DRAFT DECISION

Power and Water Distribution Determination 2019 to 2024

Attachment 13 Control mechanisms

September 2018

AUSTRALIAN ENERGY REGULATOR

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Note

This overview forms part of the AER's draft decision on the distribution determination that will apply to Power and Water Corporation for the 2019–2024 regulatory control period. It should be read with all other parts of the draft determination.

The draft determination includes the following attachments:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency benefit sharing scheme

Attachment 9 – Capital expenditure sharing scheme

Attachment 10 – Service target performance incentive scheme

Attachment 11 – Demand management incentive scheme

Attachment 12 – Classification of services

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Attachment 14 – Pass through events

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Attachment 18 – Tariff structure statement

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Shortened forms

Shortened form	Extended form
ACS	alternative control services
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
distributor	distribution network service provider
DMIAM	demand management innovation allowance (mechanism)
DMIS	demand management incentive scheme
DPPC	designated pricing proposal charges
DRP	debt risk premium
DUoS	distribution use of system
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
Expenditure Assessment Guideline	Expenditure Forecast Assessment Guideline for Electricity Distribution
F&A	framework and approach
LED	Light Emitting Diode
MRP	market risk premium
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NT NER or the rules	National Electricity Rules As in force in the

	Northern Territory
NSP	network service provider
opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue and pricing principles
SAIDI	system average interruption duration index
SAIFI	system average interruption frequency index
SCS	standard control services
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
TAR	total allowable revenue
WACC	weighted average cost of capital

13 Control mechanisms

A control mechanism imposes limits over the prices of both direct control services and alternative control services and/or the revenues that a distribution network service provider can recover from customers. For standard control services, the National Electricity Rules requires the control mechanism be of the prospective CPI–X form (or some incentive-based variant).[1]

This attachment sets out the revenue cap as the control mechanism for Power and Water's standard control services for the 2019–24 regulatory control period. It discusses:

- the application of the revenue cap
- compliance with the price controls[2]
- the mechanism through which Power and Water will recover distribution use of system (DUoS) charges including adjustments for revenue under or over recovery[3]
- reporting of recovery of designated pricing proposal charges and jurisdictional scheme amounts[4]

This attachment sets out price caps as the control mechanism for Power and Water's alternative control services for the 2019–24 regulatory control period.

13.1 Draft decision

Our draft decision for Power and Water is as follows:

- The control mechanism for standard control services is a revenue cap.
- The control mechanism for alternative control services is a price cap.
- Section 13.4.6 contains the revenue cap formulas.
    - The revenue cap for any given regulatory year is the total annual revenue, or TAR, calculated using the formula in Figure 13.1.
    - The side constraints applying to price movements for each of Power and Water's tariff classes must be consistent with the formula in Figure 13.2.
- Section 13.5.2 contains the price cap formulas.
    - The cap on Power and Water's prices for services for metering and ancillary services (fee based) are defined in Figure 13.3.

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1 NER, cl. 6.2.6(a).
2 NER, cl. 6.12.1(13).
3 NER, cl. 6.12.1(11).
4 NER, cl. 6.12.1(19) and 6.12.1(20).

    - The formula applying to Power and Water's quoted services is included in Figure 13.4.

- Power and Water must demonstrate compliance with the revenue cap—in accordance with Figure 13.1—by including adjustments for DUoS revenue under or over recovery in accordance with appendix A of this attachment.
- Power and Water must submit as part of its annual pricing proposal, a record of the amount of revenue recovered from designated pricing proposal charges and associated payments in accordance with appendix B of this attachment.
- Power and Water must submit as part of its annual pricing proposal, a record of any jurisdictional scheme amounts it recovers and associated payments in accordance with appendix C of this attachment.
- Appendix D of this attachment details rules about how rounding is to be handled in the annual pricing approval process.

13.2 Power and Water Corporation's proposal

Power and Water accepted our decisions set out in our final Framework and Approach to:

- apply a revenue cap to standard control services
- apply price caps to alternative control services.[5]

Jacana Energy, the major retailer in the Northern Territory, supported the application of price caps to ancillary control services charges.[6]

Power and Water proposed a specific definition to apply to the B-factor as part of the revenue cap that applies to standard control services. The B factor parameter is for annual TAR adjustments required within the 2019–24 regulatory control period. Power and Water's proposed definition accounts for increments or decrements arising from the application of the control mechanism in the 2014 NT Network Price Determination, as modified by the 2014 NT Ministerial Direction.[7] This is discussed under 13-10 section.

Power and Water further accepted the formulas that gave effect to the price caps for:

- type 1-6 metering services
- ancillary fee based services
- ancillary quoted services. [8]

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5 Power and Water, *Regulatory Proposal 1 July 2019 to 30 June 2024*, 16 March 2018, p. 7.

6 Jacana Energy, *PWC distribution determination*, 16 May 2018, p. 3.

7 Power and Water, *Submission on AER's Preliminary Framework and Approach Paper for Power and Water Corporation's Regulatory Control Period Commencing 1 July 2019*, 21 April 2017, p. 4.

8 Power and Water, *Attachment 01.8 - Control Mechanism*, 31 January 2018, pp. 3 and 7.

Power and Water does not provide regulated public lighting services and these were not classified in the Framework and Approach.[9]

13.3 Assessment approach

Our assessment of the control mechanism was set out in our final Framework and Approach. The final Framework and Approach set the control mechanism for standard control services as a revenue cap which is then binding on our determination.[10] The basis of the revenue cap must be of the prospective CPI–X form (or some incentive based variant).[11]

Our final Framework and Approach sets out a generic formula to give effect to the control mechanism for standard control services.[12] The generic formula requires the control mechanism parameters be specified with more precision in order to be implemented. This draft determination provides further detail on our position regarding the control mechanism formula and its respective parameters.

Our final Framework and Approach sets out the control mechanism for alternative control services as a price cap. This is detailed below in section 13.5.2.

13.4 Draft decision for standard control services

The following discusses the reasons for our draft decision for each parameter of the revenue cap control mechanism, including the reporting on designated pricing proposal charges and jurisdictional scheme amounts.

13.4.1 Reasons for draft decision for standard control services

Total allowable revenue

In this draft decision the revenue cap for any given regulatory year is the TAR for distribution services. Section 13.4.6 contains the formula that gives effect to the revenue cap.

Intra-period adjustment to the weighted average cost of capital

Changes to the TAR resulting from the trailing average cost of debt update will be implemented through annual revisions to the X factors. Further discussion on this adjustment can be found in attachment 3—rate of return—which discusses the WACC

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9 AER, *Framework and approach for Power and Water Corporation (NT) Regulatory control period commencing 1 July 2019*, July 2017, p. 9.

10 AER, *Framework and approach for Power and Water Corporation (NT) Regulatory control period commencing 1 July 2019*, July 2017, p. 28; NER, cl. 6.12.3(c).

11 NER, cl. 6.2.6(a).

12 AER, *Framework and approach for Power and Water Corporation (NT) Regulatory control period commencing 1 July 2019*, July 2017, pp. 38–39.

annual adjustment and attachment 1—annual revenue requirement—which details issues relating to X factors.

Incentive scheme adjustments (I factor)

The I factor parameter is for annual TAR adjustments relating to a service provider's performance against the incentive schemes, excluding the Service Target Performance Incentive Scheme.[13]

Power and Water accepted our position in the Framework and Approach with respect to incentive schemes. Power and Water accepted our position to apply the Capital Expenditure Sharing Scheme and demand management incentive scheme (DMIS) and demand management innovation allowance mechanism (DMIAM) to standard control services. Power and Water also supported the proposal to not apply the service target performance incentive scheme while continuing to apply the NT jurisdictional Guaranteed Service Level (GSL) Scheme. Further, Power and Water accepted our position of only applying the Efficiency Benefit Sharing Scheme to standard control services if Power and Water's efficient opex is determined on a revealed historical cost basis.[14]

For this reason, we have not varied our position from our Framework and Approach.

Our approach with respect to the EBSS will be detailed in Attachment 8.

The details of the demand management innovation allowance mechanism, and of the new demand management incentive scheme, were proposed by the AER in November 2017. [15] [16]

The demand management innovation allowance mechanism does not apply in the current regulatory control period. As a consequence, it is not necessary to include a factor adjusting for the carryover amount for this mechanism in the current regulatory control period.

For the new demand management incentive scheme, as part of the annual pricing process Power and Water will submit a compliance report for year t-2 eight months before the start of year t. We will then determine the total financial incentive recoverable for year t-2 four months before the start of year t. This amount will then be

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13 The I factor excludes adjustments relating to performance against the service target performance incentive scheme which is applied under a specified S factor. The S factor is discussed below.

14 Power and Water, *Submission on AER's Preliminary Framework and Approach Paper for Power and Water Corporation's Regulatory Control Period Commencing 1 July 2019*, 21 April 2017, pp. 4–5.

15 AER, *Demand management incentive scheme, Electricity distribution network service providers*, December 2017.

16 AER 2017, *Demand management incentive scheme*, November 2017; AER 2017, *Explanatory Statement, Demand management incentive scheme*, November 2017; AER 2017, Demand management innovation allowance mechanism, November 2017; AER 2017, *Explanatory statement, Demand management innovation allowance mechanism*, November 2017.

included in Power and Water's annual pricing proposal and be recoverable by DUOS charges in year t.[17]

For this reason, we will include an adjustment in the I factor accounting for this incentive.

Annual adjustments (B factor)

The B factor parameter is for annual TAR adjustments required within the 2019–24 regulatory control period. Consistent with our final Framework and Approach the B factor will include 'true-up' adjustments for DUoS revenue under or over recovery.[18] Power and Water has proposed to include adjustments for:

- any under or over recovery of actual revenue collected through charges in regulatory year t–2 as calculated using the unders and over account; 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.[19]

The following discusses our draft decision on these adjustments.

Any under or over recovery of actual revenue collected through charges in regulatory year t–2

Our draft decision is that the B factor will include a true-up for the net present value of under or over recovered revenue. We consider that this this factor incorporates the under and over recovery of revenue collected through charges in regulatory year t-2, in addition to further adjusting for the estimated experience in regulatory year t-1.

This true-up will be calculated based upon the DUoS unders and overs account kept in accordance with the method in appendix A.

Under a revenue cap, Power and Water's revenues in year t will be adjusted annually to clear (or true-up) any under or over recovery of actual revenue collected through DUoS charges in year t–2 and any estimated under or over recovery of revenues in year t–1. In regulatory year t, we will therefore base the level of this adjustment on the opening balance of the DUoS unders and overs account.

As the under or over recovery in regulatory year t will have six months of nominal WACC applied to it during the regulatory year, while the opening balance of the DUoS unders and overs account will have one year of nominal WACC applied during the

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17 AER, *Demand Management Incentive Scheme; Electricity distribution network service providers*, December 2017, p. 7.

18 AER, *Framework and approach for Power and Water Distribution for the Regulatory control period commencing 1 July 2019*, July 2017, p. 39.

19 Power and Water, *Attachment 01.8 Control Mechanisms*, 31 January 2018, p. 4.

regulatory year, we consider that the true-up requires an adjustment by six months of WACC to be on a common basis. As the purpose is to offset the opening balance, we further consider that the sign of the true-up should be the reverse of the sign of the opening balance. For clarity, if Power and Water has recovered below its allowable revenue prior to year t, this balance will be negative and this true-up should be positive to allow Power and Water to recover that revenue in year t to bring the balance of the unders and overs account to 0.

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.

Power and Water proposed that, in addition to accounting for unders and overs adjustments in the next regulatory period, the B factor must account for unders and overs, "as a result of revenue increments or decrements caused by application of the current revenue cap at the end of the current regulatory period under the 2014 Network Price Determination, as modified by the Ministerial Direction."[20] [21]

We accept an adjustment for this element is in line with the NT NER.[22] We further note this clause has an equivalent in the National Electricity Rules.[23]

However, we consider this definition is functionally unnecessary. We consider that through the correct application of the unders and overs mechanism, these other increments or decrements will be captured.

We note at the start of the 2019–24 regulatory control period, the use of the unders and overs mechanism from t-2 will include any increments and decrements as relating to the current regulatory control period.

Cost pass through adjustments (C factor)

The C factor is for annual TAR adjustments relating to AER approved cost pass through amounts. The types of costs that can be included as a cost pass through are set out in attachment 14—pass through events.

S factor adjustments

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[20] Power and Water, *Regulatory Proposal 1 July 2019 to 30 June 2024*, 16 March 2018, p. 53.

[21] To be clear, the unders and overs mechanism relates to operation of the current regulatory control period determination as modified by the Ministerial Direction. It does not relate to any potential differences between the current period determination and the Ministerial Direction.

[22] AEMC, *National Electricity Rules As in force in the Northern Territory Version 25*, 6.4.3(a)(5).

[23] NER, cl 6.4.3(a)(6).

The S factor parameter is for annual TAR adjustments relating to a distributor's performance against the service target performance incentive scheme. The S factor gives effect to any rewards or penalties related to this scheme—including across regulatory control periods. The scheme requires the S factor to be applied as a percentage adjustment to annual revenue.[24]

Our proposed position in the Framework and Approach was to not apply the s-factor component of the STPIS to Power and Water in the next regulatory control period. We have maintained this approach in our draft decision.[25] Accordingly, there is no s- factor parameter for Power and Water in the price control formula in next 2019–24 period.

Calculation of the consumer price index escalation

We will apply the annual movement between the Australian Bureau of Statistics' (ABS) published December quarter data for calculating the consumer price index (CPI) escalation.

We note the use of the December quarter data will mean Power and Water will apply an actual CPI escalation (rather than an estimated or 'placeholder' CPI escalation) when it submits its pricing proposals.[26] The use of an actual CPI escalation will allow the process for setting prices to be more transparent which is consistent with the intent of the pricing rule provisions.[27]

The application of this calculation is set out in appendix A.

13.4.2 Deliberately under-recovered revenue

We accept there are times when Power and Water may decide to recover below its allowed level of revenue. For these purposes, we consider that the NT Ministerial Direction constitutes a deliberate under recovery. This is in contrast to unintentional under recovery due to a natural variation between forecast quantities of a services offered and actual quantities achieved. In the event of intentional under-recovery, this revenue will not be counted as an under recovery for the purpose of the under and overs account and by extension will therefore not subsequently increase the total allowable revenue in future years.

The application of this calculation is set out in appendix A.

13.4.3 Reporting on designated pricing proposal charges

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[24] AER, *Electricity distribution network service providers: Service target performance incentive scheme: Appendix C*, 1 November 2009, p. 32.

[25] AER, *Framework and approach Power and Water Corporation (NT) Regulatory control period commencing 1 July 2019*, July 2017, p. 44.

[26] Apart from the initial year of the regulatory control period.

[27] NER, cl. 6.18.5 (g)(3).

We must decide how Power and Water will report on the recovery of any designated pricing proposal charges[28] for each year of the 2019–24 regulatory control period and how to account for any under or over recovery of revenue associated with those charges.[29]

We apply an under and over recovery mechanism to facilitate this reporting and account for the true-up of under and over recovery of revenue. This approach is the same as the DUoS revenue under and over recovery mechanism and is consistent with the requirements of the NER.[30] The operation of this method is detailed in appendix B.

13.4.4 Reporting on jurisdictional scheme amounts

We must decide how Power and Water will report on the recovery of jurisdictional scheme amounts for each year of the 2019–24 regulatory control period and how to account for any under or over recovery of revenue associated with those charges.[31]

Power and Water accepted our proposal to continue to apply the NT jurisdictional Guaranteed Service Level (GSL) Scheme in the next regulatory control period.[32]

Our draft decision jurisdictional scheme amounts under and over recovery mechanism approach is consistent with the requirements of the NER.[33] It is also consistent with the approach applied to electricity distributors in other jurisdictions.[34] The operation of this method is detailed in appendix C.

13.4.5 Rounding of inputs in annual pricing proposal process

When reporting on compliance as part of the annual pricing proposal process each year of the 2019–24 regulatory control period, we require that certain calculation inputs be used on an unrounded basis while others may be used on a rounded basis.

The process for rounding and the specific inputs to be rounded are detailed in Appendix D.

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28 Designated pricing proposal charges are charges related to: designated pricing proposal services (prescribed exit fees, prescribed common transmission services and prescribed transmission use of system services); avoided customer transmission use of system charges; charges provided by another distributor (but only to the extent they comprise of designated pricing proposal services or standard control services); and charges or payments related specified in NER clause 11.39.

29 NER, cl. 6.12.1 (19).

30 NER, cll. 6.12.1(19), 6.18.7.

31 NER, cl. 6.12.1 (20).

32 Power and Water, *Submission on AER's Preliminary Framework and Approach Paper for Power and Water Corporation's Regulatory Control Period Commencing 1 July 2019*, 21 April 2018, p. 8.

33 NER, cl. 6.18.7A.

34 For example, see: AER, *Final decision: Ausgrid distribution determination 2015–16 to 2018–19: Attachment 14–Control mechanisms*, April 2015, Appendix C; AER, *Final decision: SA Power Networks determination 2015–16 to 2019–20: Attachment 14–Control mechanisms*, October 2015, Appendix C; AER, *Final decision: AusNet Services distribution determination 2016 to 2020: Attachment 14–Control mechanisms,* May 2016, Appendix C.

13.4.6 Control mechanism for standard control services

Figure 13.1 Revenue cap formula[35]

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. $$TAR_t = AAR_t + I_t + B_t + C_t$$ t = 1, 2,...,5

3. $$AAR_t = AR_t$$ t = 1

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 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 relating to approved demand management incentive scheme amounts from year t-2.[36]

B_t is the sum of annual adjustment factors for year t and includes the true-up for any under or over recovery of actual revenue collected through DUoS charges calculated using the following method:

$$DUoS\ Under\ and\ Overs\ True - Up_t = -(Opening\ Balance_t)(1 + WACC_t)^{0.5}$$

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35 All parameters are in nominal terms unless otherwise specified.

36 If the DMIS was not in force or no incentives were accrued in year t-2, this parameter will be taken to be 0. Our subsequent distribution determination for Power and Water will include a final carryover from the demand management innovation allowance mechanism (Mechanism). The Mechanism will result in a lump-sum carryover from the 2019-24 regulatory control period being deducted from/added to the allowed revenue in the second regulatory year of the subsequent regulatory control period.

where:

$DUoS\ Under\ and\ Overs\ True-Up_t$ is the true-up for the balance of the DUoS unders and overs account in year t.

$Opening\ Balance_t$ is the opening balance of the DUoS unders and overs account in year t as calculated by the method in Appendix A.

$WACC_t$ is the approved weighted average cost of capital used in regulatory year t in the DUoS unders and overs account in Appendix A.

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[37] 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 2020–21, year t–2 is the December quarter 2018 and year t–1 is the December quarter 2019.

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 in accordance with the formula specified in attachment 3—rate of return—calculated for the relevant year.

Side constraints

Figure 13.2 sets out the side constraints formula. For each regulatory year after the first year of a regulatory control period, side constraints apply to the weighted average revenue raised from each tariff class. In accordance with the NER, the permissible percentage increase is the greater of CPI–X plus 2 per cent or CPI plus 2 per cent.[38]

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[37] If the ABS does not or ceases to publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

[38] NER, cl. 6.18.6(c).

Recovery of certain revenues, such as those to accommodate pass throughs, is disregarded in deciding whether the permissible percentage has been exceeded.[39]

Figure 13.2 Side constraints formula[40]

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

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[41] 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 2020–21, year t–2 is the December quarter 2018 and year t–1 is the December quarter 2019.

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 in accordance with the formula specified in attachment 3—rate of return—calculated for the relevant year. If X>0, then X will be set equal to zero for the purposes of the side constraint formula.

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39 NER, cl. 6.18.6(d).

40 All parameters are in nominal terms unless otherwise specified.

41 If the ABS does not or ceases to publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

$B_t^{'}$ is the percentage change from the sum of annual adjustment factors for year t and includes the true-up for any under or over recovery of actual revenue collected through DUoS charges calculated using the method in Figure 13.1.

$C_t^{'}$ is the annual percentage change from the sum of approved cost pass through amounts (positive or negative) with respect to regulatory year t, as determined by the AER.

With the exception of the CPI and X factor, 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–1 (based on the prices in year t–1 multiplied by the forecast quantities for year t).

13.5 Draft decision for alternative control services

In our final Framework and Approach we set out our decision to apply price caps to alternative control services. This was accepted by Power and Water and so price caps have been maintained in our draft decision. Unlike standard control services, the definitions of the price cap formulas were already set out in the final Framework and Approach and so have not been varied.[42]

13.5.1 New services introduced during the regulatory control period

A further consideration relates to the treatment of new services that might be offered by Power and Water within the regulatory control period. Where such services were not identified at the time of our determination but for which the service clearly falls within one of the established service groupings, we propose that a quoted price approach be adopted based on a similar service within that same service grouping.

For example, the price for a new type of meter installation would be set based on the same approach as a similar meter installation service. This approach would give Power and Water additional flexibility to introduce new services while offering consumers the protections associated with price regulation. If there was no other similar service, the new service would be unregulated and may therefore be subject to ring-fencing restrictions that affect use of the Power and Water's brand as well as sharing of staff and offices in offering the new services.

Application for the introduction of a new ACS service, within the regulatory control period, is to be made at the time of the annual price submission. The application should provide a detailed description of the service to be introduced along with a plan for how the new service will be charged.

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[42] AER, *Framework and approach for Power and Water Corporation (NT) Regulatory control period commencing 1 July 2019*, July 2017, pp. 42–43.

13.5.2 Form of control for alternative control services

Figure 13.3 Price cap formulas to be applied to Power and Water's type 1–6 metering and ancillary fee based services

$$\overline{p}_t^i \geq p_t^i \qquad \text{i=1,...,n and t=1, 2,…,5}$$

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

Where:

$\overline{p}_t^i$ is the cap on the price of service i in year t. For the first year of the regulatory control period, the cap on the price of service i will be as per the schedule of approved charges set out in Attachment 15.

p_t^i is the price of service i in year t.

$\overline{p}_{t-1}^i$ 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[43] 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 2020–21, year t–2 is the December quarter 2018 and year t–1 is the December quarter 2019.

X_t^i is the X factor for service i in year t. The value of this factor is as specified in Attachment 15 – Alternative Control Services.

A_t^i is the sum of any adjustments for service i in year t. Likely to include, but not limited to adjustments for any approved cost pass through amounts.

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[43] If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

Figure 13.4 Price cap formula to be applied to Power and Water's ancillary quoted services

$$Price = Labour + Contractor\ Services + Materials$$

Where:

$Labour$ consists of all labour costs directly incurred in the provision of the service which may include labour on-costs, fleet on-costs and overheads. Labour is escalated annually by $(1 + \Delta CPI_t)(1 - X_t^i)$ where:

ΔCPI_t is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities[44] 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 2020–21, year t–2 is the December quarter 2018 and year t–1 is the December quarter 2019.

X_t^i is the X factor for service i in year t. The value of this factor is as specified in Attachment 15 – Alternative Control Services.

$Contractor\ Services$ reflect all costs associated with the use of external labour including overheads and any direct costs incurred. The contracted services charge applies the rates under existing contractual arrangements. Direct costs incurred are passed on to the customer.

$Materials$ reflect the cost of materials directly incurred in the provision of the service, material storage and logistics on-costs and overheads.

[44] If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

A DUoS unders and overs account

To demonstrate compliance with the distribution determination applicable to it during the 2019–24 regulatory control period, Power and Water must maintain a DUoS unders and overs account in its annual pricing proposal.[45]

Power and Water must provide the amounts for the following entries in its DUoS unders and overs account for the most recently completed regulatory year (t–2), the current regulatory year (t–1) and the next regulatory year (t):[46]

1. An opening balance for year t–2, year t–1 and year t.
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 respective nominal weighted average cost of capital (WACC) for each intervening year between regulatory year t–2 and year t.[47] The WACC applied for each year will be that approved by the AER for the relevant year.
3. The amount of revenue recovered from DUoS charges in respect of that year, less the total annual revenue for the year in question.
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 WACC.
5. The total sum of items 1–4 to derive the closing balance for each year.

Power and Water must provide details of calculations in the format set out in Table 13.4. Amounts provided for the most recently completed regulatory year (t–2) must be audited. Amounts provided for the current regulatory year (t–1) will be regarded as an estimate. Amounts for the next regulatory year (t) will be regarded as a forecast.

In proposing variations to the amount and structure of DUoS charges, Power and Water is expected to achieve a closing balance as close to zero as practicable in its DUoS unders and overs account in each forecast year in its annual pricing proposals during the 2019–24 regulatory control period.

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45 NER, cl. 6.18.2(b)(7).

46 In exceptional circumstances, the DUoS unders and overs account can accommodate additional years—such as year t–3. If available, amounts provided for additional years must be audited.

47 The WACC for each year will be that approved by the AER for the respective year and as calculated as set out in Figure 13.1.

Table 13.4 Example calculation of DUoS unders and overs account ($'000, nominal)

	Year t–2 (actual)	Year t–1 (estimate)	Year t (forecast)
(A) Revenue from DUoS charges	**45 779**	**40 269**	**39 510**
(B) Less TAR for regulatory year =	**43 039**	**41 427**	**44 429**
+ Adjusted annual smoothed revenues (AAR_t)[a]	40 189	41 393	44 393
+ DMIS adjustments (I_t)	1026	34	36
+ Annual adjustments (B_t)[b]	0	0	0
+ Cost pass through amount (C_t)	1824	0	0
(C) Revenue deliberately under-recovered in year	**1000**	**0**	**0**
(A minus B plus C) Under/over recovery of revenue for regulatory year	**3740**	**–1158**	**–4919**[c]
DUoS unders and overs account			
Nominal WACC (per cent)	5.00%	5.50%	6.00%
Opening balance	1737	5656[d]	4778
Interest on opening balance	87	311	287
Under/over recovery of revenue for regulatory year	3740	–1158	–4919
Interest on under/over recovery for regulatory year	92	–31	–145
Closing balance	**5656**	**4778**	**0**[e]

Notes: (a) For years in the current regulatory control period, Power and Water revenue's allowance for the purposes of the unders and overs account should be as per the NT Ministerial Direction.

(b) Bt parameter calculations in the DUoS unders and overs account exclude the true-up for DUoS revenue under/over recovery for regulatory year and are therefore expected to be 0.

(c) Approved DUoS revenue under/over recovery for regulatory year t.

(d) Opening balance is the previous year's closing balance.

(e) Power and Water is expected to achieve a closing balance as close to zero as practicable in its DUoS unders and overs account in each forecast year in its annual pricing proposals in the 2019–24 regulatory control period.

B Designated pricing proposal charges[48] unders and overs account

To demonstrate compliance with the distribution determination applicable to it during the 2019–24 regulatory control period, Power and Water must maintain a designated pricing proposal charges unders and overs account in its annual pricing proposal.[49]

Power and Water must provide the amounts for the following entries in its designated pricing proposal charges unders and overs account for the most recently completed regulatory year (t–2), the current regulatory year (t–1) and the next regulatory year (t):[50]

1. An opening balance for year t–2, year t–1 and year t;
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 respective nominal weighted average cost of capital (WACC) for each intervening year between regulatory year t–2 and year t.51 The WACC applied for each year will be that approved by the AER for the relevant year;
3. The amount of revenue recovered from designated pricing proposal charges in respect of that year, less the total annual revenue for the year in question;
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 WACC;
5. The total sum of items 1–4 to derive the closing balance for each year.

Power and Water must provide details of calculations in the format set out in table 13.5. Amounts provided for the most recently completed regulatory year (t–2) must be audited. Amounts provided for the current regulatory year (t–1) will be regarded as an estimate. Amounts for the next regulatory year (t) will be regarded as a forecast.

In proposing variations to the amount and structure of designated pricing proposal charges, Power and Water is expected to achieve a closing balance as close to zero as practicable in its designated pricing proposal charges unders and overs account in each forecast year in its annual pricing proposals during the 2019–24 regulatory control period.

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[48] Designated pricing proposal charges are charges related to: designated pricing proposal services (prescribed exit fees, prescribed common transmission services and prescribed transmission use of system services); avoided customer transmission use of system charges; charges provided by another distributor (but only to the extent they comprise of designated pricing proposal services or standard control services); and charges or payments related specified in NER clause 11.39.

[49] NER, cll. 6.18.2(b)(6), 6.12.1(19), 6.18.7.

[50] In exceptional circumstances, the designated pricing proposal charges unders and overs account can accommodate additional years—such as year t–3. If available, amounts provided for additional years must be audited.

[51] The WACC for each year will be that approved by the AER for the respective year and as calculated as set out in Figure 13.1.

Table 13.5 Example calculation of designated pricing proposal changes unders and overs account ($'000, nominal)

	Year t–2 (actual)	Year t–1 (estimate)	Year t (forecast)
(A) Revenue from designated pricing proposal charges (DPPC)	**40 077**	**34 944**	**36 609**
(B) Less DPPC related payments for regulatory year =	**34 365**	**38 734**	**39 200**
+ DPPC charges to be paid to TNSP	33 672	37 933	38 000
+ Avoided TUoS & DPPC payments	693	801	1200
(A minus B) Under/over recovery of revenue for regulatory year	**5712**	**–3790**	**–2540**[a]
DPPC unders and overs account			
Nominal WACC (per cent)	5.00%	5.50%	6.00%
Opening balance	167	6028[b]	2467
Interest on opening balance	8	332	148
Under/over recovery of revenue for regulatory year	5712	–3790	–2540[a]
Interest on under/over recovery for regulatory year	141	–103	–75
Closing balance	**6028**	**2467**	**0**[c]

Notes: (a) Approved DPPC revenue under/over recovery for regulatory year t.

(b) Opening balance is the previous year's closing balance.

(c) Power and Water is expected to achieve a closing balance as close to zero as practicable in its DPPC unders and overs account in each forecast year in its annual pricing proposals in the 2019–24 regulatory control period.

C Jurisdictional scheme amounts[52] unders and overs account

To demonstrate compliance with the distribution determination applicable to it during the 2019–24 regulatory control period, Power and Water must maintain a jurisdictional scheme amounts unders and overs account in its annual pricing proposal.[53]

Power and Water must provide the amounts for the following entries in its jurisdictional scheme amounts unders and overs account for the most recently completed regulatory year (t–2), the current regulatory year (t–1) and the next regulatory year (t):[54]

1. An opening balance for year t–2, year t–1 and year t;
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 respective nominal weighted average cost of capital (WACC) for each intervening year between regulatory year t–2 and year t.[55] The WACC applied for each year will be that approved by the AER for the relevant year;
3. The amount of revenue recovered from jurisdictional scheme amounts charges in respect of that year, less the total annual revenue for the year in question;
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 WACC;
5. The total sum of items 1–4 to derive the closing balance for each year.

Power and Water must provide details of calculations in the format set out in Table 13.6. Amounts provided for the most recently completed regulatory year (t–2) must be audited. Amounts provided for the current regulatory year (t–1) will be regarded as an estimate. Amounts for the next regulatory year (t) will be regarded as a forecast.

In proposing variations to the amount and structure of jurisdictional scheme charges, Power and Water is expected to achieve a closing balance as close to zero as practicable in its jurisdictional scheme amounts unders and overs account in each forecast year in its annual pricing proposal during the 2019–24 regulatory control period.

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[52] Jurisdictional scheme amounts, are amounts a distributor is required under a jurisdictional scheme obligation as defined by the NER to: pay a person; pay into a fund established under an Act of a participating jurisdiction; credit against charges payable by a person; or reimburse a person, less any amounts recovered by the distributor from any person in respect of those amounts other than under the NER.

[53] NER, cll. 6.12.1(20), 6.18.2(b)(6A), 6.18.7(A)(b) and (c).

[54] In exceptional circumstances, the jurisdictional scheme amounts unders and overs account can accommodate additional years—such as year t–3. If available, amounts provided for additional years must be audited.

[55] The WACC for each year will be that approved by the AER for the respective year and as calculated as set out in Figure 13.1.

Table 13.6 Example calculation of jurisdictional scheme amounts unders and overs account ($'000, nominal)

	Year t–2 (actual)	Year t–1 (estimate)	Year t (forecast)
(A) Revenue from jurisdictional schemes	**19 777**	**23 121**	**26 965**
(B) Less jurisdictional scheme payments for regulatory year =	**20 272**	**20 959**	**28 641**
+ Jurisdictional scheme 1 payments	14 159	13 954	13 961
+ Jurisdictional scheme 2 payments	6113	7005	14 680
(A minus B) Under/over recovery of revenue for regulatory year	**–495**	**2162**	**–1676**[a]
Jurisdictional scheme amount unders and overs account			
Nominal WACC (per cent)	5.00%	5.50%	6.00%
Opening balance	–52	–562[b]	1628
Interest on opening balance	–3	–31	98
Under/over recovery of revenue for regulatory year	–495	2162	–1676[a]
Interest on under/over recovery for regulatory year	–12	59	–50
Closing balance	**–562**	**1628**	**0**[c]

Notes: (a) Approved jurisdictional scheme amounts revenue under/over recovery for regulatory year t.

(b) Opening balance is the previous year's closing balance.

(c) Power and Water is expected to achieve a closing balance as close to zero as practicable in its jurisdictional scheme amount unders and overs account in each forecast year in its annual pricing proposals in the 2019–24 regulatory control period.

D Rounding of inputs in annual pricing proposals

The following sets out our draft decision on how Power and Water must use calculation inputs, whether on a rounded or unrounded basis, in the annual pricing approval process.

'Unrounded', for this purpose, will be taken to mean at least fifteen digit floating point precision (the level of accuracy at which numbers will be stored in Microsoft Excel workbooks of .XLS, .XLSX, .XLSM or .XLSB). This definition accepts that numbers with fewer than fifteen floating digits may not require fifteen digits to express (such as 2.25 being equivalent to 2.25000000000000) but will meet the definition of fifteen digit floating point precision.

Rounding in calculations must be done on a 'nearest' basis. So rounding to two decimal places means rounding to the nearest two decimal places, not rounding up automatically or down automatically. This accepts the convention that if a number falls precisely between two points, it can be rounded up (e.g. 2.245 can be rounded to 2.25 rather than 2.24).

Unrounded inputs should be taken from approved Excel models where appropriate. X factors should be unrounded inputs taken from the approved model. Where necessary, inputs should be calculated as an alternative to using a rounded value. For example, inflation should be used as calculated based around the CPI tables as provided by the Australian Bureau of Statistics, or the AER's nominated best available substitute should this index cease to be calculated. The result of this calculation should be taken as is, not rounded before use. Table 13.7 sets out the required level of precision for an inflation calculation.

Table 13.7 Demonstration of inflation calculation

	Required Precision
The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in regulatory year t–2 (example)	112.1
The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the December quarter in regulatory year t–1 (example)	114.6
ΔCPI_t	2.23015165031222%

When applying a price cap, the value of $\overline{p}_t^i$ should be rounded to the nearest two decimal places each year.

Table 13.8 Demonstration of price cap calculation (with rounding)

	Required Precision
$\bar{p}_{t-1}^{i}$	$23.28
x-factor (example: should be taken from model)	-7.125%
ΔCPI_t	2.23015165031222%
$\bar{p}_t^i$ (unrounded)	$25.4948708296164
$\bar{p}_t^i$ (rounded)	$25.49

Prices p_t^i can be rounded to as few or as many decimal places as required, subject to being less than or equal the two decimal place value of $\bar{p}_t^i$. In the above table, this would mean a price of $25.49 would be acceptable, as would a price of $25.4899. However, a price of $25.494 would not be compliant.

For avoidance of ambiguity, where a price is expressible as a rate for a period of time, rounding of the price cap will apply to the largest relevant time period. So an hourly, service will be capped on an hourly basis. However, a service which can be priced either on a daily rate or an annual rate will have rounding apply to the cap on the annual rate. The daily rate should then represent the annual rate divided by 365, or 366 should the regulatory year to which the price applies include 29 February 2020. This daily rate may be expressed on a rounded basis (with discretion from Power and Water on the appropriate level of decimal places to apply) but must be based on a rounding to the nearest decimal place.

The factors of the revenue cap formula, as per Figure 13.1 adjusted annual smoothed revenue requirement, sum of incentive scheme adjustments, sum of annual adjustment factors and sum of approved cost pass through amounts should be rounded to no fewer than two decimal places. Prices, quantities, X factors and CPI must be used unrounded in the revenue cap formula.

Unrounded inputs include all those not specified above as being rounded.