

Determination on the Proposed 2016/17 Price List for Western Power's Covered Electricity Network

Submitted by Western Power

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Economic Regulation Authority

WESTERN AUSTRALIA

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Economic Regulation Authority
Perth, Western Australia
Phone: (08) 6557 7900

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DETERMINATION

1. On 29 April 2016, Western Power submitted a proposed 2016/17 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**).¹
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, 3 April 2014 and 6 June 2015.
3. The Authority has assessed the proposed 2016/17 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 2016/17 proposed price list and determines that this price list has effect from 1 July 2016. The Authority has published Western Power's proposed price list and price list information on its website.

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.

¹ Western Power made its submission to the ERA on 28 April. On 29 April 2016, Western Power submitted an amended price list which contained one minor change.

- 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 2016/17 price list and price list information to the Authority on 29 April 2016. 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 2016/17 price list would result in an average tariff increase of 1.7 per cent. This comprises an increase of 4.8 per cent for distribution network tariffs and a reduction of 9.4 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 derivation of maximum transmission regulated revenue for 2016/17

Calculation Parameter	Value (\$ million)	Source
Revenue cap ($TR_{1016/17}$ dollar values of 30 June 2012)	262.8	Amended Access Arrangement Clause 5.6.6
Correction factor ($TK_{2016/17}$ dollar values of 30 June 2012).	0.3	2016/17 Price List Information, section 1.3.1 (Table 2)
Maximum transmission revenue cap service revenue ($MTR_{2016/17}$, dollar values of 30 June 2012)	263.14	
Inflation factor	1.113	2016/17 Price List Information, section 1.3.3 (Table 6)
Maximum regulated transmission revenue ($MTR_{2016/17}$, nominal dollar values)	293.0	2016/17 Price List Information, section 1.3.1 (Table 3)

14. Western Power has provided to the Authority on a confidential basis, a model containing the calculations used to derive the correction factor (K) ²
15. The correction factor for transmission for 2016/17 ($TK_{2016/17}$) was calculated from required and collected revenue values for the 2014/15 and 2015/16 pricing years. The correction factor was derived by applying Equation 1 in accordance with access arrangement clauses 5.6.7 and 5.6.8.

² Western Power, *K Factor Model (confidential)*, 28 April 2016.

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.

Table 2 Western Power's determination of the correction factor (TK_t) for 2016/17 for the determination of maximum transmission regulated revenue (dollar values of 30 June 2012)

Calculation Parameter	Value (\$ million)	
	2014/2015 (t-2)	2015/2016 (t-1)
Forecast Transmission Revenue (FTR _{t-2})	330.5	
Actual Transmission Revenue (ATR _{t-2})	327.9	
Maximum Transmission Revenue (MTR _{t-1})		300.339
Forecast Transmission Revenue (FTR _{t-1})		302.7
(Over)/Under Revenue Collection _t	2.6	(2.36)
Multiplied by (1 + WACC) ²	2.79	
Multiplied by (1 + WACC)		(2.44)
Correction factor (TK_{2016/17})		0.3

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 2016/17

Calculation Parameter	Value (\$ million)	Source
Revenue cap (DR2016/17, dollar values of 30 June 2012)	1,018.0	Amended Access Arrangement, clause 5.7.6
Correction factor (DK2016/17, dollar values of 30 June 2012)	-34.0	2015/16 Price List Information, section 1.3.2 (Table 4)
Maximum distribution revenue cap service revenue excluding TECt (MDR2016/17 dollar values of 30 June 2012)	984.08	
<i>Inflation factor</i>	<i>1.113</i>	2015/16 Price List Information, section 1.3.3 (Table 6)
Maximum distribution revenue cap service revenue excluding TECt (MDR2016/17 nominal dollar values)	1095.601	
Tariff equalisation contribution (TEC2016/17, nominal dollar values)	150.000	2015/16 Price List Information, section 1.3.2 (Table 4)
Maximum distribution revenue cap service revenue including TECt (MDR2016/17, nominal dollar values)	1,245.601	

18. As with transmission services, the correction factor for distribution (DKt) was calculated from required and collected revenue values for the 2014/15 and 2015/16 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 (DKt)

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

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 2016/17 for the determination of maximum regulated distribution revenue (dollar values of 30 June 2012)

Calculation Parameter	Value (\$ million)	
	2014/2015 (t-2)	2015/2016 (t-1)
Forecast Distribution Revenue (FDR _{t-2})	969.32	
Actual Distribution Revenue (ADR _{t-2})	976.70	
Maximum Distribution Revenue (MDR _{t-1})		1,072.00
Forecast Distribution Revenue (FDR _{t-1})		1,096.57
(Over)/Under Revenue Collection _t	(7.38)	24.57
Multiplied by (1 + WACC) ²	(7.92)	
Multiplied by (1 + WACC)		25.45
Correction factor (DK_{2016/17})		33.96

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 2016/17 was derived.
21. Inflation for the period December 2012 to December 2015 has been adjusted to the actual rate of 1.69 per cent compared with the forecast included in the 2015/16 Price List of 2.50 per cent. The 2017/18 Price List will include a correction for any difference in the forecast and actual inflation for the December 2015 to December 2016 period.

Table 5 Western Power's determination of the inflation factor for 2016/17

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%
2015/16	December 2014 – December 2015	Actual	1.69%
2016/17	December 2015 – December 2016	Forecast	2.50%
Derived Inflation Factor			1.113³

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*

³ Cumulative inflation since 2012

Industry Act 2004. The costs of the TEC are recovered through Western Power's distribution use of system reference tariffs.

23. A reduction in the TEC for the 2016/17 year of \$12 million (from \$162 million to \$150 million) was gazetted on 15 April 2016.⁴

Forecast Revenue

24. The price list information submitted by Western Power contains a comparison of the forecast revenue with the maximum target revenue for transmission and distribution services, over the 2016/17 period, as shown in Table 6 below.

Table 6 Western Power's forecast revenue to be collected from reference services for the period July 2015 – June 2016

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 \$3.7 million)	289.3
Maximum regulated transmission revenue (MTR _{2016/17})	292.96
Forecast under recovery of transmission revenue	3.66
Distribution Revenue	
Forecast revenue from distribution tariffs (inclusive of non-reference charges for firm backup capacity service of \$0.7 million)	1215.1
Maximum regulated distribution revenue (MDR _{2016/17})	1245.60
Forecast under recovery of distribution revenue	30.5
Total forecast under recovery	34.16

25. 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 2016/17 do not exceed MTR_{2016/17} and MDR_{2016/17}, respectively. Western Power has increased its tariffs within the maximum permitted limits.

Compliance with Side Constraints

26. 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

⁴ Western Australian Government Gazette, p 1186, 15 April 2016.
[https://www.slp.wa.gov.au/gazette/gazette.nsf/searchgazette/4F635E509DC6A08748257F950007D03E/\\$file/Gq062.pdf](https://www.slp.wa.gov.au/gazette/gazette.nsf/searchgazette/4F635E509DC6A08748257F950007D03E/$file/Gq062.pdf)

- 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.
27. 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.
28. In order to calculate the 2016/17 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 9.1 per cent for distribution charges;
 - An increase of 0.1 per cent for transmission charges and a reduction of 2.5 per cent for distribution charges, which reflect adjustments to target revenue; and
 - a further two per cent.
29. The total side constraint for transmission services is -5.2 per cent and for distribution services is 11.3 per cent.
30. Table 26, in Section 8.1 of the price list information indicates the percentage changes in reference tariffs from 2015/16 to the proposed 2016/17 price list. The percentage changes are within the bounds established by the side constraints and range between:
- reductions in transmission tariffs of between -6 per cent and -11 per cent; and⁵
 - increases in distribution tariffs of between 3 and 9 per cent,⁶ and a 2 per cent reduction in RT9.⁷
31. Section 8.2 of the price list information provides additional information in relation to rebalancing between tariffs.
32. The Authority considers that the proposed tariff changes comply with the side constraints.

Conclusions

33. 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 2016/17 price list complies with the price control set out in the access arrangement.

⁵ The changes in tariff are all less than the side constraint of -5.2 per cent.

⁶ The changes in tariff are all less than the side constraint of 11.3 per cent.

⁷ Section 8.2 of the price list information notes this reduction in the distribution component of the street light charge is due to a reduction in maintenance charges.

Compliance with the Pricing Methods

34. “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.
35. 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.
36. 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 Code .⁸
37. The pricing methods set out in the access arrangement also require that:
- reference tariffs should be set between the incremental⁹ and stand-alone¹⁰ cost of service provision (clause 6.5.6);
 - 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

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.

- the structure of tariffs should reasonably accommodate the requirements of users collectively (clause 6.5.9).
38. Western Power's proposed Price List Information for 2016/17 sets out how it has complied with the requirements of its approved access arrangement.
 39. Western Power indicated in its submission to the Authority in 2015, that there were approximately 166,000 customers within the RT1 to RT4 customer groups with installed solar PV systems, but that Synergy had not yet nominated customers to be transferred to any of the four bi-directional tariff groups RT13 – RT16.
 40. The Authority notes that these customers have now been transferred from tariff groups RT1 to RT4 into the four bi-directional tariff groups RT13 – RT16, which currently contain a total of 163,899 customers on average.
 41. In assessing compliance with the pricing methods, the Authority notes that the objectives of the pricing methods under sections 7.3 and 7.4 of the Access Code are broad. These objectives require that the reference tariffs recover the forward-looking efficient costs of providing reference services and that the reference tariff applying to a user recovers an amount of revenue that is greater than the incremental cost of service provision and less than the stand-alone cost of service provision.
 42. 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.
 43. As set out in section 7.3.1 of the Price List Information, Western Power's methodology derives 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.
 44. 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.
 45. 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 2016/17 price list complies with the pricing methods established under the access arrangement.