

# Indicative standard control services control mechanism formula and related information

## For use by Energex, Ergon Energy and SA Power Networks in preparing 2020–21 pricing proposals

This note includes the following indicative information to be used by Energex, Ergon Energy and SA Power Networks in preparing their indicative 2020–21 annual pricing proposals:

- Revenue cap formula for standard control services
- DUoS unders and overs account information in Appendix A
- Designated pricing proposal charges unders and overs account information in Appendix B
- Jurisdictional scheme amount unders and overs account information in Appendix C
- Information on the rounding of inputs in annual pricing proposals in Appendix D.

### Revenue cap formula<sup>1</sup>

$$1. \quad TAR_t \geq \sum_{t=1}^n \sum_{j=1}^m p_t^{ij} q_t^{ij} \quad i = 1, \dots, n \text{ and } j = 1, \dots, m \text{ and } t = 1, 2, \dots, 5$$

$$2. \quad TAR_t \geq AAR_t + I_t + B_t + C_t \quad t = 1, 2, \dots, 5$$

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

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

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

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 the STPIS (from year  $t = 3$  onwards), demand management incentive scheme, and any other related incentive schemes<sup>2</sup> as they relate to year  $t-2$ , applied in year  $t$ .

<sup>1</sup> All parameters are in nominal terms unless otherwise specified.

<sup>2</sup> This does not reflect those incentive schemes that are calculated and applied through our regulatory determination, such as the capital expenditure sharing scheme (CESS) or efficiency benefit sharing scheme (EBSS).

$B_t$  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:

$$DUoS \text{ Under and Overs Trueup}_t = -(Opening \text{ Balance}_t)(1 + WACC_t)^{0.5}$$

where:

$DUoS \text{ Under and Overs Trueup}_t$

is the true-up for the balance of the DUoS unders and overs account in year t.

$Opening \text{ Balance}_t$

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. This WACC figure will be a nominal WACC figure that reflects actual inflation rather than forecast inflation. To calculate this nominal WACC, the real vanilla WACC from the annual update PTRM will be escalated for actual inflation.

$C_t$  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 regulatory year t.

$\Delta CPI_t$  is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities<sup>3</sup> 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 2020-25 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.

$S_t$  is the s-factor applicable to regulatory year t. This s-factor reflects performance in year t-2 against STPIS targets set in this decision. This factor will only apply in years t = 1 and 2, with new STPIS guidelines providing for a change in the application from year t = 3 onwards.

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<sup>3</sup> 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.

## Appendix A - DUoS unders and overs account

To demonstrate compliance with the distribution determination applicable to it during the 2020–25 regulatory control period, the network business must maintain a DUoS unders and overs account in its annual pricing proposal.<sup>4</sup>

The network business 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):<sup>5</sup>

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 WACC for each intervening year between regulatory year t–2 and year t. The WACC applied for each year will be the real vanilla WACC approved by the AER in the annual update, escalated for actual inflation 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 nominal WACC calculated as per step 2.
5. The total sum of items 1–4 to derive the closing balance for each year.

The network business must provide details of calculations in the format set out in Table 1. Amounts provided for the most recently completed regulatory year (t–2) must be audited.<sup>6</sup> 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, the network business 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 2020–25 regulatory control period.

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<sup>4</sup> NER, cl. 6.18.2(b)(7).

<sup>5</sup> 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 where they depart from the annual RIN.

<sup>6</sup> A reasonable assurance report sufficiently meets these auditing requirements. Where amounts provided match other audited submissions to the AER, further assurance is not required (e.g. RINs), and should be referenced.

**Table 1 Example calculation of DUoS unders and overs account (\$'000, nominal)**

	Year t-2 (actual)	Year t-1 (estimate)	Year t (forecast)
<b>(A) Revenue from DUoS charges</b>	<b>45 779</b>	<b>40 269</b>	<b>39 510</b>
<b>(B) Less TAR for regulatory year =</b>	<b>43 039</b>	<b>41 427</b>	<b>44 429</b>
+ Adjusted annual smoothed revenues (AAR <sub>t</sub> )	40 189	41 393	44 393
+ Incentive scheme amounts (I <sub>t</sub> ) <sup>a</sup>	1 026	34	36
+ Annual adjustments (B <sub>t</sub> ) <sup>b</sup>	0	0	0
+ Cost pass through amount (C <sub>t</sub> )	1 824	0	0
<b>(C) Revenue deliberately under-recovered in year</b>	<b>1 000</b>	<b>0</b>	<b>0</b>
<b>(A minus B plus C) Under/over recovery of revenue for regulatory year</b>	<b>3 740</b>	<b>-1 158</b>	<b>-4 919<sup>c</sup></b>
<b><i>DUoS unders and overs account</i></b>			
Nominal WACC (per cent)	5.00%	5.50%	6.00%
Opening balance	1 737	5 656 <sup>d</sup>	4 778
Interest on opening balance	87	311	287
Under/over recovery of revenue for regulatory year	3 740	-1 158	-4 919
Interest on under/over recovery for regulatory year	92	-31	-145
<b>Closing balance</b>	<b>5 656</b>	<b>4 778</b>	<b>0<sup>e</sup></b>

Notes: (a) Includes incentive schemes as set out in our determination with the exception of those schemes that are calculated and applied through our regulatory determination (e.g. CESS and EBSS).  
(b) B<sub>t</sub> 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) The network business 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 2020–25 regulatory control period.

## Appendix B - Designated pricing proposal charges<sup>7</sup> unders and overs account

To demonstrate compliance with the distribution determination applicable to it during the 2020–25 regulatory control period, the network business must maintain a designated pricing proposal charges unders and overs account in its annual pricing proposal.<sup>8</sup>

The network business 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):<sup>9</sup>

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 WACC for each intervening year between regulatory year t–2 and year t. The WACC applied for each year will be the real vanilla WACC approved by the AER in the annual update, escalated for actual inflation 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 nominal WACC calculated as per step 2.
5. The total sum of items 1–4 to derive the closing balance for each year.

The network business must provide details of calculations in the format set out in Table 2. Amounts provided for the most recently completed regulatory year (t–2) must be audited.<sup>10</sup> 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, the network business 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 2020–25 regulatory control period.<sup>11</sup>

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<sup>7</sup> 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.

<sup>8</sup> NER, cl. 6.18.2(b)(6), 6.12.1(19), 6.18.7.

<sup>9</sup> 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 where they depart from the annual RIN.

<sup>10</sup> A reasonable assurance report sufficiently meets these auditing requirements. Where amounts provided match other audited submissions to the AER, further assurance is not required (e.g. RINs), and should be referenced.

<sup>11</sup> The proposal must also comply with clause 6.18.7(b) of the NER.

**Table 2 Example calculation of designated pricing proposal charges unders and overs account (\$'000, nominal)**

	Year t-2 (actual)	Year t-1 (estimate)	Year t (forecast)
<b>(A) Revenue from designated pricing proposal charges (DPPC)</b>	<b>40 077</b>	<b>34 944</b>	<b>36 609</b>
<b>(B) Less DPPC related payments for regulatory year =</b>	<b>34 365</b>	<b>38 734</b>	<b>39 200</b>
+ DPPC to be paid to TNSP	33 672	37 933	38 000
+ Avoided TUoS/DPPC payments	572	734	800
+ Inter-distributor payments	121	67	400
<b>(A minus B) Under/over recovery of revenue for regulatory year</b>	<b>5 712</b>	<b>-3 790</b>	<b>-2 540<sup>a</sup></b>
<b><i>DPPC unders and overs account</i></b>			
Nominal WACC (per cent)	5.00%	5.50%	6.00%
Opening balance	167	6 028 <sup>b</sup>	2 467
Interest on opening balance	8	332	148
Under/over recovery of revenue for regulatory year	5 712	-3 790	-2 540 <sup>a</sup>
Interest on under/over recovery for regulatory year	141	-103	-75
<b>Closing balance</b>	<b>6 028</b>	<b>2 467</b>	<b>0<sup>c</sup></b>

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

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

(c) In addition to complying with clause 6.18.7(b) of the NER, the network business 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 2020–25 regulatory control period.

## Appendix C - Jurisdictional scheme amounts<sup>12</sup> unders and overs account

To demonstrate compliance with the distribution determination applicable to it during the 2020–25 regulatory control period, the network business must maintain a jurisdictional scheme amounts unders and overs account in its annual pricing proposal.<sup>13</sup>

The network business 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):<sup>14</sup>

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 WACC for each intervening year between regulatory year t–2 and year t. The WACC applied for each year will be the real vanilla WACC approved by the AER in the annual update, escalated for actual inflation 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 nominal WACC calculated as per step 2.
5. The total sum of items 1–4 to derive the closing balance for each year.

The network business must provide details of calculations in the format set out in Table 3. Amounts provided for the most recently completed regulatory year (t–2) must be audited.<sup>15</sup> 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.

Where the network business receives a government subsidy for jurisdictional schemes in lieu of recovering these amounts directly from jurisdictional scheme charges (or part thereof), it will be required to record the subsidy amount received as revenue. This will not impact the operation of the unders/overs account. Where the network business receives a full government subsidy for jurisdictional schemes it will not recover any amounts from customers in relation to those jurisdictional schemes.

In proposing variations to the amount and structure of jurisdictional scheme charges, the network business 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 2020–25 regulatory control period.<sup>16</sup>

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<sup>12</sup> 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.

<sup>13</sup> NER, cll. 6.12.1(20), 6.18.2(b)(6A), 6.18.7A(b) and (c).

<sup>14</sup> 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.

<sup>15</sup> A reasonable assurance report sufficiently meets these auditing requirements. Where amounts provided match other audited submissions to the AER, further assurance is not required (e.g. RINs), and should be referenced.

<sup>16</sup> The proposal must also comply with clause 6.18.7A(b) of the NER.

**Table 3 Example calculation of jurisdictional scheme amounts unders and overs account (\$'000, nominal)**

	Year t-2 (actual)	Year t-1 (estimate)	Year t (forecast)
<b>(A) Revenue from jurisdictional schemes</b>	<b>19 777</b>	<b>23 121</b>	<b>26 965</b>
<b>(B) Less jurisdictional scheme payments for regulatory year =</b>	<b>20 272</b>	<b>20 959</b>	<b>28 641</b>
+ Jurisdictional scheme 1 payments	14 159	13 954	13 961
+ Jurisdictional scheme 2 payments	6 113	7 005	14 680
<b>(A minus B) Under/over recovery of revenue for regulatory year</b>	<b>-495</b>	<b>2162</b>	<b>-1 676<sup>a</sup></b>
<b><i>Jurisdictional scheme amount unders and overs account</i></b>			
Nominal WACC (per cent)	5.00%	5.50%	6.00%
Opening balance	-52	-562 <sup>b</sup>	1 628
Interest on opening balance	-3	-31	98
Under/over recovery of revenue for regulatory year	-495	2 162	-1 676 <sup>a</sup>
Interest on under/over recovery for regulatory year	-12	59	-50
<b>Closing balance</b>	<b>-562</b>	<b>1 628</b>	<b>0<sup>c</sup></b>

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) In addition to complying with clause 6.18.7A(b) of the NER, the network business 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 2020–25 regulatory control period.



## Appendix D - Rounding of inputs in annual pricing proposals

The following sets out how the network business 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 2.250000000000000) 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).

Where a calculation produces an output which is to be used as an input in another calculation, rounding should not occur. Rounding should be applied to final outputs only, unless otherwise specified.

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 4 sets out the required level of precision for an inflation calculation.

**Table 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
$\Delta CPI_t$	2.23015165031222%

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

**Table 05 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%
$\Delta CPI_t$	2.23015165031222%
$\bar{P}_t^i$ (unrounded)	\$25.4938708296164
$\bar{P}_t^i$ (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 \$25.493 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 a leap year (e.g. 29 February 2024). This daily rate may be expressed on a rounded basis (with discretion from the network business 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, 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.