FINAL DECISION
ElectraNet transmission determination
2018 to 2023

Attachment 1 – Maximum allowed revenue

April 2018

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's final decision on ElectraNet's transmission determination for 2018–23. It should be read with all other parts of the final decision.

The final decision includes the following documents:

Overview

ElectraNet transmission determination 2018–23

Attachment 1 – Maximum allowed revenue

Attachment 2 – Regulatory asset base

Attachment 5 – Regulatory depreciation

Attachment 6 – Capital expenditure

Attachment 8 – Corporate income tax

Attachment A – Negotiating framework

Attachment B – 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	annual service revenue requirement
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
DMIA	demand management innovation allowance
DRP	debt risk premium
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
MAR	maximum allowed revenue
MRP	market risk premium
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
NTSC	negotiated transmission service criteria
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

Shortened form	Extended form
RPP	revenue and pricing principles
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
TNSP	transmission network service provider
TUoS	transmission use of system
WACC	weighted average cost of capital

1 Maximum allowed revenue

This attachment sets out our final decision on ElectraNet's maximum allowed revenue (MAR) for the provision of prescribed transmission services over the 2018–23 regulatory control period. Specifically, we set out our final decision on:[1]

- the estimated total revenue cap, which is the sum of the annual expected MAR
- the annual building block revenue requirement
- the annual expected MAR
- the X factor.

We determine ElectraNet's annual building block revenue requirement using a building block approach. We determine the X factors by smoothing the annual building block revenue requirement over the regulatory control period. The X factor is used in the CPI–X methodology to determine the annual expected MAR (smoothed).

1.1 Final decision

We do not accept ElectraNet's revised proposed annual building block revenue requirement, annual expected MAR and total revenue cap. This is because we have not accepted all the building block costs that ElectraNet proposed in its revised proposal. We have calculated the X factor and the annual expected MAR (smoothed) to reflect our final decision on ElectraNet's annual building block revenue requirement.

We determine a total annual building block revenue requirement for ElectraNet of $1606.5 million ($ nominal) for the 2018–23 regulatory control period. This is a decrease of $6.7 million ($ nominal) or 0.4 per cent to ElectraNet's revised proposal and reflects the impact of our final decisions on the various building block costs.

We determine the annual expected MAR and X factor for each regulatory year of the 2018–23 regulatory control period by smoothing the annual building block revenue requirement. Our final decision is to approve an estimated total revenue cap of $1603.2 million ($ nominal) for ElectraNet for the 2018–23 regulatory control period. Our approved X factor for 2019–20 to 2022–23 is zero per cent per annum.[2]

Table 1.1 sets out our final decision on ElectraNet's annual building block revenue requirement, the X factor, the annual expected MAR and the estimated total revenue cap for the 2018–23 regulatory control period.

1 NER, cll. 6A.4.2(a) (1)–(3), 6A.5.3(c) and 6A.6.8.

2 ElectraNet is not required to apply an X factor for 2018–19 because we set the 2018–19 MAR in this decision.

Table 1.1 AER's final decision on ElectraNet's annual building block revenue requirement, annual expected MAR, estimated total revenue cap and X factor ($ million, nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23	Total
Return on capital	145.6	148.9	151.3	154.3	156.5	756.6
Regulatory depreciation [a]	44.2	63.8	68.5	73.3	69.9	319.8
Operating expenditure [b]	92.6	95.4	98.6	101.9	104.9	493.4
Revenue adjustments [c]	–1.3	–1.2	–1.6	0.0	0.3	–3.7
Net tax allowance	4.9	7.5	8.2	9.9	9.9	40.3
Annual building block revenue requirement (unsmoothed)	286.1	314.3	325.1	339.4	341.5	1606.5
Annual expected MAR (smoothed)	**305.3**	**312.8**	**320.4**	**328.3**	**336.3**	**1603.2** [d]
X factor (%) [e]	n/a[f]	0%	0%	0%	0%	n/a

Source: AER analysis.

(a) Regulatory depreciation is straight-line depreciation net of the inflation indexation on the opening RAB.

(b) Operating expenditure includes debt raising costs.

(c) Includes revenue adjustment from the efficiency benefit sharing scheme (EBSS).

(d) The estimated total revenue cap is equal to the total annual expected MAR.

(e) The X factors will be revised to reflect the annual return on debt update. Under the CPI–X framework, the X factor measures the real rate of change in annual expected revenue from one year to the next. A negative X factor represents a real increase in revenue. Conversely, a positive X factor represents a real decrease in revenue.

(f) ElectraNet is not required to apply an X factor for 2018–19 because we set the 2018–19 MAR in this decision. The MAR for 2018–19 is around 14.9 per cent lower than the approved MAR for 2017–18 in real terms, or 12.8 per cent lower in nominal terms.

1.2 ElectraNet's revised proposal

ElectraNet's revised proposal included a total (smoothed) revenue cap of $1609.8 million ($ nominal) for the 2018–23 regulatory control period.

Table 1.2 sets out ElectraNet's revised proposed annual building block revenue requirement, the X factor, the annual expected MAR and the estimated total revenue cap.

Table 1.2 ElectraNet's revised proposed annual building block revenue requirement, annual expected MAR, estimated total revenue cap and X factor ($ million, nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23	Total
Return on capital	148.1	151.4	154.0	157.0	159.4	769.8
Regulatory depreciation [a]	43.3	62.9	67.7	72.5	69.0	315.4
Operating expenditure [b]	92.6	95.5	98.8	102.1	105.2	494.1
Revenue adjustments [c]	–1.3	–1.2	–1.6	0.0	0.4	–3.7
Net tax allowance	4.4	6.9	7.6	9.3	9.3	37.5
Annual building block revenue requirement (unsmoothed)	287.0	315.5	326.5	340.9	343.2	1613.2
Annual expected MAR (smoothed)	**306.3**	**313.9**	**321.8**	**329.8**	**338.1**	**1609.8** [d]
X factor (%)	n/a	0.00%	0.00%	0.00%	0.00%	n/a

Source: ElectraNet, *Revised revenue proposal*, December 2017, p. 47.

(a) Regulatory depreciation is straight-line depreciation net of the inflation indexation on the opening RAB.

(b) Operating expenditure includes debt raising costs.

(c) Includes revenue adjustment from EBSS.

(d) The estimated total revenue cap is equal to the total annual expected MAR.

1.3 Assessment approach

We did not change our assessment approach for the MAR from our draft decision. Attachment 1 section 1.3 of our draft decision details that approach.[3]

1.4 Reasons for final decision

For this final decision, we determine a total annual building block revenue requirement of $1606.5 million ($ nominal) for ElectraNet for the 2018–23 regulatory control period. This compares to ElectraNet's revised proposed total annual building block revenue requirement of $1613.2 million ($ nominal) for this period.

Figure 1.1 shows the building block components from our final determination that make up the annual building block revenue requirement for ElectraNet, and the corresponding components from its revised proposal and our draft decision.

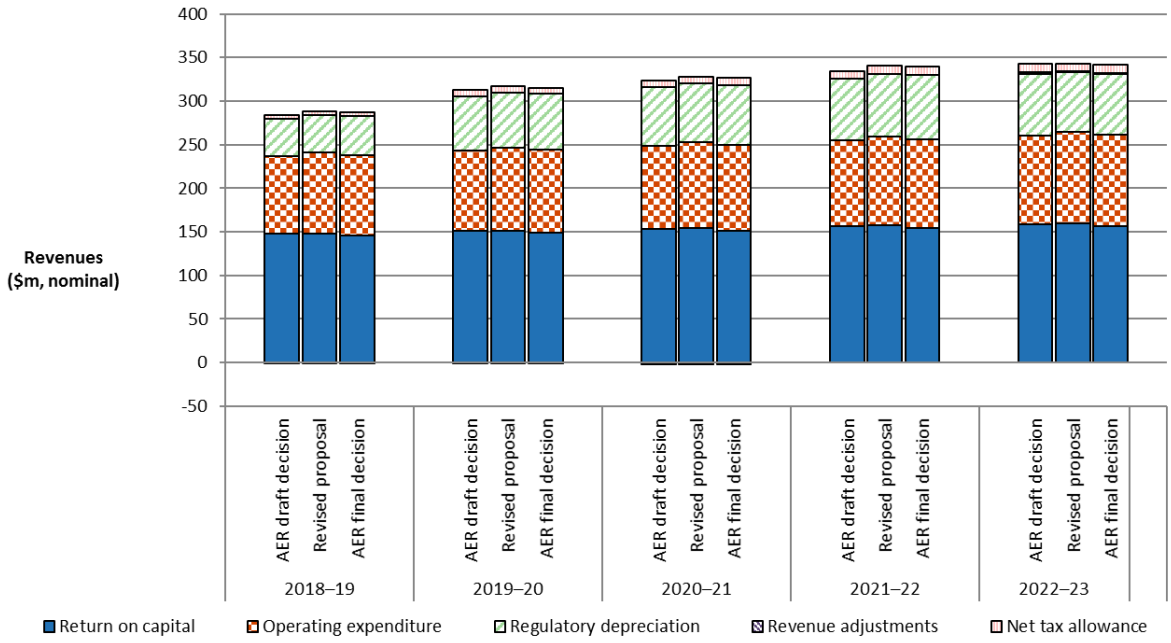
The most significant changes to ElectraNet revised proposal ($ nominal) include:

- a decrease in the return on capital allowance of 1.7 per cent (section 2.3 of the Overview)

[3] AER, *Draft decision, Attachment 1 - Maximum allowed revenue*, pp. 1-8–1-13, October 2017.

- an increase in the regulatory depreciation allowance of 1.4 per cent (attachment 5)
- an increase in the cost of corporate income tax allowance of 7.4 per cent (attachment 8).

Figure 1.1 AER's final decision and ElectraNet's revised proposed annual building block revenue requirement ($ million, nominal)



Source: AER analysis.

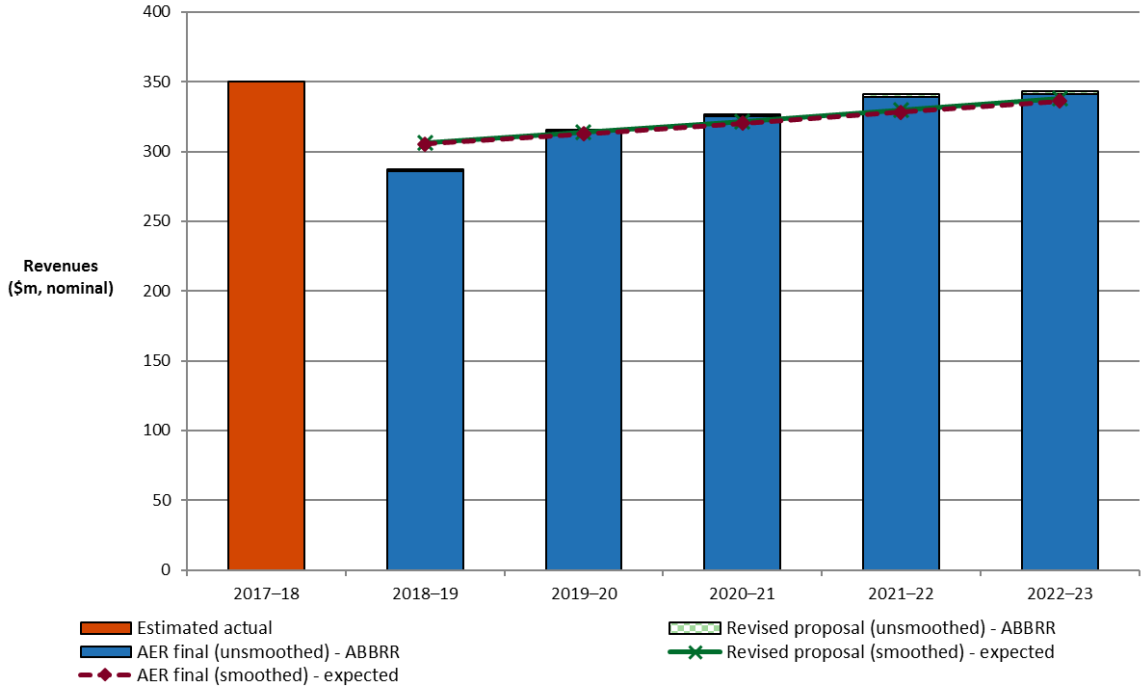
1.4.1 X factor, annual expected MAR and estimated total revenue cap

For this final decision, we determine an X factor for ElectraNet of zero per cent per annum for the four years of the regulatory control period from 2019–20 to 2022–23.[4] The net present value (NPV) of the annual building block revenue requirement is $1358.5 million ($ nominal) as at 1 July 2018. Based on this NPV and applying the CPI–X method, we determine that the annual expected MAR (smoothed) for ElectraNet is $305.3 million in 2018–19 increasing to $336.3 million in 2022–23 ($ nominal). The resulting estimated total revenue cap for ElectraNet is $1603.2 million for the 2018–23 regulatory control period.

Figure 1.2 shows our final decision on ElectraNet's annual expected MAR (smoothed revenue) and the annual building block revenue requirement (unsmoothed revenue) for the 2018–23 regulatory control period.

[4] ElectraNet is not required to apply an X factor for 2018–19 because we set the 2018–19 MAR in this decision.

Figure 1.2 AER's final decision on ElectraNet's annual expected MAR (smoothed) and annual building block revenue requirement (unsmoothed) ($ million, nominal)



Source: AER analysis.

To determine the expected MAR for ElectraNet, we have set the MAR for the first regulatory year at $305.3 million ($ nominal) which is $19.2 million higher than the annual building block revenue requirement. We then applied expected inflation of 2.45 per cent per annum and an X factor of zero per cent per annum to determine the expected MAR in subsequent years.[5] We consider that our profile of X factors results in an expected MAR in the last year of the regulatory control period that is as close as reasonably possible to the annual building block revenue requirement for that year.[6]

The average annual decrease in our approved expected MAR is 0.8 per cent per annum ($ nominal) over the 2018–23 regulatory control period.[7] This consists of an initial decrease of 12.8 per cent from 2017–18 to 2018–19, followed by average annual increases of 2.45 per cent during the remainder of the 2018–23 regulatory control

5 NER, cl. 6A.5.3(c)(3).

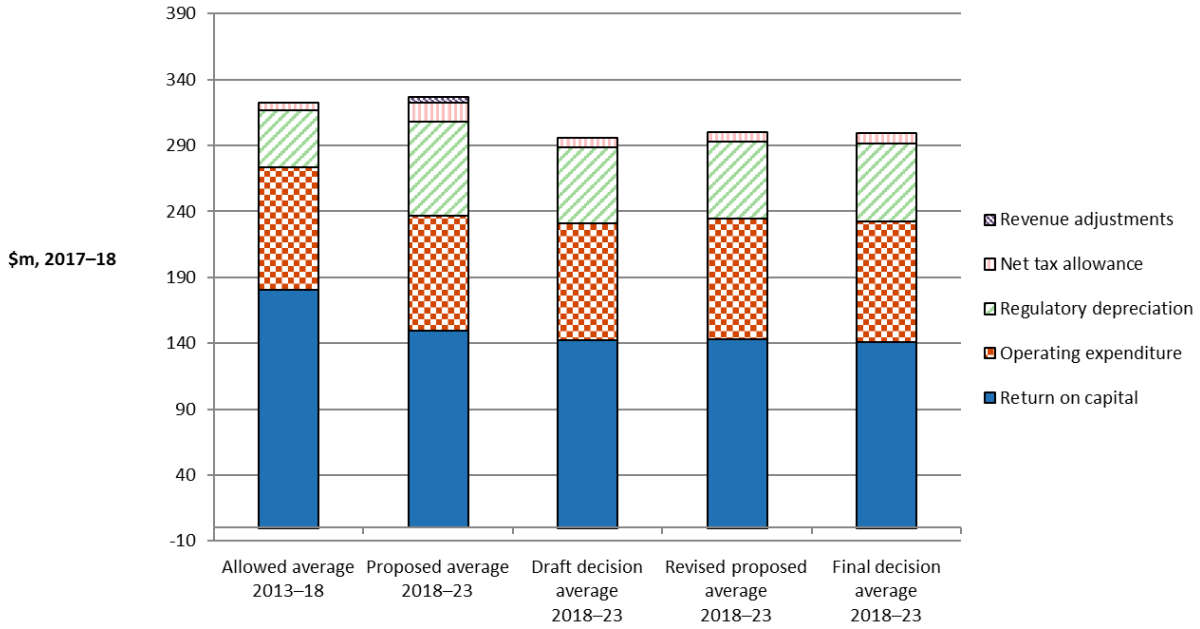
6 NER, cl. 6A.6.8(c)(2). We consider a divergence of up to 3 per cent between the expected MAR and annual building block revenue requirement for the last year of the regulatory control period is appropriate, if this can achieve smoother price changes for users over the regulatory control period. In the present circumstances, based on the X factors we have determined for ElectraNet, this divergence is around 1.5 per cent.

7 In real 2017–18 dollar terms, the average decrease in our approved expected MAR for ElectraNet is 3.2 per cent per annum over the 2018–23 regulatory control period.

period.[8] Our final decision results in a decrease of 7.3 per cent in real terms ($2017–18) to ElectraNet's average annual allowed revenue relative to that in the 2013–18 regulatory control period. This decrease is primarily because of a lower rate of return in this final decision for the 2018–23 regulatory control period than that approved in the 2013–18 determination.

Figure 1.3 compares our final decision building blocks for ElectraNet's 2018–23 regulatory control period with ElectraNet's revised proposed revenue requirement for the same period, and the approved revenue for the 2013–18 regulatory control period.

Figure 1.3 Annual average revenue by building block components ($ million, 2017–18)



Source: AER analysis.

1.4.2 Shared assets

Our final decision is not to apply a shared asset revenue adjustment to ElectraNet's total revenue cap because the materiality threshold is not met in any year of the 2018–23 regulatory control period.

Service providers, such as ElectraNet, may use assets to provide both the prescribed transmission services that we regulate and other unregulated services. These assets are called 'shared assets'.[9] If the revenue from shared assets is material, ten per cent

[8] In real 2017–18 dollar terms, this consists of an initial decrease of 14.9 per cent from 2017–18 to 2018–19, followed by subsequent average annual change of zero per cent during the remainder of the 2018–23 regulatory control period.

[9] NER, cl. 6A.5.5.

of the unregulated revenues that a service provider earns from shared assets will be used to reduce the service provider's revenues for prescribed transmission services.[10]

The shared asset principles establish that use of share assets should be material before cost reductions are applied.[11] The NER does not define materiality in this context. Our approach to what constitutes a material use of shared assets is that unregulated use of shared assets in a specific regulatory year is material when a service provider's annual average unregulated revenue from shared assets is expected to be greater than 1 per cent of the MAR for that regulatory year.[12]

In our draft decision, we did not apply a shared asset revenue adjustment to ElectraNet's total revenue cap as the materiality threshold of one per cent was not met in any year of the 2018–23 regulatory control period at that time.[13]

In its revised proposal, ElectraNet did not submit a shared assets revenue adjustment to its total revenue cap for 2018–23. In response to an information request from us, ElectraNet provided an update to its forecast unregulated revenues which are slightly higher than the values provided in its initial proposal.[14]

We consider ElectraNet's updated forecast unregulated revenues are reasonable, based on its reporting of historical shared assets revenue and our assessment of this revenue source for other service providers.[15] Based on the expected MARs determined in this final decision, we estimate that the unregulated revenues will be 0.2 per cent of the expected MARs in each year of the 2018–23 regulatory control period. Therefore, the materiality threshold of one per cent is not met in any year of the 2018–23 regulatory control period and we do not apply a shared asset revenue adjustment.

We note unregulated revenues from shared assets may in future become material. We will monitor ElectraNet's shared asset unregulated revenues for future regulatory control periods.

1.4.3 Network capability incentive component revenue adjustment

In our draft decision, we removed ElectraNet's proposed network capability incentive parameter action plan (NCIPAP) forecast payments for the 2018–23 regulatory control period from the PTRM. This was because it is not appropriate to recognise the forecast incentive payments for projects that have not occurred or been approved in the PTRM.[16] ElectraNet's revised proposal adopted our draft decision.[17] We note that

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10 AER, *Shared asset guideline*, November 2013, p. 15.

11 NER, cl. 6A.5.5(c)(3).

12 AER, *Shared asset guideline*, November 2013, p. 8.

13 AER, *ElectraNet Draft decision, Attachment 1 - Maximum allowed revenue*, pp. 17–18, October 2017.

14 ElectraNet, *Response to AER information request #013 — Shared Asset revenue*, February 2018; AER analysis.

15 This was undertaken when we developed our shared asset guideline, during the 2013 calendar year, as part of our Better Regulation work program.

16 AER, *ElectraNet Draft decision, Attachment 1 - Maximum allowed revenue*, pp. 18–19, October 2017.

NCIPAP incentive payments for an approved plan are subject to annual approval by us and true-up at the end of the regulatory control period. As such, it becomes part of the approved MAR at the time of the annual revenue adjustment process as set out in the transmission determination for this final decision.

1.4.4 Indicative transmission charges and impact on electricity bills

ElectraNet is the main transmission network service provider for South Australia. Therefore, our final decision on ElectraNet's expected MAR will ultimately affect the annual electricity bills paid by customers in South Australia. Other than ElectraNet, Murraylink also operates a transmission network linking Red Cliffs in Victoria and Berri in South Australia which makes up a small component of the broader transmission networks that serve South Australia and Victoria.[18] The South Australian portion of Murraylink's annual expected MAR is 45 per cent.[19] We have finalised our assessment of Murraylink's revenue proposal for the 2018–23 regulatory control period, which coincides with ElectraNet's period. For this reason, in this attachment we provide an estimate of the combined effect of the final decisions for the ElectraNet and Murraylink transmission determinations on forecast average transmission charges in South Australia over the 2018–23 regulatory control period.

There are several steps required to translate our revenue decisions into indicative transmission charges, and then to estimate bill impact. Since we regulate ElectraNet's and Murraylink's prescribed transmission services under a revenue cap, changes in the consumption of electricity will affect the transmission charges ultimately paid by consumers. We estimate the indicative effect of our final decision on forecast average transmission charges in South Australia by:

- taking the sum of ElectraNet's annual expected MAR determined in this final decision and Murraylink's annual expected MAR apportioned to South Australia, and
- dividing it by the forecast annual energy delivered in South Australia published by AEMO.[20]

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17 ElectraNet, *Revised revenue proposal*, December 2017, p. 46.

18 AusNet Services is the main transmission network service provider for Victoria. Its transmission determination for the 2017–22 regulatory control period was completed earlier in April 2017 and does not align with Murraylink's period. As a result, the bill impacts for Victorian customers in AusNet Service's transmission determination do not incorporate the final decision for Murraylink.

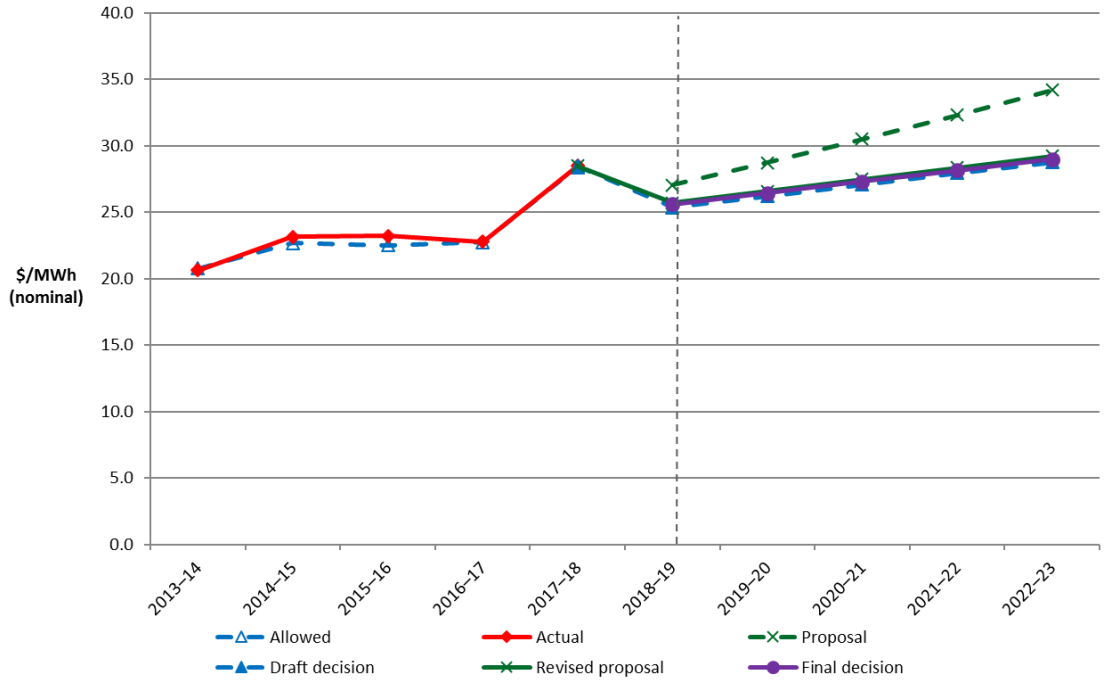
19 ElectraNet, as coordinating network service provider for South Australia, takes the portion of Murraylink's expected MAR for developing the applicable transmission charges to apply to customers; Murraylink, *Revenue proposal 2018–23—Attachment 12.1—Pricing Methodology*, January 2017, pp. 5 and 6. Based on Murraylink's current pricing methodology, 45 per cent of its regulated revenue will be recovered through transmission charges from South Australian customers; Murraylink, *Pricing methodology Effective July 2013 to June 2023*, May 2012, p. 3.

20 AEMO, *National Electricity and Gas forecasting - 2017 Electricity Forecasting Insights*, http://forecasting.aemo.com.au/Electricity/AnnualConsumption/Operational, accessed 21 March 2018.

Based on this approach, we estimate that our final decisions will result in a slight increase in annual average transmission charges from 2017–18 to 2022–23.[21]

Error! Reference source not found. shows the indicative average transmission charges over the period 2013–14 to 2022–23 in nominal dollar terms. The average transmission charges are forecast to increase from around $28.5 per MWh in 2017–18 to $29.0 per MWh in 2022–23.

Figure 1.4 Indicative transmission price path for South Australia ($/MWh, nominal)



Source: AER analysis.

We then calculate the expected bill impact by varying the transmission charges in accordance with our final decision, while holding all other components constant.[22] This approach isolates the effect of our final decision on the core transmission charges that represent approximately 7.0 per cent on average of a typical residential customer's annual electricity bill in South Australia.[23] This small percentage largely explains the relatively modest impact this final decision is likely to have on average annual

[21] On average, the final decision transmission revenues will decrease by 0.6 per cent ($ nominal) per annum from 2017–18 to 2022–23. The forecast energy delivered in South Australia will decrease by an average of 1.0 per cent per annum across that period. As a result, the indicative transmission charge will increase by 0.4 per cent ($ nominal) per annum from 2017–18 to 2022–23.

[22] The annual electricity bill for customers in South Australia will reflect the combined cost of all the electricity supply chain components–wholesale energy generation, transmission, distribution, metering and retail costs.

[23] ElectraNet, *Reset RIN – Table 7.6.1*, October 2015.

electricity bills. However, our approach does not imply that components other than transmission will remain unchanged across the regulatory control period.[24]

Based on this approach in our final decision, we expect the transmission component of the average annual residential electricity bill in South Australia to fall by about $17 in 2018–19 and then increase by around $5 per annum over the remainder of the regulatory control period. The transmission component of the average residential customer's annual electricity bill in 2022–23 is expected to be about $3 ($ nominal) higher than the 2017–18 level. This equates to a 0.1 per cent increase in the representative annual bill over 5 years.

Our estimated potential impact is based on the typical annual electricity usage of 5000 kWh per annum for a residential customer in South Australia.[25] Customers with different usage will experience different changes in their bills. We also note that there are other factors, such as distribution network costs, wholesale and retail costs which affect electricity bills.

Similarly, for a small business customer in South Australia that uses 10 MWh of electricity per annum, the transmission charges represent approximately 7.0 per cent of a typical annual electricity bill. We expect our final decision will result in the transmission component of the average annual electricity bill for a small business customer in 2022–23 to be about $6 ($ nominal) higher than the 2017–18 level. This equates to a 0.1 per cent increase in the representative annual bill over 5 years.

Error! Reference source not found. shows our estimated impact of our final decision and ElectraNet's revised proposal on the average annual electricity bills for residential and small business customers in South Australia over the 2018–23 regulatory control period.[26] As we have largely accepted ElectraNet's revised proposal, with some required updates, the difference between our final decision and ElectraNet's revised proposal is small.

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[24] It also assumes that actual energy delivered will equal the forecast adopted in our final decision. Since ElectraNet operates under a revenue cap, changes in energy delivered will also affect annual electricity bills across the 2018–23 regulatory control period.

[25] AEMC, *Final Report: 2017 Residential Electricity Price Trends*, *South Australia information sheet*, December 2017, p. 1.

[26] This table reflects the combined effect of the final decisions for the ElectraNet and Murraylink transmission determinations.

Table 1.3 Estimated impact of ElectraNet's revised revenue proposal and the AER's final decision on average annual electricity bills for the 2018–23 regulatory control period ($ nominal)

	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23
AER final decision						
Residential annual bill	2463 [a]	2445	2451	2456	2461	2466
Annual change [c]		–17 (–0.7%)	5 (0.2%)	5 (0.2%)	5 (0.2%)	5 (0.2%)
Small business annual bill	4634 [b]	4601	4611	4621	4631	4640
Annual change[c]		–33 (–0.7%)	10 (0.2%)	10 (0.2%)	10 (0.2%)	9 (0.2%)
ElectraNet revised proposal						
Residential annual bill	2463[a]	2446	2451	2457	2462	2467
Annual change [c]		–17 (–0.7%)	5 (0.2%)	5 (0.2%)	5 (0.2%)	5 (0.2%)
Small business annual bill	4634[b]	4602	4612	4623	4633	4642
Annual change [c]		–32 (–0.7%)	10 (0.2%)	10 (0.2%)	10 (0.2%)	10 (0.2%)

Source: AER analysis; AEMC, *Final Report: 2017 Residential Electricity Price Trends*, *South Australia information sheet*, December 2017, p. 1; ElectraNet, *Attachment 10.1 – PTRM – 20170131*, March 2017.

(a) Based on standing offers at 1 July 2017 from Energy Made Easy for an average residential customer's consumption of 5000 kWh per year.

(b) Based on standing offers at 1 July 2017 from Energy Made Easy for a small business customer in South Australia consuming 10000 kWh of electricity per year.

(c) Annual change amounts and percentages are indicative. They are derived by varying the transmission component of 2017–18 bill amounts in proportion to yearly expected revenue divided by AEMO's forecast energy delivered for South Australia. Actual bill impacts will vary depending on electricity consumption and tariff class.