



Amended AA4 proposal

Response to the ERA's final decision

Public

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Contents

1. About this submission	1
1.1 Responding to the ERA's required amendments	1
1.2 Values used in this document	2
1.3 AA4 commencement date	2
2. Key messages	4
3. Executive summary	6
3.1 Forecast opex	7
3.2 Metering unbundling	7
3.3 Reference services	8
3.4 Transmission performance measures	9
4. Summary of responses to the ERA's required amendments	10
5. Further discussion on key amendments	28
5.1 Required amendment 3 – tariff side constraints	28
5.2 Required amendment 4 – forecast operating expenditure	30
5.3 Required amendment 15 – metering unbundling	32
5.4 Required amendment 16 – reference services	36
5.5 Required amendment 35 – exclusions from circuit availability and average duration performance measures	43

List of tables

Table 4.1: Summary of responses to the ERA's required amendments	10
Table 5.1: Metering reference services M1 to M16	33

1. About this submission

1. This document has been prepared in response to the *Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network 2017/18 – 2021/22*, published by the Economic Regulation Authority (ERA) on 20 September 2018.
2. The ERA's final decision is not to approve Western Power's revised proposed access arrangement submitted on 14 June 2018. The ERA advises it requires 66 amendments to the revised proposed access arrangement.
3. As provided for by section 4.19 of the *Electricity Networks Access Code 2004 (Access Code)*, Western Power submits an amended proposed access arrangement for the AA4 period for review and approval by the ERA. This amended proposed access arrangement information document outlines our reasoning and rationale for the amended proposed access arrangement, including how our proposal meets the requirements of the Access Code.
4. Section 4.23 of the Access Code provides the requirements for approving an amended proposed access arrangement:

4.23 If the Authority's final decision is to not approve a proposed access arrangement and the service provider submits an amended proposed access arrangement and either:

(a) the amended proposed access arrangement implements the amendments required under section 4.17(b); or

(b) the amended proposed access arrangement does not implement the amendments required under section 4.17(b) but otherwise (in the Authority's view) adequately addresses the matters which prompted the Authority to require the amendments,

then the Authority's further final decision must be to approve the amended proposed access arrangement unless:

(c) approving the amended proposed access arrangement would be inconsistent with the Code objective; and

(d) the Authority determines that the advantages of not approving the amended proposed access arrangement outweigh the disadvantages, in particular the disadvantages associated with decreased regulatory certainty and increased regulatory cost and delay.

1.1 Responding to the ERA's required amendments

5. As required by sections 4.23 (a) and (b) of the Access Code, for each of the 66 amendments we have either implemented the amendment as proposed by the ERA or have worked with the ERA to adequately address the matters that prompted it to require the amendment.
6. We have implemented the vast majority of amendments as required by the ERA, and these are reflected in the amended proposed access arrangement and associated policies and contracts provided as part of this submission. Section 4 of this document summarises our response to each of the required amendments.
7. Section 5 of this document provides information on a small number of key amendments that require more detailed explanation of how they have been implemented or how the matters that gave rise to the ERA's required amendment have been addressed. The purpose of this additional commentary is to provide the ERA and network users visibility of how Western Power's amended proposed access arrangement is

consistent with Access Code requirements (including the Access Code objective) and the context in which amendments have been made.

8. The Access Code objective is defined in section 2.1 of the Access Code:

The objective of this Code is to promote the economically efficient:

(a) investment in; and

(b) operation of and use of,

networks and services of networks in Western Australia in order to promote competition in markets upstream and downstream of the networks.

9. We submit that our amended proposed access arrangement implements the ERA's final decision to the fullest extent practicable and satisfies both the Access Code objective and the requirements of section 4.23 (a) and (b) of the Access Code.
10. Should the ERA choose not to approve our amended proposed access arrangement, consistent with the requirements of section 4.23 (c) and (d) of the Access Code, we request the ERA publishes detailed explanation of the reasons why it considers Western Power's proposal is not consistent with the Access Code objective and/or the reasons why it determines the advantages of not approving the amended proposed access arrangement outweigh the disadvantages.

1.2 Values used in this document

11. Unless otherwise stated, all financial values in this document are expressed in \$ million real at 30 June 2017. Amounts in various tables may not appear to sum due to rounding. Refer to the revenue and expenditure models submitted with this document for detailed financial values.

1.3 AA4 commencement date

12. Western Power proposes a commencement date of **1 July 2019**. We note that for the purposes of its final decision, the ERA assumed a commencement date of 1 February 2019, the actual commencement date to be confirmed in the further final decision.¹
13. Following engagement with the ERA, we consider a 1 July 2019 commencement date is appropriate, as it will allow sufficient time for Western Power and users to modify their billing systems and related processes to enable the implementation of the changes made under the approved access arrangement. As highlighted by the ERA in its final decision, *Synergy has advised it requires at least four to six months from the further final decision to implement revised tariffs.*²
14. The ERA's further final decision is due on 7 December 2018, however, if the ERA takes the full extent of extensions available to it, the further final decision may not be made until 2 January 2019. We therefore submit that the revised tariffs for the AA4 period should come into effect on 1 July 2019, which will accommodate the period users have stated it will take to implement the changes (including Synergy's four to six-month implementation timeframe).

¹ Paragraph 57, *Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network 2017/18 – 2021/22*, ERA, September 2018.

² Paragraph 56, *ibid.*

15. The consequential changes arising from the 1 July 2019 commencement date have been made in the amended proposed access arrangement, price list and price list information, including provisions for the annual update of the debt risk premium.
16. We submit that the revised AA4 service standard benchmarks (SSBs) should be applied **from 2018/19 onwards**. This is because Western Power's AA4 investment program has been set on the assumption that the AA4 SSBs will apply from 2018/19.
17. Applying the AA4 SSBs from 2018/19 onwards also ensures consistency with step changes to the SSBs (as approved by the ERA in the Final Decision³) due to network changes and the current configuration of the network, including the system protection modification scheme in the Eastern Goldfields⁴. SSBs should reflect targets that Western Power can comply with based on the current configuration of the network.
18. The AA4 SSBs are also set at a level that reflects the most recent level of performance experienced by customers.

³ Paragraphs 1919 to 1922 (protection modification scheme), *ibid*.

⁴ The system protection modification scheme in the Eastern Goldfields was implemented in February 2016.

2. Key messages

- Western Power has implemented or addressed all 66 of the ERA's required amendments.
- In most cases (57 out of the 66 amendments) we have been able to implement the ERA's required amendment as proposed in the final decision.
- For a small number of amendments (9) we have put forward alternative implementation methods (or made modelling corrections) that we believe address the ERA's and network users' requirements. We have engaged with the ERA and network users on these amendments and submit that our amended proposed access arrangement effectively implements the ERA's final decision and satisfies the requirements of section 4.23 of the Access Code and the Access Code objective.
- The amended proposed access arrangement for the AA4 period includes target revenue of \$7,370 million, which is a decrease compared to the AA3 period. Forecast capital expenditure is \$2,980 million⁵ and forecast operating expenditure is \$1,792 million, a 21 per cent and 28 per cent decrease compared with AA3 respectively. Adjusting for corrections in the expenditure and revenue models, these values are consistent with the ERA's final decision.
- In a change from Western Power's initial proposal, the ERA requires Western Power to re-allocate transmission network charges across all customers, rather than separate the transmission and distribution tariff impacts. As a result (subject to retailers passing through network charges), the average residential and small-business customer electricity bill will increase by around 2 per cent (nominal) per year, rather than the 0.6 per cent (nominal) per year proposed by Western Power.
- Transmission-connected customer bills will increase by around 4 per cent (nominal) per year as a result of implementing the ERA's final decision. This compares to the 9.4 per cent (nominal) increase per year proposed by Western Power.
- Western Power has developed 27 new reference services for the AA4 period in response to requests from network users. These include new time of use and demand-based network services.
- As requested by users, Western Power has also unbundled metering services from the network reference services and created a suite of 16 new metering reference services. This enables users to choose the metering service they require.
- The ERA did not approve forecast expenditure to install the communications component of the proposed advanced metering infrastructure (AMI) program. Western Power remains of the view that communications-enabled AMI is a prudent and efficient investment, and is pursuing options for delivering this aspect of the AMI program.
- Users requested reference services for the AA4 period that are dependent on advanced metering communications infrastructure. We have developed these new reference services, which can be offered subject to the advanced metering communications infrastructure being installed.

⁵ Net of gifted assets and capital contributions.

- Several required amendments in the final decision were a reversal of the position taken in the draft decision. Whilst this provided limited time for interpreting these amendments and for engaging with the ERA and stakeholders on implementation issues or alternatives, Western Power has still made every effort, within the time available, to address the matters that led the ERA to make the amendments and will continue to engage with stakeholders and the ERA on these matters during the AA4 period.
- Following engagement with the ERA, Western Power submits a 1 July 2019 commencement date for the updated AA4 tariffs. This will allow sufficient time for Western Power and users to modify their billing systems and related processes to accommodate the changes made in the approved access arrangement.

3. Executive summary

19. Western Power submits this response to the ERA's final decision on the revised proposed access arrangement for the AA4 period. The amended proposed access arrangement provided as part of this submission has been updated to address all 66 of the ERA's required amendments.
20. In the vast majority of cases, Western Power has implemented the ERA's required amendment as proposed. For example, capital expenditure⁶, opening RAB values, rate of return, taxation estimates and the service standard benchmarks and targets have been applied for the AA4 period in accordance with the ERA's final decision. We have also adopted the ERA's requested form of price control and all requested contract and policy amendments.
21. Target revenue for the AA4 period is \$7,370 million, which is consistent with the ERA's final decision (\$7,333 million), only varying as a result of:
 - corrections to the various revenue and expenditure models provided by the ERA; and
 - adjustments to accommodate the revised AA4 commencement date of 1 July 2019.⁷
22. Forecast capital expenditure (capex) is \$2,980 million and forecast operating expenditure (opex) is \$1,792 million, a 21 per cent and 28 per cent decrease compared with AA3 respectively.
23. The estimated impact on customers' electricity bills as a result of the amended proposed access arrangement is relatively small⁸. Subject to retailers passing through the AA4 network tariff changes, the average residential or small business customer bill will increase by around 2 per cent (nominal) per year as a result of network tariffs, while transmission-connected customer bills will increase by around 4 per cent (nominal) per year as a result of network tariffs.
24. The ERA requires Western Power to spread the impact of transmission network tariff increases across all customers (distribution and transmission), rather than requiring transmission customers to absorb the full price impact. Western Power has implemented the ERA's tariff approach as required. This is a subtly different approach to mitigating price impact on transmission customers than that proposed by Western Power in its initial proposal and results in a tariff cross-subsidy by small distribution customers to large transmission customers. This matter is discussed in more detail in section 5.1.
25. There are a small number of amendments where Western Power has implemented the ERA's required amendment in a slightly different manner to that outlined in the ERA's final decision. However, we submit that our amendments adequately address the matters that caused the ERA to require the amendment and are consistent with the requirements of section 4.23 of the Access Code.
26. These amendments relate to the opex forecast, metering reference services and transmission performance measures. Of these, only the opex amendment results in an adjustment to target revenue.
27. While there will always be some issues on which the regulator and regulated entity are not entirely aligned, the ERA and Western Power have been aligned on material items such as the weighted average cost of capital (WACC), which has historically been one of the most contentious regulatory issues. Western Power is pleased with the recognition by the ERA and its technical consultants on the forward strides Western Power has made in its asset management practices and governance processes in recent years.

⁶ Subject to minor modelling adjustments.

⁷ The ERA assumed a 1 February 2019 AA4 commencement date for the purposes of its final decision.

⁸ This refers only to the impact caused by changes to network tariffs. It does not account for any impact to bills that may occur due to changes made by retailers to retail tariffs.

28. Western Power submitted an initial access arrangement proposal that balanced service, safety and price outcomes, founded on materially lower operating costs and efficiency improvements compared with previous periods. For the most part this initial proposal has been accepted by the ERA.
29. Network users over the AA4 period will continue to receive high standards of service from Western Power, and the vast majority of residential and small business customers connected to the network will see no material increases in network tariffs.
30. The key amendments where we have addressed the ERA's requirements (as opposed to implementing exactly as proposed) are summarised below and discussed in more detail in section 5 of this document.

3.1 Forecast opex

31. The opex forecasts in the amended proposed access arrangement vary from the values set out in Table 51 of the final decision. This is primarily due to Western Power reinstating \$31.5 million related to forecast SCADA and communications opex.
32. The adjustment corrects what we believe to be an error in the expenditure model. In the draft decision, the ERA excluded 50 per cent of forecast SCADA and communications opex from target revenue on the basis that Western Power's forecast SCADA and communications asset replacement capex program was significantly increasing in AA4. However, in the final decision the ERA reduced forecast SCADA and communications asset replacement capex to AA3 levels and also retained the reduced opex levels.
33. Given the reduced capex determination in the final decision, we submit excluding the opex is an error and have reinstated the discrepancy amount (being \$31.5 million). This ensures forecast opex is consistent with the efficient AA3 levels and provides Western Power the opportunity to recover the forward-looking and efficient costs of providing services. This opex correction is discussed in further detail in section 5.2 of this document.

3.2 Metering unbundling

34. In response to the positions put forward by network users and the ERA, we have unbundled metering services from existing reference services. Western Power will now offer a suite of 16 metering reference services (M1 to M16), which can be selected by a user and provided in combination with its existing reference service.
35. Historically, a standard metering service has been 'bundled' with each reference service, with the scope of the standard metering service being specified in the metering model service level agreement (MSLA). Users requiring non-standard metering services (for example high frequency readings or one-off interval metered data) have been able to access these as 'extended metering services' under the MSLA or 'additional metering services' and charged accordingly.
36. In its draft decision the ERA determined these arrangements no longer satisfy the requirements of sections 5.2(b) and 5.2(c) of the Access Code because:
 - *The current specification of reference services lacks clarity and detail of the metering service included.*
 - *Bundling metering with the reference service restricts the choice for users who may want a different level of metering.*

- *The current metering services included with reference services do not meet the requirements of users.*⁹

37. Western Power in its response to the draft decision set out the regulatory and contractual challenges and potential costs associated with unbundling metering services as part of a revised access arrangement, and proposed that any changes to metering services would be more efficiently dealt with under the Metering Code and a revised MSLA. The current review of the MSLA that was already being undertaken by Western Power and the ERA could have incorporated any changes required to address the ERA's concerns.
38. The ERA's requirement to unbundle metering services from reference services was maintained in the final decision, and therefore has been implemented.
39. We consider the suite of metering options provided is sufficiently broad and transparent to allow users to access all technically appropriate metering reference services that meet their requirements. It complies with section 5.2(c) of the Access Code in that a user, *to the extent practicable*, can acquire only those elements of the covered service that the user or applicant wishes to acquire.
40. There will be some technical limitations on which metering services are compatible with each network reference service – for example, a uni-directional meter reading service is not practical for a bi-directional network service.
41. As acknowledged by the ERA in its final decision, there are implementation problems that will need to be resolved before these new metering reference services can be offered to users. The major issues relate to limitations with Western Power's and users' metering and billing systems.
42. We therefore propose a transitional period before users can access the new metering reference services. Western Power will work with users to address the necessary system and regulatory issues, with the aim of the new unbundled metering reference services being accessible **on and from 1 July 2020**.
43. This transitional period will allow sufficient time for Western Power and users to re-design and implement updated billing systems, as well as agree the process for accessing these metering reference services and any consequential changes to the MSLA and build pack.
44. In the interim, users requiring the metering reference services will still be able to access the equivalent metering service (if desired) as an 'extended metering service' under the MSLA arrangements or as an additional metering service (as explained in the Guide included in Annexure 1 of Appendix E of the access arrangement).
45. We submit that this proposed method of unbundling metering reference services is the most prudent and efficient method of implementing the ERA's required amendment. Further detail on the metering services unbundling is provided in section 5.3 of this document.

3.3 Reference services

46. The ERA's required amendment 16 requires Western Power to either include at least 11 new reference services, or identify how existing reference services can be utilised, to enable users to obtain the services listed in paragraph 1202 of its final decision.
47. For each of the services referenced in the ERA's paragraph 1202, Western Power has either implemented a new reference service, or identified how an equivalent service can be obtained by users via the existing

⁹ Paragraph 1127, *Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network 2017/18 – 2021/22*, ERA, September 2018.

reference services. Enhancements to existing reference services have also been made to provide further clarity to users.

48. As with our proposed solution to unbundling metering services, our aim is to enable users to access those services they wish to acquire, and to achieve this in the most efficient and cost-effective manner. Where possible, this has been via a reference service. Detail on how Western Power has implemented these reference services is provided in section 5.4 of this document.
49. The list of reference services in paragraph 1202 of the ERA's final decision were drawn from a series of public submissions provided by stakeholders to the ERA in December 2017. In its draft decision, the ERA did not require Western Power to implement these reference services and provided rationale on why it considered the reference services requested by users were not appropriate.
50. In its final decision, the ERA has changed its position on several of these user requests and now requires Western Power to implement the new reference services.
51. Western Power has implemented the new reference services required by the ERA to the extent it can within the timeframe provided. However, due to the complexity of the services, some may need refinement after further analysis is completed. Western Power will continue to engage with stakeholders and the ERA on these matters during the AA4 period.

3.4 Transmission performance measures

52. The ERA's required amendment 35 requires Western Power to remove zone substation transformers from the list of exclusions for the circuit availability and average outage duration transmission performance measures. In accordance with the required amendment, we have removed zone substation transformers from the list of exclusions.
53. We have not *included* zone substation transformer performance in these measures. This is because circuit availability and average outage duration are measures of transmission security of supply, and zone substation transformers perform no function in ensuring transmission system security.
54. The purpose of zone substation transformers is to distribute electricity to customers. Their function is to support *reliability* of supply to customers rather than ensure transmission *security* of supply. Therefore, including data on zone substation transformer performance would provide no meaningful information on the security of the transmission system. Zone substation transformer performance is captured in the loss of supply event frequency (LoSEF) service measures.
55. This amendment is discussed further in section 5.5 of this document.
56. The ERA's requirement to remove zone substation transformers from the list of exclusions for average outage duration and circuit availability measures (and by inference include them in the measures) was based on views expressed in a public submission. The ERA did not require Western Power to make amendments to the transmission service measures in its draft decision, and did not foreshadow its intent to change its position in the final decision. Therefore, the above advice regarding the applicability of zone substation transformers in the transmission security measures was not provided to the ERA prior to making its final decision.

4. Summary of responses to the ERA’s required amendments

57. This section states Western Power’s response to each of the required amendments. The table below briefly describes how Western Power has implemented or adequately addressed the matters that prompted the ERA to require the amendments. More detailed discussion on key amendments is provided in section 5 of this document.
58. As per section 4.23 of the Access Code, for each amendment Western Power has either:
- implemented the amendment as required by the ERA; or
 - not implemented the amendment exactly as required by the ERA but considers it has adequately addressed the matters that prompted the ERA to require the amendment.

Table 4.1: Summary of responses to the ERA’s required amendments

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
1	<p>Western Power must amend its proposed revised access arrangement to:</p> <p>Remove the correction factor for under or over-recovery of target revenue for prior periods from the price control formula; and</p> <p>Add a requirement that the forecast customer numbers, energy volumes and any other charging parameters for each reference service must be consistent with the demand forecast approved with the access arrangement decision.</p> <p>Include a correction factor for under or over-recovery of the TEC for prior periods.</p>	Western Power has implemented this amendment	<p>The correction factor has been removed from the price control from the AA4 commencement date. Section 5 of the access arrangement reflects this change. That section also details the new TEC correction factor which has been included to adjust for differences between forecast and actual TEC recovery.</p> <p>The AA3 form of price control (i.e. a revenue cap) remains in place for 2017/18 and 2018/19.</p> <p>To ensure the new form of price control is not applied retrospectively, a one-off correction factor will be applied in the 2020/21 Price List to reflect the fact that 2018/19 revenue is still subject to a revenue cap. The adjustment is made to 2020/21 as there needs to be time for actual revenue to become available for incorporation into the calculation. A placeholder 2018/19 revenue forecast has been used in the revenue model.</p> <p>As a result of the change in price control, from 1 July 2019 the terms MTR (maximum transmission revenue) and MDR (maximum distribution revenue) have been changed to reflect the fact that they no longer represent maximum amounts under a revenue cap, but target amounts. The terms are now TTR and TDR (target transmission revenue and target distribution revenue).</p>

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
			<p>Other consequential changes include replacing the terms 'revenue cap services' with 'revenue target services', as the new form of price control is not strictly a price or revenue cap given the presence of a TEC correction factor. The changes in terminology are tracked in a marked-up copy of the amended proposed access arrangement.</p> <p>A new section 6.4.5 has been added to the access arrangement to include the forecast customers numbers and energy volumes used to determine pricing.</p>
2	Clause 5.12 must be amended to state that charges for metering extended services must also comply with clause 6.6(1)(e) of the Electricity Industry (Metering) Code 2012.	Western Power has implemented this amendment.	Section 5.1.2 of the access arrangement has been updated as per the ERA's amendment. (Note the ERA's required amendment 2 should refer to clause 5.1.2.)
3	The proposed access arrangement must be amended to reflect the ERA's final decision on target revenue. The side constraint for each tariff should be applied to the overall change in tariff (transmission and distribution combined) rather than separately to each service as it currently is.	Western Power has adequately addressed the matters that prompted the ERA to require this amendment.	<p>The side constraint formula during the AA3 period (as defined in section 6.5.11 to 6.5.16 of the access arrangement) allowed for transmission and distribution tariff components to be constrained separately. We understand the intent of the ERA's required amendment 3 is to apply a single side constraint to all revenue for the AA4 period. We have therefore modified sections 6.5.11 to 6.5.13 accordingly, deleting sections 6.5.14 to 6.5.16. These changes are tracked in a marked-up version of the access arrangement.</p> <p>The revenue amounts in the amended proposed access arrangement vary from those stated in the ERA's final decision due to minor adjustments to account for changes in expenditure and escalation.</p> <p>The background and context of the ERA's required amendment 3 is discussed in detail in section 5.1 of this amended AA4 proposal.</p> <p>We note the ERA's requirement to implement a side constraint results in a similar outcome to the revenue deferral solution initially proposed by Western Power to mitigate price shock for transmission customers. However, it results in a significant cross subsidy between transmission and distribution customers.</p>
4	Western Power must amend its operating expenditure forecasts to be consistent with the values determined by the ERA in this Final Decision as set out in Table 51 above.	Western Power has adequately addressed the matters that prompted the ERA to require this amendment.	The opex forecasts in the amended proposed access arrangement vary from the values set out in Table 51 of the final decision. This is primarily due to Western Power reinstating \$31.5 million related to forecast SCADA and communications opex.

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
			<p>The adjustment corrects what we consider was an error in the expenditure model. In the draft decision, the ERA excluded 50 per cent of forecast SCADA and communications opex from target revenue on the basis that Western Power’s forecast SCADA and communications asset replacement capex program was significantly increasing in AA4. However, in the final decision the ERA reduced forecast SCADA and communications asset replacement capex to AA3 levels while still retaining the reduced opex levels.</p> <p>Given the reduced capex determination in the final decision, we submit excluding the opex is an error (and not appropriate) and have therefore reinstated the \$31.5 million. This ensures forecast opex is consistent with the efficient AA3 levels and provides Western Power the opportunity to recover the forward-looking and efficient costs of providing services</p> <p>We have also adjusted the efficiency and innovation benchmarks to be consistent with the ERA’s decision not to apply network growth escalation to corporate costs.</p> <p>This required amendment is discussed in further detail in section 5.2 of this document.</p>
5	<p>Western Power must amend forecast depreciation for AA4 to the values shown in Table 121 above. The asset life for “other non-network assets” must be amended to 27 years. The classification of business support expenditure must be amended to allocate expenditure for land to the correct asset category.</p>	<p>Western Power has implemented this amendment.</p>	<p>The asset life for other non-network assets has been amended to 27 years in section 5.3.2 of the access arrangement.</p> <p>The ERA requires the classification of business support expenditure to be amended to allocate expenditure for land to the correct asset category. While Western Power accepts this amendment, subsequent to the final decision we identified that the ERA had applied the amended allocation for land to the AA3 period as well as the AA4 period. This is an error, as the amendment should only apply to the AA4 period onwards.</p> <p>We have highlighted this to the ERA, who confirmed this was an error in the model provided with its final decision.</p> <p>We have corrected this and implemented the amendment accordingly. However, due to these changes, the forecast depreciation values in the amended proposed access arrangement differ slightly from the values in Table 121.</p>

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
6	<p>The revised proposed access arrangement revisions must be amended to incorporate the forecast capital expenditure, depreciation and capital asset base values set out in this final decision.</p> <p>The revised proposed access arrangement revisions must be amended to incorporate the historical capital expenditure, depreciation and capital asset base values set out in this final decision.</p>	<p>Western Power has adequately addressed the matters that prompted the ERA to require this amendment.</p>	<p>The capex forecasts in the amended access arrangement vary from the values set out in Tables 117, 118 and 119 of the final decision due to Western Power applying the intended changes to the labour cost escalation parameters as per paragraphs 410 and 411 of the final decision. These adjustments seem to have been inadvertently excluded in the final decision capex model.</p> <p>Correcting for these adjustments and updating the mathematical calculation of indirect expenditure allocations between the opex and capex models following the adjustment to SCADA and communications opex (refer to required amendment 4) results in a \$35 million reduction to forecast capex (including indirect costs).</p> <p>In its final decision the ERA has excluded any forecast transmission growth-related projects that do not yet have a detailed business plan (paragraph 640, final decision) reducing forecast capacity expansion capex in the last three years of the AA4 period from \$86.8 million to only \$5.3 million. This compares to average actual expenditure during AA3 of \$21 million per year (excluding the Mid-West Energy project). The ERA advises the investment adjustment mechanism (IAM) can be used to adjust revenue at the next review for capacity expansion projects undertaken by Western Power during AA4 that are over and above the approved \$5.3 million.</p> <p>We consider this is not an appropriate or reasonable use of the IAM. The IAM is a mechanism to allow for adjustments between forecast and actual expenditure in categories that are subject to a reasonable degree of uncertainty (such as growth).</p> <p>Further, the ERA and its technical consultants found that Western Power's governance processes and asset management strategies to be consistent with good practice and <i>generally adequate to ensure its capital expenditure forecasts could reasonably be expected to satisfy the new facilities investment test</i> (paragraph 600, final decision). To disallow projects towards the end of an access arrangement period on the basis that specific business plans have not yet been developed is inconsistent with this finding.</p> <p>We have, however, adopted the ERA's position and will apply the IAM as required.</p>

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
7	Western Power must amend the (nominal after-tax) weighted average cost of capital to 5.87 per cent, based on the parameters set out in Table 129 of this final decision and reasoning detailed in Appendix 5 of this final decision.	Western Power has implemented this amendment.	Section 5.4 of the access arrangement has been amended accordingly. All annual updates of the <i>DRP</i> are to be determined consistent with the Bond Yield Approach. The trailing average <i>DRP</i> estimate for 2017/18 and 2018/19 will be 2.487 per cent. Note: Due to the AA4 commencement date being 1 July 2019, the first annual update of the debt risk premium (<i>DRP</i>) will apply for the financial year ending 30 June 2020 (2019/20). The corresponding update to revenue will be made at the same time as the update for the <i>DRP</i> for the financial year ending 30 June 2021 in the 2020/21 Price List.
8	The values of smoothed target revenue, forecast new facilities investment, forecast non-capital costs and weighted average cost of capital used to calculate working capital must be adjusted to be consistent with this final decision.	Western Power has implemented this amendment.	The revenue model has been updated accordingly. The revenue amounts vary slightly to those specified in the ERA's final decision due to minor adjustments to account for 2017/18 CPI adjustment, AA3 capex allocation, 2018/19 forecast revenue and the revised AA4 start date of 1 July 2019.
9	Forecast taxation costs must be updated to be consistent with the final decision and the calculation must be amended to use unsmoothed revenue for each service.	Western Power has implemented this amendment.	Forecast taxation costs have been changed in the revenue model accordingly.
10	Western Power must update the Investment Adjustment Mechanism value to reflect the ERA's final decision on AA3 capital expenditure.	Western Power has implemented this amendment.	The investment adjustment mechanism value has been changed in the revenue model accordingly.
11	Western Power must update the Gain Share Mechanism to reflect the ERA's final decision on wood pole expenditure and unforeseen events.	Western Power has implemented this amendment.	The gain sharing mechanism value has been changed in the revenue model accordingly.
12	Western Power must adjust target revenue to remove its proposed unforeseen event adjustment.	Western Power has implemented this amendment.	The unforeseen event adjustment has been removed from the revenue model accordingly.
13	Western Power must reinstate its proposed residential and business time of use-based demand services in its proposed reference services.	Western Power has implemented this amendment.	Western Power has reinserted the proposed residential and business time of use-based demand services (D3 and D4) as reference services.

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
			<p>However, the numbering of the proposed time of use and time of use-based demand services has been changed from D1, D2, D3 and D4, to:</p> <ul style="list-style-type: none"> • where the service is an exit service only – A12, A13, A14 and A15 • where the service is a bi-directional service – C9, C10, C11 and C12. <p>These new reference services require an interval meter capable of recording data across the time periods specified in the service. This has been added to the eligibility criteria for each service.</p>
14	<p>The new time of use services must be available to users with existing interval capable meters. Western Power must amend the peak period for the existing residential and business time of use services (A3, A4, C3 and C4) to be consistent with the peak and shoulder periods used in its proposed new residential and business time of use services (D1 and D2) and 7am-3pm should be classified as a shoulder period.</p>	<p>Western Power has adequately addressed the matters that prompted the ERA to require this amendment.</p>	<p>Western Power has removed the requirement for an AMI meter from all reference services. The new time of use services are available to users with an appropriately configured interval meter installed.</p> <p>The corresponding reference tariff for the existing time of use services will not be modified as there are approximately 20,000 customers with meters on these services who have accumulation meters programmed to the existing time bands. It would be inefficient to reprogram all of these to the new time bands and would also constitute a material change to the service.</p> <p>However, Western Power has created several new time of use reference services with multi-period time bands (see required amendment 16), which users can opt to move to.</p>
15	<p>Western Power must unbundle metering services from reference services and specify separate metering services as reference services based on the meter reading services required by users. As a minimum this should include:</p> <ul style="list-style-type: none"> - An accumulation meter manual read every two months - An interval meter manual read with data provided every two months - An interval meter manual read with data provided every month - A one-off interval meter manual read - An interval meter read remote read daily 	<p>Western Power has adequately addressed the matters that prompted the ERA to require this amendment.</p>	<p>Western Power has unbundled metering services from existing reference services so a user will be able to select which metering service it requires as part of its reference service.</p> <p>Western Power will offer a suite of metering services M1-M16, which can be selected by the user and provided in combination with the user's network reference services under its existing ETAC.</p> <p>The new metering reference services are listed in Annexure 2 to Appendix E of the access arrangement. These new metering reference services will be available from 1 July 2020.</p> <p>Further detail on the metering services unbundling is provided in section 5.3 of this document.</p>

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
16	Western Power must include reference services that meet the services listed in paragraph 1202 of the final decision or identify how existing reference services can be utilised to enable users to obtain these services.	Western Power has implemented this amendment.	<p>As with our proposed solution to unbundling metering, our aim is to enable users to access those services they wish to acquire, and to achieve this in the most efficient and cost-effective manner. Where possible, this will be via a reference service.</p> <p>For each of the items listed in paragraph 1202, we have either implemented a new reference service consistent with the requirements specified in the relevant user's submission, or identified how existing reference services can be utilised to enable users to obtain these services.</p> <p>Further detail on amendments to reference services is provided in section 5.4 of this document.</p>
17	Western Power must revise the changes to metering definitions and conditions (including new clause 1.4 and Annexure A) in Appendix E Reference Services, to be consistent with required amendment 15.	Western Power has implemented this amendment.	Appendix E of the access arrangement has been amended accordingly.
18	Western Power must amend the eligibility criteria for reference services by adding a definition of "materially different" that provides sufficient clarity and certainty to users with access contracts that they will be able to continue to use reference services during AA4 under their existing contracts.	Western Power has adequately addressed the matters that prompted the ERA to require this amendment.	<p>The '<i>materially different</i>' words form part of the eligibility criteria for each reference service as follows:</p> <p><i>"The terms and conditions of the access contract under which the service will be provided are not materially different to the Applicable Standard Access Contract for this service"</i></p> <p>This eligibility criterion applied during the AA3 period.</p> <p>Rather than providing a definition of '<i>materially different</i>', we have addressed the ERA's required amendment by removing the '<i>materially different</i>' eligibility criterion completely. We consider this removes any ambiguity as to whether a user will be able to continue to use reference services during AA4 under their existing contracts.</p> <p>Put simply, users will continue to be able to use reference services irrespective of how their contract compares to any new standard access contract, so there is no need to include an eligibility criterion regarding whether their reference service is materially different.</p> <p>We note that:</p>

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
			<ul style="list-style-type: none"> there have not been any circumstances where Western Power has sought to deny a user from continuing to receive a reference service between access arrangements due to how their access contract compared to the applicable standard access contract for that period; and we will under the terms of all existing access contracts continue to provide each AA3 reference service (as transitioned to the AA4 reference services as per clause 1.6 of Appendix E) provided upon the commencement of the AA4 period. <p>As such, removing the '<i>materially different</i>' eligibility criterion as a template inclusion in each reference service, and therefore not calling eligibility into question, removes scope for disquiet amongst users and provides ultimate clarity and certainty that users will continue to be able to use reference services on the basis of their existing contract.</p>
19	Western Power must amend the 2018/19 Price List and Price List Information to be consistent with the target revenue approved by the ERA in this final decision and apply them from a commencement date of 1 February 2019. Western Power must also amend the 2018/19 Price List and Price List Information for other relevant changes in the final decision on reference services and tariff structures as set out in Pricing Methods, Price List and Price List Information.	Western Power has adequately addressed the matters that prompted the ERA to require this amendment.	<p>Following engagement with the ERA, Western Power submits a 1 July 2019 commencement date for the updated AA4 tariffs. This will allow sufficient time for Western Power and users to modify their billing systems and related processes.</p> <p>As a result of this revised start date and a number of other corrections to the revenue model, target revenue varies from the amount in the ERA's final decision.</p> <p>These changes, as well as other relevant changes in the final decision on reference services and tariff structures, are set out in the pricing methods, price list and price list information accordingly.</p>
20	Western Power must amend the 2018/19 Price List and Price List Information to include tables similar to those provided for distribution tariffs, to demonstrate that transmission tariffs are set between the incremental and stand-alone costs of service provision and that the variable components of transmission tariffs recover the incremental costs of service provision.	Western Power has implemented this amendment.	Due to the proposed commencement date of 1 July 2019, the necessary amendments have been made to Section 6.5 of the 2019/20 price list.

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
21	Western Power must amend the side constraint formula to remove the correction factor for under or over recovery of target revenue from prior periods.	Western Power has implemented this amendment.	As noted above for required amendment 1, starting on the AA4 commencement date, the correction factor will be removed from the price control (consistent with paragraph 144 of the final decision). Section 5 of the access arrangement reflects this change.
22	Western Power must include distribution connected users with demand greater than 7,000 kVA in the class of users charged the TEC.	Western Power has implemented this amendment.	Currently, the variable demand charge for customers using between 1,000 and 7,000 kVA is negative so that when added to the fixed demand charge, users with demand greater than 7,000 kVA do not pay the TEC. To implement the required amendment, we have updated section 7.6.4 of the price list information which details the TEC values included within distribution components of tariffs for users with demand greater than 7,000 kVA.
23	Western Power must develop tariffs compliant with the Code requirements and include supporting information on how the costs have been derived and the basis of the tariffs in its price list information and price list for the metering services required by the ERA in Reference Services and Non-Reference Services.	Western Power has implemented this amendment.	Consistent with the start date of 1 July 2020 proposed for the new unbundled metering reference services (see required amendment 15), the new tariffs will be produced for the 2020/21 Price List. The 2020/21 price list information will include detail on how these tariffs have been developed.
24	Western Power must provide sufficient information in the Price List Information to enable users to understand (and provide evidence for) the differential rates for the D1 and D2 services. This should also include sufficient information to enable users to understand whether, and if so how, these differential rates may change in the future.	Western Power has implemented this amendment.	A new section 5.4.3 has been added to the price list information that provides further information on the RT17 and RT18 tariffs that apply to the new D1 and D2 services.
25	Western Power must amend the RT5 and RT6 tariffs to include a mechanism that adjusts the rolling 12-month maximum half-hourly demand where it can be clearly demonstrated that future demand will be lower.	Western Power has implemented this amendment.	Section 7.1.4 of the price list information has been amended accordingly. Descriptions of the RT5 and RT6 tariffs have also been updated in the 2018/19 price list.
26	Western Power must include in the price list information specific cost information to demonstrate the level of the proposed Excess Network Usage Charges is based on the forward-looking efficient costs from a user exceeding its	Western Power has implemented this amendment.	Specific cost information to demonstrate the level of the proposed excess network usage charge is provided in section 7.1.14 of the price list information.

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
	contracted capacity and that the factors applied for different geographical areas are consistent with the Access Code requirement that charges paid by different users of the reference service only differ to the extent necessary to reflect differences in the average cost of service provision.		
27	Western Power must amend the Price List and Price List Information to include the required new reference services.	Western Power has implemented this amendment.	Consistent with the response to required amendment 16, Western Power will offer a 'fully funded by an LGA' LED price for streetlight services in the 2019/20 price list. Further information on these prices is provided in the 2019/20 price list information.
28	Western Power must discontinue reporting the system minutes interrupted (radial and meshed) performance measures as service standard benchmarks.	Western Power has implemented this amendment.	Section 4.3 of the access arrangement has been amended accordingly.
29	Western Power must make clear the classification of 220kV circuits between Muja Terminal and Merredin Terminal, and report disaggregated loss of supply event frequency performance measures for radial and meshed circuits. Western Power is not required to set service standard benchmark for the radial and meshed elements of the loss of supply event frequency performance measures.	Western Power has implemented this amendment.	No change to the access arrangement is required to implement this required amendment. Western Power will make the necessary changes to the Annual Service Standard Performance Report.
30	Western Power must amend the definition of "System Peak MW" within the loss of supply event frequency formula as follows: "System Peak MW" is the maximum peak demand recorded on the South West Interconnected System for the previous financial year, excluding the coincident demand of customers directly connected to the transmission system and receiving a non-reference service.	Western Power has implemented this amendment.	Western Power has updated the definition of loss of supply event frequency (LoSEF) >0.1 and ≤1.0 system minutes interrupted, and >1.0 system minutes interrupted to exclude the coincident demand for those customers that are receiving a non-reference service, and for which any interruption is excluded from the MWh unsupplied. Western Power currently excludes the impact of interruptions for seven transmission connected customers and two distribution connected customers for which non-reference services are provided. As such, we have also excluded the coincident demand for these distribution connected customers from the system peak.

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
			<p>Two of our transmission connected non-reference service customers have generation facilities on-site and therefore, often at times of system peak are net exporters. Their generation is captured in the system peak, so we have adjusted all negative imports to zero to ensure they are not double-counted.</p> <p>We have clarified the LoSEF definitions in section 4.3 of the access arrangement accordingly.</p> <p>We have restated historical performance in line with this required amendment and determined new SSBs and SSTs based on this historical performance and in accordance with required amendments 31, 32 and 40.</p> <p>The new LoSEF SSBs are provided in section 4.3 and SSTs in 7.5 of the access arrangement.</p>
31	Western Power must use the single probability distribution of best fit to derive service standard benchmarks.	Western Power has implemented this amendment.	Section 4.2 and 4.3 of the access arrangement have been amended accordingly.
32	Western Power must derive service standard benchmarks at the 97.5th percentile of the single probability distribution of best fit for SAIDI, SAIFI loss of supply event frequency and average outage duration performance measures, and at the 2.5th percentile for call centre performance and circuit availability performance measures.	Western Power has implemented this amendment.	Section 4.2 and 4.3 of the access arrangement have been amended accordingly.
33	Western Power must record and report momentary interruption events, consistent with the proposed MAIFLe formula, within the annual Service Standard Performance Report during the fourth access arrangement period, for the purpose of establishing service standard benchmarks and targets in the next access arrangement period.	Western Power has implemented this amendment.	<p>No change to the access arrangement is required to implement this required amendment. Western Power will make any necessary changes to the next Annual Service Standard Performance Report.</p> <p>As detailed in its response the ERA's draft decision, Western Power remains concerned about the validity of setting SSBs and SSTs for MAIFLe in the next access arrangement. During the AA4 period, we will work with the ERA to determine appropriate SSBs for the next access arrangement period, including meeting section 5.6 of the Access Code, which requires that a service standard benchmark <i>be reasonable, and sufficiently detailed and complete to enable a</i></p>

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
			<i>user or applicant to determine the value represented by the reference service at the reference tariff.</i>
34	Western Power must record and report momentary interruption events by feeder category within the Service Standard Performance Report during the fourth access arrangement period.	Western Power has implemented this amendment.	No change to the access arrangement is required to implement this required amendment. Western Power will make the necessary changes to the Annual Service Standard Performance Report.
35	Western Power must remove zone substation transformers from the list of exclusions for the circuit availability and average outage duration performance measures.	Western Power has implemented this amendment.	<p>Western Power has removed zone substation transformers from the list of exclusions for the circuit availability and average outage duration performance measures.</p> <p>However, zone substation transformer performance is not <i>included</i> in the circuit availability and average outage duration performance measures. This is because circuit availability and average outage duration are measures of transmission security of supply. Zone substation transformers do not impact system security, rather their function is to support reliability of supply. Therefore, including data on zone substation performance would provide no meaningful information on the security of the transmission system.</p> <p>Zone substation transformer performance is captured in the LoSEF service measures.</p> <p>Further information on zone substation transformers and the matters that led the ERA to make this amendment, is provided in section 5.5 of this document.</p>
36	Metering expenditure must be removed from the investment adjustment mechanism.	Western Power has implemented this amendment.	Section 7.3.7 of the access arrangement has been amended accordingly.
37	Section 7.4.3 of the proposed revised access arrangement must be amended to specify that an adjustment, based on the proportion of years with service standard benchmark failures over the access arrangement period, will be made to the total above-benchmark surplus.	Western Power has implemented this amendment.	Section 7.4 of the access arrangement has been amended accordingly.
38	Western Power must delete proposed new section 7.4.2 and the following tables from the proposed revised access arrangement:	Western Power has adequately addressed the matters that	Section 7.4 of the access arrangement has been amended accordingly.

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
	<p>- Table 32: Efficiency and innovation benchmarks for the transmission system.</p> <p>- Table 33: Efficiency and innovation benchmarks for the distribution system.</p> <p>Western Power must include a single table with efficiency and innovation benchmarks for the total business consistent with the ERA's determination of efficient operating costs.</p>	prompted the ERA to require this amendment.	The efficiency and innovation benchmarks are consistent with the revised amount of efficient operating costs resulting from the forecast opex correction described in response to required amendment 4.
39	Western Power must amend the efficiency and innovation benchmarks to be consistent with the final decision on operating expenditure.	Western Power has adequately addressed the matters that prompted the ERA to require this amendment.	Section 7.4 of the access arrangement has been amended accordingly. The efficiency and innovation benchmarks are consistent with the revised amount of opex resulting from the correction described in response to required amendment 4.
40	Western Power must set service standard targets for the financial years from 2018/19 to 2021/22 at the average annual level of performance achieved in the third access arrangement period, adjusted for anticipated changes in service reliability and where individual penalty caps have been applied during the third access arrangement period, as shown in Table 177.	Western Power has implemented this amendment.	<p>For the purpose of the final decision, the ERA assumed the access arrangement commencement date was 1 February 2019. However, the proposed access arrangement commencement date is 1 July 2019. We have therefore also set SSTs that apply for the access arrangement period to commence at the same time.</p> <p>We have updated the incentive rates to:</p> <ul style="list-style-type: none"> • account for differences in revenue at risk as a result of changes to the total revenue requirement for the access arrangement period • apply a symmetrical incentive rate for each SAIFI measure • correct the calculation for the call centre incentive rates. <p>Section 7.5 of the access arrangement has been amended accordingly.</p>
41	Western Power must apply the revised weightings of values of customer reliability to SAIDI and SAIFI incentive rates listed in Table 180.	Western Power has implemented this amendment.	Section 7.5 of the access arrangement has been amended accordingly.
42	Western Power must set revenue-at-risk caps as follows: - Upper revenue-at-risk (cumulative reward) cap on the distribution network of 1.0 per cent. - Lower revenue-at-risk (cumulative penalty) cap on the	Western Power has implemented this amendment.	Section 7.5.8 and 7.5.9 of the access arrangement have been amended accordingly.

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
	distribution network of 2.5 per cent - Reward and penalty revenue-at-risk caps of 1.0 per cent on the transmission network.		
43	Western Power must allocate revenue-at-risk to the performance measures on the transmission network at the rates shown in Table 182.	Western Power has implemented this amendment.	Section 7.5 of the access arrangement has been amended accordingly.
44	Western Power must delete proposed new sections 7.6.6 to 7.6.10 from the access arrangement.	Western Power has implemented this amendment.	Section 7.6 of the access arrangement has been amended accordingly.
45	Clause 3.1(c) of the electricity transfer access contract must read: “For each Service at each Connection Point, the User must endeavour, as a Reasonable and Prudent Person, to ensure that the rate at which electricity is transferred into or out of the Network by or on behalf of the User does not exceed the Contracted Capacity for that Service.” Western Power’s proposed clauses 3.1(d) to (g) must be deleted.	Western Power has implemented this amendment.	Clause 3.1(c) of the electricity transfer access contract has been amended accordingly.
46	Clause 13(e) of the electricity transfer access contract must read: “Notwithstanding clause 13(d) the replacement of like for like parts within a Generating Plant or the replacement of parts in the ordinary course of maintenance and repair is not a material modification for the purposes of clause 13(c)(ii).”	Western Power has implemented this amendment.	Clause 13(e) of the electricity transfer access contract has been amended accordingly.
47	Clause 13(c)(ii)(A) of the electricity transfer access contract must be amended so the notification period is at least 45 days prior to the modification being made.	Western Power has implemented this amendment.	Clause 13(c)(ii)(A) of the electricity transfer access contract has been amended accordingly.

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
48	Clause 13(f) of the electricity transfer access contract must be amended so the notification period is at least 45 days prior to the modifications being made.	Western Power has implemented this amendment.	Clause 13(f) of the electricity transfer access contract has been amended accordingly.
49	The definition of material change in schedule 1 of the electricity transfer access contract must be amended to reflect the wording in paragraph 2286.	Western Power has implemented this amendment.	The definition of 'material change' in schedule 1 of the electricity transfer access contract has been amended accordingly.
50	Clause 19.11(a) of the electricity transfer access contract must be amended in accordance with paragraph 2303 of this final decision.	Western Power has implemented this amendment.	Clause 19.11(a) of the electricity transfer access contract has been amended accordingly.
51	Clause 22.3(a) of the electricity transfer access contract must be amended to read: "A notice under clause 22.3(a) must be given as soon as reasonably practicable and in any event within 5 Business Days of a Party becoming aware an event is or is likely to be a Force Majeure Event."	Western Power has implemented this amendment.	Clause 22.3(a) of the electricity transfer access contract has been amended accordingly.
52	The provisions for dormant applications must be amended to ensure applications cannot be deemed dormant if they are less than three years old or the lack of progress is due to Western Power not progressing the application.	Western Power has implemented this amendment.	The definition of 'dormant application' in clause 2.1 of the applications and queuing policy has been amended accordingly.
53	The proposed amendments to include forecast natural load growth in the definition of spare capacity and clause 24.8(a) of the applications and queuing policy must be deleted.	Western Power has implemented this amendment.	Clause 24.8(a) and the definition of 'spare capacity' in clause 2.1 of the applications and queuing policy have been amended accordingly.
54	Western Power must ensure there is a mechanism for refunding to the CAG applicant any amount of processing fees paid in excess of the contribution payable.	Western Power has implemented this amendment.	Clause 24.3 of the applications and queuing policy has been amended accordingly.

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
55	Western Power must ensure there is a mechanism for refunding to the CAG applicant amounts of the processing fees in excess of the contribution payable.	Western Power has implemented this amendment.	Clause 24.5(b) of the applications and queuing policy has been amended accordingly.
56	Clause 16.3 must be amended as follows: “... as a reasonable and prudent person, and acting in accordance with good electricity industry practice, ...”	Western Power has implemented this amendment.	Clause 16.3 of the applications and queuing policy has been amended accordingly.
57	Western Power’s proposed amendments to clauses 3.8 and 14.5 of the applications and queuing policy must be deleted.	Western Power has implemented this amendment.	Clause 3.8 of the applications and queuing policy has been amended accordingly and clause 14.5 has been deleted.
58	Western Power’s proposed amendments to clauses 10.2(a), 16.2(a), 16.3 and 16.4 (as set out in paragraph 2639 above, must be deleted.	Western Power has implemented this amendment.	Clauses 10.2(a), 16.2(a), 16.3 and 16.4 of the applications and queuing policy have been amended accordingly.
59	Western Power’s proposed amendments to clause 6.2(a) to add the market operator and system management must be deleted.	Western Power has implemented this amendment.	Clause 6.2(a) of the applications and queuing policy has been amended accordingly.
60	Clause 24.9(d) of the applications and queuing policy must be amended in accordance with paragraph 2683 above of this final decision to provide that Western Power must not make known confidential information under the clause if it is possible from the anonymised information to determine the identity of the competing connection applicant.	Western Power has implemented this amendment.	Clause 24.9(d) of the applications and queuing policy has been amended accordingly.
61	Western Power must retain Figure 1 (“Access, Connection and Transfer Applications Policy – Process Overview”) and the tables headed “Primary Information provided to applicants by Western Power” and “How the Competing Applications Groups (CAGs) will be managed.” Western Power must ensure the information in the flowchart and tables is consistent with the relevant clauses of the applications and queuing policy.	Western Power has implemented this amendment.	Figure 1 (“Access, Connection and Transfer Applications Policy – Process Overview”) and the tables headed “Primary Information provided to applicants by Western Power” and “How the Competing Applications Groups (CAGs) will be managed” have been reinserted and updated to reflect the amendments to the applications and queuing policy.

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
62	Western Power must comply with draft decision required amendment 81 with the insertion of “as a reasonable person” as set out in paragraph 2771 above.	Western Power has implemented this amendment.	Clause 10.3 of the applications and queuing policy has been amended accordingly.
63	The “a” before “security” in clauses 4.3(a) and 4.3(c) of the Contributions Policy must be deleted.	Western Power has implemented this amendment.	<p>Clauses 4.3(a) and 4.3(c) of the contributions policy have been amended accordingly.</p> <p>During the course of making this amendment and finalising the contributions policy, we identified a further typographical error. Section 9.2(e) of the contributions policy currently states:</p> <p>“The amount of a rebate given to a <i>user</i> or <i>customer</i> under clause 9.1(c)...”</p> <p>However, there is no clause 9.1(c) in the document. Clause 9.2(e) should instead refer to contributions paid under clauses 9.2(a), (b) and (c). We have therefore amended clause 9.2(e) to read:</p> <p>“The amount of a rebate given to a <i>user</i> or <i>customer</i> under clauses 9.2(a), (b) or (c).”</p>
64	<p>Section 2.2 of the DLVCHS must be amended to state prices are reviewed at least once every 12 months.</p> <p>The proposed insertion of the words “at least” into the first paragraph of section 5.1 of the proposed Contributions Policy Appendix C.2 should be deleted.</p>	Western Power has implemented this amendment.	<p>Section 2.2 of the distribution low voltage connection scheme (DLVCS) methodology have been amended accordingly.</p> <p>Section 5.1 of the DLVCS methodology has also been amended accordingly.</p>
65	The proposed insertion of the words “over the same period over which connections are modelled under clause 5.1” into subclause 6(a) of the proposed Contributions Policy Appendix C.2 should be deleted and the words “in the last twelve months” must be retained.	Western Power has implemented this amendment.	Clause 6(a) of the DLVCS methodology has been amended accordingly.
66	The proposed insertion of the words “or continue to provide an existing covered service to an existing user” in clause 6.4 (a)(i) and “by Western Power to withhold its consent or impose conditions” in clause 6.4 (c) must be	Western Power has implemented this amendment.	Clauses 6.4(a)(i) and 6.4(c) of the transfer and relocation policy have been amended accordingly.

RA#	ERA required amendment	Western Power response	Notes and cross reference to access arrangement
	deleted from clause 6.4 of the Transfer and Relocation Policy.		



5. Further discussion on key amendments

59. This section provides discussion on key amendments that require more detailed explanation of how they have been implemented or how the matters that gave rise to the ERA's amendment have been addressed.

5.1 Required amendment 3 – tariff side constraints

60. Western Power has implemented required amendment 3 as proposed by the ERA. Our comments on the practical impact of the amendment and the matters that led to it are set out below.

Impact of the amendment

61. The ERA requires Western Power to apply the current side constraint formula¹⁰ to the combined transmission and distribution charge rather than separately to transmission and distribution. The ERA considers *applying the side constraint to the overall charge rather than each service, will enable transmission costs to be reallocated across customer groups, with less cost allocated to transmission connected customers and more to customers receiving combined services.*¹¹ To clarify, customers receiving *combined services* are distribution customers.
62. The ERA's final decision results in a 12.7 per cent real average annual increase in transmission network tariffs. The ERA's solution to protect transmission customers from the full impact (or price shock) of this tariff increase is to re-allocate the transmission costs across distribution customers.
63. There are more than one million distribution customers on the Western Power Network, the vast majority of which are residents and small businesses. As the ERA notes in its final decision¹², there are 58 transmission-connected customers. The ERA's solution has the effect of spreading the transmission costs across a larger customer base, resulting in smaller price increases for the 58 transmission-connected customers, and larger price increases for distribution customers.
64. Re-allocating transmission network charges across all customers means that transmission-connected customers' bills will increase by around 4 per cent (nominal) per year over the AA4 period rather than the 9.4 per cent (nominal)¹³ proposed by Western Power. Distribution customers' bills will increase by around 2 per cent (nominal) per year rather than the 0.6 per cent (nominal)¹⁴ proposed by Western Power.
65. This is the equivalent of a \$45 million subsidy being paid by distribution customers to the 58 transmission-connected customers on the Western Power Network to mitigate the price impact on those transmission customers.

Why are transmission prices increasing?

66. As explained in Western Power's initial AA4 proposal, the need to sharply increase transmission customer tariffs (price shock) arises as a result of the smooth tariff path that was set by the ERA for transmission tariffs for the AA3 period. During the AA3 period, transmission target revenue was materially lower than during the AA2 period. This meant an actual price decrease for transmission customers.
67. Rather than have a sharp price decrease in the first year of the AA3 period to match the target revenue reduction, followed by flat prices thereafter, the ERA's preferred option was to have a tariff path of even

¹⁰ The current side constraint formula places a limit that individual tariff components cannot increase by more than two percentage points above the average.

¹¹ Paragraph 232, *Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network 2017/18 – 2021/22*, ERA, September 2018.

¹² Paragraph 219, *ibid.*

¹³ Table 1.1, *Revised AA4 proposal: Response to the ERA's draft decision*, Western Power, 14 June 2018.

¹⁴ *Ibid.*

price decreases in each year of the period. This meant that transmission tariffs at the beginning of the AA3 period were set higher than target revenue, before declining each year such that by the end of the period, tariffs were substantially lower than target revenue.

68. This declining tariff path leads to a significant issue transitioning into the AA4 period. Prices have now declined so far below target revenue that even though Western Power will collect around \$13.8 million (real) less transmission revenue during the AA4 period, a sharp transmission price increase is necessary to recover revenue from transmission customers.

What other solutions were considered?

69. Western Power proposed several options to address the impact of the transmission tariff path in the AA4 period. These options included a revenue 'switch', which involved deferring an amount of transmission revenue for collection in the future (in order to reduce transmission tariff increases) and instead bringing forward collection of the same amount of distribution revenue that the ERA had deferred from the AA2 period (2009-2012).
70. The effect of the revenue switch is similar to the ERA's proposed solution in this final decision, in that transmission prices decrease, and distribution prices would increase sufficiently to allow Western Power to recover the full amount of AA4 target revenue.
71. However, the key difference with the revenue switch was that there was no direct cross-subsidy between distribution and transmission customers. Instead, all that was being proposed was collection of revenue owed to Western Power for providing distribution services to distribution customers during the AA2 period and deferred to a later date (as opposed to the continued deferral of the collection of this outstanding revenue into the future).
72. In its draft decision, the ERA considered *transferring revenue between services was inconsistent with the requirements of the Access Code and the Access Code Objective*¹⁵ and therefore disallowed the revenue switch.
73. In its response to the ERA's draft decision, Western Power proposed simply to defer the transmission revenue collection with no equivalent distribution revenue switch. This is consistent with the deferred revenue determination the ERA made during its access arrangement review for the AA2 period.
74. However, the ERA rejected the transmission revenue deferral, stating:

*Similar to the draft decision on Western Power's proposed transfer of revenue between services, the ERA considers that deferring revenue to a subsequent access arrangement period is inconsistent with the requirements of the Access Code.*¹⁶

Limitations of the ERA's pricing side constraint solution

75. Western Power has re-allocated transmission charges across all customers as required by the ERA. The revised side constraint formulae and pricing is provided in the amended proposed access arrangement, price list and price list information submitted with this document.
76. In practical terms, the ERA's solution applies essentially the same principle as Western Power's revenue switch. It also results in a similar transfer of revenue between services.

¹⁵ Paragraph 114, *Draft Decision on Proposed Revisions to the Access Arrangement for the Western Power Network 2017/18 – 2021/22*, ERA, May 2018.

¹⁶ Paragraph 207, *Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network 2017/18 – 2021/22*, ERA, September 2018.

77. However, applying the two per cent side constrained to combined charges rather than distribution and transmission separately, limits the flexibility and reflectivity of pricing arrangements. Because the constraint applies to overall charges, there is less room for movement with individual tariff (and customer) classes. While this is not a major concern in the short term, over time as the actual cost of provided services changes, there is a risk individual tariffs cannot be set to reflect the actual cost to each customer class.
78. More significantly, there is the potential for circumstances to arise where the overall constraint means it is not possible to set the prices for some services between the stand-alone and incremental cost of providing that service. This would be contrary to the pricing objectives specified in section 7.3 and 7.4 of the Access Code.
79. As the application of the side constraint in accordance with the final decision may ultimately give rise to prices that do not satisfy the Access Code requirements, Western Power requests that the ERA provides guidance on how the limitations caused by applying the side constraint to overall charges can be addressed in the future.

5.2 Required amendment 4 – forecast operating expenditure

80. Total forecast opex included in the AA4 target revenue is \$36 million greater than the amount provided in Table 51 of the ERA’s final decision.
81. The key driver of this variation is a \$31.5 million upward adjustment to recurrent network base costs for SCADA and communications. The adjustment corrects what we believe is an error in the expenditure model.
82. In the draft decision, the ERA excluded a portion of SCADA and communications **opex** from target revenue on the basis Western Power’s forecast SCADA and communications **capex** program was significantly increasing in AA4. However, in the final decision, the ERA reduced forecast SCADA and communications capex to AA3 levels. It therefore follows that the SCADA and communications opex should also remain consistent with AA3 levels.
83. In the draft decision, following advice from GHD, the ERA observed that:

Western Power’s proposed capital expenditure for AA4 includes \$52.7 million for transmission and \$32.2 million for distribution to replace ageing SCADA assets. This should lead to lower maintenance requirements for newer assets. However, Western Power has proposed base operating expenditure similar to actual expenditure during AA3.¹⁷
84. The ERA included the SCADA and communications asset replacement capex in target revenue in its draft decision.¹⁸ This \$84.9 million capex program would have represented an approximate \$45 million increase compared to SCADA and communications asset replacement during the AA3 period.
85. Given the inclusion of this increased capex, the ERA reduced forecast opex by 50 per cent to offset the forecast impact of the capex increase, stating:

In view of this capital expenditure, the ERA considers the proposed operating expenditure should be reduced by 50 per cent as the asset replacement program will replace at least 50 per cent of the existing SCADA and communication asset base. Consequently, as set out in Table 20 (below), the ERA requires base operating expenditure to be reduced by \$4.1 million (for

¹⁷ Paragraph 176, *Draft Decision on proposed Revisions to the Access Arrangement for the Western Power Network*, ERA, May 2018.

¹⁸ Paragraph 416, *ibid.*

*transmission) and \$2.1 million (for distribution) per annum to ensure forecast expenditure is at the level that would be incurred by a service provider efficiently minimising costs.*¹⁹

86. In the response to the draft decision, Western Power maintained that the base-step-trend method for estimating forecast opex is a top-down forecasting approach and therefore incompatible with a selective bottom-up assessment stating:

*It is not appropriate to make regulatory category level adjustments to an expenditure forecast that has not been developed using a bottom-up approach. This is particularly relevant where the regulator has already used top-down analysis (including benchmarking analysis) to determine that the top-down forecast is efficient.*²⁰

87. Accordingly, Western Power did not amend forecast opex to reflect the downward adjustment to SCADA and communications opex as per the ERA draft decision.
88. In the final decision, the ERA maintained the adjustment to SCADA and communications opex but changed its position on forecast SCADA and communications capex.
89. The ERA has not included Western Power's proposed \$84.9 million SCADA and communications capex program in target revenue, instead only approving a capex amount in line with that incurred during the AA3 period. The ERA states:

*The ERA accepts there is a need to upgrade the SCADA assets but is not satisfied that Western Power has demonstrated the replacement is reasonably likely to occur in the AA4 period. The ERA has approved a level of expenditure in line with the AA3 actual expenditure as a more realistic estimate of the level of expenditure Western Power will be able to deliver during AA4.*²¹

90. The proposed \$84.9 million capex program from SCADA and communications has been cut to \$44.6 million (a 47.5 per cent reduction), which is around \$4.4 million less than that incurred on asset replacement during the AA3 period.
91. However, the ERA has not made a corresponding adjustment to opex. In its deliberations on the AA4 forecast opex, the ERA states:

*Consequently, as a result of the extensive capital expenditure program for SCADA and communications, the proposed operating expenditure should be reduced by 50 per cent.*²²

92. and maintains that:

*The ERA requires Western Power to reduce the base operating expenditure by \$4.2 million for transmission and \$2.1 million for distribution, per annum to ensure forecast expenditure is at the level that would be incurred by a service provider efficiently minimising costs.*²³

93. We consider this is an error. Our understanding is that the matter that caused the ERA to make the 50 per cent reduction to SCADA and communications opex was its view that operating costs would be

¹⁹ Paragraph 177, *ibid.*

²⁰ Paragraph 226, *Revised AA4 proposal: Response to the ERA's draft decision*, Western Power, 14 June 2018.

²¹ Paragraph 671, *Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network 2017/18 – 2021/22*, ERA, September 2018.

²² Paragraph 366, *ibid.*

²³ *Ibid.*

proportionately lower because *the asset replacement program [capex] will replace at least 50 per cent of the existing SCADA and communication asset base.*²⁴

94. While Western Power continues to disagree with the ERA's application of the selective bottom-up assessment of opex, given the approved capex in the final decision has been reduced by 47.5 per cent, the extensive asset replacement program the ERA considers would have given rise to the lower base year operating costs is unlikely to be delivered during the AA4 period.
95. We therefore submit that excluding the \$4.2 million (transmission) and \$2.1 million (distribution) per year from base opex (totalling \$31.5 million over the five-year period) is an error, and that these costs should be reinstated.
96. We have therefore included the \$31.5 million opex in target revenue, which brings base year opex back in line with the efficient AA3 non-capital costs of maintaining SCADA and communication assets, and is consistent with section 6.40 of the Access Code.
97. The remaining difference in forecast opex relates to the mathematical calculation of indirect expenditure allocations between the opex and capex models following the adjustment to SCADA and communications opex in the opex model, and the correction to the Wage Price Index calculation in the capex model (refer Required Amendment 6).
98. We have also adjusted the efficiency and innovation benchmarks to be consistent with the ERA's decision not to apply network growth escalation to corporate costs.

5.3 Required amendment 15 – metering unbundling

99. Western Power has implemented this amendment. We have unbundled metering services from existing reference services so that a user will be able to select which metering service it requires as part of its reference service.
100. Historically, a standard metering service has been 'bundled' with each reference service, with the standard metering service being specified in the metering service level agreement between Western Power and the user. Users requiring non-standard metering services (for example high frequency readings or interval metered data) have always been able to access these as 'extended metering services' under the metering service level agreement or 'additional metering services' and charged accordingly. All the metering services specified in the ERA's required amendment 15 have always been available to users as extended metering services or additional metering services.
101. In its draft decision, following consideration of submissions from Synergy and other stakeholders, the ERA determined these arrangements no longer satisfy the requirements of sections 5.2(b) and 5.2(c) of the Access Code because:
 - *The current specification of reference services lacks clarity and detail of the metering service included.*
 - *Bundling metering with the reference service restricts the choice for users who may want a different level of metering.*

²⁴ Paragraph 177, *Draft Decision on proposed Revisions to the Access Arrangement for the Western Power Network*, ERA, May 2018.

- *The current metering services included with reference services do not meet the requirements of users.*²⁵

102. Western Power in its response to the draft decision made clear the difficulties and potential costs associated with unbundling metering services as part of a revised access arrangement, and proposed that any changes to metering services would be more efficiently dealt with under the revised metering model service level agreement (MSLA) and the Metering Code. The current review of the MSLA being undertaken by Western Power and the ERA could have incorporated any changes required to address the ERA’s concerns.

103. However, in its final decision, the ERA formed the view that: *including the most commonly sought metering services...as specific reference services under the access arrangement, results in users being able to more easily obtain the metering services they require and greater transparency in costs. In this regard, the ERA considers that including the bundled “standard metering service” as a reference service does not meet the requirement in section 5.2(c) of the Access Code that, to the extent reasonably practicable, reference services must be specified in such a manner that a user or applicant is able to acquire only those elements of a covered service that the user or applicant wishes to acquire.*²⁶

104. Western Power will offer a suite of metering services that:

- clearly specify a range of metering services that meet the requirements of users
- specify those metering service as reference services
- enable users to choose their preferred metering service
- specify a separate reference tariff for each metering service.

105. The new metering services, specified as metering reference services M1 to M16, are listed in the following table.

Table 5.1: Metering reference services M1 to M16

Reference number	Service name	Service description
M1	Uni-directional, accumulation, bi-monthly, manual	Provision of <i>accumulated energy data</i> from an <i>accumulation meter (uni-directional)</i> derived by way of a <i>manual read</i> on a bi-monthly basis.
M2	Uni-directional, accumulation (TOU), bi-monthly, manual	Provision of <i>accumulated energy data</i> for the time bands of the reference tariff for the underlying <i>exit service</i> from an <i>accumulation meter (uni-directional)</i> derived by way of a <i>manual read</i> on a bi-monthly basis.
M3	Uni-directional, interval, bi-monthly, manual	Provision of <i>interval energy data</i> from an <i>interval meter (uni-directional)</i> derived by way of a <i>manual read</i> on a bi-monthly basis.
M4	Uni-directional, interval, monthly, manual	Provision of <i>interval energy data</i> from an <i>interval meter (uni-directional)</i> derived by way of a <i>manual read</i> on a monthly basis.

²⁵ Paragraph 1127, *Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network 2017/18 – 2021/22*, ERA, September 2018.

²⁶ Paragraph 1156, *ibid.*

Reference number	Service name	Service description
M5	Uni-directional, interval, bi-monthly, remote	Provision of <i>interval energy data</i> from an <i>interval meter (uni-directional)</i> derived via a <i>communications network</i> on a bi-monthly basis.
M6	Uni-directional, interval, monthly, remote	Provision of <i>interval energy data</i> from an <i>interval meter (uni-directional)</i> derived following the collection of the <i>interval energy data</i> via a <i>communications network</i> on a monthly basis.
M7	Uni-directional, interval, daily, remote	Provision of <i>interval energy data</i> from an <i>interval meter (uni-directional)</i> derived following the collection of the <i>interval energy data</i> via a <i>communications network</i> on a daily basis.
M8	Bi-directional, accumulation, bi-monthly, manual	Provision of <i>accumulated energy data</i> from an <i>accumulation meter (bi-directional)</i> derived by way of a <i>manual read</i> on a bi-monthly basis.
M9	Bi-directional, accumulation (TOU), bi-monthly, manual	Provision of <i>accumulated energy data</i> for the time bands of the reference tariff for the underlying <i>bi-directional service</i> from an <i>accumulation meter (bi-directional)</i> derived by way of a <i>manual read</i> on a bi-monthly basis.
M10	Bi-directional, interval, bi-monthly, manual	Provision of <i>interval energy data</i> from an <i>interval meter (bi-directional)</i> derived by way of a <i>manual read</i> on a bi-monthly basis.
M11	Bi-directional, interval, monthly, manual	Provision of <i>interval energy data</i> from an <i>interval meter (bi-directional)</i> derived by way of a <i>manual read</i> on a monthly basis.
M12	Bi-directional interval, bi-monthly, remote	Provision of <i>interval energy data</i> from an <i>interval meter (bi-directional)</i> derived following the collection of the <i>interval energy data</i> via a <i>communications network</i> on a bi-monthly basis.
M13	Bi-directional, interval, monthly, remote	Provision of <i>interval energy data</i> from an <i>interval meter (bi-directional)</i> derived following the collection of the <i>interval energy data</i> via a <i>communications network</i> on a monthly basis.
M14	Bi-directional, interval, daily, remote	Provision of <i>interval energy data</i> from an <i>interval meter (bi-directional)</i> derived following the collection of the <i>interval energy data</i> via a <i>communications network</i> on a daily basis.
M15	Unmetered supply, accumulation, bi-monthly, manual	Provision of the <i>metering services</i> set out in the <i>Metering Code</i> for a type 7 connection point.
M16	One off manual interval read	Provision upon request of <i>interval energy data</i> collected as a <i>manual read</i> from an <i>accumulation meter</i> .

106. There will be some technical limitations on which metering services are compatible with each network reference service – for example, a uni-directional meter reading service is not practical with a bi-directional network service. However, we consider the suite of metering options is sufficiently broad and transparent enough to allow users to access all of the technically appropriate metering reference services that meet their requirements. We also consider that the suite complies with section 5.2(c) of the Code in that a user,

to the extent practicable, can acquire only those elements of the covered service that the user or applicant wishes to acquire.

107. For clarity, the eligibility criteria for each network service has been amended to require the user to have a compatible metering reference service. A matrix that shows which metering reference services are compatible with each network entry, exit, and bi-directional service is provided in Appendix E Annexure 2 of the access arrangement. The matrix also identifies the 'transition' metering reference service, which will be the metering service deemed selected by the user upon the unbundling of metering reference services from the standard metering framework that currently exists. This will be the service that is materially the same as the standard metering service that was previously provided.
108. Once the user selects the metering reference service it requires, that service is then attached to the user's network reference service and provided under its existing access contract. This approach is required because, under the existing access contractual framework, access contracts do not contemplate separate metering services as they were drafted and agreed with users for bundled network and metering reference services.
109. Our approach is designed to avoid disruption to the supply of electricity to consumers. It is the most equitable, efficient and lowest cost method of facilitating ongoing access to metering reference services, as it does not require contractual amendments or re-negotiation of existing access contracts.

Transitional arrangements

110. As acknowledged by the ERA in its final decision, there are implementation problems that will need to be resolved before these new metering reference services can be offered to users. The major issues relate to limitations with Western Power's and users' metering and billing systems.
111. Existing metering and billing systems used by Western Power have not been designed to facilitate separate metering reference services at a connection point. Further, the ERA's final decision results in Western Power offering 44 network reference services in combination with 16 metering reference services. This gives rise to a large number of possible combinations, which Western Power's current systems do not have the capacity to manage without a high level of manual intervention. We understand that billing systems of users have similar limitations.
112. High level estimates indicate system changes to Western Power's systems would cost between \$2 million to \$3 million. A manual workaround is not feasible as the solution would require more than one million connection points to be nominated. Users are also likely to incur costs to update their systems.
113. There are also regulatory issues that need to be addressed before the new meter reference services can be offered. These include consequential changes to the MSLA and the metering communication rules (build pack).
114. Western Power therefore proposes a transitional period before users can access the new metering reference services. Western Power will work with users to address the necessary system and regulatory issues, with the aim of the new unbundled metering reference services being accessible **on and from 1 July 2020**. This is 12 months after the proposed AA4 commencement date.
115. This transitional period will allow sufficient time for Western Power and users to re-design and implement updated billing systems, as well as agree the process for accessing these metering services and any consequential changes to the MSLA and build pack.
116. In the interim, to address the ERA's concerns that the current specification of reference services lacks clarity and detail of the metering service, Western Power has maintained the Guide included in Annexure A of Appendix E of the access arrangement in the response to the draft decision. During this interim period

users requiring the new metering reference services will be able to access the equivalent metering service as an extended metering service under the MSLA arrangements or as an additional metering service (as explained in the Guide included in Annexure A of Appendix E of the access arrangement).

117. The price list for the current bundled services will apply upon commencement of the amended access arrangement on 1 July 2019.
118. Tariffs for new metering reference services M1 to M16 will be provided in the 2020/21 price list as per the usual annual price list update process, and will take effect as reference tariffs from 1 July 2020.
119. We submit that this proposed method of unbundling metering reference services is the most prudent and efficient method of implementing the ERA's required amendment. The specification of services M1 to M16 as reference services and the provision for users to obtain the metering service they wish to acquire from 2020/21 based on separate reference tariffs implements the ERA's reasons for its decision at paragraph 1156, and is compliant with section 5.2(c) of the Access Code, on which the ERA relies.

5.4 Required amendment 16 – reference services

120. The ERA's final decision requires Western Power to include reference services that meet the services listed in paragraph 1202 of its decision or identify how existing reference services can be utilised to enable users to obtain these services.
121. The services listed in paragraph 1202 of the final decision are as follows:
 - *Services that enable network users to provide non-network solutions to customers (as described in the Australian Energy Council's submission).*
 - *A thin connection (as described in Perth Energy's submission).*
 - *Services set out in Synergy's submission:*
 - *New multi-part time of use residential and business reference services*
 - *New distributed generation service*
 - *New capacity allocation service*
 - *New direct load control and load limitation*
 - *New supply abolishment and remote connection/disconnection services*
 - *New street lighting services (as set out in WALGA's submission):*
 - *A clearer basis of services, more robustly defining the street lighting services that Western Power provides including light levels, spillage and technology.*
 - *An LED replacement service.*
 - *Different ownership models.*
 - *A new metering type based on metering-grade information technology within smart street lighting controllers and similar devices.*
122. Western Power has implemented this amendment. As with our proposed solution to unbundling metering, our aim is to enable users to access the services they wish to acquire, and to achieve this in the most efficient and cost-effective manner. Where possible, this will be via a reference service.
123. For each of the items listed in paragraph 1202, we have either implemented a new reference service or identified how existing reference services can be utilised to enable users to obtain these services.

124. The ERA's final decision to require Western Power to offer reference services consistent with the items listed in paragraph 1202 is a reversal from its draft decision. In its draft decision, the ERA indicated it did not consider any of these reference services were necessary or justified, and required no amendment to the access arrangement to accommodate them.
125. There has therefore been limited time and opportunity post the ERA's final decision for Western Power, the ERA and users to engage on how to develop these new reference services. Though the short turnaround time caused some disquiet amongst all parties, we have implemented these new services to the best of our ability in the timeframe available. However, it should be noted that the new reference services have not been subject to detailed engagement and scrutiny, and we are willing to work with the ERA and users to further refine the references services.
126. Discussion on how we have addressed the requirements for each item identified in paragraph 1202 is provided in the following sections.

5.4.1 Services that enable network users to provide non-network solutions to customers (as described in the Australian Energy Council's submission) and distributed generation services (Synergy's submission)

127. The Australian Energy Council requests Western Power provides a service that enables network users to provide non-network solutions. Synergy requests a similar provision for distributed generation. The submissions from both parties focus on whether network users who consider they provide assistance to the network (through distributed generation or other non-network solutions) are eligible for a discount.
128. Western Power has implemented this amendment by creating two new reference services (B3 and C15). These new reference services include provision for a discounted tariff subject to eligibility criteria.
129. Western Power supports the adoption of non-network/distributed generation solutions, particularly where there is a benefit to existing network users and those solutions contribute to more efficient energy costs in the future. We agree with the Australian Energy Council's view that offering non-network solutions to customers to reduce their electricity costs or consume electricity more efficiently is consistent with the Access Code. We consider these new reference services B3 and C15 will help remove the perceived barriers to non-network solutions and obtaining a discounted tariff.
130. Reference service B3 is provided on the same basis as entry service B1 and provides a formula for offering a discount to customers whereby the distributed generation or non-network solution results in Western Power being able to defer capital or non-capital costs.
131. The discount is available subject to eligibility criteria, requiring that the user and Western Power have agreed a network support services contract setting out the terms and conditions upon which the distributed generation/non-network solution will provide benefits to the Western Power Network. This is required to ensure the forecast benefit is realised and the discount is warranted. If Western Power is to defer capital or non-capital costs by not undertaking network investment, then it must be able to rely on the distributed generation/non-network solution.
132. The discounted tariff for the user's relevant reference services is calculated in accordance with the discount mechanism set out in the price list. The discount provisions are as follows:

Western Power will provide a discount to [applicable reference tariffs] in circumstances where the service allows for facilities and equipment connected behind the connection point (including distributed generating plant and other non-network solutions) to provide benefits to the Western Power Network that defer its capital and non-capital costs.

In situations where a User connects facilities and equipment (including distributed generating plant) to the Western Power Network and has applied and been assessed as providing a network benefit to Western Power, the discount to be applied is an annualised discount amount (which can be no greater than the annual charge), calculated as the present value of FCp less FCn over a period of Y years using discount rate W.

Where:

FCp is the present value of the Western Power committed forecast capital related costs and non-capital costs that would be incurred over Y years if the facilities and equipment (including distributed generating plant) were not to connect to the Western Power Network.

FCn is the present value of the Western Power's forecast capital-related costs and non-capital costs over Y years that are anticipated to be incurred if the facilities and equipment (including distributed generating plant) were to connect to the Western Power Network.

Y is the period over which the present value assessment is to occur which is 15 years unless otherwise agreed between Western Power and the User.

W is the Weighted Average Cost of Capital as set out in section 5.4 of the Access Arrangement that applies in the pricing year.

133. Reference service C15 provides a discount for bi-directional services and is provided on the same basis as any one of the reference services C1 to C14. The discount mechanism available under reference service C15 is calculated in the same manner as that under reference service B3 and is subject to similar eligibility criteria.

5.4.2 A thin connection (as described in Perth Energy's submission).

134. Western Power has implemented the ERA's required amendment through users being able to obtain a thin connection tariff via the new discounted reference services B3 and C15 described in the previous section.

135. Perth Energy considers Western Power should consider tariff structures like thin connection, stating that:

A 'thin connection' type tariff would be suitable for customers that will be predominantly sourcing their energy behind the meter and will only utilise the transmission and distribution networks as 'contingencies' or intermittently.²⁷

136. We highlight that Perth Energy has requested a thin connection reference *tariff* as distinct from a thin connection reference *service*.

137. Where a user is only utilising the Western Power Network as a contingency or intermittently, and this results in a benefit to Western Power (and other network users) by avoiding costs associated with network augmentation, then Western Power can offer a discounted or 'thin' tariff. This would be provided subject to the eligibility criteria and discount mechanisms provided under reference services B3 and C15.

²⁷ Paragraph 1165, *Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network 2017/18 – 2021/22*, ERA, September 2018.

5.4.3 New multi-part time of use residential and business reference services

138. Western Power has implemented these new reference services. In addition to the eight new three-part time of use reference services proposed by Western Power, we have also implemented four new multi-part time of use reference services as requested by Synergy.
139. These new multi-part reference services are:
- A16 – Multi Part TOU (Residential) Exit Service
 - A17 – Multi Part TOU (Business) Exit Service
 - C13 – Multi part TOU (Residential) Bi-directional Service
 - C14 – Multi part TOU (Business) Bi-directional Service
140. These new services are aligned with the time periods requested by Synergy. However, it should be noted that provided the user is willing to pay for interval meters and interval data it is open to users (retailers) to design their own multi time services they offer their customers. This does not rely on the network having the same time bands. This principle is acknowledged by the ERA in paragraph 1175 of its final decision.

5.4.4 New capacity allocation service

141. Western Power has implemented this amendment by introducing four new capacity allocation reference services (D2 – D5).
142. Under D2 and D3, capacity from a reference service at one connection point can be allocated to another connection point on an intra-day basis subject to criteria designed to ensure:
- the two connection points meet all requirements for connection to the network (including all AQP requirements)
 - the parties have access contracts that provide for the service
 - contract maximum demand (CMD) can only be shared with CMD and declared sent out capacity (DSOC) can only be shared with DSOC;
 - there are no adverse impacts on network safety, technical, system security or reliability levels
 - the capacity allocation does not have any impact on other existing users or new applicants
 - operational processes between all parties involved in the capacity allocation are understood and agreed
 - the arrangement considers system and market issues.
143. Under D4 and D5, capacity at the same connection point can be shared with another user, subject to the above criteria plus criteria designed to ensure:
- Western Power can freely provide energy data to each user (and to the market operator) to give effect to the capacity allocation arrangements
 - each user at the connection point is jointly and severally liable for each other's contractual and other regulatory obligations in respect to the connection point, due to practical uncertainty as to who is technically responsible.
144. The detailed eligibility criteria for these new services D2 to D5 is specified in Appendix E of the amended proposed access arrangement. In addition, Western Power has made several amendments to its standard

access contract and applications and queuing policy to facilitate the provision of these services, which were not otherwise provided for. The amendments include allowing for multiple trading arrangements at a connection point to facilitate the D4 and D5 services.

5.4.5 New direct load control and load limitation

145. In its December 2017 and June 2018 submission, Synergy submitted to the ERA to *approve direct load control and load limitation reference services for use on the low voltage distribution network.*²⁸

146. In its draft decision, the ERA did not require Western Power to provide these services on the basis that:

*These services require remote communication with advanced meters. As the expenditure for this has not been approved the cost of this service may be quite high, as a meter with remote communications would need to be installed by Western Power and paid for by the user requesting the service. If Synergy is able to demonstrate that this would still be a service sought by a significant number of users, then Western Power should offer it as a reference service.*²⁹

147. In its June 2018 submission Synergy provided further evidence to the ERA to support inclusion of these reference services and that they would be sought by a significant number of users. Synergy makes clear that it required these services *subject to* the ERA approving the necessary remote communications infrastructure:

*Synergy would use these reference services through the proposed AMI infrastructure providing the ERA has approved the service charges and service standards to be cost reflective and efficient. Therefore, subject to the ERA approving the remote communications infrastructure, Synergy requires the ERA to reconsider its request for Synergy's proposed reference services and make a determination in accordance with section 5.2 of the Access Code and the information Synergy provided in the December reference services request.*³⁰

148. The remote communications infrastructure necessary to enable Western Power to provide these direct load control and load limitation services forms part of Western Power's advanced metering infrastructure (AMI) program.

149. The ERA has not included expenditure related to the communications component of AMI in Western Power's AA4 revenue determination. However, Western Power remains of the view that communications-enabled AMI is a prudent and efficient investment, and is pursuing options for delivering this aspect of the AMI program.

150. To ensure the requested direct load control and limitation services can be provided should advanced metering communications infrastructure be installed, we have developed two new reference services (D6 and D7).

151. These new reference services will be available for the AA4 period and are subject to eligibility criteria, which include the provision of a telecommunications network supported by Western Power that can facilitate transmitting commands to and messages from the meter and Western Power's AMI program being implemented.

²⁸ Page 22, *Economic Regulation Authority draft decision on proposed revisions to the access arrangement for the Western Power network, Synergy*, June 2018.

²⁹ Paragraph 751, *Draft Decision on Proposed Revisions to the Access Arrangement for the Western Power Network*, May 2018.

³⁰ Pages 23 to 24, *Economic Regulation Authority draft decision on proposed revisions to the access arrangement for the Western Power network, Synergy*, June 2018.

5.4.6 New supply abolishment and remote connection/disconnection services

152. Western Power has implemented a new supply abolishment reference service.
153. The new supply abolishment service (D1) will be offered to users with a whole current meter. These are meters where abolishing the supply is a routine process. Where the meter results in a more complex supply abolishment process (for example high voltage connections including a transformer), supply abolishment will be priced on application.
154. The supply abolishment services will be available only to those users who have amended their existing access contracts to provide for the service. These new services are detailed in Appendix E of the amended proposed access arrangement. Western Power has also made amendments to the standard access contract to identify what contracted terms will be required for a supply abolishment reference service, and to the applications and queuing policy to be clear on how a user applies for this service. These changes were necessary as the existing supply abolishment processes in the MSLA can no longer be relied upon.
155. With regard to the requested remote connection/disconnection services, these services are dependent on the necessary AMI communications infrastructure being installed.
156. In its June 2018 submission, Synergy states:

Synergy notes the ERA has not approved the communications expenditure in relation to WP's AMI proposal. However, subject to the communications expenditure being approved by the ERA, Synergy requires the ERA to also include the provision of remote connection/disconnection as a reference service in AA4.³¹

157. We have adopted the same approach as with the new remote load control and limitation services, and created two new reference services (D8 and D9) that will be available subject to the communications-enabled AMI program being delivered.

5.4.7 New street lighting services (as set out in WALGA's submission)

158. The following sections outlines how we have implemented the ERA's required amendment in relation to the street lighting services requested by the Western Australian Local Government Association (WALGA).

5.4.7.1 A clearer basis of services, more robustly defining the street lighting services that Western Power provides including light levels, spillage and technology

159. While a new reference service is not required, we agree that the definition of the existing street lighting reference service could be improved. We have therefore improved the description of what forms part of the street lighting reference service A9 in Appendix E of the amended proposed access arrangement.

5.4.7.2 LED replacement service

160. Users can obtain LED replacement services without any new reference services being required. In its response to the ERA's draft decision, Western Power set out prices for streetlights with LED bulbs, which the user can select. A user can request and pay for a network augmentation to replace existing non-LED bulbs with LED bulbs. This will be a network augmentation paid by the user. Thereafter users will be charged based on the lower LED tariff prices.

³¹ Page 24, *ibid.*

5.4.7.3 Different ownership models

161. Western Power met with WALGA to understand its requirements for different ownership models. WALGA confirmed that it was not requesting a reference service or necessarily to own the street lights, but rather was exploring the possibility of differentiated pricing dependent on the capital funding of bulb replacement.
162. In the 2019/20 Price List Western Power has created prices that reflect a fully LGA-funded bulb replacement. We will work with WALGA and Synergy to implement the necessary changes in billing systems to allow these prices to be applied.
163. However, if any LGA seeks to own new streetlights that are installed, then the existing unmetered supply reference service can be used. Many LGAs and other public entities use this service where they own streetlights.

5.4.7.4 A new metering type based on metering-grade information technology within smart street lighting controllers and similar devices

164. In its December 2017 submission to the ERA, WALGA requested:

Provision should be made within the coming regulatory period to adopt a new metering type based on metering-grade chips within smart street lighting controllers and similar devices.³²

165. In its May 2018 submission to the ERA, WALGA stated that:

Local Governments were also seeking the next Access Arrangement to provide:

...

Progress on negotiations with Local Government for the incorporation of smart controls in street lights;³³

166. The submissions do not seemingly request a new reference service but rather for stakeholders to progress further engagement on these new street lighting technologies and how they may be used for metering within the existing metering regulatory framework. Western Power has engaged with WALGA following the final decision to understand the outcomes they seek from their submissions.
167. The technologies for smart street lighting controllers and similar devices are developing rapidly. We are continuing to investigate these new technologies, what services they are capable of and the role of the network operator in providing them. Our investigations also consider what backbone telecommunications infrastructure may be necessary to operate these devices on across a network.
168. As requested by WALGA in its submissions, we are progressing negotiations with LGAs on these technologies. This includes a trial arrangement of smart street lighting technologies with a LGA.
169. In terms of using these technologies for metering purposes we note that these 'types' of metering arrangements are not yet contemplated by the Metering Code (i.e. they do not fall with metering types 1 to 7 of the Metering Code). As part of our investigations we are considering what amendments to the Metering Code may be necessary for the metering data generated by these devices to be utilised for billing purposes.

³² Page 2, Western Power Proposed Access Arrangement 2017-2022 Submission to the Economic Regulation Authority, WALGA, December 2017.

³³ Public submission - ERA DRAFT DECISION ON PROPOSED REVISIONS TO THE ACCESS ARRANGEMENT FOR THE WESTERN POWER NETWORK, WALGA, 18 May 2018.

170. Western Power will work with the Public Utilities Office on progressing the necessary modifications to the Metering Code to allow for a new 'metering type' to be created. This issue is also being discussed in the National Electricity Market and similarly there is not yet agreement on what this new form of metering data is.³⁴
171. Western Power will continue to engage with LGAs as these technologies develop and what services it may be able to offer on an interim basis (through the LGAs retailer who will obtain the network service from Western Power) and in the longer term what reference services can be offered. It is also open to users to utilise the existing A10 unmetered supply reference service to trial their own smart devices on streetlights they own.

5.5 Required amendment 35 – exclusions from circuit availability and average duration performance measures

172. Western Power has implemented the ERA's required amendment 35, removing zone substation transformers from the list of exclusions for the circuit availability and average outage duration performance measures.
173. However, we have not included zone substation transformer performance in the circuit availability and average outage duration performance measures. This is because circuit availability and average outage duration are measures of transmission security of supply, yet zone substations perform no function in ensuring transmission system security.
174. The purpose of zone substation transformers is to distribute electricity to customers. Their function is therefore to support *reliability* of supply to customers rather than ensure transmission *security* of supply. Including data on zone substation performance would provide no meaningful information on the security of the transmission system.
175. The existing two loss of supply event frequency (LoSEF) measures (LoSEF >0.1 SMI and ≤1.0 SMI and LoSEF >1.0 SMI) are measures of transmission reliability of supply. Zone substation transformer performance is captured in the LoSEF service standard benchmark measures.
176. Further information on zone substation transformers and the matters that led the ERA to make this amendment, is provided in the following section.

5.5.1 Matters that led to this required amendment

177. As part of the December 2017 public consultation process on Western Power's initial proposal, a Mr Stephen Davidson made several submissions on various aspects of the proposed access arrangement. In one submission, Mr Davidson objects to the following exclusions from Western Power's circuit availability performance measure:
- zone substation power transformers
 - interruptions caused by third party faults
 - hours exceeding 14 days for planned interruptions for major construction work.³⁵

³⁴ See, for example, <http://plg.org.au/wp-content/uploads/2018/03/26-02-18-Consultation-Paper-on-Draft-Proposal-for-a-new-Small-Load-meter-.pdf>

³⁵ *Submission TWO on Proposed Revisions to the Western Power Network Access Arrangement*, S. Davidson, 11 December 2017.

178. Mr Davidson also disagreed with the list of exclusions from the average outage duration performance measure.³⁶

179. In its draft decision, the ERA did not adopt Mr Davidson's recommendations, stating:

*The ERA considers the current service standard benchmarks and permitted exclusions, including separate reporting of excluded events to be reasonable and sufficiently detailed and complete to enable a user or applicant to determine the value represented by the reference service at the reference tariff.*³⁷

180. Given the ERA's rejection of Mr Davidson's views, Western Power did not revise the permitted exclusions from service performance measures.

181. In response to the ERA's draft decision, Mr Davidson made a further submission in June 2018 that considered zone substation transformers should not be excluded from transmission network performance benchmarks.³⁸ The ERA asked its technical consultant (Geoff Brown and Associates) to review Mr Davidson's submissions and provide advice on the reasonableness of Mr Davidson's proposal to remove zone substation transformers from the list of exclusions for the circuit availability and average outage duration performance measures.

182. In August 2018, Geoff Brown and Associates provided the following advice to the ERA:

RECOMMENDATION

*The Authority should clarify with Western Power the boundary between the transmission and distribution systems, and also the treatment of zone substation transformer outages in determining service level measures for both SSBs and the SSAM. All transmission service level measures should include zone substation transformers.*³⁹

183. In its final decision, the ERA determined Western Power must remove zone substation transformers from the list of exclusions for the circuit availability and average outage duration performance measures. The ERA did not clarify with Western Power the treatment of zone substation transformer outages in determining service level measures for SSBs and the SSAM.

184. Following receipt of the final decision, Western Power has engaged with the ERA regarding the reasons why zone substation transformers have historically been excluded from transmission circuit availability and average outage duration measures (and included in LoSEF measures) and the practicability of including them.

185. Section 5.6 of the Access Code requires a service standard benchmark must be:

(a) reasonable; and

(b) sufficiently detailed and complete to enable a user or applicant to determine the value represented by the reference service at the reference tariff.

186. The circuit availability and average outage duration service measures are designed to provide an indication of the transmission system security and integrity of the network. These measures are currently based on

³⁶ Ibid.

³⁷ Paragraph 1062, *Draft Decision on Proposed Revisions to the Access Arrangement for the Western Power Network*, ERA, May 2018.

³⁸ Submission TWO on Draft Decision on Proposed Revisions to the Western Power Network Access Arrangement – AA4, Attachment 3, 14 June 2018.

³⁹ Page 3, Review of Mr Stephen Davidson's Submission on AA4 Draft Decision, Geoff Brown and Associates, 16 August 2018.

the performance of approximately 242 transmission circuits, which are critical to maintaining system security.

187. Historically, zone substation transformers have not been included in the transmission system security measures as they do not provide a transmission security of supply function. Though zone substation transformers are transmission assets, they are *supply transformers*⁴⁰ designed to *deliver electricity to the distribution system by converting it from the voltage of the transmission system to the voltage of the distribution system*.⁴¹
188. The function of supply transformers is to maintain reliability of supply for distribution customers. They are not assets that enable system security and integrity. For this reason, the performance of zone substation transformers is captured in the LoSEF service measures rather than circuit availability and average outage duration.
189. LoSEF is a measure of supply reliability, which is the function the zone substation transformers provide. To include zone substation transformers in measures of transmission security of supply (such as circuit availability and average outage duration) would not accurately reflect the service being provided, and provide no useful information that could allow the user to determine the value of transmission system security of supply.
190. Including zone substation transformers in the transmission system security measures would also distort performance data, as these assets have a lower restoration priority than the transmission circuits defined in the circuit availability and average outage duration measure.⁴²
191. For example, if a zone substation transformer has an outage, the affected customers' supply is likely to be restored relatively quickly via an alternate supply.⁴³ Because the customer supply can be restored via other means, and because zone substation transformers are not critical to system security, it is not imperative that zone substation transformers be restored to service immediately. Addressing a zone substation transformer failure would therefore be a lower priority than addressing failure on any of the 242 transmission circuits that impact system security. Zone substation transformers might therefore not be restored to service as quickly as other transmission assets.
192. Including data on zone substation transformers in the measure of circuit availability would indicate poorer performance (and a poorer customer experience) than is actually being experienced – the data would show there is an outage at the zone substation even when customer supply is restored.
193. We have provided this advice to the ERA and submit that this explanation of how zone substation transformers are treated when determining service level measures addresses Mr Davidson's submission, and addresses the matters that prompted the ERA to require the amendment.
194. Consistent with the ERA's required amendment, we have removed zone substation transformers from the list of exclusions for the circuit availability and average outage duration. However, for the reasons explained above, we will not include data from zone substation transformers in these two measures.

⁴⁰ As defined in the Technical Rules.

⁴¹ Ibid.

⁴² A transmission circuit is an arrangement of primary transmission elements on the transmission system that is overhead lines, underground cables, and bulk transmission power transformers used to transport electricity.

⁴³ For example, via distribution backfeed or an emergency response generator.