



Economic Regulation Authority

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

Attachment 2: Regulated asset base

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Note

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

The draft decision includes the following attachments:

Draft 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 (this document)

Attachment 3A – AA4 capital expenditure

Attachment 3B – AA5 capital expenditure

Attachment 4 – Depreciation

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 the:

- opening regulated capital base for AA5
- forecast regulated capital base for AA5.

Summary of draft decision on the regulated capital base

- The opening regulated asset base must be amended to reflect capital expenditure reported in the annual regulatory accounts and 2021/22 actual capital expenditure.
- The forecast capital base must be amended to reflect the ERA's decision on forecast capital expenditure (Attachment 3B) and forecast depreciation (Attachment 4B)

A comparison of Western Power's proposed opening regulated capital base and forecast regulated capital base for AA5 with the ERA's draft decision is set out in the tables below.

Table 1: Draft decision and Western Power's proposed opening capital base (real \$ million June 2022)

	2017/18	2018/19	2019/20	2020/21	2021/22
Draft decision					
Opening asset value	10,145.1	10,127.4	10,183.1	10,437.3	10,615.8
Capital expenditure	416.1	513.1	729.6	642.7	701.1
Depreciation	(418.8)	(446.0)	(457.8)	(453.9)	(449.4)
Accelerated depreciation	(4.4)	(6.9)	(4.4)	(0.0)	(0.0)
Disposal/redundant asset	(10.6)	(4.6)	(13.2)	(10.4)	(10.2)
Closing asset base	10,127.4	10,183.1	10,437.3	10,615.8	10,857.2
Western Power proposal					
Opening asset value	9,734.0	9,773.6	9,824.2	10,066.2	10,210.0
Capital expenditure	456.0	490.0	698.2	590.1	701.1
Depreciation	(401.8)	(428.0)	(439.2)	(436.4)	(431.3)
Accelerated depreciation	(4.4)	(6.9)	(4.4)	(0.0)	(0.0)
Disposal/redundant asset	(10.2)	(4.5)	(12.6)	(9.9)	(10.2)
Closing asset base	9,773.6	9,824.2	10,066.2	10,210.0	10,469.5

Source: ERA and Western Power target revenue models

Table 2: Draft decision and Western Power’s proposed forecast capital base (real \$ million June 2022)

	2022/23	2023/24	2024/25	2025/26	2026/27
Draft decision					
Opening asset value	10,857.2	11,155.9	11,462.0	11,744.9	11,936.4
Capital expenditure	745.7	770.2	777.7	714.0	704.5
Depreciation	(446.9)	(464.1)	(494.8)	(522.5)	(543.2)
Closing asset base	11,155.9	11,462.0	11,744.9	11,936.4	12,097.8
Western Power proposal					
Opening asset value	10,469.5	10,904.3	11,348.8	11,752.1	12,061.1
Capital expenditure	869.7	900.2	903.8	841.6	825.8
Depreciation	(435.0)	(455.8)	(500.5)	(532.6)	(572.6)
Closing asset base	10,904.3	11,348.8	11,752.1	12,061.1	12,314.3

Source: ERA and Western Power target revenue models

The reasons for the ERA’s determination and details of required amendments are set out in this attachment.

2. Regulated capital base

The capital base is the value ascribed to the network assets used to provide covered services.

The capital base for the covered network must be determined at the start of each access arrangement period. A forecast capital base for the access arrangement period is used to determine the depreciation and return on the regulated asset base for inclusion in the target revenue.

An extract of the Access Code provisions relevant to the regulated capital base is included in Appendix 1.

3. Western Power's proposal

Consistent with the current access arrangement, Western Power has specified capital base values separately for the transmission and distribution networks.

The capital base values for the transmission and distribution networks have been calculated by Western Power for the beginning of the AA5 period using a roll-forward method that involves commencing with the opening value at the beginning of the AA4 period and:

- adding the actual values of capital expenditure (new facilities investment) during the AA4 period that Western Power considers meet the requirements of the new facilities investment test under section 6.52 of the Access Code (excluding gifted assets and capital expenditure which is funded by customers via capital contributions)¹
- deducting values of redundant assets and disposals
- deducting values of depreciation as allowed for in target revenue for AA4
- escalating for inflation to express in dollar values at June 2022 prices.

Western Power's calculated values of the capital base for the transmission and distribution networks at the commencement of AA5 are set out in Table 3 and Table 4 (below).

Table 3 Western Power's proposed capital base at 30 June 2022 for the transmission network (real \$ million June 2022)

	2017/18	2018/19	2019/20	2020/21	2021/22	Total
Opening asset value	3,396.8	3,345.3	3,315.2	3,412.7	3,420.5	3,396.8
New facilities investment	77.3	100.3	243.1	158.0	198.2	776.9
Asset disposals	(8.6)	(3.8)	(12.0)	(8.3)	(8.5)	(41.2)
Depreciation	(120.2)	(126.6)	(133.5)	(141.9)	(145.0)	(667.3)
Closing asset base	3,345.3	3,315.2	3,412.7	3,420.5	3,465.2	3,465.2

Source: Western Power regulated revenue model

¹ Capital expenditure is added to the regulated capital base on an "as incurred" basis rather than an "as commissioned" basis.

Table 4 Western Power's proposed capital base at 30 June 2022 for the distribution network (real \$ million June 2022)

	2017/18	2018/19	2019/20	2020/21	2021/22	Total
Opening asset value	6,337.2	6,428.3	6,509.1	6,653.5	6,789	6,337.2
New facilities investment	378.7	389.6	455.1	432.1	502.9	2,158.4
Asset disposals	(1.5)	(0.6)	(0.6)	(1.6)	(1.7)	(6.1)
Depreciation	(281.6)	(301.4)	(305.7)	(294.5)	(286.3)	(1,469.5)
Accelerated depreciation	(4.4)	(6.9)	(4.4)	0.0	0.0	(15.6)
Closing asset base	6,428.3	6,509.1	6,653.5	6,789.4	7,004.3	7,004.3

Source: Western Power regulated revenue model

For the purposes of determining target revenue for the AA5 period, Western Power has forecast values of the capital base for the transmission and distribution networks for each year of AA5.

Western Power's forecast values of the capital base for the transmission and distribution networks for each year of AA5 are set out in Table 5 and Table 6.

Table 5 Western Power's proposed forecast capital base for the transmission network (real \$ million June 2022)

	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Opening asset value	3,465	3,547.7	3,623.3	3,694.6	3,713.8	3,465.2
New facilities investment	229.3	249.8	237.9	203.8	195.0	1,115.8
Depreciation	(146.7)	(165.2)	(175.5)	(184.7)	(192.9)	(865.0)
Closing asset base	3,547.8	3,632.3	3,694.7	3,713.7	3,715.9	3,715.9

Source: Western Power regulated revenue model

Table 6 Western Power's proposed forecast capital base for the distribution network (real \$ million June 2022)

	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Opening asset value	7,004.3	7,356.6	7,716.5	8,057.4	8,347.3	7,004.3
New facilities investment	640.5	650.5	665.9	637.8	630.8	3,225.5
Depreciation	(288.2)	(290.6)	(324.9)	(347.9)	(379.7)	(1,631.3)
Closing asset base	7,356.6	7,716.5	8,057.5	8,347.3	8,598.4	8,598.4

Source: Western Power regulated revenue model

4. Submissions

Submissions on matters relevant to the regulated capital base were received from the Australian Energy Council, Alinta, Synergy and the WA Expert Consumer Panel.

Synergy queried whether any of the obsolete, decommissioned, retired or redundant assets identified in Western Power's proposal should be treated as redundant capital under section 6.61 of the Access Code. Synergy specifically repeated statements made throughout Western Powers AA5 proposal that indicated its intention to invest in replacing poor condition, obsolete and decommissioned assets.

The WA Expert Consumer Panel was similarly concerned that the transition to a modular grid might result in the regulated asset base being higher than it should be. The residual values of assets that were removed from service such as meters being replaced by new AMI meters and distribution lines being replaced by SPS and microgrids were identified as examples of where this might be an issue.

The Australian Energy Council, Synergy and Alinta proposed constraining the value of the regulated asset base to the value derived using the depreciated optimised replacement cost (DORC) method. They considered that the implementation of new technologies as part of Western Power's transformation to a modular grid was likely to render some of the assets included in the existing regulated asset base redundant. They considered that retention of those assets in the regulated asset base results in inefficient investment signals for Western Power and results in the allocation of stranded asset risk to network users.

5. Considerations of the ERA

The ERA has considered whether Western Power's calculation of the capital base for the transmission and distribution networks is consistent with the requirements of the Access Code. These considerations are documented below in the following order:

- The general method applied in calculating the capital base (see below).
- Verification that stated capital expenditure during AA4 actually occurred (see Attachment 3A).
- Determination of the capital base at the commencement of AA4, taking into account:
 - An assessment of actual capital expenditure in AA4 against the test in section 6.51A of the Access Code (see Attachment 3A).
 - Depreciation (see Attachment 4).
 - Redundant assets (see below).
- An assessment of forecast capital expenditure for AA5 against the test in section 6.51A of the Access Code (see Attachment 3B).
- Forecast depreciation calculations and asset lives (see Attachment 4).

As described above, Western Power has calculated the capital base for each of the transmission and distribution networks using a roll-forward method. This method has been used in each Access Arrangement since AA2 and is consistent with the method described in the note to section 6.48 of the Access Code.

The roll-forward method is generally used by utility regulators throughout Australia and is the method mandated for electricity transmission and distribution networks in the National Electricity Market under chapters 6A and 6 of the National Electricity Rules.

The ERA considers that the roll-forward method used by Western Power to establish the opening capital base and forecast capital base for AA5 is consistent with the Access Code objective.

The ERA does not consider implementing an updated valuation of the regulated asset base based on the depreciated optimised replacement cost is appropriate. The Access Code includes provisions for removing redundant assets from the regulated asset base. These can be utilised, if necessary, in the event that new technologies implemented as part of Western Power's transformation to a modular grid render any of the assets included in the existing regulated asset base redundant as raised in stakeholder submissions.

The ERA's calculated values of the capital base for the transmission and distribution networks at the commencement of AA5 are set out in Table 7 and Table 8 (below).

Table 7 Draft decision capital base at 30 June 2022 for the transmission network (real \$ million June 2022)

	2017/18	2018/19	2019/20	2020/21	2021/22	Total
Opening asset value	3,540.1	3,468.7	3,435.5	3,541.8	3,554.5	3,540.1
New facilities investment	62.9	102.9	258.5	168.7	198.2	791.2
Asset disposals	(9.0)	(4.0)	(12.5)	(8.7)	(8.5)	(42.7)
Depreciation	(125.3)	(132.0)	(139.7)	(147.3)	(151.2)	(695.5)
Closing asset base	3,468.7	3,435.6	3,541.8	3,554.5	3,593.0	3,593.0

Source: ERA target revenue model

Table 8 Draft decision capital base at 30 June 2022 for the distribution network (real \$ million June 2022)

	2017/18	2018/19	2019/20	2020/21	2021/22	Total
Opening asset value	6,605.1	6,658.8	6,747.5	6,895.5	7,061.3	6,605.1
New facilities investment	353.2	410.3	471.0	474.0	502.9	2211.4
Asset disposals	(1.6)	(0.6)	(0.7)	(1.7)	(1.7)	(6.3)
Depreciation	(293.5)	(313.9)	(318.1)	(306.5)	(298.3)	(1,530.3)
Accelerated depreciation	(4.4)	(6.9)	(4.4)	0.0	0.0	(15.7)
Closing asset base	6,658.8	6,747.7	6,895.3	7,061.3	7,264.2	7,264.2

Source: ERA target revenue model

Required Amendment 1

The opening regulated asset base must be amended to reflect capital expenditure reported in the annual regulatory accounts and 2021/22 actual capital expenditure.

The ERA's draft decision on forecast values of the capital base for the transmission and distribution networks for each year of AA5 are set out in Table 9 and Table 10.

Table 9 Draft decision forecast capital base for the transmission network (real \$ million June 2022)

	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Opening asset value	3,593.0	3,656.1	3,717.6	3,762.5	3,752.4	3,593.0
New facilities investment	214.6	233.7	227.8	182.2	171.4	1,029.7
Depreciation	(151.5)	(172.2)	(182.8)	(192.3)	(197.6)	(896.4)
Closing asset base	3,656.1	3,717.6	3,762.6	3,752.4	3,726.2	3,726.2

Source: ERA target revenue model

Table 10 Draft decision proposed forecast capital base for the distribution network (real \$ million June 2022)

	2022/23	2023/24	2024/25	2025/26	2026/27	Total
Opening asset value	7,264.2	7,499.9	7,744.4	7,982.4	8,184.0	7,264.2
New facilities investment	531.1	536.4	549.9	531.9	533.1	2,682.4
Depreciation	(295.5)	(291.9)	(311.9)	(330.2)	(345.5)	(1,575.0)
Closing asset base	7,499.8	7,744.4	7,982.4	8,184.1	8,371.6	8,371.6

Source: ERA target revenue model

Required Amendment 2

The forecast capital base must be amended to reflect the ERA's decision on forecast capital expenditure (Attachment 3B) and forecast depreciation (Attachment 4B)

Appendix 1 Code Extract – Regulated asset base

Under section 6.44 of the Access Code, the capital base for the covered network must be determined at the start of each access arrangement period.

Section 6.48 sets out the requirements for the capital base at the start of any access arrangement period, other than the first access arrangement period:

- 6.48 For the start of each *access arrangement period* other than the *first access arrangement period*, the *capital base* for a *covered network* must be determined in a manner which is consistent with the *Code objective*.

{Note: A number of options are available in relation to the determination of the *capital base* at the start of an *access arrangement period*, including:

rolling forward the *capital base* from the previous *access arrangement period* applying benchmark indexation such as the *consumer price index* or an asset specific index, plus *new facilities investment* incurred during the previous *access arrangement period*, less depreciation and *redundant capital* etc; and

valuation or revaluation of the *capital base* using an appropriate methodology such as the Depreciated Optimised Replacement Cost or Optimised Deprival Value methodology.}

The capital base must not include forecast new facilities investment.

- 6.49 Subject to section 6.50, the *capital base* for a *covered network* must not include any amount in respect of *forecast new facilities investment*.

- 6.50 For the start of each *access arrangement period*, the *capital base* for a *covered network* may include *forecast new facilities investment* which:

- (a) has not yet occurred but is forecast to occur before the access arrangement start date; and
- (b) at the time of inclusion is reasonably expected to satisfy the test in section 6.51A when made.³⁸⁰

{Note: Forecast new facilities investment in a proposed access arrangement may actually have occurred by the time of the access arrangement start date. Under section 6.50, such new facilities investment may be included in the capital base for a covered network.}

Section 6.51 of the Access Code provides for the target revenue for an access arrangement period to include forecast capital costs that are reasonably expected to satisfy the new facilities investment test.

- 6.51 For the purposes of section 6.4(a)(i) and subject to section 6.49, the forward-looking and efficient costs of providing *covered services* may include costs in relation to *forecast new facilities investment* for the *access arrangement period* which at the time of inclusion is reasonably expected to satisfy the test in section 6.51A when the *forecast new facilities investment* is forecast to be made.

Section 6.51A of the Access Code provides that new facilities investment may be added to the capital base if it passes certain tests:

- 6.51A New facilities investment may be added to the capital base if:

- (a) it satisfies the new facilities investment test; or
- (b) the Authority otherwise approves it being added to the capital base if:
 - (i) it has been, or is expected to be, the subject of a contribution; and

- (ii) it meets the requirements of section 6.52(a); and
- (iii) the access arrangement contains a mechanism designed to ensure that there is no double recovery of costs as a result of the addition.

Sections 6.61 to 6.63 of the Access Code provide for an amount to be subtracted from the capital base in respect of redundant network assets:

Redundant capital

6.61 Subject to section 6.62, the Authority may in relation to a determination under section 6.44(a) require an amount (“redundant capital”) to be removed from the capital base to the extent (if any) necessary to ensure that the network assets which have ceased to contribute in any material way to the provision of covered services are not included in the capital base.

6.62 Before requiring a removal under section 6.61, the Authority must have regard to:

- (a) whether the service provider was efficiently minimising costs when it developed, constructed or acquired the network assets; and
 - (b) the uncertainty such a removal may cause and the effect which any such uncertainty may have on the service provider, users and applicants; and
 - (c) whether the cause of the network assets ceasing to contribute in any material way to the provision of covered services was the application of a written law or a statutory instrument; and
 - (d) whether the service provider was compelled to develop, construct or acquire the network assets:
 - (i) by an award by the arbitrator; or
 - (ii) Because of the application of a written law or a statutory instrument;
- and
- (e) whether the depreciation of the network assets should be accelerated instead of or in addition to a redundant capital amount being removed from the capital base under section 6.61.

6.63 If the Authority requires a removal under section 6.61, then when making other determinations under this Chapter 6 the Authority may have regard to the removal.

{Examples of such other determinations include approving a weighted average cost of capital and assessing the economic life of assets.}