Attachment 01.8

Control Mechanisms

CONTROLLED DOCUMENT

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Contents

1 Purpose

The Australian Energy Regulator's (AER's) Framework and Approach sets out the price control mechanism that Power and Water Corporation (Power and Water) applies to direct control service tariffs for each of its services offered in the 2019-24 regulatory period and adjusted annually via an annual pricing proposal.

This appendix sets out Power and Water's proposed formulae for the application of the AER's price control mechanism as set out in the Framework and Approach including:

- a revenue cap for Standard Control Services (SCS); and
- a price cap for each Alternative Control Services (ACS), including for Power and Water's type 1 -6 metering services and ancillary fee based services.

2 Proposed revenue cap formula for SCS

Power and Water has adopted the control mechanism for SCS as set out in the AER's Framework and Approach with the inclusion of an adjustment factor to give effect to 6.4.3(b)(5A) of the National Electricity Rules as in force in the Northern Territory.

2.1 $$TAR_t \geq \sum_{i=1}^{n} \sum_{j=1}^{m} p_t^{ij} q_t^{ij}$$ **i = 1,…,n and j = 1,…,m and t = 1, 2,…,5**

2.2 $$TAR_t = AAR_t + I_t + B_t + C_t$$ **t = 1, 2,…,5**

2.3 $$AAR_t = AR_t$$ **t = 1**

2.4 $$AAR_t = AAR_{t-1} \times (1 + \Delta CPI_t) \times (1 - X_t)$$ **t = 2,…,5**

where:

TAR_t is the total allowable revenue in year t.

p_t^{ij} is the price of component 'j' of tariff 'i' in year t.

q_t^{ij} is the forecast quantity of component 'j' of tariff 'i' in year t.

t is the (July to June) regulatory year.

AR_t is the annual smoothed revenue requirement in the Post Tax Revenue Model (PTRM) for year t.

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

I_t is the sum of incentive scheme adjustments in year t.

B_t is the sum of annual adjustment factors in year t and includes:

- any under or over recovery of actual revenue collected through charges in regulatory year t–2 as calculated using the method below; and
- other revenue increments or decrements (if any) for that year arising from the application during the 2014-19 NT regulatory control period of the control mechanism in the 2014 NT Network Price Determination, as modified by the 2014 NT Ministerial Direction.

C_t is the sum of approved cost pass through amounts (positive or negative) with respect to regulatory year t, as determined by the AER. It will also include any end-of-period adjustments in year t.

ΔCPI_t is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities from the December quarter in year t–2 to the December quarter in year t–1, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in regulatory year t–1

divided by

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in regulatory year t–2

minus one.

For example, for the 2020 year, t–2 is December quarter 2017 and t–1 is December quarter 2018; and for the 2021 regulatory year, t–2 is December quarter 2018 and t–1 is December quarter 2019 and so on.

X_t is the X-factor in year t, incorporating annual adjustments to the PTRM for the trailing cost of debt where necessary.

3 Proposed side constraints formula

Power and Water proposes the following side constraint formula for SCS for the 2019-24 regulatory period:

$$\frac{(\sum_{i=1}^{n}\sum_{j=1}^{m} d_t^{ij} q_t^{ij})}{(\sum_{i=1}^{n}\sum_{j=1}^{m} d_{t-1}^{ij} q_t^{ij})} \leq (1+\Delta CPI_t)\times(1-X_t)\times(1+2\%)+B_t^{'}+C_t^{'}$$

where each tariff class has "n" tariffs, with each up to "m" components, and where:

d_t^{ij} is the proposed price for component 'j' of tariff 'i' for year t.

d_{t-1}^{ij} is the price charged for component 'j' of tariff 'i' in year t–1.

q_t^{ij} is the forecast quantity of component 'j' of tariff 'i' in year t.

ΔCPI_t is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities from the December quarter in year t–2 to the December quarter in year t–1, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in regulatory year t–1

divided by

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in regulatory year t–2

minus one.

X_t is the X factor for each year of the 2019–24 regulatory control period as determined in the PTRM, and annually revised for the return on debt update. If X>0, then X will be set equal to zero for the purposes of the side constraint formula.

$B_t^{'}$ is the sum of annual adjustment factors in year t and includes:

- any under or over recovery of actual revenue collected through charges in regulatory year t–2 as calculated using the method below; and
- other revenue increments or decrements (if any) for that year arising from the application during the 2014-19 NT regulatory control period of the control mechanism in the 2014 NT Network Price Determination, as modified by the 2014 NT Ministerial Direction.

$C_t^{'}$ any AER approved cost pass through amounts during 2019–2024 regulatory control period.

With the exception of the CPI, the percentage for each of the other factors above can be calculated by dividing the incremental revenues (as used in the total annual revenue formula) for each factor by the expected revenues for regulatory year t–2.

4 Under and overs account

In the application of the proposed revenue cap formula for SCS, Power and Water will maintain an under and overs account for the most recently completed regulatory year (t–2), the current regulatory year (t–1) and the next regulatory year (t), which will include:

4.1 opening balance for year t–2, year t–1 and year t;

4.2 an interest charge for one year on the opening balance for each regulatory year (t–2, t–1 and t). These adjustments are to be calculated using the approved nominal vanilla WACC applying to each year.

4.3 the amount of revenue recovered from charges in respect of that year, less the total annual revenue for the year in question;

4.4 an adjustment to the net amount in item 3 by six months of interest. These adjustments are to be calculated using the approved nominal vanilla WACC.

4.5 the total of items 1–4 to derive the closing balance for each year.

An example calculation is provided below:

	Year t–2 (actual)	Year t–1 (estimate)	Year t (forecast)
(A) Revenue from charges	**46,779**	**40,269**	**39,510**
(B) Less TAR for regulatory year =	**42,110**	**40,614**	**42,136**
+ Adjusted annual smoothed revenues (AAR_t)	40,189	40,580	42,100
+ DMIA carryover amount (I_t)	421	0	0
+ Annual adjustments (B_t)[a]	13	34	36
+ Cost pass through amount (C_t)	1,500	0	0
(A minus B) Under/over recovery of revenue for regulatory year	**4,669**	**-345**	**-2,626**
Unders and overs account			
Nominal WACC (per cent)	5.00%	5.50%	6.00%
Opening balance	0	4,786	4,694
Interest on opening balance	0	263	282
Under/over recovery of revenue for regulatory year	4,669	-345	-2,626
Interest on under/over recovery for regulatory year	117	-9	-79
Closing balance	**4,786**	**4,694**	**0**

5 Proposed Price cap formulae for type 1–6 metering and ancillary fee based services

Power and Water has adopted the control mechanism for type 1–6 metering and ancillary fee based services as set out in the AER's framework and approach paper.

$\bar{p}_t^i \geq p_t^i$ i=1,...,n and t=1, 2,...,5

$$\bar{p}_t^i = \bar{p}_{t-1}^i \times (1 + \Delta CPI_t) \times (1 - X_t^i) + A_t^i$$

Where:

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

p_t^i is the price of service i in year t. The initial value is to be decided in the distribution determination.

$\bar{p}_{t-1}^i$ is the cap on the price of service i in year t–1.

t is the regulatory year.

ΔCPI_t is the annual percentage change in the ABS consumer price index (CPI) All Groups, Weighted Average of Eight Capital Cities from the December quarter in year t–2 to the December quarter in year t–1, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in regulatory year t–1

divided by

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in regulatory year t–2

minus one.

X_t^i is the X factor for service i in year t.

A_t^i is the sum of any approved cost pass through amounts for service i in year t.