *2.1-Roll Forward Model,* January 2024.

[5]   SA Power Networks, *Attachment 4–Regulatory Depreciation,* January 2024, p. 8.

Table 4.2 sets out SA Power Networks' proposed regulatory depreciation amount for the 2025–30 period.

Table 4.2   SA Power Networks' proposed regulatory depreciation for the 2025–30 period ($ million, nominal)

	2025–26	2026–27	2027–28	2028–29	2029–30	Total
Straight-line depreciation	410.0	420.3	421.6	372.0	380.2	2,004.1
Less: inflation indexation on opening RAB	130.6	135.7	141.4	147.7	155.3	710.7
Regulatory depreciation	**279.5**	**284.6**	**280.2**	**224.2**	**224.9**	**1,293.3**

Source: SA Power Networks*, 1.1-Post Tax Revenue Model,* January 2024.

4.3 Assessment approach

We must determine the regulatory depreciation amount as part of determining a distributor's annual revenue requirement.[6] The calculation of depreciation in each year is governed by the value of assets included in the RAB at the beginning of the regulatory year, and by the depreciation schedules.[7]

4.3.1 Approach to determining depreciation

Our standard approach to calculating depreciation is to employ the straight-line method set out in the PTRM. Regulatory practice has been to assign a standard asset life to each category of assets that represents the economic or technical life of the asset or asset class.[8] We must consider whether the proposed depreciation schedules conform to the following key requirements:

- the schedules must depreciate using a profile that reflects the nature of the assets or category of assets over the economic life of that asset or category of assets[9]

- the sum of the real value of the depreciation that is attributable to any asset or category of assets must be equivalent to the value at which that asset or category of assets was first included in the RAB for the relevant distribution system.[10]

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[6]   NER, cll. 6.4.3(a)(3) and (b)(3).

[7]   NER, cl. 6.5.5(a).

[8]   This is the standard practice for the AER, as well as other jurisdictional regulators. See for example,

IPART, *Cost building block model template – RAB & tax inputs – Table 2*, February 2023.

ERAWA, *Final decision on proposed revisions to the access arrangement for the Western Power Network 2022/23 – 2026/27 – Target Revenue Model,* March 2023.

AER, *Final decision: Electricity distribution network service providers – Post-tax revenue model handbook*, April 2021, p. 15.

AER, *Draft decision: AusNet Services transmission determination 2017-18 to 2021-22, Attachment 5 – Regulatory depreciation*, July 2016, p. 37.

[9]   NER, cl. 6.5.5(b)(1).

[10]   NER, cl. 6.5.5(b)(2).

To the extent that a distributor's regulatory proposal does not conform with the above requirements, we must determine the depreciation schedules for calculating the depreciation for each regulatory year.[11]

The regulatory depreciation amount is an output of the PTRM. We therefore assessed SA Power Networks' proposed regulatory depreciation amount by analysing the proposed inputs to the PTRM for calculating that amount. The key inputs include:

- the opening RAB at 1 July 2025

- the forecast net capex in the 2025–30 period[12]

- the expected inflation rate for the above period

- the standard asset life for each asset class—used for calculating the depreciation of new assets associated with forecast net capex in the above period

- the depreciation of existing assets in the opening RAB as at 1 July 2025—calculated in a separate year-by-year tracking depreciation module.

Our draft decision on SA Power Networks' regulatory depreciation amount reflects our determinations on the opening RAB at 1 July 2025, expected inflation rate and forecast capex (the first three building block components in the above list).[13] Our determinations on these components of SA Power Networks' proposal are discussed in Attachments 2, 3 and 5 respectively.

In this attachment, we assess SA Power Networks' proposed standard asset lives against:

- the approved standard asset lives in the distribution determination for the 2020–25 period

- the standard asset lives of comparable asset classes approved in our recent distribution determinations for other service providers

- the appropriate economic lives of the assets.

Our regulatory models (RFM and PTRM) provide for two approaches for calculating the straight-line depreciation of 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 regulatory control 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

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[11]   NER, cl. 6.5.5(a)(2)(ii).

[12]   Capex enters the RAB net of forecast disposals and capital contributions. It includes equity raising costs (where relevant) and is adjusted for half-year WACC to account for the timing assumptions in the PTRM. Our draft decision on the RAB (Attachment 2) also reflects our updates to the WACC for the 2025–30 period.

[13]   Our final decision will update the opening RAB as at 1 July 2025 for revised estimates of actual capex and inflation.

the requirements for determining depreciation under the National Electricity Rules (NER).

- 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 the regulatory control 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 the assessment of the remaining asset life at each five-yearly distribution determination. We consider this approach also meets the requirements for determining depreciation under the NER. Our depreciation tracking module in the RFM conducts the detailed calculations required under this approach. The output of this module is then recorded in the PTRM.

SA Power Networks has proposed to continue applying the year-by-year tracking approach to calculate the straight-line depreciation of its opening RAB as at 1 July 2025. Our assessment of SA Power Networks' proposed implementation of the year-by-year tracking approach is discussed in section 4.4.1.

4.3.2 Interrelationships

The regulatory depreciation amount is a building block component of the annual revenue requirement.[14] Higher (or quicker) depreciation leads to higher revenues over the regulatory control period. It also causes the RAB to reduce more quickly (excluding the impact of further capex). This reduces the return on capital amount, although this impact is usually smaller than the increased depreciation amount in the short to medium term.[15]

Ultimately, however, a distributor can only recover the capex that it incurs on assets once. The depreciation amount reflects how quickly the RAB is being recovered, and it is based on the asset lives used in the depreciation calculation. It also depends on the level of the opening RAB and the forecast capex. Any increase in these factors also increases the depreciation amount.

The RAB has to be maintained in real terms, meaning the RAB must be indexed for expected inflation.[16] The return on capital building block has to be calculated using a nominal rate of return applied to the opening RAB.[17] As noted in Attachment 1, the total annual revenue requirement is calculated by adding up the return on capital, depreciation, operating expenditure (opex), tax and revenue adjustments building blocks. Because inflation on the RAB is accounted for in both the return on capital—based on a nominal rate—and the depreciation calculations—based on an indexed RAB—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 RAB from the calculation of total revenue. Our standard approach is to subtract the indexation of the opening RAB—the opening RAB multiplied by the expected

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[14] The PTRM distinguishes between straight-line depreciation and regulatory depreciation, where regulatory depreciation is the straight-line depreciation less the indexation adjustment.

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

[16] NER, cll. 6.3.2(a)(2), 6.4.3(b)(1) and S6.2.3(c)(4).

[17] AER, *Rate of return instrument*, cll. 1, 3, 36(c), February 2023.

inflation for the year—from the RAB depreciation. The net result of this calculation is referred to as regulatory depreciation.[18] 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 RAB, which is indexed for inflation annually. Figure 4.1 shows where the inflation components are included in the building block costs.

Figure 4.1   Inflation components in revenue building block – example
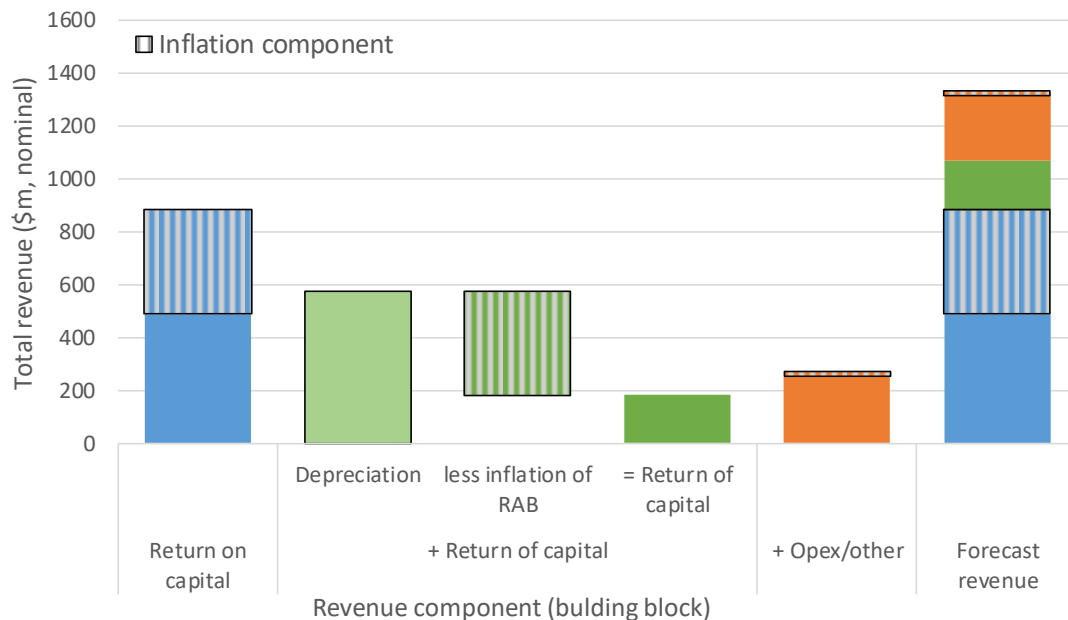
Source: AER analysis.

This approach produces the same total revenue requirement and RAB as if a real rate of return had been used in combination with an indexed RAB. Under an alternative approach where a nominal rate of return was used in combination with an un-indexed (historical cost) RAB, 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 would be higher early in the asset's life (as a result of more depreciation being returned to the distributor) and lower in the future— producing a steeper downward sloping profile of total revenue.[19] Under both approaches, the total revenues being recovered are in present value neutral terms—that is, returning the initial cost of the RAB.

Figure 4.2 shows the recovery of revenue under both approaches using a simplified example.[20] Indexation of the RAB and the offsetting adjustment made to depreciation results

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18   If the asset lives are extremely long, such that the RAB depreciation rate is lower than the inflation rate, then negative regulatory depreciation can emerge. The indexation adjustment is greater than the straight-line depreciation in such circumstances.

19   A change of approach from an indexed RAB to an un-indexed RAB would result in an initial step change increase in revenues to preserve net present value (NPV) neutrality.

20   The example is based on the initial cost of an asset of $100, a standard economic life of 25 years, a real WACC of 2.50%, expected inflation of 2.40% 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.

in a smoother revenue recovery profile over the life of an asset than if the RAB was un-indexed. The indexation of the RAB also reduces prices shocks when the asset is replaced at the end of its life.[21]

Figure 4.2   Revenue path example – indexed vs un-indexed RAB ($ nominal)
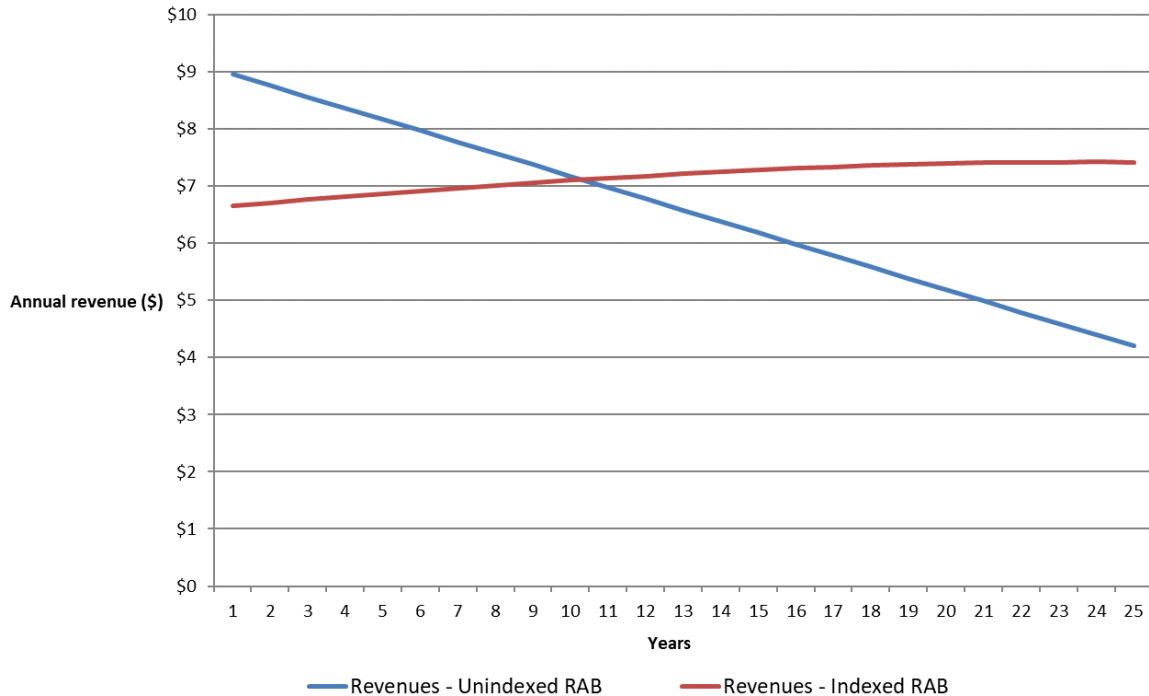
Source: AER analysis.

Figure 2.1 (in Attachment 2) shows the relative size of the inflation and straight-line depreciation, and their impact on the RAB based on SA Power Networks' proposal. A 10% increase in the straight-line depreciation causes unsmoothed revenues ($ nominal) to increase by about 4.1%.[22]

4.4 Reasons for draft decision

We accept SA Power Networks' proposed straight-line depreciation method for calculating the regulatory depreciation amount as set out in the PTRM. However, we have reduced SA Power Networks' proposed forecast regulatory depreciation amount for the 2025–30 period by $92.8 million (7.2%) to $1,200.6 million ($ nominal).

This reduction is the result of a higher expected inflation rate (Attachment 3), which affects the projected RAB over the 2025–30 period. Our draft decision applies a higher expected inflation rate of 2.85% per annum compared to SA Power Networks' proposal of 2.50% per

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21   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.

22   We have analysed the sensitivity of straight-line depreciation relative to total revenue based on input data provided in SA Power Networks' proposal PTRM.

annum (Attachment 3). The reduction is also driven by reduced forecast capex (Attachment 5) and a lower opening RAB as at 1 July 2025 (Attachment 2) in our draft decision.

In its submission, the South Australian Wine Industry Association (SAWIA) noted its expectation for us to investigate SA Power Networks' approach to depreciation.[23] SAWIA's primary concern related to the impact of increased forecast capex on the projected RAB and therefore depreciation. We note this and consider that SA Power Networks' depreciation approach broadly aligns with the approach from the 2020–25 distribution determination. We discuss our decisions on the opening RAB at 1 July 2025 in Attachment 2 and forecast capex in Attachment 5 including its effect on the projected RAB over the 2025–30 period.

Our assessment of SA Power Networks' proposal to continue using the year-by-year tracking depreciation approach and its proposed standard asset lives, and our draft decision for a new 'Stobie poles' asset class are discussed in the following subsections.

4.4.1 Year-by-year tracking approach

SA Power Networks proposed to continue using the year-by-year tracking approach for calculating the straight-line depreciation of its existing assets, consistent with that approved for its previous regulatory control periods.[24]

For our draft decision, we accept SA Power Networks' proposed year-by-year tracking approach meets the requirements of the NER in that it will result in depreciation schedules that:[25]

- reflect the nature of the assets and their economic life

- ensure that total depreciation (in real terms) equals the initial value of the assets

- allow the economic lives of existing assets to be consistent with those determined on a prospective basis in our 2020–25 distribution determination.

SA Power Networks used our depreciation module in the RFM to implement year-by-year tracking. We have reviewed SA Power Networks' application of this module and updated the following inputs to be consistent with the RFM:

- the actual Consumer Price Index (CPI) for 2023–24 with the 2023 December quarter CPI published by the Australian Bureau of Statistics, which became available after SA Power Networks submitted its proposal. The estimated CPI for 2024–25 has also been updated with the latest forecast inflation published in the Reserve Bank of Australia's August 2024 *Statement on Monetary Policy*[26]

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23 South Australian Wine Industry Association, *Submission to the Australian Energy Regulator in response to the Issues Paper: SA Power Networks Electricity Distribution Determination 2025-30*, 15 May 2024, pp. 4-5.

24 AER*, Final decision: SA Power Networks determination 2015–16 to 2019–20, Attachment 5 – Regulatory depreciation*, October 2015, pp. 10-17; AER*, Final decision: SA Power Networks Distribution Determination 2020 to 2025, Attachment 4 – Regulatory depreciation*, June 2020, p. 5.

25 NER, cl. 6.5.5(b).

26 RBA, *Statement on Monetary Policy, Table 3.1: Detailed Forecast Table*, August 2024, p. 57.

- the weighted average cost of capital (WACC) for 2023–25. This update is required to reflect the updated CPI and 2024–25 return on debt update in the PTRM for the 2020–25 period, which became available after SA Power Networks submitted its proposal

- updates to 2020–23 capex, disposals and capital contributions reflecting the annual reporting Regulatory Information Notices (RINs).[27]

4.4.2 Standard asset lives

We accept the majority of SA Power Networks' proposed standard asset lives for its existing asset classes in respect of the forecast capex to be incurred in the 2025–30 period. This is because they are consistent with those approved for the 2020–25 period and are largely comparable with the standard asset lives used by other network businesses for similar asset classes. We also introduce a new asset class of 'Stobie poles' and assign a standard asset life of 80 years following our review of SA Power Networks' proposed capex. In adding this new asset class, we adjust the standard asset life for the existing 'Distribution lines' asset class.

We consider a new asset class for 'Stobie poles' should be introduced based on our review of SA Power Networks' proposed poles capex (discussed in Attachment 5). Our draft decision is to assign a standard asset life of 80 years for this new asset class based on our assessment of the expected technical life of these poles.

Consistent with its previous distribution determinations, SA Power Networks proposed to allocate its forecast capex for Stobie poles in the 'Distribution lines' asset class with a standard asset life of 55 years. In response to our information requests, SA Power Networks submitted that Stobie poles comprised around 8% of the forecast capex allocated to the 'Distribution lines' asset class. It further noted that the 'Distribution lines' asset class includes various asset types and that its standard asset life of 55 years reflects a mix of longer lived assets such as Stobie poles, and shorter lived assets such as overhead line components, reclosers, line regulation and reliability improvement works.[28]

In its submission, the South Australian Council of Social Service (SACOSS) noted the importance of assessing forecast expenditure to ensure the various proposed and existing asset lives remain appropriate.[29] We note this and consider that reallocating Stobie poles capex from the 'Distribution lines' asset class to a new asset class improves transparency and provides for a depreciation schedule that better reflects the nature and economic life of this type of asset.

In reallocating this capex, we have reduced the standard asset life for the existing 'Distribution lines' asset class to 52.1 years from the previously approved life of 55 years. We made this adjustment based on the weighted average of the reallocated capex. It reflects that removing the longer-lived Stobie poles from the forecast capex for this asset class will therefore increase the relative proportion of the shorter-lived assets.

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27   SA Power Networks, *Response to AER information request #007*, 11 April 2024, pp. 2–4.

28   SA Power Networks, *Response to AER information request #007*, 11 April 2024, pp. 5–6.

29   South Australian Council of Social Service (SACOSS), *Submission to the Australian Energy Regulator on the SA Power Networks Electricity Distribution Determination 2025-30: Issues Paper*, May 2024, p. 24.

In its response to our information request, SA Power Networks agreed with our approach of introducing the new standalone asset class of 'Stobie poles' and its longer standard asset life, as well as the adjustment to the standard asset life for the existing 'Distribution lines' asset class.[30]

The standard asset life for the 'Equity raising costs' asset class needs to be reviewed each regulatory control 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.[31] However, consistent with SA Power Networks' proposal, no equity raising costs have been determined in our draft decision modelling. This is because SA Power Networks does not satisfy the PTRM requirements to incur benchmark equity raising costs associated with the approved forecast capex. Accordingly, we record the standard asset life as 'not applicable' in the PTRM for this draft decision.

Table 4.3 sets out our draft decision on SA Power Networks' standard asset lives for the 2025–30 period. We are satisfied that:[32]

- the standard asset lives and depreciation approach more broadly would lead to a depreciation schedule that reflects the nature of the assets over the economic lives of the asset classes, and

- the sum of the real value of the depreciation attributable to the assets is equivalent to the value at which the assets were first included in the RAB for SA Power Networks.

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[30]   SA Power Networks, *response to AER information request #007(D),* 21 June 2024.

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

[32]   NER, cll. 6.5.5(b)(1)–(2).

Table 4.3   AER's draft decision on SA Power Networks' standard asset lives as at 1 July 2025 (years)

Asset class	Standard asset life
Sub-transmission lines	55.0
Distribution lines	52.1
Substations	45.0
Distribution transformers	45.0
Low voltage services	55.0
Communications	15.0
Contributions	n/a
Land	n/a
Substation land	n/a
Easements	n/a
Buildings	40.0
Heavy vehicles - 15 year	15.0
Heavy vehicles - 10 year	10.0
Light vehicles	5.0
IT assets	5.0
Plant & tools/Office furniture	10.0
Sub-transmission and distribution lines - short life	25.0
Substations and transformers - short life	20.0
Electronic network assets	15.0
Stobie poles	80.0
Buildings - capital works	40.0
In-house software	5.0
Equity raising costs[a]	n/a

Source: AER analysis.

(a)   For this draft decision, the forecast capex determined for SA Power Networks does not meet a level to trigger any benchmark equity raising costs.

n/a   not applicable. We have not assigned a standard asset life to the 'Land', 'Substation land' and 'Easements' asset classes because the capex allocated to them are not subject to depreciation. We have not assigned a standard asset life to the 'Contributions' asset class as there is no forecast capex allocated to this asset class.

Shortened forms

Term	Definition
AER	Australian Energy Regulator
capex	capital expenditure
CPI	consumer price index
ERAWA	Economic Regulation Authority Western Australia
IPART	Independent Pricing and Regulatory Tribunal
NER	National Electricity Rules
NPV	net present value
opex	operating expenditure
PTRM	post-tax revenue model
RAB	regulatory asset base
RIN	regulatory information notice
RFM	roll forward model
SACOSS	South Australian Council of Social Service
SAWIA	South Australian Wine Industry Association
WACC	weighted average cost of capital
WARL	weighted average remaining life