Draft Decision

Ausgrid distribution determination

2015–16 to 2018–19

Attachment 1: Annual revenue requirement

November 2014

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's draft decision on Ausgrid’s 2015–19 distribution determination. It should be read with other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Value of imputation credits

Attachment 5 – Regulatory depreciation

Attachment 6 – Capital expenditure

Attachment 7 – Operating expenditure

Attachment 8 – Corporate income tax

Attachment 9 – Efficiency benefit sharing scheme

Attachment 10 – Capital expenditure sharing scheme

Attachment 11 – Service target performance incentive scheme

Attachment 12 – Demand management incentive scheme

Attachment 13 – Classification of services

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Attachment 15 – Pass through events

Attachment 16 – Alternative control services

Attachment 17 – Negotiated services framework and criteria

Attachment 18 – Connection methodology

Attachment 19 – Pricing methodology

Contents

Shortened forms

Shortened form	Extended form
AARR	aggregate annual revenue requirement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ASRR	aggregate service revenue requirement
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
CPI-X	consumer price index minus X
DRP	debt risk premium
DMIA	demand management innovation allowance
DMIS	demand management incentive scheme
distributor	distribution network service provider
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
MRP	market risk premium

Shortened form	Extended form
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
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 pricing principles
SAIDI	system average interruption duration index
SAIFI	system average interruption frequency index
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
WACC	weighted average cost of capital

1 Annual revenue requirement

The annual revenue requirement (ARR) is the amount that Ausgrid can recover from the provision of standard control services for each year of the regulatory control period. It is the sum of the various building block costs for each year of that period before smoothing. The ARRs are smoothed across the period to reduce fluctuations between years and to determine expected revenues for each year. These expected revenues are the amounts that Ausgrid will target for annual pricing purposes. This attachment sets out our draft decision on Ausgrid's ARRs for the 2014–19 period and expected revenues for the 2015–19 regulatory control period.

1.1 Draft decision

We do not accept Ausgrid's proposed total revenue requirements[1] of $10763.2 million and $1448.7 million ($ nominal) over the 2014–19 period for its distribution and transmission networks respectively. For the reasons discussed in the attachments to this draft determination, our decisions on Ausgrid's proposed building block components costs have a consequential impact on its ARR.

We determine a total revenue requirement for the 2014–19 period, reflecting our draft decision on the various building block costs, of:

- $7801.7 million ($ nominal) for Ausgrid's distribution network. This is a reduction of $2961.5 million ($ nominal) or 28 per cent to Ausgrid's proposal.
- $1046.7 million ($ nominal) for Ausgrid's transmission network. This is a reduction of $402.0 million ($ nominal) or 28 per cent to Ausgrid's proposal.

To account for the placeholder revenues[2] ($1956.4 and $252.3 for Ausgrid's distribution and transmission networks respectively) for 2014–15 that we approved in our transitional determination, we have calculated the difference to be adjusted between the placeholder revenues and our ARRs ($1541.9 and $195.8 respectively) for 2014–15. Our draft decision is that these adjustments amount to $414.5 million and $56.5 million ($nominal) in relation to Ausgrid's distribution and transmission networks respectively. We have applied these adjustments as part of the smoothing process to establish the annual expected revenues for the 2015–19 regulatory control period.

As a result of our smoothing of the ARRs, our draft decision on the annual expected revenue and X factor (distribution and transmission networks) for each regulatory year of the 2015–19 regulatory control period is set out in Table 1.1 and Table 1.2. Our draft decision is to approve total expected revenues (smoothed) of $5779.5 million and $785.7 million ($ nominal) for the 2015–19 regulatory control period in relation to Ausgrid's distribution and transmission networks respectively.

Figure 1.1 and Figure 1.2 show the difference between Ausgrid's proposal and our draft decision for its distribution and transmission networks respectively.

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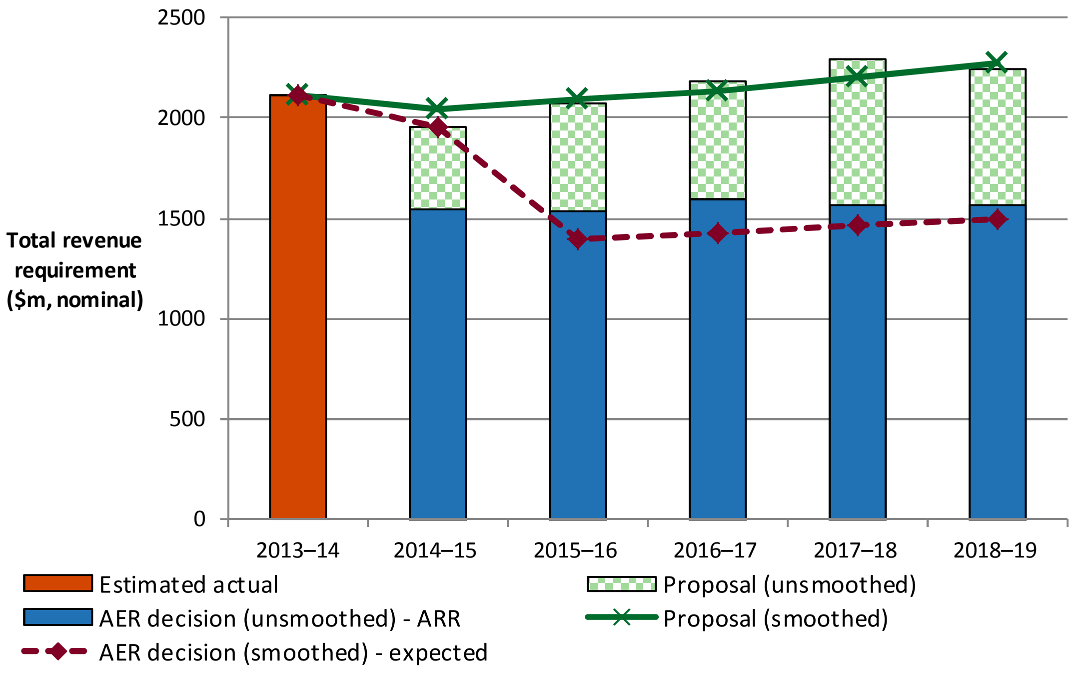
1 This is referred to in the transitional rules as a 'notional' revenue requirement. We have adopted the standard terminology in chapter 6 to avoid confusion, but it still gives effect to the transitional rules.

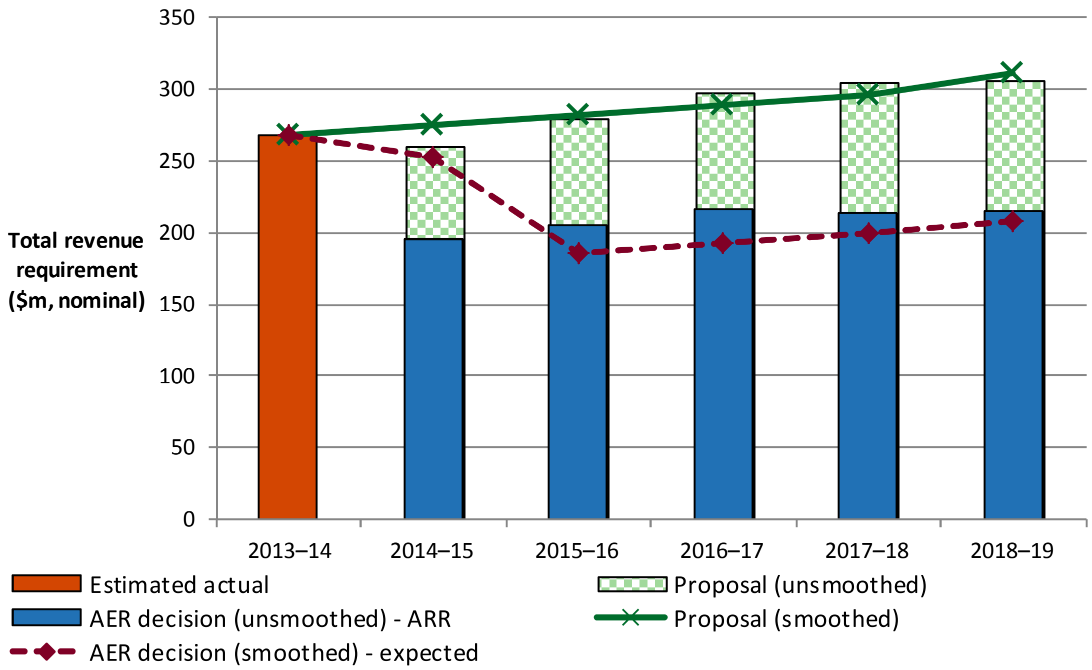
2 AER, *Ausgrid Endeavour Energy Essential Energy ActewAGL, Transitional distribution decision 2014–15*, April 2014, pp. 23-24.

Figure 1.1 AER's draft decision On Ausgrid's revenues for the 2014–19 period – distribution ($million, nominal)



Source: Ausgrid, *Regulatory proposal*, June 2014. Attachment 4.01.
AER analysis.

Figure 1.2 AER's draft decision on Ausgrid's revenues for the 2014–19 period – transmission ($million, nominal)



Source: Ausgrid, *Regulatory proposal*, June 2014. Attachment 4.02.
AER analysis.

Table 1.1 and Table 1.2 show our draft decision on the building block costs and the calculation of the ARR, annual expected revenue and X factor for each year of the 2014–19 period for Ausgrid's distribution and transmission networks respectively.

Table 1.1 AER's draft decision on Ausgrid's revenues for 2014–19 period – distribution ($million, nominal)

	2014–15	2015–16	2016–17	2017–18	2018–19	Total
Return on capital	875.5	901.2	925.3	945.2	968.5	4615.7
Regulatory depreciation	132.6	153.2	173.9	143.6	145.0	748.2
Operating expenditure	328.5	341.3	357.3	360.1	375.4	1762.6
Efficiency benefit sharing scheme (carryover amounts)	80.2	74.2	59.7	42.4	0.0	256.5
Net tax allowance	61.9	68.3	79.5	73.3	72.4	355.4
Metering, ANS & ERW net costs[a]	63.3	0.0	0.0	0.0	0.0	63.3
Annual revenue requirement (unsmoothed)	1541.9	1538.2	1595.8	1564.5	1561.3	7801.7
Annual expected revenue (smoothed)	**1956.4**	**1391.8**	**1426.6**	**1462.3**	**1498.8**	**7735.9**
X factor	n/a[b]	30.60%	0.00%[c]	0.00%[c]	0.00%[c]	12.6%

Source: AER analysis.

(a) These are the efficient net costs of metering and ancillary network services and emergency recoverable works as determined by the AER. They reflect the difference between the costs and any offsetting revenues recovered by the service provider through separate charges.

(b) In our transitional decision, we determined the placeholder revenue for 2014–15. In this draft decision to update the 2014–15 revenue for our assessment of efficient costs we determined X factors for the final four years of the 2014–19 period. This is to adjust Ausgrid's total revenue requirement for the 2015–19 regulatory control period for the difference between the placeholder revenue and our decision on Ausgrid's efficient costs for 2014–15.

(c) The X factor will be revised to reflect the annual return on debt update.

Table 1.2 AER's draft decision on Ausgrid's revenues for 2014–19 period – transmission ($million, nominal)

	2014–15	2015–16	2016–17	2017–18	2018–19	Total
Return on capital	145.5	151.4	157.0	159.9	163.4	777.1
Regulatory depreciation	12.2	15.1	18.3	15.6	15.3	76.5
Operating expenditure	25.9	27.0	28.4	27.9	29.1	138.3
Efficiency benefit sharing scheme (carryover amounts)	5.8	5.4	4.3	3.1	0.0	18.6
Net tax allowance	6.4	6.9	7.8	7.6	7.4	36.2
Annual revenue requirement (unsmoothed)	195.8	205.8	215.8	214.1	215.2	1046.7
Annual expected revenue (smoothed)	**252.3**	**184.9**	**192.4**	**200.2**	**208.2**	**1038.0**
X factor	n/a[a]	28.49%	–1.50%[b]	–1.50%[b]	–1.50%[b]	n/a

Source: AER analysis.

(a) In our transitional decision, we determined the placeholder revenue for 2014–15. In this draft decision to update the 2014–15 revenue for our assessment of efficient costs we determined X factors for the final four years of the

2014–19 period. This is to adjust Ausgrid's total revenue requirement for the 2015–19 regulatory control period for the difference between the placeholder revenue and our decision on Ausgrid's efficient costs for 2014–15. (b) The X factor will be revised to reflect the annual return on debt update.

1.2 Ausgrid's proposal

Ausgrid proposed a total revenue requirement of $10763.2 million ($ nominal) for its distribution network and $1448.7million ($ nominal) for its transmission network. Table 1.3 and Table 1.4 show Ausgrid's proposed building block costs and calculation of ARR and expected revenues for each year of the 2014–19 period.

Table 1.3 Ausgrid's proposed revenues for the 2014–19 period – distribution ($million, nominal)

	2014–15	2015–16	2016–17	2017–18	2018–19	Total
Return on capital	1084.6	1151.3	1218.6	1277.7	1337.1	6069.2
Regulatory depreciation	123.3	144.1	165.1	150.3	164.0	746.9
Operating expenditure	546.6	558.8	582.1	592.4	607.0	2886.9
Efficiency benefit sharing scheme (carryover amounts)	95.3	106.7	83.7	138.2	0.0	423.9
Net tax allowance	107.3	118.2	137.6	134.9	138.3	636.3
Annual revenue requirement (unsmoothed)	1957.1	2079.1	2187.1	2293.5	2246.4	10763.2
Annual expected revenue (smoothed)	**2039.0**	**2090.5**	**2135.9**	**2202.8**	**2276.2**	**10744.3**
X factor	5.66%	–0.03%	0.32%	–0.62%	–0.81%	n/a

Source: Ausgrid, *Regulatory proposal*, June 2014. Attachment 4.01.

Table 1.4 Ausgrid's proposed revenues for the 2014–19 period – transmission ($million, nominal)

	2014–15	2015–16	2016–17	2017–18	2018–19	Total
Return on capital	184.7	197.5	210.1	217.0	224.8	1034.1
Regulatory depreciation	12.4	15.7	19.3	16.1	18.2	81.9
Operating expenditure	42.9	44.2	46.2	45.9	46.9	226.0
Efficiency benefit sharing scheme (carryover amounts)	6.9	7.8	6.1	10.0	0.0	30.8
Net tax allowance	13.4	14.4	16.2	15.8	16.2	76.0
Annual revenue requirement (unsmoothed)	260.3	279.6	297.9	304.9	306.1	1448.7
Annual expected revenue (smoothed)	**274.9**	**281.7**	**288.8**	**296.0**	**303.4**	**1444.7**
X factor	0.11%	0.00%	0.00%	0.00%	0.00%	n/a

Source: Ausgrid, *Regulatory proposal*, June 2014. Attachment 4.02.

1.3 AER's assessment approach

We are required to determine the ARR for Ausgrid for each regulatory year of the 2014–19 period.[3] The process for determining Ausgrid's total revenue requirements for the 2014–19 period is affected by the transitional rules that apply to this determination. We previously approved amounts of $1956.4 million and $252.3 million ($ nominal) as the placeholder revenues for 2014–15 in relation to Ausgrid's distribution and transmission networks respectively,[4] until a full assessment of costs for the 2014–15 year could be carried out in the current determination.

In this determination we first calculate ARR's for each year of 2014–19 period, including the 2014–15 transitional year. To do this we consider the various costs facing the service provider and the trade-offs and interactions between these costs, service quality and across years. This reflects the AER's holistic assessment of the service provider's proposal.

The ARR for each year is the sum of the building block costs. These building block costs are set out in section 1.3.1. The AER's post-tax revenue model (PTRM) brings together these building block costs and calculates the resulting ARRs.

We understand the trade-offs that occur between building block costs and test the sensitivity of these costs to their various driver elements. These trade-offs are discussed in the interrelationships section of the various attachments to this draft decision and are reflected in the calculations made in the PTRM developed by the AER.[5] Such understanding allows the AER to exercise judgement in determining the final inputs into the PTRM and the ARRs that result from this modelling.

The difference between the ARR we determine for 2014–15 and our previously determined placeholder revenue gives rise to the required true-up adjustment amount under the transitional rules.[6] The true-up adjustment amount is applied as part of smoothing the ARRs to establish the annual expected revenue for each year of the 2015–19 regulatory control period.

Having determined the total revenue requirement for the 2014–19 period, the ARRs for each regulatory year are smoothed across the 2015–19 regulatory control period to reduce revenue variations between years and to come up with the expected revenue for each year.[7] This is done through the determination of the X factors and application of our true-up adjustment.[8] The X factor must equalise (in net present value terms) the total expected revenues to be earned by the service provider with the total revenue requirement for the 2014–19 period.[9] The X factor must usually minimise, as far as reasonably possible, the variance between the expected revenue and ARR for the last regulatory year of the period.[10]

For this draft decision, the expected revenue in the last year of the regulatory control period are not required to be as close as reasonably possible to the ARR for that year, due to the transitional

3 NER, cl 6.2.3(a)(1).
4 See NER cl.11.56.4 and Ausgrid's placeholder determination for the transitional regulatory control period 2014–15.
5 There are trade-offs that are not modelled in the PTRM but are reflected in the inputs to the PTRM. For example, service quality is not explicitly modelled in the PTRM, but the trade-offs between service quality and price are reflected in the forecast capex and opex inputs to the model. Other trade-offs are obvious from the calculations in the PTRM. For example, while someone may expect a lower regulatory asset base to also lower revenues, the PTRM shows that this will not occur if the reduction in the regulatory asset base is due solely to an increase in the depreciation rate. In such circumstances, revenues increase as the increased depreciation allowance more than offsets the reduction in the return on capital caused by the lower regulatory asset base.
6 NER, cl. 11.56.4(h)-(j)
7 For the purposes of operating the PTRM, the placeholder revenue is set as the smoothed expected revenue for 2014–15.
8 NER, cl 6.5.9(a).
9 NER, cl 6.5.9(3)(i).
10 NER, cl 6.5.9(b)(2).

provisions.[11] Typically, we would target a divergence of less than 3 per cent between the expected revenue and ARR for the last year of the regulatory control period, if this can promote smoother price changes over the regulatory control period. However, due to the shortened regulatory control period and the required true-up for 2014–15[12], we have allowed the divergence in the final year revenues to exceed 3 per cent in certain cases. This helps minimise the prospect of a significant price decrease followed by significant price increases over the 2015–19 regulatory control period. We will review the smoothing for the final decision if necessary.

The building block costs (and the elements that drive those costs) used to determine the unsmoothed ARR are set out below.

1.3.1 The building block costs

The efficient costs to be recovered by a service provider can be thought of as being made up of various building block costs. Our draft decision assesses each of the building block costs and the elements that drive these costs. The building block costs are approved reflecting trade-offs and interactions between the cost elements, service quality and across years. Table 1.5 shows the building block costs that form the ARR for each year and where discussion on the elements that drive these costs can be found within this draft decision.

Table 1.5 Building block costs

Building block costs	Attachments where elements are discussed
Return on capital	Regulatory asset base (attachment 2) Capex (attachment 6) Rate of return (attachment 3)
Regulatory depreciation (return of capital)	Regulatory asset base (attachment 2) Capex (attachment 6) Rate of return (attachment 3)
Operating expenditure (opex)	Opex (attachment 7)
Efficiency benefits/penalties	Efficiency benefit sharing scheme (attachment 9)
Estimated cost of corporate tax	Corporate income tax (attachment 8) Rate of return (attachment 4)

1.3.2 Placeholder revenue true-up for 2014–15

The five regulatory years from 2014-19 are split over two regulatory control periods due to the transitional rules.[13] There is a 'transitional regulatory control period' for 2014-15, and a 'subsequent regulatory control period' for 2015-19. We are required to make both a decision on the transitional placeholder revenue for 2014-15 and then a decision on the revenues for the full 2014-19 period.

11 NER, cl 11.58.4(c).

12 The placeholder revenue for 2014–15 is significantly higher than the amount our analysis in this draft decision shows it should have been. The relatively small decrease to 2014–15 prices means even larger decreases are needed over the following years. Given the shortened regulatory control period, accounting for this true- up, as well as the revenue reductions in the remaining years, makes smoothing prices more challenging.

13 NER, cl. 11.56.3–4.

In April 2014, as required under the transitional rules, we conducted a high level review of Ausgrid's proposed revenue requirement for its transitional regulatory control period (2014-15). We determined placeholder revenue allowances of $1956.4 million for Ausgrid's distribution network[14] and $252.3 million ($ nominal) for Ausgrid's transmission network.[15]

In this draft decision, we make a full regulatory determination for the years 2015–16 to 2018–19 for Ausgrid, and we account for any adjustment amount related to the transitional regulatory control period (2014–15). As part of this, we are required to determine ARRs for each year of the five year (2014–19) period and use a net present value (NPV) neutral true-up mechanism to account for any difference between:[16]

- the placeholder revenue for the transitional regulatory control period, and
- the ARR for 2014–15 that is established through the full determination process.

Our draft decision on the 2014–15 ARRs for Ausgrid's distribution and transmission networks is $1541.9 million and $195.8 million ($ nominal) respectively. This means there is a difference in costs recovered in 2014–15 that must be returned to customers. To give effect to the true-up, we have set Ausgrid's first year expected revenues in the PTRMs (transmission and distribution) equal to the AER approved placeholder revenues for 2014–15. The placeholder revenues for 2014–15 are $1956.4 million and $252.3 million ($ nominal) in relation to Ausgrid's distribution and transmission networks respectively.

This is the only practical option as distribution and transmission prices were set for 2014–15 based on these approved placeholder amounts. However, this practicality also means that the difference in revenues for 2014–15 between the transitional and full determinations will need to be accounted for in the 2015–19 regulatory control period. That is, the placeholder revenue for 2014-15 established from the transitional determination provides a base from which the expected revenues (smoothed) for the remaining four years of the 2014-19 period are calculated through the determination of the X factors for these years. This gives effect to the true-up requirements under the NER and returns the differences of $414.5 million ($ nominal) for distribution and $56.5 million for transmission to customers over the 2015–19 subsequent regulatory control period (adjusted for the time value of money). The details of this true-up for Ausgrid is discussed further in section 1.4.1.

1.4 Reasons for draft decision

We determine a total revenue requirements of $7801.7 million and $1046.7 million ($ nominal) over the 2014–19 period for Ausgrid's distribution and transmission networks respectively. This is $2961.5 million ($ nominal) or 28 per cent below Ausgrid's proposal for its distribution network and $402.0 million ($ nominal) or 28 per cent below Ausgrid's proposal for its transmission network. These revenues reflect the impact of our draft decision on the various building block costs. Figure 1.3 and Figure 1.4 show the difference between Ausgrid's proposed ARRs and our draft decision for Ausgrid's distribution and transmission networks respectively.

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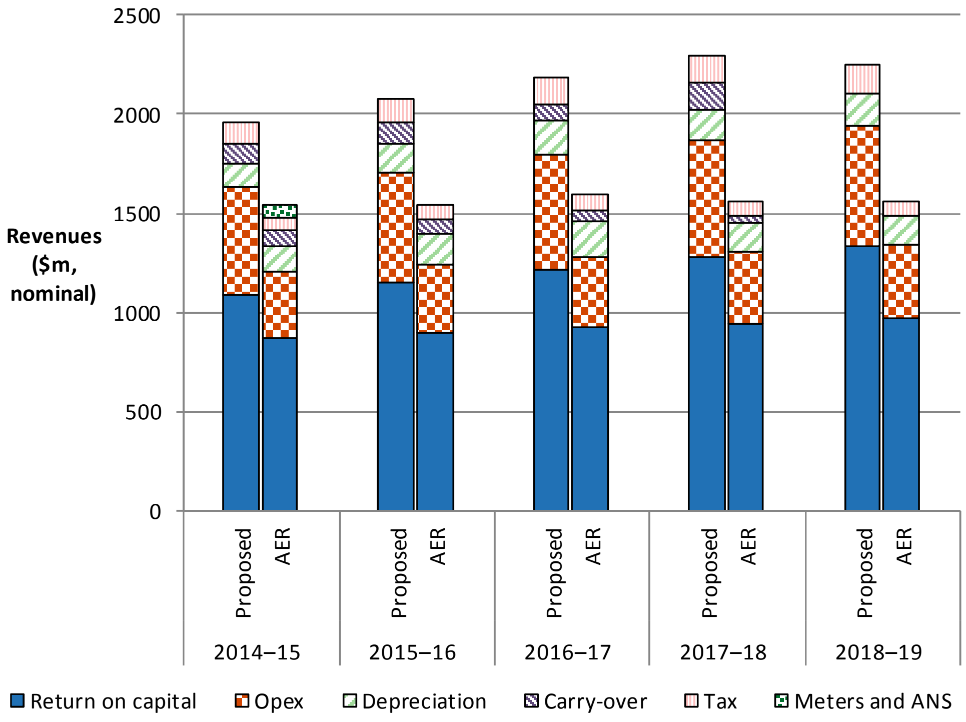
14 This amount included the net costs for metering, ancillary network services and emergency recoverable works. Although these services became alternative control services rom 1 July 2014, the costs associated with these services were to be recovered via standard control services for 2014–15 consistent with clause 11.56.3.(a)(1) of the NER. For the draft decision the ANS and ERW costs for 2014–15 are those provided by Ausgrid for the transitional decision. The actual total costs for these services for 2014–15 will determined as part of the final decision.

15 AER, *Ausgrid, Endeavour Energy, Essential Energy, ActewAGL, Transitional distribution decision 2014–15*, April 2014, p. 17.

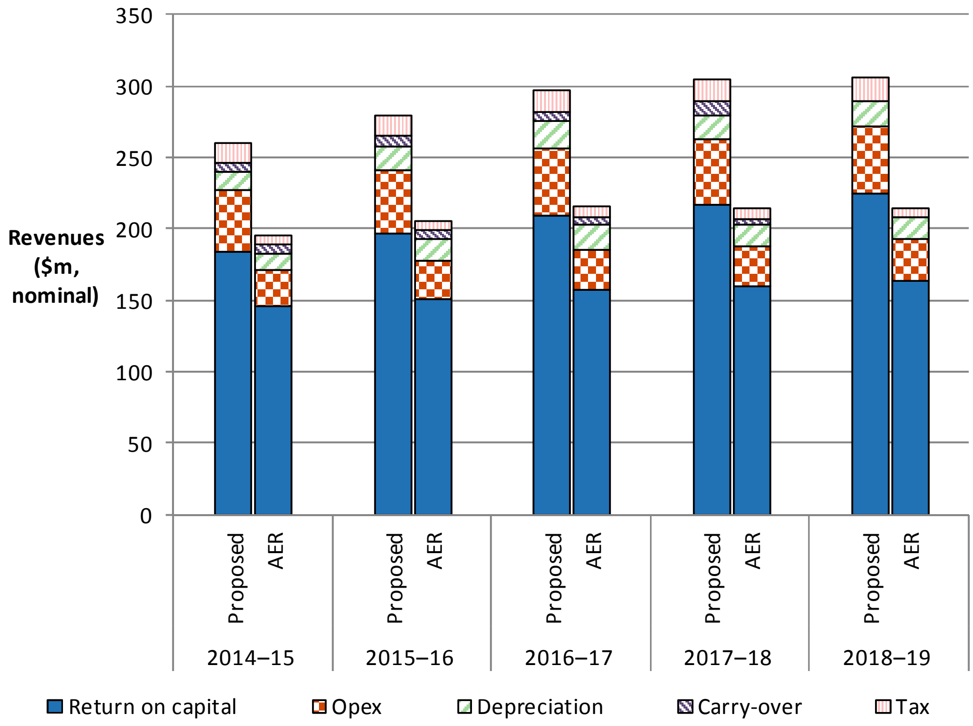
16 NER, cl 11.564(h)-(i).

Figure 1.3 AER's draft decision and Ausgrid's proposed annual revenue requirements – distribution ($million, nominal)



Source: AER analysis; Ausgrid, *Regulatory proposal*, May 2014, Attachment 4.01.

Figure 1.4 AER's draft decision and Ausgrid's proposed annual revenue requirements – transmission ($million, nominal)



Source: AER analysis; Ausgrid, *Regulatory proposal*, May 2014, Attachment 4.02.

The most significant changes to Ausgrid's proposal include: a lower rate of return of 7.15 per cent (attachment 3), a reduction in the capex allowance of 44 per cent (attachment 6), and a reduction in the opex allowance of 39 per cent (attachment 7).

1.4.1 Revenue adjustment for transitional year

We consider that an adjustment needs to be made to the presentation of Ausgrid's proposal. This adjustment is to use the placeholder revenue for the 2014–15 transitional regulatory control period as the base from which to smooth the proposed expected revenues over the 2014–19 period. This is to take account of the difference between the placeholder revenue and the ARR determined for 2014–15 in this decision.

In its transitional regulatory proposal, Ausgrid proposed ARRs of $2078.0 million and $269.9 million ($ nominal) for 2014–15, in relation to its distribution and transmission networks respectively.[17] We approved the placeholder revenue for 2014–15 of $1956.4 million ($ nominal) for Ausgrid's distribution network. We also approved $252.3 million ($ nominal) as the placeholder revenue for 2014–15 in relation to Ausgrid's transmission network.[18]

Table 1.6 and Table 1.7 show the proposed and approved placeholder revenues for the 2014–15 transitional regulatory control period for Ausgrid's distribution and transmission networks respectively. The distribution placeholder revenue includes all costs associated with standard control services, including type 5 and 6 metering services and ancillary network services (ANS) which were re-classified from standard control services to alternative control services as at 1 July 2014. The transitional rules[19] prevented the reallocation of type 5 and 6 and ANS costs in 2014–15 despite the change in classification from standard control services to alternative control services as at 1 July 2014.[20]

Table 1.6 Ausgrid's proposed transitional placeholder revenue and AER transitional determination for 2014–15 – distribution ($ million, nominal)

	2013-14	2014-15
Ausgrid transitional proposal	2 108.6	2 075.0
Change in revenues		–1.6%
AER transitional determination	2 108.6	1 956.4
Change in revenues		–7.2%

Source: Ausgrid, *Transitional regulatory proposal*, January 2014, Attachment A.
AER analysis.

[17] Ausgrid, *Transitional regulatory proposal*, January 2014, Attachments A and B.
[18] AER, *Ausgrid, Endeavour Energy, Essential Energy, ActewAGL, Transitional distribution decision 2014–15*, April 2014, pp. 26–29.
[19] NER, cl 11.55.3(i).
[20] AER, *Stage 2 Framework and Approach – NSW Distributors*, January 2014, p. 40.

Table 1.7 Ausgrid's proposed transitional placeholder revenue and AER transitional determination for 2014–15 – transmission ($million, nominal)

	2013-14	2014-15
Ausgrid transitional proposal	268.5	269.90
Change in revenues		0.5%
AER transitional determination	268.5	252.3
Change in revenues		–6.0%

Source: Ausgrid, *Transitional regulatory proposal*, January 2014, Attachment B.
AER analysis.

We consider that the adjusted 2014–15 placeholder revenues of $1956.4 million and $252.3 million ($ nominal) for Ausgrid's distribution and transmission networks respectively provide the appropriate base against which Ausgrid's proposal and our draft decision can be compared. To do otherwise would be to effectively ignore the 2014–15 transitional determination and the price impacts it has had for 2014–15 as part of the true-up requirement. Because Ausgrid has not accounted for these lower approved placeholder revenues for 2014–15 in its proposal, we have recalculated Ausgrid's smoothed expected revenues.[21] We have done this recalculation by adjusting Ausgrid's proposed X factor for 2015–16 (the other years' X factors are as proposed), to ensure NPV neutrality between these adjusted smoothed proposal revenues and the unadjusted smoothed proposal revenues. This recalculation is required to allow Ausgrid's proposal for its distribution and transmission networks to be comparable with our draft decision, which accounts for the true-up.

Based on the building block costs determined in this decision and taking account of the need to do the true-up for Ausgrid when smoothing the expected revenues over the 2015–19 period, we first set the expected revenues for the first regulatory year (2014–15) as follows:

- For Ausgrid's distribution network the expected revenue is set to $1956.4 million ($ nominal).
- For Ausgrid's transmission network the expected revenue is set to $252.3 million ($ nominal).

These are equal to the placeholder revenues for 2014–15. We have determined ARRs (unsmoothed) of $1541.9 million and $195.8 million for Ausgrid's distribution and transmission networks respectively. Our draft decision ARRs are $414.5 million and $56.5 lower than the 2014–15 placeholder we determined in the transitional decisions for Ausgrid's distribution and transmission networks respectively. These differences represent the amounts to be returned to customers over the 2015–19 regulatory control period. We then applied a profile of X factors to determine the expected revenue in subsequent years. This is achieved as part of the smoothing process to determine the appropriate X factors for 2015–19 regulatory control period.[22]

We consider that our profile of X factors is reasonable given the shortened regulatory control period and the required true-up for 2014–15. In the present circumstances, based on the X factors we have determined for Ausgrid, the difference between the expected revenue and ARR for 2018–19 is around 4.0 per cent and 3.2 per cent for distribution and transmission respectively. While these divergences are significant, the smoothing avoids the situation of a larger price decrease in 2015–16 followed by

21 We also included an ACS adjustment to the proposed 2014–15 unsmoothed revenue before smoothing, consistent with our draft decision true-up approach. This adjustment is based on Ausgrid's metering proposal and the figures for ANS and ERW they provided as part of the transitional proposal.

22 This also accounts for the time value of money.

significant price increases for the remaining three years of the regulatory control period. We will review this smoothing for the final decision if necessary.

We note that Ausgrid's transmission network has an under-recovery of $20 million in its allowed transmission revenue for 2013–14.[23] Under a revenue cap Ausgrid can recover this amount in future years. We have no role in considering the regulatory treatment of this under-recovery in this decision. Any decision by Ausgrid to recover this revenue in later years would affect transmission prices for its customers independently of our determination for the 2014–19 period.

Table 1.8 and Table 1.9 show the expected revenues (smoothed) of Ausgrid's proposal and our draft decision expected revenues (smoothed) for Ausgrid's distribution and transmission networks respectively. Both use the 2014–15 placeholder revenue as a base to account for the proposed/determined true-ups.

Table 1.8 Ausgrid's adjusted and AER's draft decision smoothed expected revenues for the 2014–19 period – distribution ($million, nominal)

	2014–15	2015–16	2016–17	2017–18	2018–19
Ausgrid's adjusted proposal	1956.4	2135.9	2182.3	2250.8	2325.7
X factor	n/a	–6.51%	0.32%	–0.62%	–0.81%
AER draft decision	1956.4	1391.8	1426.6	1462.3	1498.8
X factor	n/a	30.60%	0.00%	0.00%	0.00%

Source: Ausgrid, *Regulatory proposal*, June 2014. Attachment 4.01.
AER analysis.

Table 1.9 Ausgrid's adjusted and AER's draft decision smoothed expected revenues for the 2014–19 period – transmission ($million, nominal)

	2014–15	2015–16	2016–17	2017–18	2018–19
Ausgrid's adjusted proposal	252.3	288.4	295.6	303.0	310.6
X factor	n/a	–11.53%	0.00%	0.00%	0.00%
AER draft decision	252.3	184.9	192.4	200.2	208.2
X factor	n/a	28.49%	–1.50%	–1.50%	–1.50%

Source: Ausgrid, *Regulatory proposal*, June 2014. Attachment 4.02.
AER analysis.

1.4.2 Indicative average distribution price impact

Our draft decision on Ausgrid's expected revenues ultimately affects the prices consumers pay for electricity. There are several steps required to translate our revenue decision to an ultimate price impact, and the steps are different depending on the network component:

- For Ausgrid's distribution assets, we are regulating standard control services under a revenue cap form of control. This means the adjustments that we have made to Ausgrid's expected revenues do not directly translate to price impacts. This is because Ausgrid's revenue is fixed under the

23 AER, *Ausgrid Endeavour Energy Essential Energy ActewAGL, Transitional distribution decision 2014–15*, April 2014, p. 20.

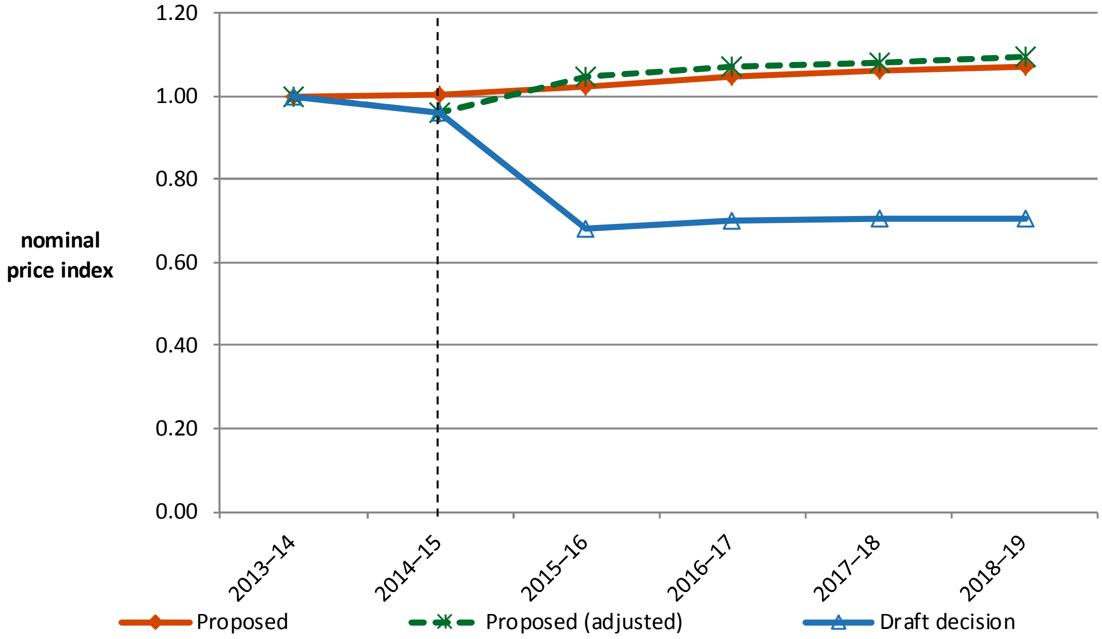
revenue cap form of control, so changes in the consumption of electricity will affect the prices ultimately charged to consumers. We are not required to establish the distribution prices for Ausgrid as part of this determination. However, we will assess Ausgrid's annual pricing proposals before the commencement of the remaining regulatory years for the 2014–19 period based on this distribution determination.

- For Ausgrid's transmission assets, we are also regulating standard control services under a revenue cap. Similar to distribution, this means that changes in consumption of electricity will affect the prices charged to consumers. Further, transmission charges are collected with regard to the entire transmission network across NSW and the ACT, since the Ausgrid transmission assets are an embedded component of the broader transmission network. TransGrid, which is the coordinating TNSP for this network region, establishes transmission charges and then provides Ausgrid with its portion of revenues.

For this draft decision, we have estimated some indicative average distribution and transmission price impacts flowing from our determination on the expected revenues for Ausgrid over the 2014–19 period. Figure 1.5 and Figure 1.6 show Ausgrid's indicative price paths (distribution and transmission) based on the expected revenues established in our draft decision compared to its proposal. For Ausgrid's distribution network we used the data on price changes Ausgrid provided in its proposal, which appeared to be consistent with price cap calculations. We have adopted the data to determine the movement in overall prices. For Ausgrid's transmission network, noting that transmission prices will be established by TransGrid for the entire NSW transmission network, we can estimate average prices by dividing total revenue with total forecast energy consumed in NSW. The energy is based on the forecast for NSW by AEMO.[24] For presentational purposes, the prices are scaled so that the price index begins at 1.0 in 2013–14. The index provides a simple overall measure of the relative movement in expected distribution and transmission prices over the 2014–19 period.

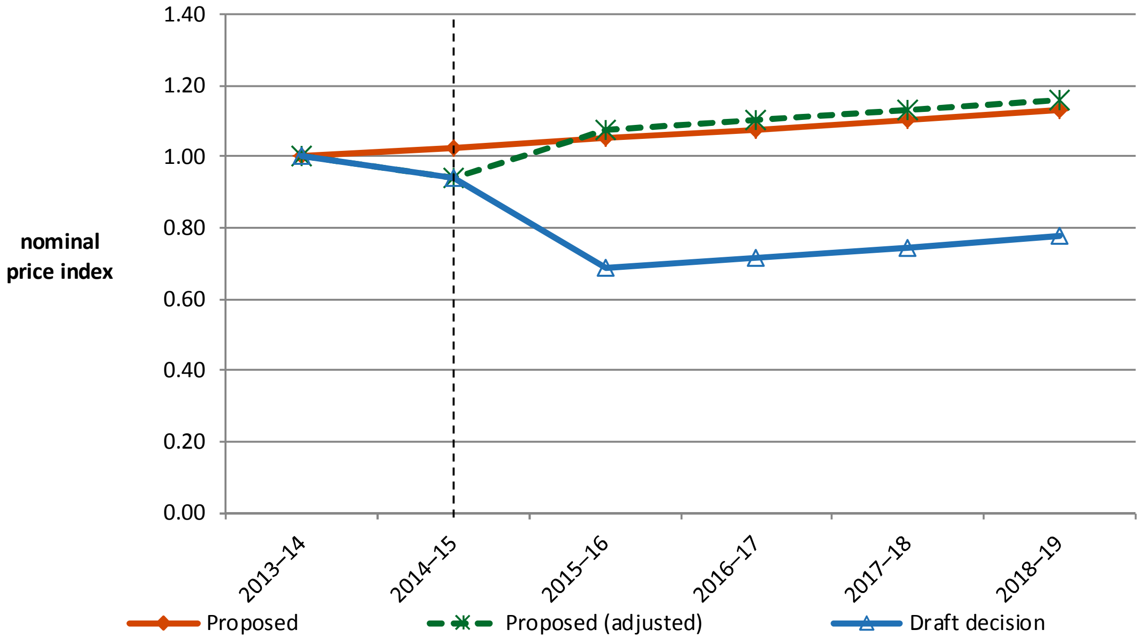
[24] This approach is further discussed in the AER's draft determination for TransGrid, see AER, *TransGrid transmission determination 2015–16 to 2017–18*, November 2014, Attachment 1.

Figure 1.5 AER's draft decision and Ausgrid's proposed indicative price paths – distribution (nominal price index)



Source: AER analysis.
Notes: The nominal price index is calculated by the AER based on the indicative weighted average price changes submitted by Ausgrid in its proposal, and adjusting for the change in overall revenue substituted by the AER.

Figure 1.6 AER's draft decision and Ausgrid's proposed indicative price paths – transmission (nominal price index)



Source: AER analysis.
Notes: The nominal price index is calculated by the AER based on overall revenue and the (state wide) transmission network energy forecasts used for TransGrid (the NSW/ACT transmission network service provider).

We estimate that our draft decision on Ausgrid's annual expected revenue will result in a decrease to average distribution charges by about 5.9 per cent per annum over the 2014–19 period in nominal terms.[25] Our transitional determination resulted in an expected reduction in distribution charges of about 3.7 per cent in 2014–15. We estimate that our draft decision will further reduce distribution charges by another 29.2 per cent in 2015–16, followed by increases of about 1.2 per cent per annum from 2016–17 to 2018–19. This compares to the nominal average increase of approximately 1.9 per cent per annum proposed by Ausgrid over the 2014–19 period.

Table 1.10 and Table 1.11 display the comparison of the price impacts of Ausgrid's proposal and our draft decision revenue allowance for its distribution and transmission networks respectively.

Table 1.10 Comparison of revenue and price impacts of Ausgrid's proposal and AER's draft decision – distribution

	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19
Ausgrid proposal						
Revenue ($m, nominal)[a]	2108.6	1956.4	2135.9	2182.3	2250.8	2325.7
Price path (nominal index)	1.00	0.96	1.05	1.07	1.08	1.10
Revenue (change %)		–7.2%	9.2%	2.2%	3.1%	3.3%
Price path (change %)		–3.7%	6.1%	0.0%	0.0%	0.0%
AER draft decision						
Revenue ($m, nominal)	2108.6	1956.4	1391.8	1426.6	1462.3	1498.8
Price path (nominal index)	1.00	0.96	0.68	0.70	0.70	0.71
Revenue (change %)		–7.2%	–28.9%	2.5%	2.5%	2.5%
Price path (change %)		–4.0%	–30.6%	0.3%	–0.6%	–0.8%

Source: AER analysis.
(a) This represents the expected revenue adjusted for the 2014–15 true-up discussed in section 1.4.1.

Table 1.11 Comparison of revenue and price impacts of Ausgrid's proposal and AER's draft decision – transmission

	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19
Ausgrid proposal						
Revenue ($m, nominal)[a]	268.5	252.3	288.4	295.6	303.0	310.6
Price path (nominal index)	1.00	0.94	1.08	1.10	1.13	1.16
Revenue (change %)		–6.0%	14.3%	2.5%	2.5%	2.5%
Price path (change %)		–4.7%	13.5%	2.0%	2.1%	2.0%
AER draft decision						
Revenue ($m, nominal)	268.5	252.3	184.9	192.4	200.2	208.2

[25] This amount includes a forecast inflation rate of 2.5 per cent per annum. In real terms we estimate average distribution charges to decline by 7.9 per cent per annum, compared to a decline of 0.9 per cent proposed by Ausgrid.

Price path (nominal index)	1.00	0.94	0.69	0.72	0.75	0.78
Revenue (change %)		–6.0%	–25.0%	2.5%	2.5%	2.5%
Price path (change %)		–4.7%	–25.6%	2.0%	2.1%	2.0%

Source: AER analysis.
(a) This represents the expected revenue adjusted for the 2014–15 true-up discussed in section 1.4.1.

Distribution charges represent approximately 32 per cent on average of Ausgrid's typical customer's annual electricity bill.[26] We expect that our draft decision, other things being equal, will reduce the average annual electricity bills for residential customers in Ausgrid's network. This is because we estimate that our draft decision will result in lower distribution charges on average over the 2014–19 period compared to Ausgrid's proposal as discussed above. If the lower distribution charges from our transitional determination were passed through to customers, the average annual electricity bill for Ausgrid's residential customers could be expected to reduce by about $25 or 1.2 per cent ($ nominal) in 2014–15. If the distribution charges from our draft decision are passed through to customers, we would expect the average annual electricity bill for residential customers to reduce by a further $189 or 9.1 per cent in 2015–16. This would be followed by increases of about $6 or 0.3 per cent ($ nominal) per annum from 2016–17 to 2018–19. In comparison, if we accepted Ausgrid's proposal, the average annual electricity bill for residential customers would increase by approximately $23 or 1.1 per cent ($ nominal) per annum over the 2015–19 regulatory control period.

Our estimated potential impact is based on the typical annual electricity usage of 6500 kWh per annum for a residential customer in NSW.[27] Therefore customers with different usage will experience different changes in their bills. We also note that there are other factors, such as transmission network costs, wholesale and retail costs, which affect electricity bills.

Similarly, for an average small business customer in NSW that uses approximately 10 MWh of electricity per annum, our draft decision for Ausgrid is expected to lead to lower average annual electricity bills. We estimate that if the lower distribution charges arising from our transitional determination were passed through to customers, the average annual electricity bill for small business customers in Ausgrid's network could be expected to reduce by about $40 or 1.2 per cent ($ nominal) in 2014–15. If the lower distribution charges from our draft decision are passed through to customers, we would expect the average annual electricity bill for small business customers to reduce by a further $303 or 9.1 per cent in 2015–16. This would be followed by increases of about $9 or 0.3 per cent ($ nominal) per annum from 2016–17 to 2018–19. In comparison, if we accepted Ausgrid's proposal, the average annual electricity bill for small business customers would increase by approximately $36 or 1.1 per cent ($ nominal) per annum over the 2015–19 regulatory control period.

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26 Ausgrid, *Regulatory proposal*, May 2014, p. 4.
27 IPART, *Final report: Review of regulated retail prices for Electricity from 1 July 2013 to 30 June 2016*, June 2013, p. 5.

Table 1.12 shows the estimated annual average impact of our draft decision for Ausgrid's distribution network over the 2014–19 period on the average residential and small business customers' annual electricity bills.

Table 1.12 Estimated impact of Ausgrid's proposal and AER's draft decision on annual electricity bills for the 2014–19 period ($ nominal)

	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19
Ausgrid proposal						
Residential annual bill[a]	2106.0	2081	2137	2154	2162	2171
Annual change		–25 (–1.2%)	57 (2.7%)	17 (0.8%)	7 (0.3%)	9 (0.4%)
Small business annual bill[b]	3374.0	3334	3424	3452	3464	3478
Annual change		–40 (–1.2%)	91 (2.7%)	27 (0.8%)	12 (0.3%)	15 (0.4%)
AER draft decision						
Residential annual bill[a]	2106.0	2081	1892	1904	1906	1908
Annual change		–25 (–1.2%)	–189 (–9.1%)	13 (0.7%)	2 (0.1%)	2 (0.1%)
Small business annual bill[b]	3374.0	3334	3031	3051	3054	3057
Annual change		–40 (–1.2%)	–303 (–9.1%)	20 (0.7%)	3 (0.1%)	3 (0.1%)

Source: AER analysis; AER, Energy Made Easy; IPART, Final report: Review of regulated retail prices for electricity - from 1 July 2013 to 30 June 2016, June 2013, p.5.

(a) Based on annual bill for typical consumption of 6500KWh per year during the period 1 July 2013 to 30 June 2014. The charges reflect regulated price only. Sample postcode: 2112.

(b) Based on the annual bill sourced from Energy Made Easy for a typical consumption of 10000 kWh per year during the period 1 July 2013 to 30 June 2014. The bills reflect regulated price only. Sample postcode: 2112.

Our draft decision revenues for Ausgrid's transmission network make up a relatively small proportion of the overall transmission revenues applicable to NSW/ACT. TransGrid is the main transmission network service provider in NSW/ACT, and we are setting its revenue requirements concurrent with this process. Ausgrid collects its transmission revenues from TransGrid, in its role as coordinating TNSP for NSW/ACT. In estimating the indicative impact of our draft decision on transmission charges, we include Ausgrid's transmission revenues with TransGrid's revenues.[28] We discuss the overall transmission price impact in our draft decision for TransGrid, and so this is not discussed further here.

1.4.3 Shared assets

Service providers, such as Ausgrid, may use assets to provide both standard control services we regulate and unregulated services. These assets are called 'shared assets'.[29] Of the unregulated revenues a service provider earns from shared assets, 10 per cent will be used to reduce the service provider's prices for standard control services.[30] However, price reductions are subject to a materiality threshold. Unregulated use of shared assets is material when a service provider's unregulated

28 We also include ActewAGL's and Directlink's transmission revenues–they operate transmission assets in NSW/ACT.

29 NER, cl. 6.4.4.

30 AER, *Shared asset guideline*, November 2013.

revenues from shared assets in a specific regulatory year are expected to be greater than 1 per cent of its total expected revenue for that regulatory year.[31]

Ausgrid submitted that its shared asset unregulated revenues are forecast to be between 0.62 and 0.64 per cent of its total expected revenue in each regulatory year of the 2014–19 period.[32] Based on our previous assessment of service provider unregulated revenues, we consider Ausgrid's forecasts are reasonable.[33] However, Ausgrid's forecast unregulated revenues must be compared to the regulated revenues we determine, rather than those proposed by Ausgrid. On that basis, we consider Ausgrid's unregulated revenues are between 0.65 and 0.97 per cent of its total expected revenue in each regulatory year of the 2014–19 period.

We note that unregulated revenues from shared assets may in future become material. We will monitor Ausgrid's shared asset unregulated revenues and, if necessary, determine our own forecasts for future regulatory control periods.

31 AER, Shared asset guideline, November 2013, p. 8.
32 Ausgrid, *Regulatory proposal*, May 2014, p. 25.
33 Undertaken as we developed our shared asset guideline, during the 2013 calendar year, as part of our Better Regulation work program.