

Determination on the Proposed 2015/16 Price List for Western Power's Covered Electricity Network

Submitted by Western Power

May 2015

Economic Regulation Authority

WESTERN AUSTRALIA

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Contents

Contents	1
Tables	2
DETERMINATION	3
REASONS	4
Access Code Requirements	4
Approval of price lists if required	4
Proposed Price List Submission	5
Compliance of the Proposed Price List with the Price Control	5
Specification of the Price Control under the Access Arrangement	5
Revenue Cap Service Revenue	5
Conclusions	12
Compliance with the Pricing Methods	12

Tables

Table 1	Western Power's determination of maximum transmission revenue cap service revenue for 2015/16	6
Table 2	Western Power's determination of the correction factor (TK_t) for 2015/16 for the determination of maximum transmission revenue cap service revenue (dollar values of 30 June 2012)	7
Table 3	Western Power's determination of maximum distribution regulated revenue for 2015/16	8
Table 4	Western Power's determination of the correction factor (DK_t) for 2015/16 for the determination of maximum regulated distribution revenue (dollar values of 30 June 2012)	9
Table 5	Western Power's determination of the inflation factor for 2015/16	9
Table 6	Western Power's forecast revenue to be collected from reference services for the period July 2014 – June 2015	10

DETERMINATION

1. On 28 April 2015, Western Power submitted a proposed 2015/16 price list under its access arrangement for approval by the Economic Regulation Authority (**Authority**) under Chapter 8 of the *Electricity Networks Access Code 2004* (**Access Code**).
2. Currently, Western Power's access arrangement governs terms of access to its network for the third access arrangement period (AA3, 2012/13 to 2016/17). The amended access arrangement commenced on 1 February 2013, with further mid-period variations approved by the Authority on 4 June 2013 and 3 April 2014.^{1,2}
3. The Authority has assessed the proposed 2015/16 price list and considers that the proposed price list complies with the price control and pricing methods of the access arrangement.
4. In accordance with the requirements of section 8.2 of the Access Code, the Authority approves the 2015/16 proposed price list and determines that this price list has effect from 1 July 2015. The Authority has published Western Power's proposed price list and price list information on its website.³

¹ November 2012, Western Power, *Amended Proposed Revisions to the Access Arrangement for the Western Power Network* (hereafter cited as "**access arrangement**"). The access arrangement was approved by the Authority on 29 November 2012, with a commencement date of 1 February 2013.

² Economic Regulation Authority, *Decision: Variation to Western Power's Access Arrangement for 2012/13 to 2016/17*, 4 June 2013; and Economic Regulation Authority, *Notice: Variations to Western Power's Access Arrangement*, 3 April 2014.

³ See Economic Regulation Authority website: <http://www.erawa.com.au/access/electricity-access/price-list-determinations/>

REASONS

Access Code Requirements

5. Chapter 8 of the Access Code sets out requirements for a service provider to submit proposed price lists, and for the Authority to approve and publish the proposed price lists and related price list information.

Approval of price lists if required

- 8.1 If a service provider's access arrangement requires it to submit price lists to the Authority for approval, the service provider must, at least 45 business days before the start of each pricing year (except for the first pricing year), submit to the Authority:
- (a) a proposed price list to apply for the next pricing year; and
 - (b) price list information.
- 8.2 If the Authority considers that a service provider's proposed price list complies with:
- (a) the price control in the service provider's access arrangement; and
 - (b) the pricing methods in the service provider's access arrangement,
- then the Authority must:
- (c) approve and publish the service provider's proposed price list which has effect from a date specified by the Authority; and
 - (d) publish the service provider's price list information.
- 8.3 The Authority must not approve a service provider's proposed price list if the proposed price list does not comply with sections 8.2(a) and 8.2(b), and must notify the service provider that it does not approve the proposed price list and provide reasons.
- 8.4 If a service provider is notified under section 8.3 that the Authority does not approve a proposed price list submitted by the service provider, the service provider may at any time submit a revised proposed price list to the Authority.
- 8.5 If the Authority:
- (a) notifies a service provider under section 8.3 that it does not approve a proposed price list submitted by the service provider; and
 - (b) has not approved a revised proposed price list,
- then the price list most recently in effect continues in effect until the Authority approves a revised proposed price list submitted by the service provider under section 8.4.
- 8.6 If the Authority has not notified a service provider that it does not approve a proposed price list within 15 business days after receiving either:
- (a) the proposed price list; or
 - (b) any further information the Authority has requested in relation to the proposed price list,
- (whichever is later), then the Authority is to be taken to have approved the price list.

Proposed Price List Submission

6. Clause 6.4.3 of Western Power's amended access arrangement requires it to submit to the Authority a proposed price list, together with price list information, at least 45 business days before the start of each pricing year (except for the first pricing year).
7. Western Power submitted a proposed 2015/16 price list and price list information to the Authority on 28 April 2015. Western Power has also provided the Authority with confidential spreadsheets containing additional supporting information and calculations to indicate the forecast of revenue associated with the proposed price list.
8. Western Power's proposed 2015/16 price list would result in an average tariff increase of 5.1 per cent. This comprises an increase of 10.3 per cent for distribution network tariffs and a reduction of 10.2 per cent for transmission network tariffs.

Compliance of the Proposed Price List with the Price Control

Specification of the Price Control under the Access Arrangement

9. Under the Access Code, "price control" refers to the provisions of an access arrangement that determine the target revenue to be earned by the service provider, enable users to predict likely annual changes in target revenue during the access arrangement period, and aim to avoid price shocks (material tariff adjustments between succeeding years).
10. Section 5 of the access arrangement establishes revenue cap price controls for each of the transmission and distribution networks. The operation of these price controls within an access arrangement period is set out in clauses 5.6.1 to 5.6.8 and 5.7.1 to 5.7.8 of the access arrangement.
11. Related to the price control is a "side constraint" that limits the extent to which component charges of reference tariffs may be increased from one pricing year of the access arrangement period to the next. Clauses 6.5.13 and 6.5.14 of the access arrangement specify the method to calculate side constraints on price changes for transmission and distribution.

Revenue Cap Service Revenue

12. Western Power has set out its determination of maximum transmission regulated revenue (MTR_t) and maximum distribution regulated revenue (MDR_t) in sections 1.3.1 and 1.3.2 of the price list information respectively.

Transmission Services

13. Western Power's derivation of the regulated revenue for transmission services is indicated in Table 1 below.

Table 1 Western Power's determination of maximum transmission regulated revenue for 2015/16

Calculation Parameter	Value (\$ million)	Source
Revenue cap (TR _{2015/16} , dollar values of 30 June 2012)	290.6	Amended Access Arrangement, clause 5.6.6
Correction factor (TK _{2015/16} , dollar values of 30 June 2012)	9.7	2015/16 Price List Information, section 1.3.1 (Table 2)
Maximum transmission revenue cap service revenue (MTR_{2015/16}, dollar values of 30 June 2012)	300.3	
<i>Inflation factor</i>	1.095	2015/16 Price List Information, section 1.3.3 (Table 6)
Maximum regulated transmission revenue (MTR_{2015/16}, nominal dollar values)	328.8	

14. Western Power has provided to the Authority on a confidential basis a model containing the calculations used to derive the correction factor (K).⁴
15. The correction factor for transmission for 2015/16 (TK_{2015/16}) was calculated from required and collected revenue values for the 2013/14 and 2014/15 pricing years. The correction factor was derived by applying Equation 1 in accordance with access arrangement clauses 5.6.7 and 5.6.8.

Equation 1: Transmission revenue correction factor formula (TK_t)

$$TK_t = (FTR_{t-2} - ATR_{t-2}) * (1+WACC_{\text{post-tax real}})^2 + (MTR_{t-1} - FTR_{t-1}) * (1+WACC_{\text{post-tax real}})$$

16. The application of Equation 1 is illustrated in Table 2, below. The post-tax real weighted average cost of capital (WACC) is 3.60 per cent as set out in clause 5.4.1 of Western Power's access arrangement.

⁴ 17 April 2015, Western Power, K Factor Model (confidential).

Table 2 Western Power's determination of the correction factor (TK_t) for 2015/16 for the determination of maximum transmission regulated revenue (dollar values of 30 June 2012)

Calculation Parameter	Value(\$ million)	
	2013/14 (t-2)	2014/15 (t-1)
Forecast Transmission Revenue (FTR _{t-2})	348.6	
Actual Transmission Revenue (ATR _{t-2})	346.3	
Maximum Transmission Revenue (MTR _{t-1})		337.5
Forecast Transmission Revenue (FTR _{t-1})		330.5
(Over)/Under Revenue Collection _t	2.3	7.0
Multiplied by (1 + WACC) ²	2.5	
Multiplied by (1 + WACC)		7.2
Correction factor (TK_{2014/15})		9.7

Distribution Services

17. Western Power's derivation of the reference service revenue for distribution services is indicated in Table 3 below.

Table 3 Western Power's determination of maximum distribution regulated revenue for 2015/16

Calculation Parameter	Value (\$ million)	Source
Revenue cap (DR _{2015/16} , dollar values of 30 June 2012)	932.9	Amended Access Arrangement, clause 5.7.6
Correction factor (DK _{2015/16} , dollar values of 30 June 2012)	8.7	2015/16 Price List Information, section 1.3.2 (Table 4)
Maximum distribution revenue cap service revenue excluding TEC_t (MDR _{2015/16} dollar values of 30 June 2012)	941.7	
<i>Inflation factor</i>	1.095	2015/16 Price List Information, section 1.3.3 (Table 6)
Maximum distribution revenue cap service revenue excluding TEC_t (MDR _{2015/16} nominal dollar values)	1,031.0	
Tariff equalisation contribution (TEC _{2015/16} , nominal dollar values)	141.0	2015/16 Price List Information, section 1.3.2 (Table 4)
Maximum distribution revenue cap service revenue including TEC_t (MDR _{2015/16} , nominal dollar values)	1,172.0	

18. As with transmission services, the correction factor for distribution (DK_t) was calculated from required and collected revenue values for the 2013/14 and 2014/15 pricing years. The correction factor was derived by applying Equation 2 in accordance with access arrangement clauses 5.7.7 and 5.7.8.

Equation 2: Distribution revenue correction factor formula (DK_t)

$$DK_t = (FDR_{t-2} - ADR_{t-2}) * (1+WACC_{\text{post-tax real}})^2 + (MDR_{t-1} - FDR_{t-1}) * (1+WACC_{\text{post-tax real}})$$

19. The application of Equation 2 is illustrated in Table 4, below. The post-tax real weighted average cost of capital (WACC) is 3.60 per cent as set out in clause 5.4.1 of Western Power's access arrangement.

Table 4 Western Power's determination of the correction factor (DK_t) for 2015/16 for the determination of maximum regulated distribution revenue (dollar values of 30 June 2012)

Calculation Parameter	Value(\$ million)	
	2013/14 (t-2)	2014/15 (t-1)
Forecast Distribution Revenue (FTR _{t-2})	908.4	
Actual Distribution Revenue (ATR _{t-2})	922.1	
Maximum Distribution Revenue (MTR _{t-1})		991.9
Forecast Distribution Revenue (FTR _{t-1})		969.3
Under/(Over) Revenue Collection _t	(13.7)	22.6
Multiplied by (1 + WACC) ²	(14.7)	
Multiplied by (1 + WACC)		23.4
Correction factor (DK_{2015/16})		8.7

Inflation Factor

20. An inflation factor is used to calculate the required revenue from reference services in nominal dollar values. Consistent with section 1.3.3 of the price list information, Table 5 shows how the inflation factor for 2015/16 was derived.
21. Inflation for the period December 2012 to December 2014 has been adjusted to the actual rate of 1.72 per cent compared with the forecast included in the 2014/15 Price List of 2.75 per cent. The 2016/17 Price List will include a correction for any difference in the forecast and actual inflation for the December 2014 to December 2015 period.

Table 5 Western Power's determination of the inflation factor for 2015/16

Financial year	CPI Period	Type	Value
2012/13	December 2011 – December 2012	Actual	2.20%
2013/14	December 2012 – December 2013	Actual	2.75%
2014/15	December 2013 – December 2014	Actual	1.72% ⁵
2015/16	December 2014 – December 2015	Forecast	2.50%
Derived Inflation Factor			1.095

⁵ Reserve Bank of Australia's February 2015 Statement on Monetary Policy, online <http://www.rba.gov.au/publications/smp/2015/feb/pdf/eco-outlook.pdf>

Tariff Equalisation Contribution (TEC)

22. As set out in section 7.5 of Western Power's Price List Information, Western Power pays the TEC to the Western Australian State Government to contribute towards maintaining the financial viability of Horizon Power under Part 9A of the *Electricity Industry Act 2004*. The costs of the TEC are recovered through Western Power's distribution use of system reference tariffs.
23. An increase in the TEC for the 2015/16 year of \$32 million (from \$109 million to \$141 million) was gazetted on 10 April 2015. Revised TEC numbers were gazetted on 10 April 2015. The increase in the TEC has resulted in the overall increase in tariffs being around 2 per cent higher than it otherwise would have been.
24. The 2016/17 TEC, which will be reflected in the 2016/17 price list, has increased by \$40 million from \$122 million to \$162 million.

Forecast Revenue

25. Table 7 of the price list information compares the revenue forecast to be collected with the revenue caps for both transmission and distribution. The total values of expected revenue compared with maximum target revenue are shown in Table 6 below.

Table 6 Western Power's forecast revenue to be collected from reference services for the period July 2014 – June 2015

Revenue Component	Value (\$ million nominal)
Transmission Revenue	
Forecast revenue from transmission tariffs (inclusive of non-reference charges for standby access and firm backup capacity service of \$3.9 million)	328.8
Maximum regulated transmission revenue ($MTR_{2015/16}$)	328.8
Forecast under recovery of transmission revenue	0
Distribution Revenue	
Forecast revenue from distribution tariffs (inclusive of non-reference charges for firm backup capacity service of \$0.7 million)	1,172.01
Maximum regulated distribution revenue ($MDR_{2015/16}$)	1,172.01
Forecast under recovery of distribution revenue	0
Total forecast under recovery	0

26. The expected revenues for both transmission and distribution comply with clause 6.5.3 of the access arrangement, in that forecast transmission and distribution revenue for 2015/16 do not exceed $MTR_{2015/16}$ and $MDR_{2015/16}$, respectively.

Compliance with side constraints

27. Clauses 6.5.13 and 6.5.14 of the access arrangement set out the side constraints that apply to increases in network charges for the transmission and distribution network. The side constraint formula allows for a reference tariff to be increased such that the weighted average change in tariffs from the previous year is less than or equal to:
 - inflation escalation; plus
 - the year to year change in target revenue that was determined in the financial model for the access arrangement; plus
 - adjustments to target revenue that result from carry-over and cost pass-through mechanisms under the price control, as well as the tariff equalisation contribution for distribution charges; plus
 - a further two per cent.
28. For this purpose, inflation is the percentage increase in the CPI (weighted average for eight capital cities) for the most recent December quarter compared to the December quarter in the previous year.
29. In order to calculate the 2015/16 side constraints the following parameters were used:
 - a forecast of CPI inflation of 2.50 per cent;
 - year to year change in target revenue of -9.6 per cent for transmission charges and 14.2 per cent for distribution charges;
 - an increase of 3.3 per cent for transmission charges and -1.4 per cent for distribution charges which reflect adjustments to target revenue; and
 - a further two per cent.
30. The total side constraint for transmission services is -2.0 per cent and for distribution services is 20.5 per cent.
31. Table 25, in Section 8.1 of the price list information indicates the percentage changes in reference tariffs from 2014/15 to the proposed 2015/16 price list. The percentage changes are within the bounds established by the side constraints and range between:
 - reductions in transmission tariffs of between 4 per cent and 16 per cent⁶; and
 - increases in distribution tariffs of between 4 and 12 per cent⁷.
32. Section 8.2 of the price list information provides additional information in relation to rebalancing between tariffs.
33. The Authority considers that the proposed tariff changes comply with the side constraints.

⁶ The changes in tariff are all less than the side constraint of -2 per cent.

⁷ The changes in tariff are all less than the side constraint of 20.5 per cent.

Conclusions

34. Taking into account the derivation of required revenues from reference services, the forecast revenue to be collected and the changes in individual reference tariff revenues relative to the side constraint, the Authority is satisfied that the proposed 2015/16 price list complies with the price control set out in the access arrangement.

Compliance with the Pricing Methods

35. "Pricing methods" under the Access Code refer to the structure of reference tariffs included in the access arrangement, which determines how the maximum revenue is allocated across and within reference services.
36. Clauses 6.1.1 to 6.3.3 and clauses 6.5.1 to 6.7.3 of the access arrangement detail the pricing methods applied by Western Power.
37. The overview of pricing methods, at clause 6.3.1, states that reference tariffs are derived from an amount of required revenue for a pricing year by a method of cost allocation.
- 6.3.1 Reference tariffs are derived from an analysis of the cost of reference service provision which entails:
- a) identifying the costs of providing revenue cap services;
 - b) determining the expected non-reference service revenue within the costs of providing revenue cap services;
 - c) deducting the expected non-reference service revenue from the costs of providing revenue cap services to determine the costs of providing reference services;
 - d) allocating the costs of providing reference services to particular reference service customer groups;
 - e) translating the costs of serving particular reference service customer groups to the costs of providing reference tariffs; and
 - f) determining a structure of reference tariffs in a manner that reflects the underlying cost structure, in accordance with section 7.6 of the Code⁸.
38. The pricing methods set out in the access arrangement also require:
- reference tariffs should be set between the incremental⁹ and stand-alone¹⁰ cost of service provision (clause 6.5.6);

⁸ Section 7.6 of the Code states that, unless an access arrangement containing alternative pricing methods would better achieve the Code objective for a reference service, the incremental cost of service provision should be recovered by tariff components that vary with usage or demand and any amount in excess of the incremental cost of service provision should be recovered by tariff components that do not vary with usage or demand.

⁹ The Code defines incremental cost of service provision as that part of approved total costs that would be avoided by the service provider during the specified period of time if it were not to provide the covered service to the user or group of users.

¹⁰ The Code defines stand alone cost of service provision as that part of approved total costs that the service provider would incur in providing the covered service to the user or group of users for the period of time if the covered service was the sole covered service provided by the service provider and the user or group of users was the sole user or group of users supplied by the service provider during the specified period of time.

- charges paid by different users of a reference service should differ only to the extent necessary to reflect differences in the average cost of service provisions to the users (clause 6.5.7);
 - the incremental cost of service should be recovered by tariff components that vary with usage and the costs in excess of the incremental cost of service should be recovered through tariff components that do not vary with usage (clause 6.5.15); and
 - the structure of tariffs should reasonably accommodate the requirements of users collectively (clause 6.5.9).
39. Western Power's proposed Price List Information for 2015/16 sets out how it has complied with the requirements of its approved access arrangement.
40. The Authority notes that the proposed 2015/16 price indicates there are currently no customers on any of the four bi-directional tariffs RT13 – RT16. These tariffs were developed for AA3 primarily to apply to customers with photovoltaic systems. Western Power has advised that approximately 166,000 customers, currently included in the RT1 to RT4 customer groups, have installed PV systems.
41. When undertaking the price list review for 2014/15, Western Power stated that Synergy had not nominated any of its bi-directional customers to be placed onto the reference services associated with these tariffs as it was awaiting the resolution of IT system upgrades to allow the bulk nomination of PV customers, avoiding the need to nominate individually. The Authority understands that the IT system upgrades have now been completed but that Synergy is yet to nominate any customers for the bi-directional tariffs.
42. The Authority notes that the structure and prices of the bi-directional tariffs are identical to the equivalent non bi-directional tariffs (RT1 to RT4), so continuing to include bi-directional customers in the RT1 to RT4 customer numbers (rather than RT13 to RT16) should have no impact on prices.
43. However, as the number of such customers increases, failure to separate them into the correct tariff class potentially impacts on the accuracy of demand forecasts and the allocation of costs to customer groups as the demand profile for customers with PV systems is likely to be different from those without PV systems.
44. As noted above, the Authority does not consider this will have impacted on prices for 2015/16. However, the Authority considers this matter needs to be dealt with prior to the 2016/17 price list submission to ensure compliance with the pricing methods set out in the access arrangement.
45. Table 16 in the Price List Information sets out the incremental cost of service, stand-alone cost of service and forecast revenue for each reference tariff. As can be seen in the table, forecast revenue for each reference tariff falls between the incremental cost of service and stand alone cost of service as required by clause 6.5.6 of the access arrangement.
46. As set out in section 7.3.1 of the Price List Information, Western Power has updated its methodology to derive incremental costs to ensure the estimate only includes cost savings that would result from not serving the relevant customer group. Western Power notes that most elements of total costs are fixed and relate to the Regulated Asset Base, and have therefore been excluded from the calculation of incremental costs.

47. Table 18 of the Price List Information demonstrates that the incremental costs are fully recovered through variable components of the relevant tariff as required by clause 6.5.15 of the access arrangement.
48. The Authority notes that in some cases the revenue recovered through the variable component is significantly greater than the incremental cost of service. Clause 6.5.15 of the access arrangement states that costs in excess of the incremental cost of service should be recovered through tariff components that do not vary with usage. The Authority expects Western Power to continue to refine its estimates of incremental costs for each customer group and the balance between variable and fixed charges to ensure it complies with clause 6.5.15 of its access arrangement.
49. The Authority has reviewed the price list information together with additional information provided on a confidential basis to verify that the requirements of the access arrangement have been complied with. Taking into account all available information, the Authority considers that the proposed 2015/16 price list complies with the pricing methods established under the access arrangement.