FINAL DECISION

Power and Water Corporation
Distribution Determination
2019 to 2024

Attachment 1
Annual revenue requirement

April 2019

AUSTRALIAN ENERGY REGULATOR

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Note

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

The final decision includes the following attachments:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Return on debt transition

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 13 – Control mechanisms

Attachment 15 – Alternative control services

Attachment 18 – Tariff structure statement

Attachment A – Negotiating framework

Contents

Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
ARR	Annual Revenue Requirement
CPI	consumer price index
DMIAM	demand management innovation allowance mechanism
distributor	distribution network service provider
NT	Northern Territory
NT NER or the rules	National Electricity Rules As in force in the Northern Territory
opex	operating expenditure
Pricing Oder	electricity pricing order
RAB	regulatory asset base
RIN	regulatory information notice
SCS	standard control services

1 Annual revenue requirement

The annual revenue requirement (ARR) is the sum of the various building block costs for each year of the regulatory control period before smoothing. The ARRs are smoothed across the period to reduce fluctuations between years and to determine expected revenues for each year. The expected revenues are the amounts that Power and Water will target for annual pricing purposes and recover from customers for the provision of standard control services for each year of the regulatory control period. This attachment sets out our final decision on Power and Water's ARRs and expected revenues for the 2019–24 regulatory control period.

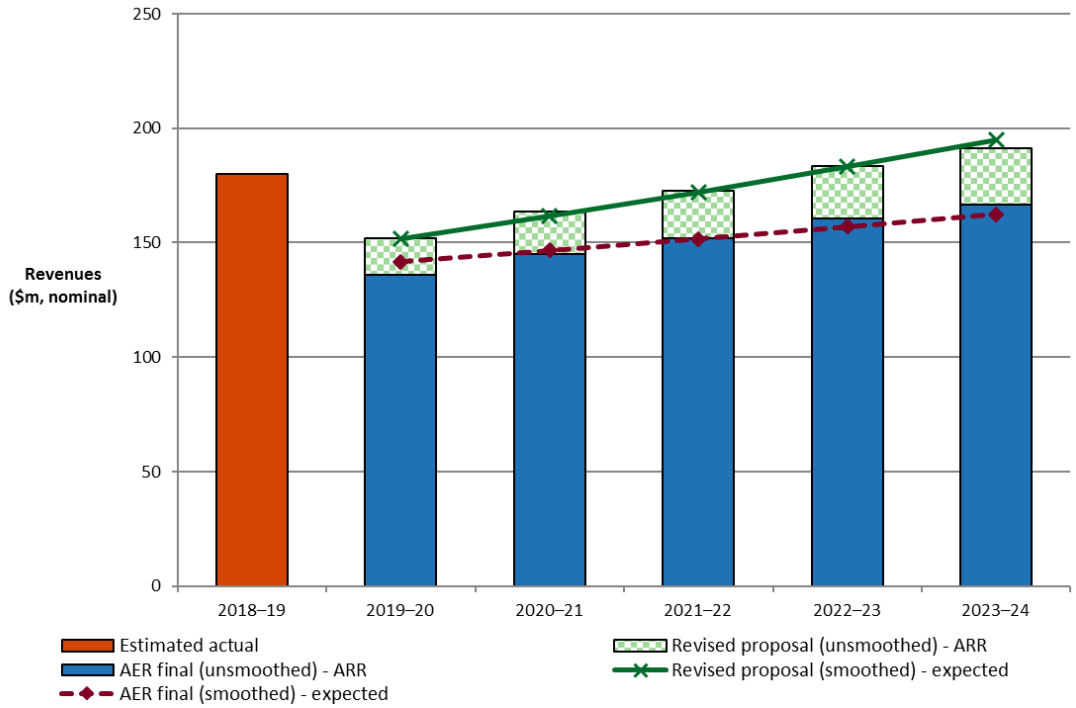
1.1 Final decision

We do not accept Power and Water's revised proposed total ARR of $863.0 million ($nominal) over the 2019–24 regulatory control period. This is because we have not accepted the building block costs in Power and Water's revised proposal. We determine a total ARR of $760.5 million ($nominal) for Power and Water for the 2019–24 regulatory control period, reflecting our final decision on the various building block costs. This is a reduction of $102.5 million ($nominal) or 11.9 per cent to Power and Water's revised proposal.

We determine the annual expected revenue (smoothed) and X factor for each regulatory year for the 2019–24 regulatory control period by smoothing the ARR. Our final decision is to approve total expected revenues (smoothed) of $759.3 million ($nominal) for Power and Water for the 2019–24 regulatory control period.

Figure 1-1 shows the difference between Power and Water's revised proposal and our final decision. Table 1-1 shows our final decision on the building block costs, the ARR, annual expected revenue and X factor for each year of the 2019–24 regulatory control period.

Figure 1-1 AER's final decision on Power and Water's revenue for the 2019–24 regulatory control period ($million, nominal)



Source: Power and Water, *PWCR04.01 - SCS Post-tax Revenue Model,* November 2018; AER analysis.

Table 1-1 AER's final decision on Power and Water's revenues for the 2019–24 regulatory control period ($million, nominal)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Return on capital	46.9	50.4	52.8	55.7	57.1	262.9
Regulatory depreciation[a]	18.5	23.5	26.6	31.0	34.2	133.8
Operating expenditure[b]	69.0	70.1	71.5	72.8	74.1	357.5
Revenue adjustments[c]	0.0	0.1	0.1	0.1	0.1	0.3
Net tax allowance	1.7	1.0	1.1	0.9	1.2	5.9
Annual revenue requirement (unsmoothed)	136.2	145.1	152.1	160.4	166.6	760.5
Annual expected revenue (smoothed)	**141.7**	**146.6**	**151.7**	**156.9**	**162.3**	**759.3**
X factor[d]	n/a[e]	–1.00%	–1.00%	–1.00%	–1.00%	n/a

Source: AER analysis.

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

(b) Includes debt raising costs.

(c) Includes revenue adjustments from shared assets and demand management innovation allowance mechanism (DMIAM).

(d) 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.

(e) Power and Water is not required to apply an X factor for 2019–20 because we set the 2019–20 expected revenue in this decision. The expected revenue for 2019–20 is around 23.0 per cent lower than the approved expected revenue for 2018–19 in real terms, or 21.2 per cent lower in nominal terms.

1.2 Power and Water's revised proposal

Power and Water's revised proposal included a total expected revenue of $863.5 million ($nominal) for the 2019–24 regulatory control period. Table 1.2 shows Power and Water's revised proposed building block costs, the ARR, expected revenue and X factor for each year of the 2019–24 regulatory control period.

Table 1.2 Power and Water's revised proposed revenues for the 2019–24 regulatory control period ($million, nominal)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Return on capital	58.8	63.2	66.2	69.8	71.6	329.6
Regulatory depreciation[a]	18.7	23.7	26.8	31.1	34.2	134.6
Operating expenditure[b]	70.4	72.7	75.5	78.2	81.1	377.9
Revenue adjustments[c]	0.1	0.1	0.1	0.1	0.1	0.4
Net tax allowance	3.9	4.0	4.2	4.2	4.2	20.6
Annual revenue requirement (unsmoothed)	151.8	163.8	172.8	183.5	191.2	863.0
Annual expected revenue (smoothed)	**151.8**	**161.6**	**172.0**	**183.1**	**194.9**	**863.5**
X factor	n/a[d]	–3.92%	–3.92%	–3.92%	–3.92%	n/a

Source: Power and Water, *PWCR04.01 - SCS Post-tax Revenue Model,* November 2018

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

(b) Includes debt raising costs.

(c) Includes revenue adjustments from shared assets and DMIAM.

(d) Power and Water is not required to apply an X factor for 2019–20 because we set the 2019–20 expected revenue in this decision.

1.3 Assessment approach

We did not change our assessment approach for the ARR from our draft decision. Section 1.3 of our draft decision details that approach.[1]

[1] AER, *Power and Water 2019–24 – Draft Decision – Attachment 1 – Annual revenue requirement*, September 2018, pp. 8–9.

1.4 Reasons for final decision

For this final decision, we determine a total ARR of $760.5 million ($nominal) for Power and Water over the 2019–24 regulatory control period. This is $102.5 million ($nominal) or 11.9 per cent lower than Power and Water revised proposal. This reflects the impact of our final decision on the various building block costs.

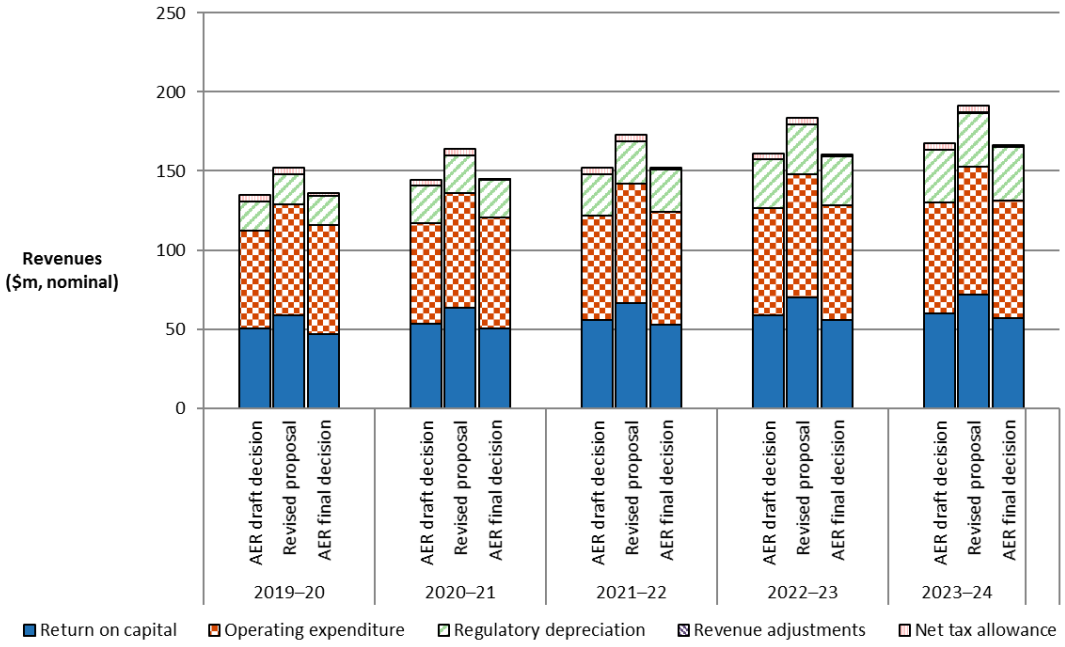
Figure 1-2 shows the building block components from our final determination that make up the ARR for Power and Water, and the corresponding components of its revised proposal and our draft decision.

The changes we made to Power and Water's revised proposed building blocks include (in nominal terms):

- a reduction in the return on capital allowance of $66.7 million or 20.2 per cent (attachments 2, 3, 5, and section 2.2 of the Overview)
- a reduction in the regulatory depreciation allowance of $0.7 million or 0.5 per cent (attachments 2, 4 and 5)
- a reduction in the opex allowance[2] of $20.4 million or 5.4 per cent (attachment 6)
- a reduction in the cost of corporate income tax allowance of $14.6 million or 71.1 per cent (attachment 7)
- a reduction in the revenue adjustments of $0.1 million or 22.7 per cent arising from the updates made to the DMIAM calculations (section 3 of the Overview).

[2] Includes debt raising costs.

Figure 1-2 AER's draft and final decisions, and Power and Water's revised proposed annual revenue requirement ($million, nominal)



Source: Power and Water, *04.01 – SCS Post-tax Revenue Model,* November 2018.
AER analysis.

Note: Revenue adjustments include shared assets and DMIAM. Opex includes debt raising costs.

1.4.1 Revenue smoothing

We have taken into account the building block costs determined in this decision when smoothing the expected revenues for Power and Water over the 2019–24 regulatory control period. In doing so, we first set the expected revenue for the first regulatory year (2019–20) at $141.7 million ($nominal). This is higher than the 2019–20 ARR (unsmoothed) of $136.2 million we determined. However, it is $38.1 million lower than the approved expected revenue for 2018–19. We then applied a profile of X factors to determine the expected revenue in subsequent years.

To smooth the revenue increases from the second regulatory year (2020–21) onwards, we have applied a constant X factor over the entire length of the period. This allows for a relatively predictive price movement over the regulatory control period, and provides a stable trend moving forward. This approach smooths the revenues by allowing for a more gradual path for higher revenues over the 2019–24 regulatory control period.

Based on the X factors we have determined for Power and Water, the difference between the expected revenue and ARR for 2023–24 is 2.6 per cent. This divergence aligns with our target band of 3 per cent. Therefore, we consider that our profile of X

factors results in an expected revenue in the last year of the regulatory control period that is as close as reasonably possible to the ARR for that year.[3]

1.4.2 Shared assets

Our final decision is to apply a shared asset revenue adjustment to Power and Water's total revenue requirement because the materiality threshold is met for all years of the 2019–24 regulatory control period.

Distributors, such as Power and Water, may use assets to provide both the standard control services we regulate and other unregulated services. These assets are called 'shared assets'.[4] If the revenue from shared assets is material, ten per cent of the unregulated revenues that a distributor earns from shared assets will be used to reduce the distributor's revenue for standard control services.[5]

The shared asset principles establish that use of shared assets should be material before cost reductions are applied.[6] The NT NER do 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 distributor's annual average unregulated revenue from shared assets is expected to be greater than one per cent of its expected revenue for that regulatory year.[7]

In our draft decision, we considered Power and Water's forecast unregulated revenues from shared assets for the 2019–24 regulatory control period to be reasonable because they were comparable with its historical unregulated revenues from shared assets.[8] Based on the expected revenues determined in this final decision, we estimate that the unregulated revenues will be between 1.7 and 2.0 per cent of Power and Water's expected revenues in each year of the 2019–24 regulatory control period. We are therefore satisfied that Power and Water's shared asset unregulated revenues meet the materiality threshold in each year of the 2019–24 regulatory control period.

For our final decision, we apply a shared asset revenue adjustment as shown in Table 1-3, consistent with Power and Water's revised proposal. The shared asset revenue adjustment is a total reduction of $1.3 million ($2018–19) across the 2019–24 regulatory control period.

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3 NT NER, cl. 6.5.9(b)(2). We consider a divergence of up to 3 per cent between the expected revenue and ARR 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.

4 NT NER, cl. 6.4.4.

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

6 NT NER, cl. 6.4.4(c)(3).

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

8 AER, *Draft decision – Power and Water Corporation distribution determination 2019–24 – Attachment 1 – Annual revenue requirement*, September 2018, p. 12.

Table 1-3 AER's final decision on Power and Water's shared asset revenue adjustment ($million, 2018–19)

	2019–20	2020–21	2021–22	2022–23	2023–24	Total
Power and Water's revised proposal	–0.3	–0.3	–0.3	–0.3	–0.3	–1.3
AER's final decision	–0.3	–0.3	–0.3	–0.3	–0.3	–1.3

Source: Power and Water, *PWC04.01 – SCS Post-tax revenue model*, November 2018; AER analysis.

1.4.3 Indicative average distribution price impact

Our final decision on Power and Water's expected revenues ultimately affects the prices consumers pay for electricity. There are several steps required in translating our revenue decision into indicative distribution price impact.

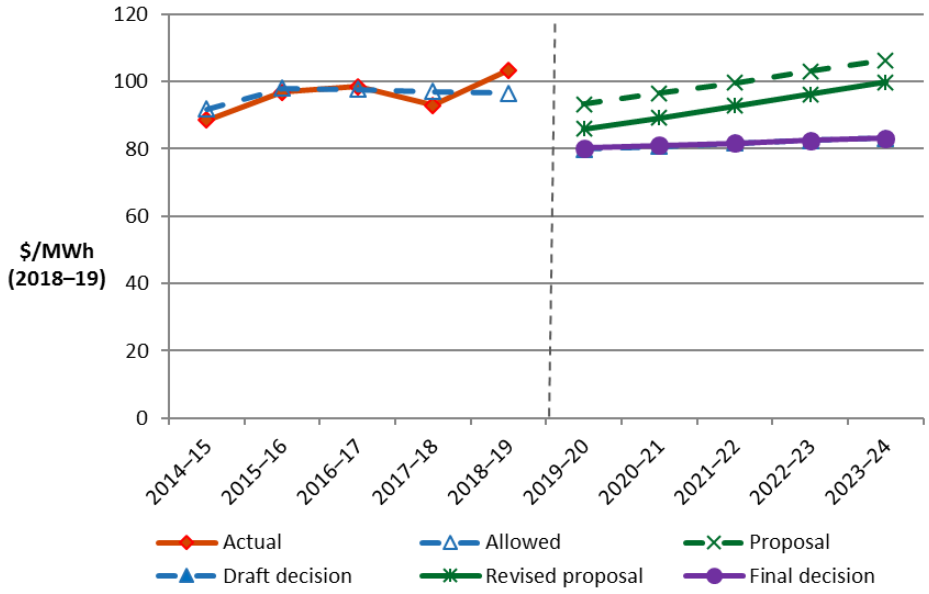
We regulate Power and Water's standard control services under a revenue cap form of control. This means our final decision on Power and Water's expected revenues do not directly translate to price impacts. This is because Power and Water's revenue is fixed under the revenue cap form of control, so changes in the consumption of electricity will affect the prices ultimately charged to consumers. We are not required to establish the distribution prices for Power and Water as part of this determination. However, we will assess Power and Water's annual pricing proposals before the commencement of each regulatory year within the 2019–24 regulatory control period. In each assessment we will administer the pricing requirements set in this distribution determination.

For this final decision, we have estimated some indicative average distribution price impacts flowing from our determination on the expected revenues for Power and Water over the 2019–24 regulatory control period. In this section, our estimates only relate to standard control services (that is, the core electricity distribution charges), not alternative control services (such as metering charges). These indicative price impacts assume that actual energy consumption across the 2019–24 regulatory control periods matches Power and Water's forecast energy consumption, which we have adopted for this final decision.[9]

Figure 1-3 shows Power and Water's indicative price path over the period 2014–24 in real 2018–19 dollar terms based on the expected revenues established in our final decision compared to Power and Water's revised proposed revenue requirement.

[9] Power and Water, *PWC11.11CP - Regulatory Determination Workbooks - Consolidated - 16 Mar 18 - Public table 3.4,* March 2018.

Figure 1-3 Indicative distribution price path for NT ($/MWh, 2018–19)



Source: AER analysis.

We estimate that our final decision on Power and Water's annual expected revenue will result in a decrease to average distribution charges by about 4.3 per cent per annum over the 2019–24 regulatory control period in real 2018–19 dollar terms.[10] This compares to the real average decrease of approximately 0.7 per cent per annum in Power and Water's revised proposal for the 2019–24 regulatory control period. These high-level estimates reflect the aggregate change across the entire network and do not reflect the particular tariff components for specific end users.

Table 1-4 displays the comparison of the revenue and price impacts of Power and Water's revised proposal and our final decision.

Table 1-4 Comparison of revenue and price impacts of Power and Water's revised proposal and the AER's final decision ($nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
AER final decision						
Revenue ($million)	179.8	141.7	146.6	151.7	156.9	162.3
Price path ($/MWh)[a]	103.4	82.1	85.0	87.9	90.8	93.7
Revenue (change)		–21.2%	3.4%	3.4%	3.4%	3.4%
Price path (change)		–20.6%	3.4%	3.4%	3.4%	3.2%

[10] In nominal terms we estimate average distribution charges to decline by 1.9 per cent per annum, compared to an increase of 1.7 per cent proposed by Power and Water in its revised proposal.

Power and Water revised proposal						
Revenue ($ million)	179.8	151.8	161.6	172.0	183.1	194.9
Price path ($/MWh)[a]	103.4	88.0	93.7	99.6	106.0	112.6
Revenue (change)		–15.6%	6.4%	6.4%	6.4%	6.4%
Price path (change)		–14.9%	6.4%	6.4%	6.4%	6.2%

Source: AER analysis.

(a) The price path is in nominal terms and is constructed by dividing nominal expected revenue for standard control services by forecast energy consumption for each year of the regulatory control period.

1.4.4 Expected impact of decision on electricity bills

The annual electricity bill for customers in the NT reflects the combined cost of all the electricity supply chain components—wholesale energy generation, distribution networks,[11] metering and retail costs. This final decision primarily relates to the distribution charges for standard control services, which represent approximately 44 per cent on average for residential customers and 35 per cent on average for small business customers.[12]

We estimate the expected bill impact by varying the distribution charges in accordance with our final decision, while holding all other components—including the metering component—constant. This approach isolates the effect of our final decision on the core distribution charges. However, this does not imply that other components will remain unchanged across the regulatory control period.[13]

Based on this approach, we expect that the distribution component of the average annual residential electricity bill in 2023–24 would decrease by about $102 ($nominal) from the 2018–19 level.[14] This involves a $225 decrease in the first year of the 2019–24 regulatory control period (2019–20), followed by gradual average annual increases of around $31 for the remaining years of the period (2020–24). By comparison, had we accepted Power and Water's revised proposal, the distribution component of the average annual residential electricity bill in 2023–24 would increase by about $97 ($nominal) from the 2018–19 level.[15]

Similarly, for an average small business customer in the NT, we expect that the distribution component of the average annual electricity bill in 2023–24 would decrease

11 All of Power and Water's electricity network is deemed to be distribution for the purposes of economic regulation.

12 Power and Water, *Regulatory proposal overview*, March 2018, p. 1.

13 It also assumes that actual energy consumption will equal the forecast adopted in our final decision. Since Power and Water operates under a revenue cap, changes in energy consumption will also affect annual electricity bills across the 2019–24 regulatory control period.

14 This equates to a 4.1 per cent decrease in the average residential customer's total electricity bill over five years.

15 This equates to a 3.9 per cent increase in the average residential customer's total electricity bill over five years.

by about $319 ($nominal) from the 2018–19 level.[16] This involves an $701 decrease in the first year of the 2019–24 regulatory control period (2019–20), followed by gradual average annual increases of around $96 for the remaining years of this period (2020–24). By comparison, had we accepted Power and Water's revised proposal, the distribution component of the average annual small business electricity bill in 2023–24 would increase by about $301 ($nominal) from the 2018–19 level.[17]

Our estimated impact is based on an average annual electricity usage of around 8500 kWh per annum for residential households and 38000 kWh for small businesses.[18] Therefore, customers with different usage will experience different changes in their bills. We also note that there are other factors, such as metering costs, wholesale and retail costs, which also affect electricity bills.

Table 1-5 shows the estimated annual average impact of our final decision for the 2019–24 regulatory control period and Power and Water's revised proposal on the average residential and small business customers' annual electricity bills in the NT.

Table 1-5 Estimated impact of Power and Water's revised proposal and the AER's final decision on annual electricity bills for the 2019–24 regulatory control period ($nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
AER final decision						
Residential annual bill	2484[a]	2259	2289	2320	2351	2382
Annual change[c]		–225 (–9.1%)	30 (1.3%)	31 (1.3%)	31 (1.3%)	31 (1.3%)
Small business annual bill	9734[b]	9033	9126	9222	9319	9416
Annual change[c]		–701 (–7.2%)	93 (1%)	95 (1%)	97 (1.1%)	97 (1%)
Power and Water revised proposal						
Residential annual bill	2484[a]	2321	2381	2444	2511	2581
Annual change[c]		–163 (–6.6%)	60 (2.6%)	63 (2.7%)	67 (2.7%)	70 (2.8%)
Small business annual bill	9734[b]	9226	9413	9610	9818	10036
Annual change[c]		–508 (–5.2%)	187 (2%)	197 (2.1%)	208 (2.2%)	217 (2.2%)

Source: AER analysis; Power and Water, *Revised regulatory proposal overview*, November 2018.

(a) Annual bill for 2018–19 reflects the average consumption of 8500 kWh for a typical residential customer in NT with an accumulation meter.

16 This equates to a 3.3 per cent decrease in the average small business customer's total electricity bill over five years.

17 This equates to a 3.1 per cent increase in the average small business customer's total electricity bill over five years.

18 Power and Water, *Revised regulatory proposal, Table 13.1*, November 2018, p. 81.

(b) Annual bill for 2018–19 reflects the average consumption of 38000 kWh for a typical small business customer in NT with an accumulation meter.

(c) Annual change amounts and percentages are indicative. They are derived by varying the distribution component of the 2018–19 bill amounts in proportion to yearly expected revenue divided by forecast energy as provided by Power and Water. Actual bill impacts will vary depending on electricity consumption and tariff class.

We note the majority of customers in the NT are subject to the government's Electricity Pricing Order (Pricing Order). This caps retail prices for customers using less than 750 MWh of electricity per annum.[19] It is important to recognise that the impact of any changes to Power and Water's revenue as a result of our decision is constrained by the Pricing Order. Therefore, the outcomes flowing from this final decision may not affect the retail electricity bill under the Pricing Order for customers in the NT.

The Pricing Order stipulates a fixed charge and volume based tariff structure (including a time of use tariff) but does not account for demand based tariffs. The Pricing Order prevents price increases but allows prices to be set lower than prescribed. However, it is up to retailers to determine the price in accordance with the Pricing Order and pass on to customers any cost savings from lower network revenues determined for Power and Water. This means only a small number of large customers are not covered by this retail price protection and they will be directly affected by the outcomes of this distribution determination.

Therefore, based on the approach discussed above, for an average large customer in the NT, we expect that the distribution component of the average annual electricity bill in 2023–24 would decrease by about $7395 ($nominal) from the 2018–19 level.[20] By comparison, had we accepted Power and Water's revised proposal, the distribution component of the average annual electricity bill for large customers in 2023–24 would increase by about $6996 ($nominal) from the 2018–19 level.[21] Our estimated impact is based on an average annual electricity usage of around 1000 MWh per annum for large customers.[22]

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19 The fixed daily charge and the charge for the volume of electricity consumed is not to exceed the amount specified in the pricing order (see clauses 4 and 5). The pricing order can be found on the Utilities Commission's website at: http://www.utilicom.nt.gov.au/Electricity/pricing/Pages/Electricity-Retail-Pricing.aspx.

20 This equates to a 3.3 per cent decrease in the average large customer's total electricity bill over five years.

21 This equates to a 3.1 per cent increase in the average large customer's total electricity bill over five years.

22 Power and Water, *Revised regulatory proposal, Table 13.1*, November 2018, p. 81.