



Economic Regulation Authority

Final decision on proposed revisions to the access arrangement for the Western Power Network 2022/23 – 2026/27

Attachment 4: Depreciation

31/03/2023

Economic Regulation Authority

Level 4, Albert Facey House

469 Wellington Street, Perth WA 6000

Telephone 08 6557 7900

Email info@erawa.com.au

Website www.erawa.com.au

This document can also be made available in alternative formats on request.

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Note

This attachment forms part of the ERA's final decision on proposed revisions to the access arrangement for the Western Power Network for the fifth access arrangement period (AA5). It should be read with all other parts of the final decision.

The final decision comprises all of the following attachments:

Final decision on proposed revisions to the access arrangement for the Western Power network 2022/23 – 2026/27 – Decision Overview

Attachment 1 – Price control and target revenue

Attachment 2 – Regulated asset base

Attachment 3A – AA4 capital expenditure

Attachment 3B – AA5 capital expenditure

Attachment 4 – Depreciation (this document)

Attachment 5 – Return on regulated asset base

Attachment 6 – Operating expenditure

Attachment 7 – Other components of target revenue

Attachment 8 – Services

Attachment 9 – Service standard benchmarks and adjustment mechanism

Attachment 10 – Expenditure incentives and other adjustment mechanisms

Attachment 11 – Network tariffs

Attachment 12 – Policies and contracts

1. Summary

This attachment deals with depreciation.

The draft decision:

- Approved the continued use of straight-line depreciation.
- Amended some asset lives proposed by Western Power.
- Required Western Power to amend the percentage allocations to asset class for AA4 to reflect actual expenditure by asset class.
- Required Western Power to amend some minor errors in the depreciation calculation to be consistent with the ERA's target revenue model.

In its revised proposal, Western Power accepted the ERA's amendments to asset lives and other draft decision required amendments.

The table below sets out the asset lives the ERA amended in the draft decision compared with the asset lives initial proposed by Western Power.

Table 1: Economic asset life for depreciation purposes

Asset group	ERA decision	Western Power initial proposal
Distribution underground cables	60	50
Distribution switchgear	35	30
Stand-alone power systems	20	15
Storage	20	10

Source: ERA and Western Power target revenue models.

Summary of final decision on depreciation

- The ERA has approved the continued use of straight-line depreciation.
- The ERA has approved the asset lives included in Western Power's revised proposal (which are consistent with asset lives determined by the ERA in the draft decision).
- The depreciation calculated by Western Power in its revised proposal must be updated to reflect the ERA's final decision amendments to the opening regulated asset base (Attachment 2) and forecast capital expenditure for AA5 (Attachment 3B).

The reasons for the ERA's final decision in respect of the matters relevant to depreciation and details of required amendments are set out in this attachment.

2. Depreciation

The access arrangement must provide for the depreciation of the network assets comprising the capital base, including the economic lives of each network asset or group of network assets, the depreciation method to be applied to each network asset or group of network assets and the circumstances in which the depreciation of a network asset may be accelerated.¹

Clause 5.35 of the current access arrangement specifies the depreciation of the opening capital base for AA5 is the forecast depreciation included in the AA4 target revenue.

Clause 5.3.2 of the current access arrangement sets out the depreciation method and asset lives that applied for AA4:

- 5.3.2 The depreciation provision contained in the target revenue for each year of this access arrangement period is calculated using:
- a) the straight line depreciation method;
 - b) the existing weighted average lives for each of the transmission system and distribution system that comprise the capital base value as at 30 June 2017; and
 - c) for new facilities investment forecast for this access arrangement period the weighted average lives for each of the transmission system and distribution system based on the asset lives for each group of network assets as set out in [Tables 28 and 29 of the access arrangement].

2.1 Western Power's initial proposal

Western Power proposed to retain the current access arrangement provisions for depreciation except for some asset lives. A comparison of the proposed new lives with current lives is shown in Table 2.

Table 2: Western Power initial proposed economic asset life (years) for depreciation purposes

Asset group	AA5 proposed economic life (years) for depreciation purposes	AA4 approved economic life (years) for depreciation purposes
Transmission transformers	50 years	50 years
Transmission reactors	40 years	50 years
Transmission capacitors	40 years	40 years
Transmission circuit breakers	40 years	50 years
Transmission lines – steel towers	60 years	60 years
Transmission lines – wood poles	45 years	45 years
Transmission cables	55 years	55 years

¹ Section 6.70 of the Access Code

Asset group	AA5 proposed economic life (years) for depreciation purposes	AA4 approved economic life (years) for depreciation purposes
Transmission metering	40 years	40 years
Transmission SCADA and communications	11 years	11 years
Transmission IT	6 years	6 years
Transmission other, non-network assets	27 years	27 years
Transmission secondary systems	30 years	N/A
Distribution lines – wood poles	41 years	41 years
Distribution underground cables	50 years	60 years
Distribution transformers	35 years	35 years
Distribution switchgear	30 years	35 years
Street lighting	20 years	20 years
Distribution meters and services	15 years	15 years
Distribution IT	6 years	6 years
Distribution SCADA & communications	10.16 years	10.16 years
Distribution other, non-network assets	27 years	27 years
Stand-alone power systems (SPS)	15 years	N/A
Storage	10 years	N/A
Equity raising costs	49 years	46 years

Source: ERA target revenue model

Western Power stated:

- For the new asset classes, the proposed asset life is based on Western Power's assessment of the mean replacement life for these assets.
- The changes in economic life for the existing asset classes reflect the most recent tax ruling (TR 2021/3) on the effective life of depreciating assets.

Western Power proposed that these changes would affect only the calculation of new facilities investment undertaken during the AA5 period and future capex. New facilities investment undertaken in previous access arrangements would continue to be depreciated based on the economic lives that applied at the time the depreciation forecast was developed for the investment.

Western Power calculated depreciation on the opening regulated capital base as set out in Table 3 below.

Table 3: Western Power initial proposed depreciation for opening capital base

	2017/18	2018/19	2019/20	2020/21	2021/22	Total
Transmission	120.2	126.6	133.5	141.9	145.0	667.2
Distribution	281.6	301.4	305.7	294.5	286.3	1,469.5
Total	401.8	428.0	439.2	436.4	431.3	2,136.7

Source: Western Power regulated revenue model

Western Power calculated forecast depreciation for AA5 as set out in Table 4 below.

Table 4: Western Power initial proposed depreciation for forecast capital base

	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Transmission	146.7	165.2	175.5	184.7	192.9	865.0
Distribution	288.2	290.6	324.9	347.9	379.7	1,631.3
Total	434.9	455.8	500.4	532.6	572.6	2,496.3

Source: Western Power regulated revenue model

2.2 Submissions on initial proposal

Submissions on depreciation were received from the Australian Energy Council and Synergy.

The Australian Energy Council was concerned about the increase in depreciation due to a large proportion of the proposed AA5 capital expenditure relating to assets with relatively short lives. It was also concerned about the proposed reduction in some asset lives:

The AEC notes that the forecast depreciation in 2026/27 of \$633.1 million is 47 per cent higher than the forecast depreciation in 2022/23 of \$443.8 million. The main explanation for this increase in depreciation is that much of the capex during AA5 is on assets with relatively short economic lives. For example, Western Power is proposing an economic life of 15 years for standalone power systems (capex budget of \$330 million) and an economic life of 10.2 years for SCADA and communications (capex budget of \$483 million). The straight-line depreciation method used by Western Power accelerates the depreciation of these assets. Western Power notes in its AA5 submission that the proposed reductions in the economic life for the existing asset classes is based on a recent tax ruling (TR 2021/3) but for new asset classes the proposed economic life is based on Western Power's assessment of these assets. Western Power is incentivised to reduce the life of its assets to bring forward the revenue it can earn. This is not in the long-term interests of network users and their end use customers. The ERA should satisfy itself that the proposed asset lives are realistic and consistent with asset lives used in other jurisdictions.

The Australian Energy Council suggested that the annuity method of depreciation should be considered instead of the straight-line depreciation method:

The improvement would be due to the flat overall capital cost recovery profile that the real annuity method affords and the fact that network users face a higher weighted average cost of capital than Western Power. A move to the real annuity method of depreciation would thus improve the net present value of network user's cash flows without impacting the net present value of Western Power's cashflows, which would

place downward pressure on network prices and ultimately retail prices. Moreover, the move would provide some benefit for the network by preserving the network's capital base for longer, resulting in a stronger balance sheet over the life of the assets.

Synergy expressed similar views to the Australian Energy Council:

Synergy agrees with the AEC that the annuity method of depreciation should also be applied to all asset categories and vintages, as this ensures the resultant target revenue satisfies the Code objective and the specific criteria in ENAC section 6.4(c), unlike the straight-line method of depreciation that has been used in the past.

Moving from a straight-line to an annuity method of depreciation for all asset categories and vintages would be NPV neutral for WP – i.e., an annuity approach would provide WP with the same NPV in revenue over the life of the assets as the straight-line depreciation approach - but would be NPV positive for network users and for customers because those users and customers face a higher cost of capital relative to WP's cost of capital and network cost recovery using the straight-line method of depreciation approach is front-end-loaded when compared to the annuity method of depreciation approach, which has a flat cost recovery profile.

Synergy does not support reductions in the economic lives of WP assets merely due to a change in a taxation ruling that generalises the effective life of assets for taxation purposes. For the purposes of the ENAC, Synergy's view is that economic life calculations should account for the specific circumstances of WP's asset use. Synergy considers for the proposed access arrangement and associated information to comply with ENAC sections 6.4(a)(i) and 4.2, WP should explain what business practices or procurement decisions may have effected a material decrease in the economic lives of some asset categories since AA4.

Synergy also expressed concerns about the calculation of depreciation:

In Synergy's view, WP's method of allocating capex and contributions from regulatory category to asset class lacks transparency, resulting in potentially inappropriate accelerated depreciation. It appears the percentage values in WP's AA5 regulated revenue model's allocation matrices are identical to those forecast at the beginning of the AA4 period and used in WP's AA4 regulated revenue model, i.e., before the capex was actually spent. In other words, the actual allocation percentages observed during the AA4 period do not appear to have been applied in WP's AA5 regulatory model.

...

Allowing WP to retain the capex allocation forecast made at the beginning of an access arrangement period for the allocation of actual capex and contributions from regulatory category to asset class may confer an incentive upon WP to favour its forecast allocation to asset classes with relatively short economic lives. If the actual capex incurred during the access arrangement period is spent on assets with relatively long economic lives compared to the forecast made at the beginning of the access arrangement period, the assumed allocation factors will result in an artificially accelerated rate of depreciation.

2.3 Draft decision

The current access arrangement specifies the depreciation of the opening capital base for AA5 is the forecast depreciation included in the AA4 target revenue.

In the draft decision, the ERA was satisfied that the depreciation values used in Western Power's calculation of the opening capital base for AA5 were consistent with the depreciation values included in the AA4 target revenue.

For AA5, Western Power proposed to retain the methods set out in the current access arrangement which specify depreciation is calculated using:

- The straight-line depreciation method.
- The existing weighted average lives for assets that are included in the capital base at the beginning of the access arrangement period (i.e. beginning of AA5).
- Asset lives specified in the access arrangement for capital expenditure during the access arrangement period (i.e. AA5).
- The depreciation of the opening capital base for AA6 will be the forecast depreciation included in the AA5 target revenue.

The ERA was satisfied that this approach was consistent with applying the roll-forward calculation of the regulated capital base in a manner consistent with the Access Code objective. The ERA identified some minor errors in Western Power's calculation of depreciation that need to be corrected.

Draft decision required amendment 1

Amend errors in the calculation of depreciation to be consistent with the ERA's target revenue model.

Synergy and the Australian Energy Council suggested that the annuity method of depreciation should be considered instead of the straight-line depreciation method.

Regulatory frameworks such as the Access Code provide for a return on efficient capital investments in assets that are required to provide regulated services as well as the return of the assets over their economic lives. Depreciation is an input into the calculation of regulated charges.

The ERA considered the current straight-line depreciation method ensures Western Power's target revenue only includes a regulatory depreciation allowance equal to (in real terms) the value of its initial capital investment and that assets are fully depreciated by the end of their economic lives.

For AA5 capital expenditure, Western Power proposed changes to some of the economic lives that were applied in AA4 and created some new asset classes. Western Power stated the revised asset lives were based on most recent tax ruling (TR 2021/3) on the effective life of depreciating assets. The ERA agreed with Synergy's view that economic lives should not be amended merely due to a change in a taxation ruling.

The ERA's consultant Engevity provided advice to assist the ERA in its assessment of asset lives. Engevity based its advice on:

- Western Power's historical lives
- comparisons to the lives applied to the NEM businesses
- experience with modern network and SPS equipment.

Engevity found that the distribution asset lives proposed by Western Power typically fall at the shorter end of industry expectations, whilst transmission asset lives are generally aligned or longer than the lives used by the NEM transmission networks.

Engevity recommended:

- Accepting the proposed reduction in transmission reactors and circuit breakers asset lives from 50 years to 40 years. It considered the reduction in lives for these assets is

consistent with the general trend by transmission equipment manufacturers to move away from rebuildable/serviceable equipment to minimise maintenance requirements and reliability impacts. This means that Western Power's revised asset lives simply reflect that modern equipment is not expected to remain in service as long as older technologies because contemporary manufacturers have struck a different balance between maintenance costs, reliability impacts, refurbishment options and capital cost when compared to older manufacturers.

- Accepting the proposed life for new asset class transmission secondary systems.
- Not accepting the proposed reduction for distribution underground cables. Reducing the asset life by ten years would place the life for the asset class below the NEM average and at the lower end of the range (excluding United Energy at 35.6 years across most distribution network asset classes). Engevity recommends that the asset life assumption for underground cables is retained at 60 years.
- Not accepting the proposed reduction for distribution switchgear. Western Power's existing assumptions are already at the lower limit of industry expectations. Engevity recommends that the existing asset life assumption for switchgear is retained at 35 years.
- Not accepting the proposed (15-year) life for new asset class standalone power systems. It considers the proposed life appears to be too heavily weighted towards the shorter life inverter assets. Typical lives noted by Western Power in their Network Management Plan are 10 years for an inverter, 20 years for a solar array/battery and 30 years for a generator/relocatable structure. Engevity considers these assumptions are well aligned with typical manufacturer expectations. Engevity considers that an asset life of 20 years is appropriate for the SPS asset class as this reflects the expected life of the solar array and battery components that form the majority of the SPS asset costs. Engevity recommended that the weighting is revisited at the next access arrangement to ensure it is still appropriate.
- Not accepting the proposed (10-year) life for new asset class storage. Engevity recommends using a 20 year life which aligns with a BESS operation that cycles less than one full cycle per day as well as Western Power's Network Management Plan assumptions for battery storage.
- Engevity recommended increasing the asset life for distribution meters and services to reflect the longer life of service connections and legacy meters compared with advanced meters. However, the ERA has subsequently established that Western Power has historically only allocated metering costs to this category and the legacy electro mechanical meters are now fully written down.
- Accepting all other proposed lives.

Table 5: Engevity recommended asset lives

Asset group	Western Power proposed life	AA4 approved life	NEM average (range)	Engevity recommended life
Transmission transformers	50 years	50 years	44 (40-50)	50
Transmission reactors	40 years	50 years	42 (40-45)	40
Transmission capacitors	40	40	42 (40-45)	40

Asset group	Western Power proposed life	AA4 approved life	NEM average (range)	Engevity recommended life
Transmission circuit breakers	40	50	44 (40-45)	40
Transmission lines – steel towers	60	60	56(50-60)	60
Transmission lines – wood poles	45	45	49 (45-55)	45
Transmission cables	55	55	47 (40-60)	55
Transmission metering	40	40	-	40
Transmission SCADA and communications	11	11	17 (10-37)	11
Transmission IT	6	6	5 (4-7)	6
Transmission other, non-network assets	27	27	15 (7-40)	27
Transmission secondary systems	30	N/A	19 (15-37)	30
Distribution lines – wood poles	41	41	48.6 (35-58)	41
Distribution underground cables	50	60	53.3 (35.6-60)	60
Distribution transformers	35	35	47.4 (35.6-58)	35
Distribution switchgear	30	35	43.5 (35-51)	35
Street lighting	20	20	20	20
Distribution meters and services	15	15	15 25 46.05 (35-55)	15-AMI 7-legacy 35-services
Distribution IT	6	6	5.5 (5-10)	6
Distribution SCADA & communications	10.16	10.16	10.2 (7-15)	10.16
Distribution other, non-network assets	27	27	9.9 (5-17.4)	27
Stand-alone power systems	15	N/A		20 ²
Storage	10	N/A		20

Source: Engevity, Western Power AA5 Expenditure Proposal Review, Attachment 6

Based on the advice provided by Engevity, and the Access Code requirements in relation to depreciation, the ERA considered that the following asset lives should be used.

² Comprising: solar PV cells -20 years; inverter – 10 years; relocatable structures – 30 years, generator – 30 years; storage – 20 years.

Table 6: Draft decision economic asset life for depreciation purposes

Asset group	Draft decision	Western Power initial proposal
Transmission transformers	50	50
Transmission reactors	40	40
Transmission capacitors	40	40
Transmission circuit breakers	40	40
Transmission lines – steel towers	60	60
Transmission lines – wood poles	45	45
Transmission cables	55	55
Transmission metering	40	40
Transmission SCADA and communications	11	11
Transmission IT	6	6
Transmission other, non-network assets	27	27
Transmission secondary systems	30	30
Distribution lines – wood poles	41	41
Distribution underground cables	60	50
Distribution transformers	35	35
Distribution switchgear	35	30
Street lighting	20	20
Distribution meters	15	15
Distribution IT	6	6
Distribution SCADA & communications	10.16	10.16
Distribution other, non-network assets	27	27
Stand-alone power systems	20	15
Storage	20	10

Source: ERA and Western Power target revenue model

Draft decision required amendment 2

Amend the proposed depreciation lives for AA5 capital expenditure for distribution underground cables, distribution switchgear, stand-alone power systems and storage to 60, 35, 20 and 20 years respectively.

Synergy raised concerns that Western Power had proposed using the forecast percentage allocations to asset class from AA4 to apply to actual capital expenditure during AA4. The

ERA agreed that updating the model to use actual expenditure by asset class for AA4 would provide a more accurate calculation of depreciation.

Draft decision required amendment 3

Update the revenue model depreciation calculation to use actual expenditure by asset class for AA4.

2.4 Western Power's revised proposal

In its revised proposal, Western Power accepted the ERA's draft decision required amendments to asset lives.

Western Power also:

- Amended minor errors in the calculation of depreciation to be consistent with the ERA's target revenue model.
- Allocated AA4 expenditure to asset class based on actual expenditure (rather than the asset class percentages forecast in the AA4 final decision).

2.5 Submissions on the revised proposal and draft decision

Submissions on depreciation were received from the Australian Energy Council and Synergy.

Synergy considers that the ERA cannot approve an access arrangement that applies the straight-line depreciation method if it results in higher costs than the annuity method, especially if the change to the annuity method is NPV neutral for Western Power. Synergy considers that the straight-line depreciation method, when compared with the annuity method, does not meet the Access Code objective and the specified criteria under section 6.4(c) as:

- A change in depreciation method would be NPV neutral for Western Power. Therefore, its application during AA5 would provide the ERA a mechanism to smooth out target revenue across the access arrangement while ensuring that Western Power has the opportunity to recover the efficient costs of providing services over the life of its assets.
- Network users and customers would experience savings from a move to the annuity method under the assumption that their cost of capital is greater than the regulated rate of return for Western Power's network.
- The target revenue model is capable of being modified to accept the change in depreciation method to the annuity approach.
- The annuity method would lessen price impacts from the proposed increase in Western Power's rate of return.

Synergy and the Australian Energy Council support the ERA's amendments to asset lives. Synergy queried whether the amended asset lives should be applied to the remaining asset lives for existing assets as of 1 July 2022.

Synergy supports the required amendment for Western Power to amend the percentage allocations to asset class for AA4 to reflect actual expenditure by asset class. It considers the matrix approach Western Power has adopted to do this, although complicated, should meet the required amendment provided the percentage allocations are correct. Its submission raises some queries about Western Power's revised proposal including:

- Confirmation that the new matrix for allocating actual capital expenditure from the regulatory category to asset category is applied correctly throughout the revenue model structure and free from computational errors.
- An assessment as to whether the treatment and cost allocations in relation to the assets under the Other Distribution Non-Network and Other Non-Network Assets categories are consistent with ERA and ENAC requirements.
- A determination that no AA4 operating expenditure has been allocated to AA4 capex.
- A determination that AA4 capital expenditure in the Other Distribution Non-Network and Other Non-Network Assets categories has resulted in the creation of tangible assets that provide benefits to network users and customers.
- A determination that AA4 business support costs in relation to the wholesale electricity market reforms are not being recovered under the access arrangement and have not been included in the Other Distribution Non-Network and Other Non-Network Assets categories.
- The asset lives used for the Other Distribution Non-Network and Other Non-Network Assets categories are appropriate and consistent with the Code objective.

2.6 Considerations of the ERA

In relation to the method of depreciation, Synergy reiterated its view that the annuity method of depreciation should be considered instead of the straight-line depreciation method.

Regulatory frameworks such as the Access Code provide for a return on efficient capital investments in assets that are required to provide regulated services, as well as the return of capital over their economic lives. Regulatory depreciation is one component of regulated charges that forms the revenue requirement for a regulated entity.

Regulatory depreciation provides investors with a mechanism for a return of their capital over the life of the investment. Regulatory depreciation allowances are generally used in conjunction with the building block model to ensure that all invested capital is repaid to capital providers. This provides the necessary incentives for investors to allocate capital to regulated assets, who may not otherwise invest if they could not even recover their invested capital.

The choice of regulatory depreciation method alters the speed of capital being returned to investors, along with who should provide the return of capital.

The current straight-line depreciation method is commonly adopted by Australian regulators. Straight-line depreciation allocates an equal amount of depreciation in each year of the asset's economic life. This ensures that Western Power's target revenue only includes a regulatory depreciation allowance equal to (in real terms) the value of its initial capital investment and that assets are fully depreciated by the end of their economic lives. Furthermore, all consumers over time make a similar depreciation payment for the asset over time.

The ERA has evaluated Synergy's submission to Western Power's revised proposal and considers that some of the conclusions are driven by the following underlying assumptions:

- Consumer discount rates are always greater than regulated rates of return.
- Consumer discount rates and regulated rates of return are always the same for every year of the asset's life (presumably in expectation).

The ERA has analysed the annuity model provided by Synergy and considers that moving to the annuity method will not result in consumers being better off when compared to the straight-line method.

The straight-line method and annuity depreciation methods are both NPV-neutral. Either method ensures that Western Power recovers all of its capital over the economic life of the asset.

How depreciation is recovered over time does differ between the methods. Annuities have the benefit of lower depreciation payments in the beginning of the asset's life, but there exists a tipping point where payments will be greater than the straight-line method.

The ERA considers that there are potential disadvantages to the annuity method:

- The annuity method is more suited to environments where rates of return are constant over the life of the asset, rather than a more dynamic forward looking efficient rate. As rates of return change over time this makes the implementation of the annuity method more complex. Complexity increases as new asset investment occurs, along with the interaction with the roll-forward method.
- Under annuity depreciation the regulatory asset base that will increasingly diverge from an efficient service provider's statutory asset base, which results in the RAB becoming more of a financial construct.
- Increased price volatility between access arrangement periods due to depreciation being a function of the rate of return and remaining asset life.
- Annuities will result in higher future payments when compared with the straight-line method. On a nominal basis, over the life of the asset the annuity method will result in consumers paying more for the same reference services, particularly towards the end of the asset's life. Therefore, intergenerational welfare impacts are relatively greater under an annuity approach.

The ERA considers that a relevant matter in determining the choice of depreciation method is the expected asset utilisation through a matching principle, where greater regulatory depreciation should be charged to those users in the period of greater use. The application of the matching principle can ensure that consumers who use and benefit from covered network services are contributing in proportion to their usage. This may satisfy intergenerational equity issues that arise for long-lived assets.

The ERA considers that the straight-line method is likely to be more consistent with the usage of Western Power's assets, given relatively inelastic demand for network services which implies relatively smoother utilisation. The ERA does not consider that greater usage of network services occurs toward the end of the asset's life, which is implied by the adoption of the annuity method as proposed by Synergy, nor has it been presented with evidence that this may be the case.

The ERA notes that other Australian regulators generally use the straight-line method for regulatory depreciation. IPART has recently evaluated the annuity method, considering that it spread costs across determination periods such that annuities reduce costs to consumers today but increases costs to future consumers.³

³ IPART, *Our water regulatory framework: Final Technical Paper*, November 2022, p. 60.

The ERA has analysed Synergy's annuity proposal and notes that it amounts to a deferred regulatory depreciation mechanism because the proposed payment structure results in the majority of depreciation being returned towards the end of the asset's life. In effect, the proposed annuity method is the converse of accelerated depreciation. The ERA considers that a proposal towards deferred or accelerated depreciation will require significant justification beyond what has been provided to the ERA. As both accelerated and deferred depreciation methods can be NPV neutral when compared to the straight-line method, it is a necessary but not sufficient reason to justify a change in methodology.

On balance the ERA considers that the costs of the annuity method currently outweigh the benefits. The use of the annuity method will likely result in inter-temporal distortions, where current consumers will benefit at the expense of future consumers. These distortions will also likely manifest via greater price volatility between access arrangements, as the amount of depreciation would be a function of the rate of return and remaining asset life. Additionally, the annuity method introduces greater complexity and uncertainty compared to the straight-line method. Finally, the ERA considers that the matching principle supports the use of the straight-line method.

For this final decision, the ERA maintains its draft decision that the straight-line depreciation method proposed by Western Power is consistent with applying the roll-forward calculation of the regulated capital base in a manner consistent with the Access Code objective.

The ERA is satisfied that Western Power has corrected the minor calculation errors identified in the draft decision (Draft decision required amendment 1).

The ERA is satisfied that the proposed asset lives in Western Power's revised proposal are consistent with the economic lives determined by the ERA in the draft decision (Draft decision required amendment 2). Synergy queried whether the amended asset lives should be applied to the remaining asset lives for existing assets as of 1 July 2022. As set out in the draft decision, the amended lives apply to expenditure during AA5. Existing assets at the end of AA4 will continue to be depreciated in line with the asset lives approved for AA4.

As required by the draft decision required amendment 3, Western Power allocated AA4 expenditure to asset class based on actual expenditure rather than the asset class percentages forecast in the AA4 final decision. Western Power did this by calculating an updated matrix of percentages to be applied to expenditure by investment category to derive expenditure by asset class.

As identified in Synergy's submission, although Western Power has provided additional transparency on the allocation of capital expenditure to asset classes, the matrix approach results in a complicated model structure.

The ERA sought further information from Western Power on actual expenditure by asset class for each year of AA4. The ERA is satisfied that the percentage allocations provided by Western Power result in a reasonable approximation of expenditure by asset class for each year of AA4.

In relation to Synergy's other queries on the allocation of expenditure to asset classes:

- The ERA has ensured that its final decision target revenue model has applied the percentages consistently and does not have computational errors.
- Expenditure has been reconciled back to the audited regulatory accounts which provides assurance that capital expenditure and operating expenditure have been identified correctly and expenditure has been classified in the correct regulatory investment category.

- The assessment of AA4 capital expenditure is considered in Attachment 3A.
- The Access Code includes specific provisions about the recovery of expenditure to support regulatory reform. Relevant expenditure is considered in Attachment 7.
- Asset lives used for AA4 expenditure are consistent with the economic lives approved for AA4.

As outlined above, the ERA is satisfied Western Power has complied with the draft decision required amendments relating to depreciation. However, as this final decision amends the opening regulated asset base (see Attachment 2) and forecast capital expenditure for AA5 (see Attachment 3B), the depreciation values calculated by Western Power in its revised proposal must be updated.

Required Amendment 1

The depreciation calculated by Western Power in its revised proposal must be updated to reflect the ERA's final decision amendments to the opening regulated asset base (Attachment 2) and forecast capital expenditure for AA5 (Attachment 3B).