FINAL DECISION
Ausgrid
Distribution Determination

2019 to 2024

Attachment 13
Control mechanisms

March 2021

AUSTRALIAN ENERGY REGULATOR

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Amendment record

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Published	April 2019	
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Note

This attachment forms part of the AER's final decision on the distribution determination that will apply to Ausgrid for the 2019–2024 regulatory control period. It should be read with all other parts of the final decision.

As a number of issues were settled at the draft decision stage or required only minor updates, we have not prepared all attachments. The attachments have been numbered consistently with the equivalent attachments to our longer draft decision. In these circumstances, our draft decision reasons form part of this final decision.

The final decision includes the following attachments:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 7 – Corporate income tax

Attachment 9 – Capital expenditure sharing scheme

Attachment 10 – Service target performance incentive scheme

Attachment 12 – Classification of services

Attachment 13 – Control mechanisms

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Attachment 18 – Tariff structure statement

Attachment A – Negotiating framework

Attachment B – Pricing methodology

Contents

Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
CPI	consumer price index
distributor	distribution network service provider
DMIA	demand management innovation allowance
DMIS	demand management incentive scheme
DPPC	designated pricing proposal charges
DUoS	distribution use of system
F&A	framework and approach
NER	National Electricity Rules
NSP	network service provider
opex	operating expenditure
PTRM	post-tax revenue model
RAB	regulatory asset base
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.

Ausgrid accepted our draft decision on control mechanism formulas. However, we have identified amendments to be applied to our control mechanism formulas. Specifically, this attachment sets out our final decision on the control mechanism formulas to apply to Ausgrid, including:

- Changes to the side constraint formula to include adjustments for incentive schemes (as identified by Endeavour Energy in its revised proposal).[1] We consider that this amendment is also appropriate for Ausgrid.[2]
- A true-up variable (as identified by Evoenergy in its revised proposal) to correct the impact of our remade decisions for the NSW and ACT distributors in the current regulatory control period, which will take effect in 2020–21.[3] We consider that this amendment is also appropriate for Ausgrid.[4]

13.1 Final decision

Our final decision is the same as our draft decision, except that we have also decided to:

- include variables representing incentive schemes in the side constraint formula
- include a RVt variable in relevant formulae to true-up revenue forecasts for 2018–19.

13.2 Assessment approach

Our assessment approach is unchanged from the description set out in our draft decision.

13.3 Reasons for final decision for standard control services

True–up of actual and forecast volume differences

In its revised proposal, Evoenergy noted that our draft decision did not incorporate formula variables to account for the differences between forecast revenue and actual revenue for the final year of the current regulatory period. We agree with Evoenergy's

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1 Endeavour Energy, *Revised regulatory proposal 01 July 2019 – 30 June 2024*, January 2019, p. 28.
2 NER, cl. 6.2.5(c)(4).
3 Evoenergy, *Revised regulatory proposal 2019–24*, November 2018, pp. 87–90.
4 NER, cl. 6.2.5(c)(4).

proposal of an additional RVt variable, to be applied to the revenue cap formula, which would allow for a true-up of the 2018–19 revenue forecasts in the 2020–21 regulatory year. For all other regulatory years, RVt would take a value of zero. Figure 13.1 sets out the revised revenue cap formula.

Figure 13.1 Revenue cap formula[5]

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

3. $$AAR_t = AR_t \times (1 + S_t)$$ t = 1

4. $$AAR_t = AAR_{t-1} \times (1 + \Delta CPI_t) \times (1 - X_t) \times (1 + S_t)$$ t = 2

5. $$AAR_t = AAR_{t-1} \times (1 + \Delta CPI_t) \times (1 - X_t) \div (1 + S_{t-1}) \div (1 + S_{t-2})$$ t = 3

6. $$AAR_t = AAR_{t-1} \times (1 + \Delta CPI_t) \times (1 - X_t)$$ t = 4, 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 payments relating to:

- the STPIS version 2.0[67] (applicable from year t = 3 onwards (2021/22, 2022/23 and 2023/24)); and

[5] All parameters are in nominal terms unless otherwise specified.

- the demand management incentive scheme and innovation allowance adjustments in year t relating to:
    - the final carryover amount from the application of the old demand management innovation allowance (DMIA) from the 2014–19 distribution determination. This amount will be deducted from/added to allowed revenue in the 2020–21 pricing proposal.[8]
    - approved demand management incentive scheme amounts from year t-2.

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:

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

where:

$DUoS\ Unders\ and\ Overs\ True-Up_t$ 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 as set out 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 the 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.

RV_t is the variance between the actual and forecast revenue for the 2018–19 regulatory year, to reflect that amount that should be included in the 2019–24

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6 The service target performance incentive scheme (STPIS) version 2.0 applies for the 2019-24 regulatory control period. The first payments relating to STPIS version 2.0 will occur in 2021/22. See *AER, Electricity distribution network Service Providers - Service target performance incentive scheme (Version 2.0)*, November 2018.

7 The STPIS 2.0 guideline uses the annual smoothed revenue AR(t-2) in the calculation of the s-factor, however AR is only applicable to revenue in the first year of the regulatory control period when revenue is sourced from the PTRM. Ar(t-2) will apply to the s-factor calculations in year t=3, as this refers to the first year revenue. In other years where STPIS 2.0 applies (in this regulatory control period, years t=4 and 5), AAR(t-2) will be used to ensure the correct revenue is used, inclusive of actual CPI movements, and with any previous year s-factors backed out.

8 Rather than including a final carryover from the old DMIA, our subsequent distribution determination for Ausgrid will include a final carryover from the new demand management innovation allowance mechanism (Mechanism). Like the old DMIA, the new Mechanism will enter the control mechanism for a regulatory control period as a lump-sum carryover from the previous regulatory control period that will be deducted from/added to allowed revenue in the second regulatory year.

regulatory control period through the remittal process, but was not known at the time of the final decision. This applies only to the 2020–21 regulatory year, and in all other years will have a value of zero.

ΔCPI_t is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities[9] 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 rate of return instrument,[10] applied for the relevant year.

S_t is the s-factor for regulatory year t relating to payments for the application of the STPIS version 1.2 in the 2014–19 regulatory control period.[11] This s-factor will only apply in years t = 1 and 2, with new STPIS version 2.0 providing for a change in the application of STPIS payments from year t = 3 onwards.[12] In year t=3, the adjusted smoothed revenue will be calculated including the backing out of previous year s-factors. This will revert the revenue path to a CPI-X format, and ensure that rewards or penalties related to STPIS in previous years are not carried forward in allowed revenue.

Prescribed (transmission) services

Ausgrid must demonstrate that revenues for its prescribed (transmission) services are consistent with the MAR formula in Figure 13.2, now inclusive of the RVt variable.

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

10 AER, *2018 Rate of Return Instrument*, December 2018.

11 The meaning for year "t" under this formula is different to that in Appendix C of STPIS. Year "t+1" in Appendix C of STPIS version 1.2 is equivalent to year "t" in this formula.

12 AER, *Electricity distribution network Service Providers – service target performance incentive scheme*, 1 November 2009.

Figure 13.2 Revenue cap compliance formula

$$MAR_t = AR_t \pm PT_t \pm RV_t$$

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

13.4 Reasons for final decision for side constraints

In its revised proposal, Endeavour Energy noted that the side constraint formula does not include the S factor or I factor adjustments that represent incentive schemes. Endeavour Energy proposed that the side constraint formula be updated to include adjustments for these factors relating to incentive schemes as calculated in the revenue cap control mechanism.[13]

We agree with Endeavour Energy's proposal to include these adjustments in the side constraint formula. These adjustments reflect the NER.[14] Figure 13.3 sets out the revised side constraints formula.

Figure 13.3 Side Constraint formula[15]

For year t = 1, 2

$$\frac{\left(\sum_{i=1}^{n}\sum_{j=1}^{m} p_t^{ij} q_t^{ij}\right)}{\left(\sum_{i=1}^{n}\sum_{j=1}^{m} p_{t-1}^{ij} q_t^{ij}\right)} \leq (1 + \Delta CPI_t) \times (1 - X_t) \times (1 + 2\%) \times (1 + S_t) + I_t' + B_t' + C_t'$$

For year t=3:

$$\frac{\left(\sum_{i=1}^{n}\sum_{j=1}^{m} p_t^{ij} q_t^{ij}\right)}{\left(\sum_{i=1}^{n}\sum_{j=1}^{m} p_{t-1}^{ij} q_t^{ij}\right)} \leq (1 + \Delta CPI_t) \times (1 - X_t) \times (1 + 2\%) \div (1 + S_{t-1}) \div (1 + S_{t-2}) + I_t' + B_t' + C_t'$$

For years t = 4, 5:

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13 Endeavour Energy, *Revised regulatory proposal 01 July 2019 – 30 June 2024*, January 2019, p. 28.

14 NER, cl. 6.18.6(d)(1).

15 All parameters are in nominal terms unless otherwise specified.

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

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

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

p_{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[16] 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 rate of return instrument,[17] applied for the relevant year. If X>0, then X will be set equal to zero for the purposes of the side constraint formula.

S_t is the s-factor for regulatory year t relating to payments for the application of the STPIS version 1.2 in the 2014–19 regulatory control period.[18] This s-factor will only

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

[17] AER, *2018 Rate of Return Instrument*, December 2018.

[18] The meaning for year "t" under this formula is different to that in Appendix C of STPIS. Year "t+1" in Appendix C of STPIS version 1.2 is equivalent to year "t" in this formula.

apply in years t = 1 and 2, with new STPIS version 2.0 providing for a change in the application of STPIS payments from year t = 3 onwards.[19] In the side constraints for year t=3, the permissible percentage will be calculated including the backing out of previous year s-factors, to reflect the same adjustments made to the adjusted smoothed revenue in that year.

I_t' is the annual percentage change from the sum of payments relating to:

- the STPIS version 2.0[20] (applicable from year t = 3 onwards (2021/22, 2022/23 and 2023/24))[21]; and
- the demand management incentive scheme and innovation allowance adjustments in year t relating to:
    - the final carryover amount from the application of the old demand management innovation allowance (DMIA) from the 2014–19 distribution determination. This amount will be deducted from/added to allowed revenue in the 2020–21 pricing proposal.[22]
    - approved demand management incentive scheme amounts from year t-2.

B_t' is the annual 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 under the revenue cap formula.

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, X factor, and S factor, the percentage for each of the other factors can be calculated by dividing the incremental revenues (as used in the total annual revenue formula) for each factor by the expected revenues for the regulatory year t-1 (based on the prices in year t-1 multiplied by the forecast quantities for year t).

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19 AER, *Electricity distribution network Service Providers – service target performance incentive scheme*, 1 November 2009.

20 The service target performance incentive scheme (STPIS) version 2.0 applies for the 2019-24 regulatory control period. The first payments relating to STPIS version 2.0 will occur in 2021/22. See *AER, Electricity distribution network Service Providers - Service target performance incentive scheme (Version 2.0)*, November 2018.

21 In year t=3, the change in the STPIS component of the I factor is expected to be a movement from 0 (representing its absence from the I factor in the previous year) to the new monetary s-factor for year t=3.

22 Rather than including a final carryover from the old DMIA, our subsequent distribution determination for Ausgrid will include a final carryover from the new demand management innovation allowance mechanism (Mechanism). Like the old DMIA, the new Mechanism will enter the control mechanism for a regulatory control period as a lump-sum carryover from the previous regulatory control period that will be deducted from/added to allowed revenue in the second regulatory year.

13.5 Alternative control services

13.5.1 Form of control for alternative control services

Figure 13.1 Price cap formula to apply to Ausgrid's legacy metering, public lighting and ancillary services (fee based)

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

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

Where:

$\overline{p}_t^i$ is the cap on the price of service '' in year t.

p_t^i is 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.

$\overline{p}_{t-1}^i$ 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[23] 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.

[23] 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_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 (positive or negative) with respect to regulatory year t, as determined by the AER.

Quoted services

Figure 13.2 Price cap formula to apply to Ausgrid's 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[24] 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.

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[24] 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.

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

A DUoS unders and overs account

To demonstrate compliance with the distribution determination applicable to it during the 2019–24 regulatory control period, Ausgrid must maintain a DUoS unders and overs account in its annual pricing proposal.[25]

Ausgrid 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):[26]

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. 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.

Ausgrid must provide details of calculations in the format set out in Table 13.1. 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, Ausgrid 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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[25] NER, cl. 6.18.2(b)(7).

[26] 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.

Table 13.1 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 [a] =	**43 039**	**41 427**	**44 429**
+ Adjusted annual smoothed revenues (AAR_t)	40 189	41 393	44 393
+ STPIS version 2.0 amounts (applicable from year t = 3 onwards) + DMIS carryover amount and demand management incentive scheme amounts (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 2014–19 regulatory control period, Ausgrid's total allowable revenue for the purpose of the unders and overs account is to be understood to constitute the allowed revenue resulting from the AER's remade final decision for the 2014–19 regulatory control period. An exception to this is to occur if Ausgrid should recover below the allowed revenue, resulting from the remade decision, during the 2014–19 regulatory control period. In this event, Ausgrid's total allowable revenue for the purposes of the unders and overs account is to be taken to be the same as Revenue from DUoS charges in item (A) (adjusted as necessary for item (C) Revenue deliberately under-recovered in year, as necessary). By result, Ausgrid would have an under/over recovery of zero in aggregate for the 2014–19 regulatory control period.

(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) Ausgrid 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. This requirement does not apply during the 2014–19 regulatory control period following the remittal decision.

B Designated pricing proposal charges[27] unders and overs account

To demonstrate compliance with the distribution determination applicable to it during the 2019–24 regulatory control period, Ausgrid must maintain a designated pricing proposal charges unders and overs account in its annual pricing proposal.[28]

Ausgrid 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):[29]

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. 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.

Ausgrid must provide details of calculations in the format set out in Table 13.2. 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, Ausgrid 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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[27] 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.

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

[29] 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.

Table 13.2 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) Ausgrid 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[30] unders and overs account

To demonstrate compliance with the distribution determination applicable to it during the 2019–24 regulatory control period, Ausgrid must maintain a jurisdictional scheme amounts unders and overs account in its annual pricing proposal.[31]

Ausgrid 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):[32]

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. 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.

Ausgrid must provide details of calculations in the format set out in Table 13.3. 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, Ausgrid 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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30 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.

31 NER, cll. 6.12.1(20), 6.18.2(b)(6A), 6.18.7(A)(b) and (c).

32 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.

Table 13.3 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) Ausgrid 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 final determination around the requirement of how Ausgrid 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 13.4 demonstrates the required level of precision for an inflation calculation.

Table 13.4 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 13.5 Demonstration of price cap calculation (with rounding)

	Required Precision
$\overline{p}_{t-1}^{i}$	$23.28
X factor (example: should be taken from model)	-7.125%
ΔCPI_t	2.23015165031222%
$\overline{p}_t^i$ (unrounded)	$25.4948708296164
$\overline{p}_t^i$ (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 $\overline{p}_t^i$. 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 Ausgrid 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.