

# Jemena Electricity Networks (Vic) Ltd

## 2016-20 Electricity Distribution Price Review Regulatory Proposal

Attachment 5-2

Price control mechanisms

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## ABBREVIATIONS

ABS	Australian Bureau of Statistics
AER	Australian Energy Regulator
CROIC	Cost Recovery Order In Council
DMIS	Demand Management Incentive Scheme
DPPC	Designated Pricing Proposal Charges
ESC	Essential Service Commission
JCRS	Jurisdictional Cost Recovery Scheme
JEN	Jemena Electricity Networks (Vic) Ltd
NER	National Electricity Rules
PfIT	Premium Feed-in Tariff
PTRM	Post Tax Revenue Model
TFIT	Transitional Feed-in Tariff
WACC	Weighted Average Cost of Capital

## OVERVIEW

1. This paper outlines how we propose to adjust our prices for each year in the 2016 regulatory period and how we will comply with the requirements of the National Electricity Rules (**NER**) that relate to setting prices.
  - Compliance with the relevant control mechanisms [cl. 6.12.1(13)]
  - Reporting and compliance with designated pricing proposal charges [cl. 6.12.1(19)]
  - Reporting and compliance with jurisdictional scheme amounts [cl. 6.12.1(20)]
2. In principle we agree with the positions taken in the Australian Energy Regulator's (**AER's**) framework and approach<sup>1</sup> and propose to clarify the treatment of some items that have been flagged as requiring resolution during the review process.

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<sup>1</sup> AER, *Final Framework and approach for the Victorian Electricity Distributors, Regulatory control period commencing 1 January 2016*, 24 October 2014

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## 1. CONTROL MECHANISMS

3. To ensure Jemena Electricity Networks (**JEN**) Ltd sets prices in accordance with the regulatory regime the AER's framework and approach<sup>2</sup> outlines mechanisms under which it controls the way process are set. For alternative control services JEN must demonstrate how it will comply with these controls.<sup>3</sup>
4. By adhering to the formulae outlined in this attachment, JEN considers it will meet the requirement of Cl. 6.12.1(13) to demonstrate compliance with the relevant control mechanism.

### 1.1 PRICE CONTROL MECHANISM – DIRECT CONTROL SERVICES

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5. The AER's framework and approach sets out the price control mechanism that JEN's applies to direct control service tariffs for each of its services offered in the 2016 regulatory period and adjusted annually via an annual pricing proposal. We will submit an initial pricing proposal following the AER's first final determination on this regulatory proposal and then by 30 September of each remaining year in the regulatory period.
6. The AER's price control mechanisms include:
  - A revenue cap for standard control services (refer Box 1-1)
  - A revenue cap for type 5, type 6 and smart regulated metering for 'installation, operation, repair & maintenance, and replacement' and 'collection of meter data, processing and storage of meter data, and provision of access to meter data' services (refer to Box 1-4)
  - Price caps for each individual service for alternative control services (refer Box 1-5).

#### 1.1.1 REVENUE CAP FOR STANDARD CONTROL SERVICES

7. A revenue cap on standard control services means that we have no scope to recover more or less from our tariffs than the total revenue allowed by the AER. Where tariff levels and actual demand levels result in an under- or over-recovery of revenue in any one year (year t-2), we must adjust the next year's (year t) tariffs to correct this.

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<sup>2</sup> AER, *Final Framework and approach for the Victorian Electricity Distributors, Regulatory control period commencing 1 January 2016*, 24 October 2014

<sup>3</sup> NER cl. 6.8.2(c)(3).

## Box 1-1. Control mechanism for standard control services

$$MAR_t \geq \sum_{i=1}^n \sum_{j=1}^m p_{ij}^t q_{ij}^{t*} \quad i=1,\dots,n \text{ and } j=1,\dots,m \text{ and } t=1,\dots,5$$

$$(1) \quad MAR_t = AAR_t + I_t + T_t + B_t \quad t = 1,2,\dots,5$$

Where:

$$(2) \quad AAR_1 = AR_1 (1 + S_1''') \quad t = 1$$

$$(3) \quad AAR_t = AAR_{t-1} (1 + CPI_t) (1 - X_t) (1 + S_t) \quad t = 2,3,4,5$$

Where:

$MAR_t$  is the maximum allowable revenue in year t.

$p_{ij}^t$  is the price of component i of tariff j in year t.

$q_{ij}^{*t}$  is the forecast quantity of component i of tariff j in year t.

$AR_t$  is the annual smoothed revenue requirement in the Post Tax Revenue Model for year t. Adjusted as necessary to account for any difference between actual inflation and estimated inflation.

$AAR_t$  is the adjusted annual smoothed revenue requirement for year t.

$I_t$  is the sum of incentive scheme adjustments in year t. To be decided in the final decision.

$T_t$  is the sum of end-of-period adjustments in year t. Likely to incorporate but not limited to adjustments from the initial regulatory control period. To be decided in the final decision.

$B_t$  is the sum of annual adjustment factors in year t. Likely to incorporate but not limited to adjustments for the overs and unders account. To be decided in the final decision.

$CPI_t$  is the percentage increase in the consumer price index. To be decided in the final decision.

$X_t$  is the X-factor in year t, incorporating annual adjustments to the PTRM for the trailing average return on debt where necessary. To be decided in the final decision.

$S_t'''$  is the sum of the s-factors for all parameters after application of the s-bank adjusted for the change in the annual revenue requirement between the last year of the 2011-2015 regulatory control period to 2016.

$S_t$  is the s-factor for regulatory year t.

8. JEN has adopted the control mechanism as set out in the AER's framework and approach. This mechanism allows for the modification of elements in the formula as they are identified during the price reset consultation phase.



## 1.1.1.1 Items to be decided in the final decision – Standard Control Services

## 'I' Term

9. JEN notes there are number of incentive schemes<sup>4,5</sup> in the 2016 regulatory period however only proposes including the State Government's f-factor scheme active in the 2016 regulatory period<sup>6</sup> in the 'I' Term.

## Previous regulatory period adjustments, 'T' Term

10. JEN proposes one component be included in the transitional adjustment factor ('T' term) to account for adjusts from the 2006 and 2011 regulatory periods.
11. The Demand Management Incentive Scheme (**DMIS**) from the 2011 regulatory period<sup>7</sup> requires us to return unspent funds to customers by adjusting future revenue.<sup>8</sup> We are also required to offset any revenue not recovered as a result of initiatives delivered under the DMIS.<sup>9</sup> To achieve this objective, we propose adjusting revenue in the 2017 year in accordance with the DMIS process<sup>10</sup> (see Box 1-2).
12. JEN does not propose to claim any foregone revenue, permissible under Cl. 3.2.5, attributed to the DMIS scheme noting that is making a contribution to the development of demand management initiatives for the long term interests of customers.

<sup>4</sup> JEN notes that other incentive schemes outlined in NER cl. 6.3.2(a)(3) are (i) captured in the building block model (efficiency benefit sharing scheme (**EBSS**) and capital expenditure sharing scheme (**CESS**) are captured in the building block model), (ii) applied under its own 'S factor' in the price control formula (Service Target Performance Incentive Scheme (**STPIS**) or not proposed at all (Small-scale incentive scheme).

<sup>5</sup> The mechanism proposed to manage the Demand Management and Embedded Generation Connection Incentive Scheme is outlined under the 'T' term.

<sup>6</sup> AER, Final Framework and approach for the Victorian Electricity Distributors, Regulatory control period commencing 1 January 2016, 24 October 2014, s6.1

<sup>7</sup> AER, Demand Management Incentive Scheme, Jemena, CitiPower, Powercor, SP AusNet and United Energy, 2011–15, April 2009.

<sup>8</sup> Ibid, cl. 3.1.5.

<sup>9</sup> Ibid, cl. 3.2.5.

<sup>10</sup> Ibid, Appendix A.

## Box 1-2. Adjustments for DMIS (Section 3.1.5 adjustments)

### Annual adjustment amounts

$$(1) C_t = C_{t-1} - \left[ \frac{R_t - A_t}{(1+i)^t} \times (1+i)^5 (1+i^*)^2 \right]$$

Where:

$R_t$  ex-ante revenue allowance under the DMIS for regulatory year 't' (t = 1,2,...,5)

$A_t$  expenditure approved ex-post under the DMIS for regulatory year 't' (t = 1,2,...,5)

$i$  nominal vanilla WACC as set in the distribution determination for the forthcoming regulatory control period

$i^*$  nominal vanilla WACC as set in the distribution determination for the forthcoming regulatory control period

### NPV amount (\$, 2015) to be adjusted in 2017

$$(2) NPV = \frac{(R_1 - A_1)}{(1+i)} + \frac{(R_2 - A_2)}{(1+i)^2} + \frac{(R_3 - A_3)}{(1+i)^3} + \frac{(R_4 - A_4)}{(1+i)^4} + \frac{(R_5 - A_5)}{(1+i)^5} + \frac{C_5}{(1+i)^5 (1+i^*)^2} = 0$$

Where:

$R_t$  ex-ante revenue allowance under the DMIS for regulatory year 't' (t = 1,2,...,5)

$A_t$  expenditure approved ex-post under the DMIS for regulatory year 't' (t = 1,2,...,5)

$i$  nominal vanilla WACC as set in the distribution determination for the forthcoming regulatory control period

$i^*$  nominal vanilla WACC as set in the distribution determination for the forthcoming regulatory control period

### Annual adjustments, 'B' Term

13. License fees charges by the Victorian Essential Service Commission (**ESC**) were recovered through the L-factor during the 2011 regulatory period. In the 2016 regulatory period we propose only recovering the licence fee to the extent that it varies from the amounts forecast in the operating cost forecast; that is, a true up amount on the annual variation only.
14. With a change in the form of price control towards a revenue cap and the consequential changes in price control formulae, the recovery of these fees can best be achieved through the B<sub>t</sub> term rather than continuing the use of the L-factor mechanism.
15. JEN also proposes to include a true-up for the net present value of under or over recovery of revenue in the t-2 year. The method to achieve this is to create the present value of actual revenue equal to the present value of revenue allowable. The mechanism to achieve this is best displayed by way of the example provided in section 4.

### Calculation of CPI

16. In various price control formula, CPI is used to escalate revenues and prices to nominal dollars. In the framework and approach paper, the AER indicated it would advise the method for determining CPI as a part of the final determination.<sup>11</sup>
17. JEN proposes the method for determining this escalator in Box 1-3. This is consistent with the approach followed in the previous regulatory control period using the September quarter data from the Australian Bureau of Statistics (**ABS**). JEN proposes to balance the most recent actual escalation data with the submission timelines required under the National Electricity Rules (**NER**) requirements for tariff and revenue submissions.<sup>12</sup>

#### Box 1-3. Method for determining CPI<sub>t</sub>

The Consumer Price Index, All Groups Index Number (weighted average of eight capital cities) published by the Australia Bureau of Statistics for the September Quarter immediately preceding the start of regulatory year *t*;

divided by

The Consumer Price Index, All Groups Index Number (weighted average of eight capital cities) published by the Australia Bureau of Statistics for the September Quarter immediately preceding the start of regulatory year *t-1*;

minus one.

### Adjusting X-factor for the trailing average return on debt

18. The X-Factor is determined by the Post Tax Revenue Model (**PTRM**)<sup>13</sup>. The value of X-Factor is to be amended annually to adjust for the trailing average return on debt.

#### 1.1.2 REVENUE CAP FOR TYPE 5, TYPE 6 AND SMART REGULATED METERING

19. Similar to the approach adopted for standard control services, the AER has set out a revenue cap for type 5, type 6 and smart regulated metering. This is consistent with the form of price control adopted under the former Cost Recovery Order In Council (**CROIC**)<sup>14</sup> control regime.

<sup>11</sup> AER, *Final Framework and approach for the Victorian Electricity Distributors, Regulatory control period commencing 1 January 2016*, 24 October 2014, s2.3.9

<sup>12</sup> NER clause 6.18.2(a) requires that our annual pricing proposal for years 2 to 5 of a regulatory control period be submitted to the AER three months prior to the start of the regulatory year (i.e. by 30 September). This is prior to September CPI becoming available, which is in October each year. This changed as a result of the 'distribution network pricing arrangements' rule change made by the Australian Energy Market Commission on 27 November 2014.

<sup>13</sup> AER, *Final decision, Amendment, Electricity transmission and distribution network service providers, Post-tax revenue models (version 3)*, 29 January 2015.

<sup>14</sup> See, Box 3-1, JEN 2016 Regulatory Proposal.

## Box 1-4. Control mechanism for type 5, type 6 and smart meters

$$(1) \quad MAR_t \geq \sum_{i=1}^n \sum_{j=1}^m p_t^{ij} q_t^{ij} \quad i=1,\dots,n \text{ and } j=1,\dots,m \text{ and } t=1,\dots,5$$

$$(2) \quad MAR_t = AR_t + T_t + B_t$$

$$(3) \quad AR_t = AR_{t-1}(1 + CPI_t)(1 - X_t)$$

Where:

$MAR_t$  is the maximum allowable revenue in year t.

$p_t^{ij}$  is the price of component i of tariff j in year t.

$q_t^{ij}$  is the forecast quantity of component i of tariff j in year t.

$AR_t$  is the annual revenue requirement for year t.

$AR_{t-1}$  in 2016 is the annual smoothed revenue requirement in the Post Tax Revenue Model for the 2016 year in 2015 dollar value. After 2016, this is the  $AR_t$  from the previous year.

$T_t$  is the adjustments in year t for true-ups relating to the AMI-OIC.

$B_t$  is the sum of annual adjustment factors in year t for the overs and unders account.

$CPI_t$  is the percentage increase in the consumer price index. To be decided in the final decision.

$X_t$  is the X-factor in real terms in year t, incorporating annual adjustments to the PTRM for the trailing average return on debt where necessary. To be decided in the final decision.

### Previous regulatory period adjustments 'T' term

20. The T term will incorporate adjustments in 2016 and 2017 in accordance with the requirements of Clause 5L of CROIC. The amounts are to be determined at the time of developing the pricing proposals for the respective years.

### Annual adjustments, 'B' term

21. JEN proposes to include a true-up for the net present value of under or over recovery of revenue in the t-2 year. The method to achieve this is to create the present value of actual revenue equal to the present value of revenue allowable. The mechanism achieve this is best displayed by way of the example provided in section 4.
22. JEN does not propose to include any other adjustments under this term.

### 'CPI' term

23. We propose calculating this  $CPI_t$  term using the same method as outlined in Box 1-3.

**'Xt' term**

24. The X-Factor is determined by the PTRM; the value of X-Factor is to be amended annually to adjust for the trailing average return on debt.

1.1.3 CAP ON INDIVIDUAL PRICES FOR ALTERNATIVE CONTROL SERVICES<sup>15, 16</sup>**Box 1-5. Control mechanism for alternative control services**

$$\bar{p}_i^t \geq p_i^t \quad i=1, \dots, n \text{ and } t=1, 2, 3, 4$$

$$\bar{p}_i^t = \bar{p}_i^{t-1} (1 + CPI_t)(1 - X_i^t)$$

Where:

$\bar{p}_i^t$  is the cap on the price of service i in year t

$p_i^t$  is the price of service i in year t. The initial value is to be decided in the final decision.

$CPI_t$  is the percentage increase in the consumer price index. To be decided in the final decision.

$X_i^t$  is the X-factor for service i in year t, incorporating annual adjustments to the PTRM for the trailing average return on debt where necessary. To be decided in the final decision.

25. The alternative control services price cap formula requires that the price for each service cannot be higher than the previous year's price after adjustments for inflation (CPI) and X-factor (X).

## 1.1.3.1 Items to be decided in the final decision

**'pti' term**

26. The ' $p_i^t$ ' term represents the price outlined in the final determination.

**'CPIt' term**

27. The ' $CPI_t$ ' term will be calculated using the same method outlined in Box 1-3.

**'Xti' term**

28. The ' $X_i^t$ ' term represents the value outlined in the final determination. The only service in this category for which X-Factor will be adjusted is public lighting. No other services in this category are affected by the trailing average return on debt.

<sup>15</sup> Excludes alternative control services provided under "type 5, type 6 and smart regulated metering"

<sup>16</sup> Whilst public lighting classified as alternative control service will be calculated using a limited building block model it is effectively compliance with this price control model.

## 1.2 DEMONSTRATING COMPLIANCE FOR CONTROL SERVICES

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29. The NER requires JEN to demonstrate the application of the control mechanisms and provide supporting information for alternative control services<sup>17</sup>. Our proposed approach to demonstrating compliance with this requirement is to provide the calculations, as a part of the annual pricing proposal, which mathematically solves prices in accordance with the constraints of the price control formula. By approving the pricing proposal, the AER will effectively endorse that JEN has complied with the requirement.

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<sup>17</sup> NER, cl. 6.8.2(c)(3).

## 2. COMPLIANCE WITH DESIGNATED PRICING PROPOSAL CHARGES

30. Designated Pricing Proposal Charges (**DPPC**)<sup>18</sup> include cost recovery for services that include:
- Transmission charges
  - Inter distribution business charges
  - Amounts paid for avoided Transmission Services in accordance with NER cl 5.5(j).
31. JEN proposes to include a true-up for the net present value of under or over recovery of revenue in the t-2 year. The method to achieve this is to create the present value of actual revenue equal to the present value of revenue allowable. The mechanism to achieve this is best displayed by way of the example provided in section 4.

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<sup>18</sup> NER cl. 6.18.7.

### 3. JURISDICTIONAL COST RECOVERY SCHEME

32. The Jurisdictional Cost Recovery Scheme (**JCRS**)<sup>19</sup> includes cost recovery for services that are required within the Victorian Jurisdiction. These include, but are not limited to:
- Rebates for the Premium Feed-in tariff (**PFiT**)<sup>20</sup>
  - Rebates for the Transitional Feed-in tariff (**TFiT**).<sup>21</sup>
33. JEN proposes to include a true-up as required by the **NER**<sup>22</sup> for the present value of under or over recovery of revenue in the t-2 year. The method to achieve this is to create the present value of actual revenue equal to the present value of revenue allowable. The mechanism to achieve this is best displayed by way of the example provided in section 4.

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<sup>19</sup> NER cl. 6.18.7A.

<sup>20</sup> NER cl. 6.18.7A(e)(1)(iv).

<sup>21</sup> NER cl. 6.18.7A(d)(1).

<sup>22</sup> NER cl. 6.18.7A(b).



## 4. REVENUE TRUE-UPS

34. For the following services, the form of price control requires a true-up of the actual revenue as it varies to allowance:
- Standard control services
  - Type 5 and 6 regulated metering services
  - Designated pricing proposal charges
  - Jurisdictional scheme amounts.
35. To undertake these adjustments, we will follow the process outlined in Box 4-1. It should be noted that for standard control services, provision is made within the methodology to account for 'pass through amounts'.
36. In all calculations, the balance amounts must be adjusted for the time value of money using the weighted average cost of capital (**WACC**) consistent with the rate the AER approved for the final determination in the year in which the determination is applicable, i.e. the WACC in previous regulatory periods will be used where the formula crosses multiple regulatory periods.

### Box 4-1 Demonstration of revenue true-up

In year t we are trueing up revenue under and over recoveries for t-2, the over or under recovery in year t itself won't be trueed up until t+2. The following example demonstrates how we will perform the calculations:

	t-2	t-1	t
Revenue from tariffs	247,500	247,000	249,511
Allowed revenue	247,000	248,000	249,000
Pass through	-	2	14
Revenue under / (over) recovery	500	- 1,002	497
WACC	10.00%	10.00%	10.00%
Opening balance	-	524	- 474
Interest on opening balance	-	52	- 47
Revenue under / (over) recovery	500	- 1,002	497
Interest on over under <sup>[1]</sup>	24	- 49	24
Closing balance	524	- 474	0 <sup>[2]</sup>

[1] Calculated using a half year effect on the WACC, i.e.  $(1+WACC)^{0.5}-1$

[2] Must set tariffs at rates that cause this value to be close to zero

37. Special treatment of some services is required when transitioning to this method of trueing up costs in the 2016 regulatory period. This special treatment is set out in sections 4.1 and 4.2.

### 4.1 SPECIAL TREATMENT – SCS TRANSITION

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38. The 2016 regulatory period is the first time standard control services will be subject to a revenue cap form of price control. Consequently, we need to apply special adjustments from those demonstrated in the example in Box 4-1 to ensure the transition to this new mechanism do not inadvertently result in under or over recovery of revenues from the 2011 regulatory period. These adjustments are:
- when calculating revenue and prices for the 2016 regulatory year:
    - the opening balance in t-2 and t-1 year must be zero
    - the 'revenue under / (over) recovery' in t-2 and t-1 must be zero
  - when calculating revenue and prices for the 2017 regulatory year:
    - the opening balance in t-2 year must be zero
    - the 'revenue under / (over) recovery' in t-2 must be zero.

### 4.2 SPECIAL TREATMENT – TYPE 5 AND 6 METERING TRANSITION

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39. Type 5 and 6 metering service is effectively subject to a revenue cap under the CROIC requirements. However, the CROIC requires that the true-up mechanism be calculated using a specific true-up method.<sup>23</sup> To accommodate this alternative calculation into the formula demonstrated in the example in Box 4-1, special provisions are required. These special provisions are:
- when calculating revenue and prices for the 2016 regulatory year:
    - the opening balance in year t-2 and year t-1 year must be zero
    - revenue from tariffs in year t-2 and year t-1 year must be zero
    - allowed revenue in year t-2 and year t-1 year must be zero
    - the pass through amount for year t-2 will contain the true-up value calculated in accordance with the CROIC Clause 5L.3
  - when calculating revenue and prices for the 2017 regulatory year:
    - the opening balance in year t-2 must be zero
    - revenue from tariffs in year t-2 year must be zero
    - allowed revenue in year t-2 year must be zero
    - the pass through amount for year t-2 will contain the true-up value calculated in accordance with the CROIC Clause 5L.4.

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<sup>23</sup> Cl. 5L, CROIC.