

Economic Regulation Authority's Access Arrangement Decision for the Western Power Network 2017/18 – 2021/22

28 February 2019

Economic Regulation Authority

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DECISION

1. On 2 October 2017, Western Power submitted proposed revisions to the access arrangement for the Western Power Network. The submission was made in accordance with section 4.79 of the *Electricity Networks Access Code 2004* for the fourth access arrangement period (AA4) from 1 July 2017 to 30 June 2022.
2. The ERA must determine whether Western Power's proposed revisions:
 - Meet the Access Code objective of promoting economically efficient investment in, and operation and use of, electricity networks and services of networks in Western Australia, in order to promote competition in markets upstream and downstream of the networks.
 - Comply with the specific requirements of the Access Code.
3. The ERA published a draft decision for consultation on 2 May 2018.
4. On 20 September 2018, the ERA published a final decision in accordance with sections 4.52 and 4.17 of the Access Code.¹ The ERA did not approve Western Power's proposed revisions to the access arrangement for the Western Power Network. The ERA required 66 amendments to be made before it would approve the revised access arrangement.
5. On 16 November 2018, in accordance with section 4.19 of the Access Code, Western Power submitted amended proposed revisions to its access arrangement to the ERA.
6. As required under section 4.21 of the Access Code, the ERA published a further final decision on 2 January 2019.²
7. The ERA determined that Western Power had implemented or adequately addressed 55 of the 66 required amendments. Western Power did not implement or adequately address the matters that prompted the ERA to require 11 of the required amendments. Consequently, the ERA's further final decision was to not approve Western Power's amended proposed revisions to the access arrangement.
8. As required under section 4.24 of the Access Code, the ERA has drafted its own access arrangement based on Western Power's amended proposed access arrangement and amended to the extent necessary to:
 - Meet the Access Code objective of promoting economically efficient investment in, and operation and use of, electricity networks and services of networks in Western Australia, in order to promote competition in markets upstream and downstream of the networks.
 - Comply with the specific requirements of the Access Code.

¹ Economic Regulation Authority, *Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network 2017/18 – 2021/22*, 20 September 2018.

² Economic Regulation Authority, *Further Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network 2017/18 – 2021/22*, 2 January 2019.

9. The ERA approved access arrangement is included as Appendix 1 to this decision. The ERA's amendments are shown in track changes in Appendix 2.
10. The ERA's reasons for the amendments it has made to the access arrangement are provided in the following sections of this document. The amendments are set out in the order of the elements of the proposed access arrangement revisions that the ERA determined had not been adequately addressed in the further final decision.
11. Under section 4.26 of the Access Code, the ERA is required to specify the access arrangement commencement date on which the amended access arrangement takes effect. The access arrangement commencement date is required to be consistent with the Access Code objective and be at least 20 business days after the further final decision, or at least 20 business days after the ERA publishes its own access arrangement if the further final decision is to not approve the access arrangement.
12. Western Power proposed a commencement date of 1 July 2019:³

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.

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).
13. Western Power's proposed commencement date of 1 July 2019 is more than 20 business days after the date the ERA has published its own access arrangement date and provides four months for users to implement any system changes required.
14. The ERA considers the proposed commencement date is consistent with the Access Code requirements and determines the access arrangement will commence on 1 July 2019.

³ Western Power, *Amended AA4 proposal: Response to the ERA's final decision*, 16 November 2018, p. 2, para. 13-15.

AMENDMENTS

Required Amendment 1 - Form of price control

16. The Access Code requires an access arrangement to include a “price control”, which means the provisions in an access arrangement under section 5.1(d) and chapter 6 of the Access Code which determine target revenue.
17. The current access arrangement applies a “revenue cap” form of price control. Under this form, reference tariffs are set on the basis of a target revenue comprising an amount of required revenue for a given year, plus corrections for under or over-recovery of target revenue in prior years.
18. The final decision required the following amendment:
Final Decision Required Amendment 1
Western Power must amend its proposed revised access arrangement to:
 - Remove the correction factor for under or over-recovery of target revenue for prior periods from the price control formula; and
 - 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.
 - Include a correction factor for under or over-recovery of the TEC for prior periods.
19. Western Power’s response to the final decision proposed to retain the form of price control used in the third access arrangement (AA3) period (that is, a revenue cap) for 2017/18 and 2018/19:⁴

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.
20. In the further final decision, the ERA was satisfied in principle that Western Power’s proposal to include a once-off correction factor for the 2018/19 revenue was consistent with the ERA’s statement in the final decision that the revised price control was not intended to be retrospective. However, the ERA did not consider the value Western Power had used for 2018/19 revenue was consistent with the demand forecast underpinning the access arrangement. This is discussed later under target revenue.
21. The ERA determined that Western Power’s amendments implemented the first and last bullet points of Final Decision Required Amendment 1. The ERA was not satisfied that Western Power had adequately addressed the second bullet point of the required amendment. Western Power included forecast customer numbers and energy volumes but did not include all of the charging parameters required by Final Decision Required Amendment 1.

⁴ Western Power, *Amended AA4 proposal: Response to the ERA’s final decision*, 16 November 2018, p. 10.

22. To implement Final Decision Required Amendment 1, the ERA sought additional information from Western Power to establish the values for all charging parameters underlying the AA4 revenue forecast. Table 37 of the Access Arrangement has been expanded to include all charging parameters.

Required Amendment 3 - Target revenue

23. The final decision required amendments to Western Power's proposed target revenue and to the side constraint that is applied when setting tariffs each year.

Final Decision Required Amendment 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.

24. In its response to the final decision, Western Power amended the access arrangement so that the side constraint for each tariff is applied to the overall change in tariffs (transmission and distribution combined).
25. Western Power amended the access arrangement to reflect the ERA's final decision on target revenue with some minor differences that were accepted in the further final decision. However, there was a small error on the TEC (due to an incorrect CPI factor being used in Western Power's model) and, as discussed under Final Decision Required Amendment 1, the forecast revenue for 2018/19 did not appear to be consistent with the demand forecast.
26. The ERA has reviewed Western Power's 2018/19 revenue forecast and is satisfied it is consistent with the 2017 demand forecast used for the access arrangement.
27. To implement Final Decision Required Amendment 3, the ERA has updated the revenue model to correct the error noted in the further final decision. The ERA's final revenue model is included as Appendix 1 to this decision.
28. The amended target revenue is set out in Table 1 and Table 2 below.

Table 1 ERA amended target revenue for the transmission network (\$ million real June 2017)

	2017/18	2018/19	2019/20	2020/21	2021/22	Amended Total	Western Power ⁵
Operating costs	87.1	85.5	85.2	86.5	84.6	428.8	428.8
Depreciation	110.0	115.9	122.7	129.3	132.7	610.6	610.6
Accelerated depreciation (redundant assets)	-	-	-	-	-	-	-
Return on regulated asset base	122.9	123.5	125.9	127.8	127.5	627.6	627.6
Return on working capital	1.1	1.4	1.3	1.7	2.3	7.9	7.9
Taxation	12.1	10.3	10.5	10.4	12.9	56.3	56.3
Deferred revenue recovery	4.4	4.4	4.4	4.4	4.4	22.2	22.2
Investment adjustment mechanism	(35.8)	-	-	-	-	(35.8)	(35.8)
Service standard adjustment mechanism	13.3	-	-	-	-	13.3	13.3
Unforeseen events	-	-	-	-	-	-	-
D-factor	-	-	-	-	-	-	-
Gain sharing mechanism	8.6	9.3	9.3	7.1	16.6	50.9	50.9
K-factor	1.2	-	-	-	-	1.2	1.2
Total costs	325.0	350.2	359.3	367.4	381.1	1,783.0	1,782.9

⁵ As submitted in Western Power's response to the final decision on 16 November 2018.

Table 2 ERA amended target revenue for the distribution network (\$ million real June 2017)

	2017/18	2018/19	2019/20	2020/21	2021/22	Amended Total	Western Power ⁶
Operating costs	273.7	270.7	270.6	275.9	272.3	1,363.2	1,363.2
Depreciation	257.7	275.6	279.2	269.1	261.9	1,343.4	1,343.4
Accelerated depreciation (redundant assets)	4.4	6.9	4.4	-	-	15.6	15.6
Return on regulated asset base	229.2	237.6	245.3	254.3	259.6	1,226.1	1,226.1
Return on working capital	6.8	6.4	6.4	6.0	5.8	31.4	31.4
Taxation	74.8	31.7	29.7	24.0	28.3	188.5	188.3
Deferred revenue recovery	35.6	35.6	35.6	35.6	35.6	177.8	177.8
Tariff Equalisation Contribution	164.6	191.5	153.4	146.0	147.0	802.3	806.0
Investment adjustment mechanism	(7.1)	-	-	-	-	(7.1)	(7.1)
Service standard adjustment mechanism	240.7	-	-	-	-	240.7	240.7
Unforeseen events	-	-	-	-	-	-	-
D-factor	8.7	-	-	-	-	8.7	8.7
Gain sharing mechanism	27.4	29.3	29.3	22.5	52.7	161.2	161.2
K-factor	36.4	-	-	-	-	36.4	36.4
Total costs	1,352.8	1,085.2	1,053.9	1,033.3	1,063.0	5,588.3	5,591.7

29. The forecast change in average charges based on the amended target revenue and with new tariffs commencing on 1 July 2019 is shown in Table 3, Table 4 and Table 5 below.

⁶ As submitted in Western Power's response to the final decision on 16 November 2018.

Table 3 Forecast change in average charges for the transmission network (\$ real June 2017)

	2017/18	2018/19	2019/20	2020/21	2021/22
Unsmoothed revenue (\$ million)	325.0	350.2	359.3	367.4	381.1
Smoothed revenue (\$ million)	281.9	282.1	340.0	407.7	486.9
Energy transported (GWh)	17,698	17,663	17,628	17,502	17,309
Average charge (\$/MWh)			19.3	23.3	28.1
% change			20.8%	20.8%	20.8%

Table 4 Forecast change in average charges for the distribution network (\$ real June 2017)

	2017/18	2018/19	2019/20	2020/21	2021/22
Unsmoothed revenue (\$ million)	1,352.8	1,085.2	1,053.9	1,033.3	1,063.0
Smoothed revenue (\$ million)	1,192.5	1,178.7	1,128.1	1,073.2	1,023.5
Energy transported (GWh)	13,691	13,656	13,505	13,276	13,083
Average charge (\$/MWh)			83.5	80.8	78.2
% change			-3.2%	-3.2%	-3.2%

Table 5 Forecast change in total average charge (\$ real June 2017)

	2017/18	2018/19	2019/20	2020/21	2021/22
Total unsmoothed revenue (\$ million)	1,677.8	1,435.5	1,413.2	1,400.8	1,444.1
Total smoothed revenue (\$ million)	1,474.4	1,460.8	1,468.1	1,480.9	1,510.4
Total average charge (\$/MWh)			102.8	104.1	106.4
% change			0.5%	1.3%	2.1%

Required Amendment 15 - Metering services

30. The final decision required Western Power to unbundle metering services from reference services and specify separate metering services as reference services based on the meter reading services required by users.
31. The ERA considered that including the bundled “standard metering service” as a reference service did 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.
32. The ERA considered these requirements were not being met for metering 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.
33. The ERA considered that metering services should be supplied as separate reference services with sufficient detail specified so that users can be certain of the service they will receive.

Final Decision Required Amendment 15

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:

- 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

34. In response to the final decision, Western Power submitted:⁷

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.

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.

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.

⁷ Western Power, *Amended AA4 proposal: Response to the ERA’s final decision*, 16 November 2018, p. 15.

35. Western Power proposed the new metering services would be offered from 1 July 2020 as it considered there were limitations with Western Power's and users' metering and billing systems.⁸

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.

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.

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).

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.

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.

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).

The price list for the current bundled services will apply upon commencement of the amended access arrangement on 1 July 2019.

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.

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.

36. In the further final decision, the ERA acknowledged that Western Power had indicated it would ultimately implement the required amendment in full, but had

⁸ Western Power, *Amended AA4 proposal: Response to the ERA's final decision*, 16 November 2018, p. 35, pp. 110-119.

deferred the changes to 1 July 2020. The ERA also recognised there were implementation issues to be addressed.

37. However, Western Power's proposed amended access arrangement did not provide sufficient detail for the ERA to assess whether Western Power would adequately implement Final Decision Required Amendment 15 or whether any parts of the required amendment could be made available earlier than 1 July 2020.
38. On that basis, the ERA was not satisfied that the amendments made to Appendix E of the access arrangement implemented Final Decision Required Amendment 15.
39. The ERA has amended the access arrangement so that the new metering reference services can be introduced from 1 July 2019 while still providing adequate time for system changes to be made in a cost effective manner.
40. Each reference service has been amended in Appendix E to the access arrangement to make the new metering services available from 1 July 2019.
41. Transitional provisions have been included so that the metering reference service applying to each connection point from 1 July 2019 will be equivalent to the metering service the user is receiving immediately prior to 1 July 2019.
42. The Metering Code requires an interval meter to be installed where consumption is greater than 50 MWh each year.
43. Western Power's metering reference service descriptions have been amended to clarify that a bi-monthly manual read of accumulated energy data is available for interval meters and that this metering service is available for the new time of use tariffs consistent with the existing time of use tariffs. This is necessary to ensure users can obtain the new time of use services without being required to upgrade their meter if it is already capable of providing the necessary readings as set out in the final decision.⁹
44. Consistent with the current approach, costs for standard metering services for each reference service are included in the approved target revenue. The incremental costs for metering services higher than the standard service are not included in target revenue.
45. The metering charges in Table 11 of the 2019/20 Price List have been amended to include a metering charge for each reference tariff based on the standard metering reference services for that tariff. Consistent with the current approach, additional charges will apply if a user has a different metering service. The additional charges are set to recover the incremental cost compared with standard metering services.
46. The ERA is currently considering a proposal from Western Power to amend its Model Service Level Agreement.¹⁰ The review of the Model Service Level Agreement was suspended while the metering approach for the access arrangement was being resolved. Western Power will be asked to update its Model Service Level Agreement

⁹ Economic Regulation Authority, *Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network 2017/18 – 2021/22*, 20 September 2018.

¹⁰ The review of the MSLA can be found here <https://www.erawa.com.au/electricity/electricity-access/western-power-network/model-service-level-agreement>

proposal to reflect the decisions made for the access arrangement on metering services.

47. The additional charges applicable for non-standard metering services will be updated as part of that review so that an updated Model Service Level Agreement with new metering charges can be available from 1 July 2019.

Required Amendment 16 - Reference services sought by users

48. A reference service is a service described in the access arrangement that includes a specified reference tariff and service standard benchmark. The access arrangement must specify a reference service for each covered service that is likely to be sought by either or both of a significant number of users/applicants or a substantial proportion of the market for services in the covered network.
49. In the final decision, the ERA required Western Power to include the following reference services as they were likely to be sought by a significant number of users or a substantial portion of the market:
- Services that enable network users to provide non-network solutions to customers (as described in the Australian Energy Council's [AEC] 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 services¹¹
 - New distributed generation service¹²
 - New capacity allocation service¹³
 - New direct load control and load limitation¹⁴
 - New supply abolishment and remote connection/disconnection services¹⁵
 - New street lighting services (as set out in the Western Australian Local Government Association's [WALGA] 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.

Final Decision Required Amendment 16

Western Power must include reference services that meet the services listed in paragraph 1200 [49 above] of the final decision or identify how existing reference services can be utilised to enable users to obtain these services.

¹¹ Synergy submission on draft decision, June 2018, pp. 11-12.

¹² Synergy submission on draft decision, June 2018, pp. 13-20.

¹³ Synergy submission on draft decision, June 2018, pp. 20-22.

¹⁴ Synergy submission on draft decision, June 2018, pp. 22-23.

¹⁵ Synergy submission on draft decision, June 2018, p. 24.

50. In response to the final decision, Western Power submitted it had:
- ... 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.¹⁶
51. Western Power's amended access arrangement included new reference services. However, not all of the required services were included and some of the terms and conditions for those that had been included were likely to restrict the availability of the service.
52. Examples were:
- Requiring users to apply for a network augmentation to replace existing non-LED streetlights with LED rather than offering a reference service.
 - Requiring users on the new distributed generation services to enter into a network support service contract.
 - Including a requirement that Western Power's advanced metering infrastructure project is implemented in the eligibility criteria for some of the new reference services.
 - Requiring users to amend existing contracts to be able to use the new reference services.
53. In the further final decision, the ERA was not satisfied that the amendments made to Appendix E of the access arrangement implemented Final Decision Required Amendment 16.
54. To enable drafting of its own access arrangement, the ERA sought further information from the users who had requested the new reference services and from Western Power.
55. The task was difficult as, in some cases, Western Power considered that it did not understand what the user was seeking or that the service being sought was not a "reference service". Western Power also cited various legal, regulatory or technical issues that it considered prevented it from providing the service being sought.
56. The ERA's final decision was clear in its determination that Western Power must offer the reference services sought by users set out in the final decision. All of the services fall within the definition of "reference services". "Understanding" the services sought by users is a matter of service definition. Legal, regulatory or technical issues need to be dealt with so that the service being sought can be offered.
57. The ERA has amended the access arrangement based on the information available to it to specify services sought by users and to ensure the eligibility criteria are reasonable and not a barrier to users accessing the services.
58. The amendments to each of the required reference services are set out below.

¹⁶ Western Power, *Amended AA4 proposal: Response to the ERA's final decision*, 16 November 2018, p. 9, pp. 49-51.

General eligibility requirements

59. Under section 5.1(b) of the Access Code, Western Power must include a standard access contract for each reference service in its access arrangement. Since the commencement of the current network access regime, Western Power has elected to have a single standard access contract – the Electricity Transfer Access Contract – that applies to all of the reference services it offers and is included as Appendix A to the access arrangement.
60. The current Electricity Transfer Access Contract includes a definition of “Services” as follows.
- Service means an Entry Service or an Exit Service or a Bidirectional Service to be provided under this Contract in respect of a Connection Point as specified in the Contract Database.
61. Each of the services (entry, exit and bidirectional) is also defined in the Electricity Transfer Access Contract.
62. Reference services are set out in Appendix E to the Access Arrangement. The “Applicable Standard Access Contract” for each reference service is stated to be the:
- “Electricity Transfer Access Contract” published in Appendix A of the *access arrangement*.
63. Western Power proposed the Electricity Transfer Access Contract would apply to the new reference services. Western Power did not propose any amendments to the Electricity Transfer Access Contract for these new services, apart from expanding the definition of Services and adding definitions for the additional services.
64. Western Power’s proposed new definition of “Services” was:
- Service means:
- (a) an Entry Service;
 - (b) an Exit Service;
 - (c) a Bidirectional Service;
 - (d) a Remote Direct Load Control Service;
 - (e) a Remote Load Limitation Service;
 - (f) a Remote De-energise Service;
 - (g) a Remote Re-energise Service;
 - (h) a Supply Abolishment Service; or
 - (i) a Capacity Allocation Service,
- To be provided under this Contract in respect of a Connection Point as specified in the Contract Database.
65. Western Power also proposed including the following requirement under the eligibility criteria for each of the proposed new reference services:
- The user has an access contract that provides for [relevant service, for example, supply abolishment service] as per the “Electricity Transfer Access Contract” published in Appendix A of the access arrangement.
66. The drafting of the eligibility criteria proposed by Western Power could preclude a user from seeking the new reference services on the basis that it does not have an

access contract as published in Appendix A of the access arrangement. It also creates a circularity in Western Power's approach of requiring the services to be specified in the Electricity Transfer Access Contract when it is clear from the details of the reference services in Appendix E that the Electricity Transfer Access Contract applies.

67. It is unnecessary and circular for the Electricity Transfer Access Contract to list the types of reference services available. As all of the provisions of the Electricity Transfer Access Contract apply to all reference services, there is no reason for the Electricity Transfer Access Contract to specify the types of reference services it applies to.
68. Consequently, the ERA has amended the Electricity Transfer Access Contract to remove the list of services – both the proposed new services and existing services. The amended definition is as follows:
- Service means a service to be provided under this Contract in respect of a Connection Point as specified in the Contract Database.
69. The eligibility criterion for the new reference ancillary services has been amended to:
- The user has an access contract and the [service] is required at a connection point specified in that access contract.

Applications and queuing policy

70. Western Power made amendments to the applications and queuing policy for the new reference services. These amendments included adding the new services, including definitions.
71. The majority of Western Power's proposed amendments are necessary to enable the new reference services to be obtained. However, the ERA has amended two elements of Western Power's proposed amendments that the ERA considers would be barriers to users obtaining the services.
72. Western Power proposed amending clauses 10.1 and 10.2 – which deal with applications to modify existing covered services – by requiring the new capacity allocation service to follow the standard procedure for amending covered services. This could inadvertently result in users being prevented from accessing the new capacity allocation reference services.
73. To ensure this does not occur, the ERA has removed references to the capacity allocation service from clauses 10.1 and 10.2 and added a new clause – 10.5 – that deals solely with the process for the capacity allocation service.
74. The second element that the ERA has amended is clause 7.1, which deals with fees for applications. Western Power proposed adding metering services, and supply abolishment services to the list of items requiring lodgement fees. The ERA has removed this provision as any costs for these services should already be included in the reference tariff.

Application of new ancillary reference services to non-reference services

75. Synergy advised that it was seeking the new ancillary reference services to be applicable to both reference and non-reference network services.
76. The ERA considers that the new ancillary reference services should be available to both reference and non-reference services unless there are legitimate technical concerns about this. Consequently, the ERA has amended the new reference ancillary services so that these services apply to reference and non-reference network services, but included an eligibility requirement that the application to reference and non-reference services is subject to technical feasibility.

Service to facilitate a distributed generation or other non-network solution

77. Western Power proposed offering two new reference services to meet the reference services sought by the Australian Energy Council, Synergy and Perth Energy. The new reference services include provision for a discounted tariff subject to meeting the eligibility criteria.
- B3 – Entry Service Facilitating a Distributed Generation or Other Non-Network Solution
 - C15 – Bi-directional Service Facilitating a Distributed Generation or Other Non-Network Solution.
78. The new reference services are identical to the existing distribution entry service except they include a formula for offering a discount to customers if the distributed generation or non-network solution results in Western Power being able to defer capital or non-capital costs.
79. The discount is only available if 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.
80. 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 FC_p less FC_n over a period of Y years using discount rate W .

Where:

FC_p 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.

FC_n is the present value of the Western Power’s forecast capital-related costs and noncapital 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.

81. Western Power considered the “thin connection” service requested by Perth Energy would be available under the proposed new service as:

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.

82. The reference service proposed by Western Power provides for a discount where the user’s facilities and equipment connected behind the connection point (including distributed generating plant and other non-network solutions) provide benefits to the Western Power Network that defer its committed capital and non-capital costs.

83. Western Power’s proposal is not consistent with the requirements of section 7.10 of the Access Code which requires Western Power to provide a discount to the user based on

... a share of any reductions in either or both of the service provider’s capital-related costs or non-capital costs which arise as a result of the entry point for distributed generating plant being located in a particular part of the covered network ...

84. The service descriptions for B3 and C15 have been amended to be consistent with the Access Code requirements as set out in below.

Table 6: Description of services facilitating distributed generation or other non-network solutions

B3- Entry service facilitating a distributed generation or other non-network solution.	C15 – Bi-directional service facilitating a distributed generation or other non-network solution.
<p>An entry service provided on the same basis as entry service B1 in circumstances where this service provides for facilities and equipment connected behind a connection point (including distributed generating plant and other non-network solutions) to provide benefits to the Western Power Network that defer Western Power’s capital and non-capital costs. <u>that results in Western Power’s capital-related costs or non-capital costs reducing as a result of the entry point for the distributed generating plant or other non-network solution being located in that particular part of the covered network.</u></p>	<p>A bi-directional service provided on the same basis as bi-directional services C1 to C14 (selected by the user) in circumstances where this service provides for facilities and equipment connected behind a connection point (including distributed generating plant and other non-network solutions) to provide benefits to the Western Power Network that defer Western Power’s capital and non-capital costs. <u>that results in Western Power’s capital-related costs or non-capital costs reducing as a result of the entry point for the distributed generating plant or other non-network solution being located in that particular part of the covered network.</u></p>

85. The ERA has also amended the discount formula set out in the 2019/20 Price List to be clear the discount is based on a comparison of forecast costs if the distributed

generating plant or other non-network solution is not connected with forecast costs if the distributed generating plant or other non-network solution is connected.

86. The ERA has amended the eligibility criteria for B3 and C15 as set out in Table 7 below.

Table 7: Eligibility criteria for reference services B3 and C15

Amendment	Comment
The connection point was created or the facilities and equipment are installed after the AA4 effective date;	The new reference services will apply from the AA4 effective date. Any assessment for the service will need to be undertaken from that date.
The connection point is not subject to a capacity sharing arrangement	If this is relevant to the discount it would be taken into account in the assessment. Otherwise it is not relevant.
A network support services contract setting out the terms upon which the distributed <i>generating plant</i> or other non-network solution at the connection point will provide benefits to the Western Power Network that defers Western Power's new facilities investment and non-capital costs is in force; and	The Access Code does not require a user to be a service provider to Western Power before the user is entitled to use a reference service. Network support/control services are already regulated under the WEM Rules and should not be used to prevent users from receiving a reference service under the Code. The level of control Western Power has over the distributed generating plant or non-network solution, is likely to affect the level of reduction in costs, and therefore the discount received by the user.
The user has made an electricity transfer application in accordance with the Applications and Queuing Policy for this service and has been assessed for a discount to the reference tariff applicable to reference service B1 in accordance with the discount mechanism set out in the price list for reference tariff RT23.	This is not an eligibility requirement. An application is necessary to receive any reference service.

Multi-part time of use residential and business reference services

87. Western Power added four new reference services to provide the multi-part time of use residential and business services sought by Synergy.
- 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
88. The new reference services are consistent with the time bands requested by Synergy. Tariffs for these reference services are addressed under Required Amendment 24 – Pricing of the new time of use services.

New capacity allocation services

89. Western Power added four new reference services to provide the capacity allocation services sought by Synergy.
- D2 – Capacity Allocation Swap (Nominator) Business Service
 - D3 – Capacity Allocation Swap (Nominee) (Business) Service
 - D4 – Capacity Allocation Same Connection Point (Nominator) (Business) Service
 - D5 – Capacity Allocation Same Connection Point (Nominee) (Business) Service
90. 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. Under D4 and D5, capacity at the same connection point can be shared with another user. Western Power has included the following eligibility criteria for all four reference services:
- The user has submitted an electricity transfer application to decrease its contracted capacity at one connection point and that application is approved; and
 - Western Power receives a corresponding electricity transfer application to increase contracted capacity at another connection point pursuant to reference service D3 and that application is approved; and
 - All of the eligibility criteria for the reference services at the connection points are met; and
 - The increase and decrease of contracted capacity relates to either contracted maximum demand (CMD) or declared sent out capacity (DSOC) (not both); and
 - The user has an access contract that provides for capacity allocation services at multiple connection points as per the “Electricity Transfer Access Contract” published in Appendix A of the access arrangement; and
 - The Western Power Network has the technical capability to give effect to the decrease of contracted capacity; and
 - The service is not associated with any material modification of the facilities and equipment connected at an existing connection point; and
 - No augmentation of the Western Power Network is required to facilitate the capacity allocation arrangements; and
 - An operating document setting out the practical, technical and other operational details of the capacity allocation (swap) arrangements applies between the user(s), the consumer(s) at each of the two connection points, system management and Western Power; and
 - The provision of the service is approved by system management and the market operator.
91. Synergy expressed concerns to the ERA about Western Power’s specification of the new services and eligibility criteria which it considered would limit the availability of the service. These concerns were communicated to Western Power for comment. Based on the information from Synergy and Western Power, the ERA has amended the new services as set out in Table 8 to Table 10 below.

Table 8: Reference Service D2/D3 Capacity Allocation Swap (Nominator)(Business) Service and (Nominee)(Business) Service – Service Description

Amendments	Comment
<p>A <i>service</i> ancillary to:</p> <ul style="list-style-type: none"> • <i>exit services</i> A5, A6, A7, A8 and A11 • <i>entry services</i> B1 and B2; and • <i>bi-directional services</i> C5, C6, C7 and C8 <p>under which a user applies to Western Power to <u>nominates a</u> decrease <u>to</u> its contracted capacity at one <u>or more</u> <i>connection points</i> under its <i>access contract</i> and nominates a corresponding increase in contracted capacity at <u>one or more</u> another <i>connection points</i> under its <u>own</u> <i>access contracts</i> or at a <i>connection points</i> under another <i>user's access contract</i> for <u>one or more</u> an <i>intra day periods</i> <u>for a clearly specified period of time</u> nominated by the <i>user</i> following which the contracted capacity under the <i>user's access contract</i> is reinstated.</p>	<p>The amendments clarify that the service is for nominating capacity allocations. The application process is covered in the applications and queuing policy as for other services.</p> <p>Subject to approval by Western Power, the nomination may include more than one connection point.</p> <p>The changes clarify that a user with more than one access contract can swap capacity between connection points under different access contracts.</p> <p>The change clarifies that the service provides for more than a single capacity swap while ensuring there are clear parameters around what can be requested.</p>

Table 9: Reference Service D4/D5 Capacity Allocation Same Connection Point (Nominator)(Business) Service and (Nominee)(Business) Service – Service Description

Amendments	
<p>A <i>service</i> ancillary to:</p> <ul style="list-style-type: none"> • <i>exit services</i> A7, A8 and A11; • <i>entry services</i> B1 and B2; and • <i>bi-directional services</i> C7 and C8, <p>under which a user applies to Western Power to <u>nominates a</u> decrease/increase <u>to its</u> contracted capacity at a <i>connection point</i> under its <i>access contract</i> (expressed as a percentage of that contracted capacity (DSOC or CMD)) for a clearly specified period of time and nominates a corresponding increase/decrease in contracted capacity to another <i>user</i> at the same <i>connection point</i> under its <i>access contract</i>.</p> <p>The allocated capacity is not further transferable or otherwise delegable.</p> <p>At the end of the specified period the contracted capacity under the <i>user's access contract</i> is reinstated.</p>	<p>The amendments clarify that the service is for nominating capacity allocations. The application process is covered in the applications and queuing policy as for other services.</p>

Table 10: Reference Service D2/D3/D4/D5 - Eligibility Criteria

<p>The user has submitted an electricity transfer application to decrease its contracted capacity at one or more connection points and that application is approved.</p> <p>Western Power receives a corresponding electricity transfer application to increase contracted capacity at one or more connection points pursuant to reference service D3 and that application is approved</p>	<p>Consequential change.</p>
<p>The increase and decrease of contracted capacity relates to either contracted maximum demand (CMD) or declared sent out capacity (DSOC), not both;</p>	<p>No amendment has been made. This criterion ensures load capacity (CMD) at one connection point is shared only with load capacity (CMD) at another connection point and generation capacity (DSOC) at one connection point is shared only with generation capacity (DSOC) at another connection point.</p>
<p>The service does not include is not associated with any material modification of the facilities and equipment connected at an existing connection point; and</p>	<p>Any material modifications to facilities and equipment will continue to be dealt with under the existing provisions as normal.</p>
<p>No further augmentation of the Western Power Network is required to facilitate the capacity allocation arrangements; and</p>	<p>If an augmentation is required, it would be separate to this service.</p>
<p>An operating document setting out the practical, technical and other operational details of the capacity allocation (swap) arrangements has been agreed between applies between the user(s) at the relevant, the consumer(s) at each of the two connection points system management and Western Power.</p>	<p>Amended to be clearer the agreement is between Western Power and the user/s. The service is provided by Western Power to the user. There is no mechanism for system management or a consumer to approve network reference services.</p>
<p>The provision of the service does not result in the user, Western Power, system management or the market operator being unable to comply with their obligations under the Wholesale Electricity Market Rules. is approved by system management and the market operator.</p>	<p>There is no mechanism for AEMO to “approve” network reference services. This amendment will ensure all parties can continue to meet their obligations.</p>
<p>{Note: In addition to lodging an ‘electricity transfer application’ under the Applications and Queuing Policy to transfer to this service a user may also be required to lodge a ‘connection application’ as described in clause 10.2(e) the Applications and Queuing Policy.}</p>	<p>Deleted as a new clause – 10.5 - has been added to the Applications and Queuing Policy setting out the process for capacity allocation service applications.</p>

Direct load control and load limitation

92. Western Power has introduced two new reference services to provide the direct load control and load limitation services sought by Synergy:

- D6 – Remote Direct Load Control Service
 - D7 – Remote Load Limitation Service
93. Western Power has included the following eligibility criteria:
- The user has submitted a service order for a remote direct load control service in accordance with Western Power’s requirements; and
 - The user complies with all of its obligations under the Code of Conduct for the Supply of Electricity to Small Use Customers 2018 relevant to this service; and
 - The user is receiving an exit service or bi-directional service at the connection point; and
 - The user has an access contract that provides for direct load control services as per the “Electricity Transfer Access Contract” published in Appendix A of the access arrangement; and
 - The remote direct load control service service order includes all information required by Western Power acting as a reasonable and prudent person, to perform the service; and
 - A reference service (metering) M5, M6, M7, M12, M13, or M14 is being provided at the connection point; and
 - Western Power and the user agree a liability regime regarding Western Power’s involvement in remotely controlling the load of the user’s customer (the consumer); and
 - A telecommunications network supported by Western Power can facilitate transmitting commands to and messages from the meter; and
 - Western Power’s advanced metering infrastructure project is implemented; and
 - There is a supply voltage present at the meter; and
 - Supporting IT infrastructure and processes capable of receiving and actioning user requests for this service have been established; and
 - An operating document setting out the practical, technical and other operational details of the load control service arrangements applies between the user and Western Power; and
 - The user has the consumer’s authority to control the load at the connection point; and
 - A whole current meter (being a meter that does not have a transformer) is installed at the metering point; and
 - The meter relating to the connection point is configured to receive and provide commands for this service from a remote locality; and
 - The consumer’s facilities and equipment are technically capable of receiving the service and comply with the technical rules, the WA Electrical Requirements and AS 3000.
94. In addition to relevant amendments outlined earlier in this decision, the ERA has made amendments as set out in Table 11.

Table 11: Amendments to D6 and D7 Remote direct load control and load limitation eligibility criteria

Eligibility criteria	Amendment	Reason
<p>The user has submitted a service order for a remote direct load control/load limitation/de-energise/re-energise service in accordance with Western Power's requirements.</p> <p>The remote load limitation service order includes all information required by Western Power acting as a reasonable and prudent person to perform the service.</p>	Deleted	This should be dealt with under the applications and queuing policy process.
The user complies with all of its obligations under the Code of Conduct for the Supply of Electricity to Small Use Customers 2018 relevant to this service	Deleted	This is not a requirement to be able to use a reference service under the Access Code.
A reference service (metering) M5, M6, M7, M12, M13 or M14 is being provided at the connection point.	Deleted.	The provision of the service should not be dependent on the provision of a particular metering service.
<p>A telecommunications network supported by Western Power can facilitate transmitting commands to and messages from the meter.</p> <p>Western Power's advanced metering infrastructure project is implemented.</p>	Deleted and replaced.	<p>Limiting provision of the service to the advanced metering infrastructure project is unreasonable. Other technology is available to provide the service. The costs of providing the necessary equipment to provide the service will be charged to the user.</p> <p>A new eligibility criterion has been added to specify that communication equipment to transmit commands to and messages from the meter and Western Power have been installed.</p>
Supporting IT infrastructure and processes capable of receiving and acting on user requests for this service have been established.	Deleted.	This is for delivery of the service, not an eligibility criteria.
An operating document setting out the practical, technical and other operational details of the remote load/control/limitation service arrangements has been agreed applies between the user and Western Power.	Amended.	This clarifies that the details of the service need to be specified and agreed between the user and Western Power.

Supply abolishment and remote connection/disconnection services

95. Western Power has introduced three new reference services to provide the supply abolishment and remote connection/disconnection services sought by Synergy:
- D1 – Supply Abolishment (whole current metering) Service
 - D8 – Remote De-energise Service
 - D9 – Remote Re-energise Service
96. Western Power proposes the new supply abolishment service 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), it proposes the supply abolishment will be priced on application.
97. Western Power has included the following eligibility criteria:
- The user has submitted an electricity transfer application to abolish an existing connection point in accordance with the Applications and Queuing Policy and in accordance with the provisions of its access contract; and
 - The user has an exit service, entry service or bi-directional service at the connection point; and
 - The user has an access contract that provides for supply abolishment services; and
 - The request includes all information that Western Power, as a reasonable and prudent person, requires to perform the service; and
 - The user has provided access to Western Power to the connection point and associated metering point; and
 - A whole current meter (being a meter that does not have a transformer) is installed at the metering point; and
 - The consumer’s facilities and equipment comply with the technical rules, the WA Electrical Requirements and AS 3000.
98. In addition to the amendments outlined earlier in this decision, the ERA has made amendments as set out in Table 12.

Table 12: Amendments to D1 Supply Abolishment

Reference	Amendment	Reason
Title of service	Deleted “whole current”	Western Power’s title restricts availability of the service.
Eligibility criteria: The request includes all information that Western Power, as a reasonable and prudent person, requires to perform the service	Deleted	Adequately covered under the applications and queuing policy.

Reference	Amendment	Reason
Eligibility criteria: The user has provided access to Western Power to the connection point and associated metering point.	Deleted.	Western Power has legal right of entry.
Eligibility criteria: A whole current meter (being a meter that does not have a transformer) is installed at the metering point.	Deleted	Western Power included this as the price would vary for meters with transformers. This can be dealt with, as it currently is under the model service level agreement, by specifying the price will be provided on application.
Eligibility criteria: The consumer's facilities and equipment comply with the technical rules, the WA Electrical Requirements and AS 3000.	Amended	As the connection is being removed, this requirement is unnecessary. It has been amended to require the connection is safe to be removed.

99. Although Western Power has added remote de-energise and re-energise reference services, it has made them subject to the communications enabled AMI program being delivered. Western Power has included the following eligibility criteria:

- The user has submitted a service order for a remote direct load control service in accordance with Western Power's requirements; and
- The user complies with all of its obligations under the Code of Conduct for the Supply of Electricity to Small Use Customers 2018 relevant to this service; and
- The user is receiving an exit service or bi-directional service at the connection point; and
- The user has an access contract that provides for direct load control services as per the "Electricity Transfer Access Contract" published in Appendix A of the access arrangement; and
- The remote direct load control service service order includes all information required by Western Power acting as a reasonable and prudent person, to perform the service; and
- A reference service (metering) M5, M6, M7, M12, M13, or M14 is being provided at the connection point; and
- Western Power and the user agree a liability regime regarding Western Power's involvement in remotely controlling the load of the user's customer (the consumer); and
- A telecommunications network supported by Western Power can facilitate transmitting commands to and messages from the meter; and
- Western Power's advanced metering infrastructure project is implemented; and
- There is a supply voltage present at the meter; and
- Supporting IT infrastructure and processes capable of receiving and actioning user requests for this service have been established; and

- An operating document setting out the practical, technical and other operational details of the load control service arrangements applies between the user and Western Power; and
 - The user has the consumer's authority to control the load at the connection point; and
 - A whole current meter (being a meter that does not have a transformer) is installed at the metering point; and
 - The meter relating to the connection point is configured to receive and provide commands for this service from a remote locality; and
 - The consumer's facilities and equipment are technically capable of receiving the service and comply with the technical rules, the WA Electrical Requirements and AS 3000.
100. In addition to relevant amendments discussed elsewhere in this decision, the ERA has made amendments as set out in Table 13.

Table 13: Amendments to D8 and D9 Remote de-energise/re-energise services

Eligibility criteria	Amendment	Reason
Western Power and the user agree to a liability regime regarding Western Power's involvement in remotely disconnecting/reconnecting the user's customer.	Deleted.	The Electricity Transfer Access Contract already specifies the liability between the user and Western Power.

Streetlights

101. Submissions from the Western Australian Local Government Association (WALGA) set out changes its members were seeking to streetlight reference services to enable:
- 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.
102. Each of these is discussed in turn below.

Basis of service

103. In its response to the final decision, Western Power submitted that a new reference service was not required but considered the definition of the existing street lighting service could be improved.
104. Western Power added the following note to the description of the Street lighting Exit Service in Appendix E to the Access Arrangement.

{Note: The street lighting exit service is provided using a variety of different street lighting assets owned by Western Power. These assets are designed for the environment they will operate in with input from the user's customer of this service. The street lighting design occurs in accordance with the applicable street lighting design standards (including AS/NZS 1158 and AS/NZS 60598) and regulatory requirements at the time of installation which cover:

- streetlight light level technical parameters (lumens);
- glare, impact and spilled light levels;
- height, reach, tilt and other configuration of the streetlight;
- location (set back from roads) and spacing from other streetlight assets;
- materials, equipment and lighting components including the type of lamp used;
- inclusion of any safety features such as provision of fuses;
- attachment to existing assets or as a standalone asset.

Western Power's current streetlight asset design catalogue is available to users and consumers on Western Power's website.¹⁷

In order to continue to provide the street lighting exit service to design levels Western Power undertakes a broad range of streetlight inspection, maintenance and replacement activities including:

- time based routine inspections of streetlight poles to assess their structural and electrical integrity;
- repair of streetlight infrastructure including where damage occurs by third parties;
- emergency response to incidents involving streetlights;
- replacement of streetlight lamps, luminaires, control equipment and supply wiring;
- replacement and repair of underground streetlight supply cables and overhead conductors;
- call centre and online activities to receive streetlight fault information; and
- replacement and reinforcement of streetlight poles.

105. The ERA sought clarification from WALGA on whether Western Power's proposed amendments to the description of the street lighting service exit service addressed its concerns. WALGA considered that the proposed amendments had been drafted as inputs rather than outputs and provided amendments it considered necessary to ensure the service is properly defined. Western Power provided feedback to the ERA on these amendments.

106. Based on the feedback from WALGA and Western Power, the ERA has amended the description of the street lighting access service as set out below:

An exit service combined with a connection service at an exit point on the low voltage (415 volts or less) distribution system for the purpose of public street lighting, plus the service of the provision and maintenance of the streetlight.

~~{Note: The street lighting exit service is provided using a variety of different street lighting assets owned by Western Power. These street lighting assets are designed for the environment they will operate in with input from the user's customer of this service.~~

¹⁷ <https://westernpower.com.au/media/2973/distribution-design-cataloguestreetlights-20180820.pdf>.

The street lighting design occurs in accordance with the applicable street lighting design standards (including AS/NZS 1158 and AS/NZS 60598) and regulatory requirements at the time of installation. ~~which cover:~~

- ~~• streetlight light level technical parameters (lumens);~~
- ~~• glare, impact and spilled light levels;~~
- ~~• height, reach, tilt and other configuration of the streetlight;~~
- ~~• location (set back from roads) and spacing from other streetlight assets;~~
- ~~• materials, equipment and lighting components including the type of lamp used;~~
- ~~• inclusion of any safety features such as provision of fuses;~~
- ~~• attachment to existing assets or as a standalone asset.~~

~~Western Power's current streetlight asset design catalogue is available to users and consumers on Western Power's website.~~

~~Western Power will maintain the street lighting assets in order to ensure that the street lighting exit service continues to be provided the street lighting exit service to design levels. Western Power will undertake a broad range of streetlight inspection, maintenance and replacement activities including:~~

- ~~• time based routine inspections of streetlight poles to assess their structural and electrical integrity. Inspect all streetlight poles for structural and electrical integrity consistent with good industry practice and relevant standards.~~
- ~~• Replacement and reinforcement of streetlight poles consistent with good industry practice and relevant standards.~~
- ~~• Repair of streetlight infrastructure including where damage occurs by third parties.~~
- ~~• Provide emergency response to incidents involving streetlights.~~
- ~~• Replacement of streetlight lamps, luminaires, control equipment and supply wiring upon failure, damage or at the end of their serviceable life.~~
- ~~• Replacement and repair of underground streetlight supply cables and overhead conductors.~~
- ~~• Replace lamps and luminaires where upon investigation the lumen output no longer meets design levels.~~
- ~~• Provide a call centre and online facility activities to receive streetlight fault information from the public and Local Governments.~~
- ~~• Maintain an inventory of street light assets to which the service applies including the date of installation of each asset, the type of asset, rated power and the location of the asset.~~
- ~~• Respond to questions from a Local Government about in-service inventory within 20 working days.~~

LED replacement service.

107. Western Power has not included an LED replacement reference service. Western Power submitted:

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.

108. Following the further final decision, WALGA confirmed it is seeking a reference service for LED replacements. Although the price for such a service will vary depending on the type, quantity and location of the streetlights, WALGA considers that Western Power should publish sufficient information to enable a Local Government to estimate the likely cost for different scenarios to be able to make a sound business case for LED replacement. This should include at least the following:
- Materials
 - Installation
 - Effect of volume on price
 - Traffic management costs
 - Treatment of residual values
 - Asset life and assumptions for future replacement.
109. Western Power has advised that it is currently working with several local councils to pilot and establish a process for retrofitting LED streetlights and to determine pricing structures and options for a “price on application” process to be available from 1 July 2019. This will include making information available to assist councils with their assessments and applications.
110. The ERA has amended Appendix E to the access arrangement to include a new street lighting reference service for LED replacements – D10 Streetlight LED Replacement Service. Similar to tariffs for transmission-connected customers, the tariff will be a user-specific charge which reflects the costs of providing the LED replacement.
111. The price list has been amended accordingly and clause 10 in the applications and queuing policy has been amended to include provision for applications for LED replacements.

Different ownership models.

112. Western Power has not included any new reference services for different ownership models. It submitted:
- 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.
- 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.
- 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.
113. Following the further final decision, WALGA confirmed that it is seeking a reference service for streetlights where the luminaire is owned by the Local Government.
114. Western Power has raised safety issues it considers would arise if the luminaires were owned by a third party. These include:

- Western Power currently has no health and safety obligations for third parties working on or in very close proximity to Western Power streetlights. Western Power and its safety regulator do not typically permit any third party performing any works on Western Power's assets.
- Safety is a particular issue where the streetlight is attached to the overhead electricity network and therefore the works involve being in close proximity to uninsulated LV and HV assets.

115. The ERA acknowledges Western Power's obligations to maintain the network in a safe manner. A reference service for streetlights where the luminaire can be owned by Local Government can be introduced only if these safety issues can be resolved.

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

116. Western Power has not included any new reference services, or other changes, to allow metering-grade information technology. Western Power submitted:

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.

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.

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.

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.

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.

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.

117. Following the further final decision, WALGA advised that the current A10 unmetered supply reference service cannot be used as suggested by Western Power, because the eligibility criteria include a requirement that the maximum load at the exit point is not subject to user or consumer controlled variations in duration of usage. This would not be the case if the smart control system was being used to control the lights.

118. WALGA also notes these devices should not be considered a different metering type under the Metering Code – they are just another method to estimate the energy for

a Type 7 meter, rather than the current method which multiplies lamp wattage by illumination time.¹⁸

119. The ERA has amended the A10 unmetered supply reference service in Appendix E so that street lights with smart control systems are eligible to use the service. Methods for measuring energy usage for Type 7 meters are covered in Western Power's metrology procedure.

Required Amendment 17 - Metering definitions and conditions

120. Appendix E to the access arrangement sets out all the reference services, including the eligibility criteria, reference tariff, service level and applicable contract for each service.
121. In the final decision, the ERA required Western Power to revise the changes to metering definitions and conditions in Appendix E to be consistent with final decision required amendment 15.

Final Decision Required Amendment 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.

122. As discussed above, the ERA was not satisfied that Western Power had implemented Final Decision Required Amendment 15. Consequently, the ERA was also not satisfied Western Power had implemented Final Decision Required Amendment 17.
123. The ERA's amendments to meet the requirements of Final Decision Required Amendment 15 are discussed above, including the changes necessary to Appendix E to implement Final Decision Required Amendment 17.

Required Amendment 19 - Price list to be updated

124. In the final decision, the ERA did not approve Western Power's revised proposed target revenue. The commencement date for the new tariffs was also required to be amended. Consequently, Western Power was required to update the 2018/19 Price List and Price List Information to be consistent with the target revenue approved in the final decision and a commencement date of 1 February 2019.
125. The ERA also required Western Power to amend the price list to incorporate the new reference services and other required amendments to reference services and tariff structures.

Final Decision Required Amendment 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

¹⁸ A Type 7 metering installation is an unmetered connection.

the final decision on reference services and tariff structures as set out in Pricing Methods, Price List and Price List Information.

126. As Western Power's response to the final decision did not adequately address some elements of the required amendments affecting the Price List and Price List Information, it also did not adequately address Final Decision Required Amendment 19.
127. To meet the requirements of Final Decision Required Amendment 19, the ERA has amended the Price List and Price List Information to take account of:
- Amendments to target revenue (Final Decision Required Amendment 3).
 - Amendments to metering services and tariffs (Final Decision Required Amendments 15 and 23).
 - Amendments to reference services (Final Decision Required Amendment 16).
 - Amendments to time of use tariffs (Final Decision Required Amendment 24).
 - Amendments to high and low voltage 12 month rolling maximum demand (Final Decision Required Amendment 25).
128. Details of the amendments are discussed under the relevant final decision required amendment.

Required Amendment 23 - Metering charges

129. Final Decision Required Amendment 15 required Western Power to develop separate metering reference services. Consequently, Western Power was required to develop tariffs for these new reference services 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.

Final Decision Required Amendment 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.

130. In response to the final decision, Western Power submitted:¹⁹
- 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.
131. As Western Power had not implemented Final Decision Required Amendment 15, Western Power had not implemented Final Decision Required Amendment 23.
132. As discussed under Final Decision Required Amendment 15, the ERA has amended metering charges in the Price List and Price List Information to be consistent with the amendments to metering services.

¹⁹ Western Power, *Amended AA4 proposal: Response to the ERA's final decision*, 16 November 2018, p. 18.

Required Amendment 24 - Pricing of the new time of use services

133. Western Power proposed introducing new time of use reference services. In the final decision, the ERA determined that further information was required to understand and support the differential rates for the new time of use services. Western Power was also required to include sufficient information to enable users to understand whether, and if so how, these differential rates may change in future.

Final Decision Required Amendment 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.

134. In its response to the final decision, Western Power included the following information on the new tariffs in section 7.1.11 of the Price List Information.

These are the new tariffs that are designed to better reflect Western Power's system peak than the existing time of use tariffs (RT3, RT4, RT15 and RT16). Short peak and shoulder times and longer off-peak provide customers with more options to adjust their energy consumption in a cost-reflective manner.

Currently, there are no customers on these new tariffs which represents complexity in estimating uptake levels and cost allocation. It is expected that the new customers will migrate to RT17 and RT18 over time. Therefore, the initial shoulder rates of the tariffs are set on the same levels as RT1 for RT17 and RT2 for RT18. The peak component of the tariff is initially set with 10% increase in price, while off-peak provides 10% discount, that way ensuring the tariffs broadly reflect the costs of a typical customer on comparable tariffs.

This pricing approach will be reviewed in the next access arrangement period, when sufficient customers are on these tariffs to analyse their costs more appropriately. For now, it is assumed that given they are effectively the same customers as were previously on RT1 and 2, will have the same costs to supply as these customers.

135. Western Power did not provide any cost information to support its new time of use pricing. The variation in price between peak and off-peak rates for the new time of use service is plus and minus ten per cent of the anytime rate. This is significantly different from the current time of use tariffs where the peak rate is 73 per cent higher than the anytime rate and the off-peak rate is 61 per cent lower than the anytime rate.
136. In addition, Western Power's proposal to review the pricing approach at the next access arrangement period creates uncertainty for any users considering the proposed new time of use services.
137. In the further final decision, the ERA determined that Western Power had not adequately addressed the requirements of Final Decision Required Amendment 24.
138. Western Power advised that it did not have sufficient costing information for the Western Power network to develop prices for different pricing periods. Consequently, subsequent to the further final decision, it has reviewed time of use pricing in the National Electricity Market (NEM) to update its initial proposed time of use pricing.

139. Western Power's updated prices for RT17, RT18, RT19 and RT20 are set out in Table 14 below. Western Power's updated prices for RT21 and RT22 are set out in Table 15 below.
140. Network pricing in the NEM is more developed than in Western Australia. The national electricity rules include more detailed requirements than the Access Code for setting prices that reflect the efficient cost of providing network services to individual consumers.²⁰
141. In the absence of specific cost information for the Western Power network, the ERA considers comparisons with pricing in the NEM is the best alternative. Networks in the NEM provide similar services to Western Power, so it is reasonable to assume cost differentials between time periods would also be similar.
142. Western Power's updated prices include a larger variation in peak, off peak and shoulder time of use pricing than originally proposed and are more consistent with time of use pricing in the NEM.
143. Making direct comparisons with specific tariffs is not possible because there are many differences between service providers, for example the proportion of fixed compared with variable charges. However, time of use peak prices in the NEM typically range between 2 and 96 per cent higher than the anytime rate and off peak rates vary between 24 and 84 per cent lower than the anytime rate. Western Power's updated prices fall within these ranges with peak prices 8 to 50 per cent higher than the anytime rate and off peak prices 33 to 52 per cent lower than the anytime rate.
144. The ERA is satisfied Western Power has provided sufficient information for users to understand the basis of its updated time of use rates. As the rates have been set with reference to precedent in other networks where time-of-use pricing has a longer history of application (rather than the arbitrary ten per cent differential initially proposed by Western Power) users can be more certain the differential rates will continue to apply at similar levels in the future.
145. The ERA has amended the access arrangement to include Western Power's updated time of use rates.

²⁰ Australian Energy Market commission, *Distribution Network Pricing Arrangement*, November 2014, <https://www.aemc.gov.au/rule-changes/distribution-network-pricing-arrangements>

Table 14: RT17, RT18, RT19, RT20 Tariff Pricing

Tariffs	Western Power Initial Proposed Prices ²¹					Western Power Updated Prices ²²				
	Fixed Price	Energy rates				Fixed Price	Energy rates			
	c/day	Demand	On Peak c/kWh	Shoulder c/kWh	Off Peak c/kWh	c/day	Demand	On Peak c/kWh	Shoulder c/kWh	Off Peak c/kWh
RT17 3 Part time of use energy (residential)										
Transmission	0.000		2.230	2.027	1.843	0.000		2.243	2.039	1.854
Distribution	86.850		7.039	6.399	5.817	86.850		7.889	4.715	2.649
Bundled Tariff	86.850		9.269	8.426	7.660	86.850		10.132	6.754	4.503
RT18 3 Part time of use energy (business)										
Transmission	0.000		2.693	2.448	2.225	0.000		2.693	2.448	2.225
Distribution	164.423		9.754	8.867	8.061	164.423		14.280	8.867	5.318
Bundled Tariff	164.423		12.447	11.315	10.286	164.423		16.973	11.315	7.543
RT19 Time of use demand (residential)		c/kW/day					c/kW/day			
Transmission	0.000	1.656	2.007	1.824	1.659	0.000	1.656	2.019	1.835	1.669
Distribution	86.850	3.600	7.743	6.399	5.288	86.850	3.600	7.100	4.244	2.384
Bundled Tariff	86.850	5.256	9.750	8.223	6.947	86.850	5.256	9.119	6.079	4.053
RT20 Time of use demand (business)		c/kVA/day					c/kVA/day			
Transmission	0.000	1.854	2.424	2.203	2.003	0.000	1.854	2.424	2.203	2.003
Distribution	164.423	4.330	10.729	8.867	7.328	164.423	4.330	12.852	7.980	4.786
Bundled Tariff	164.423	6.184	13.153	11.070	9.331	164.423	6.184	15.276	10.183	6.789

²¹ Included in Western Power's response to the final decision on 16 November 2018.

²² Provided to the ERA following the further final decision. Emails dated 15 February 2019.

Table 15: RT21, RT22 Tariff Pricing

	Fixed Price	On Peak c/kWh	Shoulder c/kWh	Off Peak c/kWh	Overnight ²³ c/kWh	Super Peak ²⁴ Off Peak ²⁴ c/kWh
Western Power Initial Proposed Prices²⁵						
RT21 Multi part time of use (residential)						
Transmission	0.000	2.230	2.027	1.843	1.843	N/A
Distribution	86.850	7.039	6.399	5.817	5.817	N/A
Bundled Tariff	86.850	9.269	8.426	7.660	7.660	N/A
RT22 Multi part time of use (business)						
Transmission	0.000	2.693	2.448	2.225	2.225	2.003
Distribution	164.423	9.754	8.867	8.061	8.061	7.255
Bundled Tariff	164.423	12.447	11.315	10.286	10.286	9.257 ²⁶
Western Power Updated Prices²⁷						
RT21 Multi part time of use (residential)						
Transmission	0.000	2.230	2.027	1.843	1.843	N/A
Distribution	86.850	7.902	4.727	2.660	2.660	N/A
Bundled Tariff	86.850	10.132	6.754	4.503	4.503	N/A
RT22 Multi part time of use (business)						
Transmission	0.000	2.693	2.448	2.225	2.225	2.225
Distribution	164.423	14.280	8.867	5.318	5.318	5.318
Bundled Tariff	164.423	16.973	11.315	7.543	7.543	7.543

²³ This includes the hours between 11:00 pm to 4:00 am.

²⁴ This includes the hours between 11:00 pm to 4:00 am on Saturday and Sunday.

²⁵ Included in Western Power's response to the final decision on 16 November 2018.

²⁶ Western Power advised this was an error, the rate should have been 10.286 consistent with the off peak and overnight rate.

²⁷ Provided to the ERA following the further final decision. Emails dated 15 February 2019.

Required Amendment 25 - High and low voltage metered demand tariffs

146. Users on the high and low voltage metered demand reference services do not have a contracted maximum demand set for a defined period. Instead, the tariff for these services (RT5 and RT6) is based on the historical rolling 12 month maximum half-hourly actual demand. A rolling 12 month period is used to take account of seasonal variation in loads.
147. Consequently, users on these reference services are not able to immediately amend the fixed component of their bill when there is a step-change in their requirements, for example as a result of investing in behind-the-meter energy measures. Instead, it takes 12 months until the previous highest maximum demand (prior to the step change) is replaced by the new lower maximum demand following the step change.²⁸
148. In the final decision, the ERA determined that this element of the structure of the proposed tariff was inconsistent with the Access Code objective as it did not promote competition downstream of the network. It also results in users paying for a level of service they do not require.
149. The ERA considered that this could be addressed by including a mechanism to enable maximum demand to be re-evaluated where it can be clearly demonstrated that future maximum demand will be lower.

Final Decision Required Amendment 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.

150. In response to the final decision, Western Power added a new paragraph to the price list information stating:²⁹
- ... a customer can make an application under section 10.2 of the Applications and Queuing Policy to reduce their demand where it can be reasonably demonstrated that future demand will be lower. This new demand will effectively reset the previous 12 months data.
151. In the further final decision, the ERA determined Western Power had not implemented or adequately addressed Final Decision Required Amendment 25.
152. Section 10.2 of the Applications and Queuing Policy is an existing provision. It applies where users with contracted capacity want to apply for an increase or decrease in contracted capacity. The user must lodge an electricity transfer application to increase or decrease contracted capacity for an existing covered service under its access contract. The lodgement fee for an access contract modification applies to the application plus any costs for any associated connection application.

²⁸ Because the charges are based on the rolling 12-month maximum half-hourly demand.

²⁹ Western Power, *Appendix F.6 - 2019/20 Price List Information – Amended Proposed access arrangement*, 16 November 2018, pp. 46-47.

153. Western Power did not propose any amendments to section 10.2 of the Applications and Queuing Policy to make it applicable to amending the rolling 12 month maximum half-hourly actual demand for users on the RT5 and RT6 tariffs.
154. To meet the requirements of Final Decision Required Amendment 25, the ERA has amended the 2019/20 Price List Information and 2019/20 Price List to set out the mechanism for users to apply for their 12 month maximum half hourly demand to be amended.
155. A new section has been added to the 2019/20 Price List Information and 2019/20 Price List for the RT5 and RT6 Metered Demand Tariff as follows:

Resetting the rolling 12 month period and maximum metered demand

If a user, or its customer, has implemented initiatives to reduce the future maximum demand on a permanent basis including:

- the implementation of load control, energy efficiency equipment or solutions at the connection point; or
- a fundamental change in the nature of the business or operation conducted at the connection point; or
- a shutdown of the business or operation conducted at the connection point; or
- some other special circumstance or arrangement that reduces the maximum demand at the connection point

then

the user may apply to Western Power for the rolling 12 month period and maximum metered demand to be reset.

The application must include a forecast of maximum demand over the future 12 month period, details of why the user expects the demand will be lower, evidence to support the change and the date the user wishes the revised maximum metered demand to apply from. If Western Power considers, as a reasonable and prudent person and in accordance with good electricity industry practice, that the revised maximum metered demand is reasonable, Western Power must reset the rolling 12 month period and maximum demand in line with the application.

If the actual maximum metered demand exceeds the reset maximum metered demand within 12 months of the reset, an adjustment will be made to charges as though the actual maximum metered demand had applied from the date the reset was implemented.

Required Amendment 27 - Streetlight tariffs

156. Final Decision Required Amendment 16 required Western Power to expand its streetlight services. Consequently, the Price List Information and Price List needed to be updated to incorporate these new services. Streetlight tariffs also needed to be amended to reflect the ERA's final decision on target revenue.

Final Decision Required Amendment 27

Western Power must amend the Price List and Price List Information to include the required new reference services.

157. As Western Power did not fully implement Final Decision Required Amendment 16, it also did not adequately address Final Decision Required Amendment 27.

158. As discussed under Final Decision Required Amendment 16, the ERA has amended the Price List and Price List Information to include the required new streetlight reference services.

Required Amendment 37 - Gain sharing mechanism

159. The gain sharing mechanism allows Western Power to retain the benefits of operating expenditure savings for five years from when the efficiency was achieved (that is, the year it makes the saving plus five years of carry over) regardless of which year the efficiency is first made. The gain sharing mechanism is intended to ensure that Western Power has equal incentives to pursue efficiency throughout the access arrangement period.
160. The Access Code specifies that an above-benchmark surplus does not exist to the extent that a service provider achieved efficiency gains or innovation in excess of the benchmarks during the previous access arrangement period by failing to meet the service standard benchmarks set out in the access arrangement.
161. The current gain sharing mechanism specifies that Western Power must achieve all of its service standard benchmarks in a particular year to be eligible for any gain share surplus in that year.
162. In the final decision, the ERA determined that the current approach could lead to unintended consequences. In particular, as soon as Western Power becomes aware that it has, or is likely to, fail a service standard benchmark, the incentives to achieve efficiencies for that year reduce and it is possible that there may even be incentives to increase expenditure in that year in order to achieve savings in future years.
163. The ERA determined the gain share should be calculated for the entire period without adjustments for service standard benchmark (SSB) failures. The adjustment for service standard failures over the period should then be calculated based on the proportion of years that service standard benchmarks were not achieved.

Final Decision Required Amendment 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.

164. In its response to the final decision, Western Power amended clause 7.4.3 of the access arrangement so that it calculates the total gain share for the access arrangement period. Western Power modified existing clause 7.4.4 to set out how an adjustment for service standard benchmark failures would be assessed and introduced a new clause – 7.4.7 – which sets out how the adjustment to the total above benchmark surplus is calculated.

7.4.3 The gain sharing mechanism amount ($GSMA_{AA}$) for the access arrangement period is to be calculated as follows:

$$GSMA_{AA} = \Sigma[GSMA_{1:5}]$$

where:

$$GSMA_1 = \max(0, ABS_{t1} + ABS_{t2} + ABS_{t3} + ABS_{t4} + ABS_{t5})$$

$$GSMA_2 = \max(0, ABS_{t2} + ABS_{t3} + ABS_{t4} + ABS_{t5})$$

$$GSMA_3 = \max(0, ABS_{t3} + ABS_{t4} + ABS_{t5})$$

$$GSMA_4 = \max(0, ABS_{t4} + ABS_{t5})$$

$$GSMA_5 = \max(0, ABS_{t5})$$

where:

GSMA_n is the total above-benchmark surplus for the equivalent year of the access arrangement period; and

ABS_t is the above-benchmark surplus in year t of the access arrangement period calculated in accordance with section 7.4.2.

- 7.4.4 In any year in which an *above-benchmark surplus* is calculated to be a positive value under section 7.4.2:
- a) where Western Power failed to provide *reference services* at a *service standard* at least equivalent to the *service standard benchmarks* for those *reference services* for that year as set out in section 4 of the access arrangement:
 - i. after notification from Western Power under section 7.4.6, a determination will be made by the *Authority* of the extent (expressed as a percentage) that Western Power achieved the *above-benchmark surplus* by failing to provide *reference services* at a *service standard* at least equivalent to the *service standard benchmarks* for those *reference services* for that year as set out in section 4; and
 - ii. the percentage determined by the Authority in 7.4.4(a)(i) will be applied as a proportion of the year (the “**SSB Deficiency Proportion**”) in accordance with section 7.4.7; and
 - b) where Western Power provided *reference services* at a *service standard* at least equivalent to the *service standard benchmarks* for those *reference services* for that year as set out in section 4, there is no *SSB Deficiency Proportion*.
- 7.4.5 In any year in which an *above-benchmark surplus* is calculated to be a negative value under section 7.4.2 there is no *SSB Deficiency Proportion*.
- 7.4.6 For the purposes of section 7.4.4(a), if in any year in which an *above-benchmark surplus* is calculated to be a positive value and Western Power fails to provide *reference services* at a *service standard* at least equivalent to the *service standard benchmarks* for those *reference services* for that year as set out in section 4 of the *access arrangement*, Western Power may notify the Authority and demonstrate to it how and to what extent there is, or is not, a relationship between the failure and Western Power’s achieved *above benchmark surplus*, through consideration of:
- a) which *service standard benchmarks* have not been met in that year;
 - b) an analysis of the causes for not meeting the *service standard benchmark* in that year;
 - c) the categories of *non-capital costs* that impact on the achievement of those *service standard benchmarks* (which may be sub-categories of the cost categories in section 7.4.2);
 - d) the forecast *non-capital costs* for those categories in section 7.4.6(c) used to establish the *non-capital costs* component of *approved total costs*, after normalising for inflation (using the *CPI*), network growth escalation factors and indirect and corporate cost growth escalation factors; or
 - e) any other issues that are relevant.
- 7.4.7 A total *gain sharing mechanism* revenue amount for the *access arrangement* (**GSMR**) will be added to *target revenue* for the next *access arrangement period* calculated as follows:

$$\text{GSMR} = \text{GSMA}_{\text{AA}} - (\text{GSMA}_{\text{AA}} \times (\sum \text{SSB Deficiency Proportion} / \text{AA Length}))$$

where:

GSMA_{AA} is the total above-benchmark surplus for the access arrangement period calculated in accordance with section 7.4.3;

SSB Deficiency Proportion is determined under section 7.4.4(a)ii); and

AA Length is the number of years in the access arrangement period.

165. As set out in the further final decision, the ERA was satisfied with the amendments to clause 7.4.3 but determined the amendments to clause 7.4.4 did not adequately address the requirements of Final Decision Required Amendment 37.
166. Western Power’s proposed amendment to clause 7.4.4 only required the “SSB Deficiency Proportion” to be calculated in a year where the above benchmark surplus was positive and also included a process whereby Western Power would seek a determination of the SSB Deficiency Proportion from the ERA during the access arrangement period.
167. To address the deficiencies identified by the ERA in its final decision, service standard benchmark failures need to be accounted for in each year, not just those where the above benchmark surplus is positive. There is also no need for a separate determination process during the access arrangement period as the value to be added to target revenue will be assessed by the ERA at the next access arrangement review.
168. To address these deficiencies, the ERA has amended the access arrangement as follows:

7.4.3 The gain sharing mechanism amount ($GSMA_{AA}$) for the access arrangement period is to be calculated as follows:

$$GSMA_{AA} = \Sigma[GSMA_{1:5}]$$

where:

$$GSMA_1 = \max(0, ABS_{t1} + ABS_{t2} + ABS_{t3} + ABS_{t4} + ABS_{t5})$$

$$GSMA_2 = \max(0, ABS_{t2} + ABS_{t3} + ABS_{t4} + ABS_{t5})$$

$$GSMA_3 = \max(0, ABS_{t3} + ABS_{t4} + ABS_{t5})$$

$$GSMA_4 = \max(0, ABS_{t4} + ABS_{t5})$$

$$GSMA_5 = \max(0, ABS_{t5})$$

where:

$GSMA_n$ is the total above-benchmark surplus for the equivalent year of the access arrangement period; and

ABS_t is the above-benchmark surplus in year t of the access arrangement period calculated in accordance with section 7.4.2.

7.4.4 ~~For In any year in which an above-benchmark surplus is calculated to be a positive value under section 7.4.2:~~

- ~~a) where Western Power failed to provide reference services at a service standard at least equivalent to the service standard benchmarks for those reference services for that year as set out in section 4 of the access arrangement:~~
- i a) ~~after notification from Western Power under section 7.4.6,~~ a determination will be made by the Authority of the extent (expressed as a percentage) that Western Power achieved the above-benchmark surplus by failing to provide reference services at a service standard at least equivalent to the service standard benchmarks for those reference services for that year as set out in section 4; and

- ii.b) the percentage determined by the Authority in 7.4.4(a) will be applied as a proportion of the year (the “**SSB Deficiency Proportion**”) in accordance with section 7.4.7; ~~and~~
- ~~b) where Western Power provided reference services at a service standard at least equivalent to the service standard benchmarks for those reference services for that year as set out in section 4, there is no SSB Deficiency Proportion.~~
- 7.4.5 ~~In any year in which an above-benchmark surplus is calculated to be a negative value under section 7.4.2 there is no SSB Deficiency Proportion.~~
- 7.4.5 For the purposes of section 7.4.4(a), ~~if in~~ ~~for~~ any year in which ~~an above-benchmark surplus is calculated to be a positive value and~~ Western Power fails to provide reference services at a service standard at least equivalent to the service standard benchmarks for those reference services for that year as set out in section 4 of the access arrangement, Western Power ~~may notify the Authority and~~ **must** demonstrate ~~to it~~ how and to what extent there is, or is not, a relationship between the failure and Western Power’s achieved *above benchmark surplus*, through consideration of:
- which *service standard benchmarks* have not been met in that year;
 - an analysis of the causes for not meeting the *service standard benchmark* in that year;
 - the categories of *non-capital costs* that impact on the achievement of those *service standard benchmarks* (which may be sub-categories of the cost categories in section 7.4.2);
 - the forecast *non-capital costs* for those categories in section 7.4.6(c) used to establish the *non-capital costs* component of *approved total costs*, after normalising for inflation (using the *CPI*), network growth escalation factors and indirect and corporate cost growth escalation factors; or
 - any other issues that are relevant.
- 7.4.6 A total *gain sharing mechanism* revenue amount for the *access arrangement* (**GSMR**) will be added to *target revenue* for the next *access arrangement period* calculated as follows:
- $$\text{GSMR} = \text{GSMA}_{\text{AA}} - (\text{GSMA}_{\text{AA}} \times (\Sigma \text{SSB Deficiency Proportion} / \text{AA Length}))$$
- where:
- GSMA_{AA}** is the total above-benchmark surplus for the access arrangement period calculated in accordance with section 7.4.3;
- SSB Deficiency Proportion** is determined under section 7.4.4; and
- AA Length** is the number of years in the access arrangement period.

Other amendments

169. During the review of Western Power’s amended proposed revisions, some minor typographical errors and inconsistencies with the final decision were identified by Western Power and the ERA. These amendments have been included in the ERA approved access arrangement. The amendments are set out in Table 16 below.

Table 16: Minor corrections to the Access Arrangement

Clause	Amendment	Comment
AA 2.2.3	No clause number associated with "Western Power specifies three reference..." Updated to include 2.2.3, this has caused a domino effect to 2.2.4 - 2.2.7	Each type of reference service should have its own clause.
AA 5.4.5	re-inserted "or" at the end of the clause	Deleted in error on 16 Nov. Rejected deletion through track changes
AA 5.4.5	Italicise <i>Authority's</i>	Typographical
A 5.4.13 f)	Italicise <i>DRP</i>	Typographical
AA Table 32	Remove italics on "distribution system" in table heading	Typographical
AA 5.8.1	Deleted "maximum"	"Maximum" incorrectly included here.
AA 5.8.1	Remove italics on "revenue target"	Typographical
AA 5.10.2	Table 35: Table heading changed from 'Distribution revenue cap service' to 'Distribution revenue target service'	Incorrect title as the price control is no longer a revenue cap.
AA 5.11.1	Deleted "maximum"	"Maximum" incorrectly included here.
AA 5.11.1	Remove italics on "revenue target"	Typographical
AA 5.11.2 AA 5.11.4	Updated DTR_t to TDR_t in clauses 5.11.2 and 5.11.4	Distribution revenue target - TDR_t , incorrectly referenced as DTR_t in clause 5.11.2 and 5.11.4
AA 6.5	Remove italics on all headings	Typographical
AA 6.5.13	Italicise <i>access arrangement</i> in the definition of TR_t	Typographical
AA 7.5.11	Table 48: Average outage duration SSAM target and incentive rate (\$ real as at 30 June 2017) Updated column - SSAM target (SST_t) for each SST Year to 784 (previously 708)	Rectified error - The Average Outage Duration SST for AA4 should be 784 which is based on an average AA3 performance of 860 with an adjustment of -76 for the penalty cap to be consistent with the ERA final decision.
AA Table 43	Figures updated	As a result of "days in the year" changing from 365.24 to 365.25 to be consistent with the ERA final decision.
AA Table 44	Figures updated	As a result of "days in the year" changing from 365.24 to 365.25 to be consistent with the ERA final decision.
AA Table 48	Average outage duration SSAM reward/penalty rates updated	To be consistent with the final decision.

Clause	Amendment	Comment
Appendix E: Reference Services Definitions	<p>“residential premises” means:</p> <p>...</p> <p>c. premises used for both residential and other purposes where the circuit wiring is not separate provided that Western Power determines, as a reasonable and prudent person, that the consumption at the premises is, or will be, less than 20MWh <u>100MWh</u> per annum.</p>	Western Power advised its initial proposal of 20MWh was not high enough to cover premises with combined use where the predominant use is for residential purposes.

170. The ERA also identified changes made by Western Power that were not included in Western Power’s initial application or to address amendments required by the ERA. As these amendments were not considered by the ERA in its draft or final decision, they have been deleted from the ERA approved access arrangement.

171. The deletions are set out in Table 17 below.

Table 17: Deletions of amendments not considered by the ERA

Reference	Amendment
Appendix A: Electricity Transfer Access Contract Clause 3.1(a)(i)	Western Power must provide the Services (up to the Contracted Capacity in the case of a Service with a Contract Capacity)
Appendix A: Electricity Transfer Access Contract Clause 3.1(b)(i)	transfer electricity out of the Network at a Connection Point unless it has an Exit Service or Bidirectional Service for that Connection Point allowing such transfer out of electricity ; and
Appendix A: Electricity Transfer Access Contract Clause 3.1(b)(ii)	transfer electricity into the Network at a Connection Point unless it has an Entry Service or Bidirectional Service for that Connection Point allowing such transfer in or electricity .
Appendix A: Electricity Transfer Access Contract Clause 3.1(c)	For each Service at each Connection Point with a Contracted Capacity , 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.
Appendix E: Reference Services Eligibility Criteria for Reference Services A5-A8 and C5-C8	The exit point is located at non-residential premises: and

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Appendix 1 ERA Approved Access Arrangement

This Appendix is published as a separate document on the ERA's website.

Appendix 2 ERA Approved Access Arrangement – Track changes

This Appendix is published as a separate document on the ERA's website.

Appendix 3 Revenue Model Target Revenue Calculation

This Appendix is published as a separate document on the ERA's website.

The revenue model sets out the ERA's calculation of the target revenue and, in the event of inconsistency, the numbers in the revenue model prevail over any other statement of these values in this decision.

Appendix 4 Glossary

AA3	Third Access Arrangement Period
AA4	Fourth Access Arrangement Period
AAI	Access Arrangement Information
AEC	Australian Energy Council
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AMI	Advanced Metering Infrastructure
AQP	Applications And Queuing Policy
CMD	Contract Maximum Demand
CPI	Consumer Price Index
ERA	Economic Regulation Authority
ETAC	Electricity Transfer Access Contract
GSM	Gain Sharing Mechanism
GWh	Giga Watt Hours
LED	Light Emitting Diode
MWh	Mega Watt Hours
NEM	National Electricity Market
SSB	Service Standard Benchmark
TEC	Tariff Equalisation Contribution
WA	Western Australia
WALGA	Western Australian Local Government Authority
WP	Western Power