



POWER AND WATER CORPORATION

2021-22 Annual Pricing proposal

System Control and Market Operator

31 March 2021

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SUMMARY

This document is our 2021-22 Annual Pricing Proposal relating to system control and market operator charges. Power and Water Corporation (Power and Water) provides system control and market operator functions under our System Control Licence¹. The charges for these services are regulated by the Utilities Commission of the Northern Territory (Commission).²

In April 2019, the Commission published a final decision on our system control and market operator charges for 2019-24 (Final decision).³ This included an approved charge for 2019-20 and indicative charges for the remaining years of the period. The charge was based on the revenue divided by the energy forecast.

We are required to submit an annual pricing proposal to the Commission which updates the indicative charge in the Final Decision for inflation, X-factor price movements, updated energy forecasts, under-over recovery amounts, and pass through amounts.

Higher proposed charges for 2021-22

Table 1 shows that our proposed system control and market operator charges for 2021-22 are materially higher than 2020-21.

Table 1: Comparison of 2020-21 approved and 2021-22 proposed system control and market operator charges

	2020-21 approved charge (\$/kWh, nominal)	2021-22 proposed charge (\$/kWh, nominal)
System control*	0.005500	0.006110
Market operator*	0.000590	0.000656

*Charges have been rounded to 6 decimal places for System Control charges and Market Operator charges.

The key reason for higher charges in 2021-22 relate to lower energy forecasts than applied in the Final Decision. In our initial regulatory proposal to the Commission, we had submitted Australian Energy Market Operator (AEMO) forecasts that related to energy sent out data. Upon reflection, we should have provided forecasts based on energy delivered from the grid which is the measure we use to levy charges. Energy delivered from the grid is significantly lower than energy sent out due to power losses and consumption behind the meter. Further, our actual energy consumption has been lower than the projected change in AEMO's forecasts and is trending downwards. This oversight led to a significant under recovery in 2019-20 (t-2) which is being corrected and is reflected in the above rates.

Bill impacts

Table 2 and 3 outline the bill impact to typical customer types from increases in the proposed change in system control and market operator charges. Table 1 and 2 shows that all these customer segments will experience approximately 11 per cent increase for both system control and market operator charges.

¹ https://utilicom.nt.gov.au/__data/assets/pdf_file/0005/741956/UC-LIC-PWC-SYS.pdf

² The system control charge relates to customers connected to the Darwin-Katherine, Tennant Creek and Alice Springs regulated networks. The Market Operator charge only relates to customers connected to the Darwin-Katherine network.

³ https://utilicom.nt.gov.au/__data/assets/pdf_file/0009/746190/Final-Decision-2019-System-Control-Charges-Review.pdf

Table 2: Change in a typical customer's System Control bill between 2020-21 and 2021-22

Customer Type	Total charge (\$, nominal)		Increase	
	2020-21	2021-22	\$	%
Small Residential - average energy - (8500 kWh pa)	\$47	\$52	\$5	11%
Large Residential (15,000 kWh pa)	\$83	\$92	\$9	11%
Small Medium Business (30,000 kWh pa)	\$165	\$183	\$18	11%
Medium Business (150,000 kWh pa)	\$825	\$917	\$92	11%
Large C&I (500,000 kWh pa)	\$2,750	\$3,055	\$305	11%
Industrial (1,000,000 kWh pa - LV)	\$5,500	\$6,110	\$610	11%
Large Industrial (6,000,000 kWh pa - HV)	\$33,000	\$36,660	\$3,660	11%

Table 3: Change in a typical customer's Market Operator bill between 2020-21 and 2021-22

Customer Type	Total charge (\$, nominal)		Increase	
	2020-21	2021-22	\$	%
Small Residential - average energy - (8500 kWh pa)	\$5	\$6	\$1	11%
Large Residential (15,000 kWh pa)	\$9	\$10	\$1	11%
Small Medium Business (30,000 kWh pa)	\$18	\$20	\$2	11%
Medium Business (150,000 kWh pa)	\$89	\$98	\$10	11%
Large C&I (500,000 kWh pa)	\$295	\$328	\$33	11%
Industrial (1,000,000 kWh pa - LV)	\$590	\$656	\$66	11%
Large Industrial (6,000,000 kWh pa - HV)	\$3,540	\$3,936	\$396	11%

Currently, customers who consume less than 750MWh per annum are subject to retail price protection under the Northern Territory Government Electricity Pricing Order (NT Pricing Order). We anticipate that the Pricing Order will continue into 2021-22, this means that the changes in Power and Water's charges for 2021-22 will not directly impact retail electricity bills to over 99 percent of the customer base.

Our major energy customers, consuming above 750Mwh per annum are not protected by the Pricing Order. We note that Power and Water's proposed reductions to network bills as outlined in our 2021-22 Network Pricing Proposal will result in lower combined network, system control and market operator bill, than in 2020-21.

COVID-19

We have incorporated the impact of COVID-19 into our consumption and demand forecasts, reducing our current year (2020-21) forecast by 1 per cent, while forecasting a recovery to pre-COVID levels starting in late 2021-22.

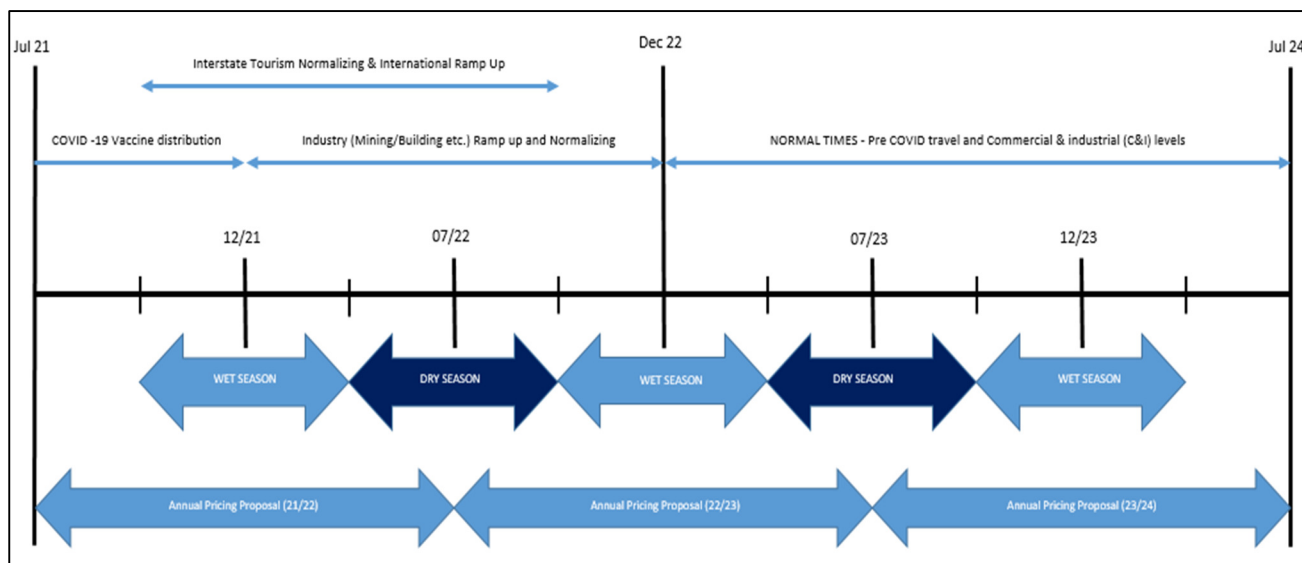
We have seen our non-residential sector heavily impacted, led by our major customer segment who have been impacted by travel restrictions and social distancing requirements. This includes our airports, casinos and other hospitality and tourism customers suffering severely from travel restrictions during this pandemic. In addition to these industries, our mining and defence sectors have also been impacted due to the pandemic. This has significantly reduced energy consumption and demand volumes for our major customer segment.

Outside of our major customer's segment consumption and demand trends have remained relatively stable. This has been driven by individuals and families temporarily relocating to the Northern Territory to avoid mass lockdowns and reduce the potential of contracting the virus. The Northern Territory is viewed as a safe harbour and has not suffered any significant outbreaks, or experienced mass community transmission, leading to many individuals and their families temporarily relocating north while still being able to work remotely.

It should be noted that prior to the pandemic consumption across the Northern Territory was trending downwards, largely driven by the behind the meter solar installation and a flattening economy. The influx of people temporarily relocating north has helped to offset the downward trend.

Table 4 below highlights our thinking on the return to normal, we expect that the vaccine roll-out will aid industry recovery and normalization in mining and tourism operations through 2021-22.

Table 4: Power and Water's expected timeline to return to pre-COVID levels.



1. BACKGROUND

1.1. Relevant context

Power and Water holds a System Control Licence to conduct system control and market operator functions.⁴ The services are provided by an independently operated business unit within Power and Water, termed System Control and Market Operator.

Under Northern Territory legislation, a system controller is entitled to impose and recover charges relating to the operations of the system. The legislation states that the schedule of charges is to be approved by the Commission.

On 30 April 2019, the Commission published a Final Decision on the charges that the system controller could apply from 1 July 2019. This decision approved the charge that Power and Water would apply in 2019-20, and set out pricing parameters and indicative charges for the 2020-21 to 2023-24 regulatory years. The charge is payable by retailers based on energy consumed by their customers in the Darwin-Katherine Interconnected System, Alice Springs, and Tennant Creek regulated grids for system control charges, and based on energy consumed by customers in the regulated Darwin-Katherine Interconnected System only for market operator charges.

1.2. Purpose

Power and Water must submit an annual pricing proposal to the Commission in March of each year which sets out our proposed system control and market operator charges for the following financial year. The Commission's final decision set out a formula for the operation of a revenue cap and an under-over recovery mechanism. Since the final decision, the Commission has provided further clarity on the source of inputs we must apply when applying these mechanisms.⁵

This 2021-22 Annual Pricing Proposal is our second pricing proposal to the Commission for the 2019-24 regulatory period.

1.3. Method to calculate annual charges

The revenue cap formula in the Final Decision requires Power and Water to update the annual indicative smoothed revenue in the final decision for system control and market operator charges respectively. The first step in the formula is to calculate the adjusted annual smoothed revenue requirement (ARR) for 2021-22. This is calculated by adjusting the 2020-21 AAR by most recent data on actual inflation, and the X-factor in the final decision.⁶

⁴ Power and Water, as the licensed system controller, carries out system control and market operator functions in accordance with section 38 of the Electricity Reform Act 2000 (the Act) and the System Control Technical Code (SCTC).

⁵ The UC wrote to Power and Water on 2 January 2020, clarifying that Power and Water should use the ABS CPI All Group, Weighted Average of Eight Capital Cities for the December (2019) quarter and the same source as used for the kWh forecast in the Final Decision, but updated with actuals. In an email on 12 February 2020, Power and Water staff raised a concern about using the same source as final decision (AEMO energy sent out) for energy forecasts. On 19 February 2020, UC staff responded via email agreeing with PWC's proposed revised approach to use the identical energy forecast source as the Australian Energy Regulator pricing proposal from 2020-21.

⁶ The specific formula is $ARR_t = AAR_{t-1} \times (1 + \Delta CPI_t) \times (1 - X_t)$ as set out on page 15 of the Commission's final decision.

The second step is to calculate the total allowed revenue (TAR) for 2021-22. This is the sum of the AAR for 2020-21, the under-over recovery amount for previous years, and the costs associated with certain events defined by the Commission.⁷ Subsequently, the Commission has advised Power and Water that other costs outside those contemplated in the final decision may be the subject of a pass through event.

The final step is to calculate the respective charge for system control and the market operator. This is the TAR divided by the relevant energy forecast. On 12 February 2020, Power and Water staff raised a concern about using the same source as final decision (AEMO energy sent out) for energy forecasts. On 19 February 2020, UC staff responded via email agreeing with Power and Water's proposed revised approach to use the identical energy forecast source as the Network Pricing Proposals we submit to the AER.

1.4. Structure of proposal

Chapter 2 identifies our proposed system control charge for 2021-22, and the underlying inputs and calculations to derive the charge. Chapter 3 identifies our proposed market operator charge for 2021-22, and the underlying inputs and calculations to derive the charge. We have also submitted an Excel model which provides further documentation and transparency on inputs and outputs underlying our pricing proposal, and which demonstrates compliance with the Commission's final decision.

⁷ The specific formula is $TAR_t = AAR_t + B_t + C_t$. B_t is the true-up in year t for any under or over recovery of actual revenue collected through the system control or market operator charge. C_t is: the costs in year t associated with the proposed new Control and Administrative Centre, when approved by the Commission; the change in costs in year t associated with a change in the market and operator functions; and change in the allocation of direct costs and corporate overheads in year t arising from these events. This is set out on Page 15 of the Commission's final decision

2. PROPOSED SYSTEM CONTROL CHARGES FOR 2021-22

Power and Water has applied the prescribed formula in the Commission's final decision and subsequent correspondence to calculate our proposed system control charge for 2021-22. The key inputs we have used to calculate the system control charge are identified in Table 5 below.

The first step is to calculate the adjusted annual smooth revenue requirement (AAR) for 2021-22. This is achieved by adjusting the smoothed revenue in the 2020-21 Final Decision for the most recent inflation data, and the 2021-22 'X-factor' in the decision. The second step is to calculate the TAR by summing the ARR for 2020-21, pass through amounts, and under-over recovery amounts. We have no pass through amounts approved or for approval in 2021-22. We have calculated the under-over recovery amount by applying the prescribed formula in the Commission's final decision incorporating under-recovery amounts in 2019-20 (t-2) and accrued interest.

The last step to derive the system control charge is to divide the TAR by the forecast energy consumption for the 3 regulated networks. We have applied the energy forecast provided in our 2021-22 Network Pricing Proposal to the AER, as required by the Commission.

Table 5: Key inputs to derive system control charges for 2021-22

Terms	Input	Source / underlying values to calculate input
Adjusted annual smoothed revenue requirement in 202-21 (AAR_{t-1})	\$8,857,589	This is consistent with the smoothed revenue for 2020-21 set out in Power and Water's approved 2020-21 pricing proposal, and subsequently approved by the Commission.
Inflation update (CPI_t)	0.86%	Reflect the December 2020 ABS update, consistent with past advice from the Commission.
X-factor (X_t)	1.02%	Table 5 of UC's final decision
Adjusted annual smoothed revenue requirement in 2021-22 (AAR_t)	\$8,842,691	This is calculated as adjusted annual smoothed revenue in 2019 multiplied by 1+ change in CPI multiplied by 1-X-factor. Mathematically: $AAR_t = AAR_{t-1} \times (1 + \Delta CPI_t) \times (1 - X_t)$
Pass through amounts (C_t)	\$0	We have not sought a pass through amount from the Commission in 2020-21.
True-up for under-over recovery adjustment (B_t)	\$925,892	We have calculated an under-recovery amount consistent with Appendix B of the Commission's final decision. ⁸
Total Allowable Revenue in 2021-22 (TAR_t) (\$, nominal)	\$9,768,583	This is the sum of AAR_t , pass through amounts and under-over recovery amounts.
Energy forecast for 2021-22 for 3 regulated networks (kwh)	1,598,710,404	This is the energy consumption forecast for 2021-22 for the 3 regulated networks, consistent with the total energy consumption forecast submitted in our AER Network Pricing Proposal.
Proposed system control charge for 2021-22 (\$/kwh, nominal)	\$0.006110	This is the Total Allowed Revenue divided by the energy forecast for 2021-22 for 3 regulated networks

⁸ The model which accompanies our proposal calculates the same amount as what would occur under the steps in the final decision of the Commission, but slightly deviates in application. Rather than applying 18 months interest to the closing account at t-2, we have applied 6 months of interest. We have then subsequently applied the residual 12 months of interest as part of the formula for the annual adjustment in t. This overcomes a potential error in overstating interest that may occur under Appendix B of the Commission's final decision when the 5 per cent materiality threshold is not met. We would be happy to discuss this issue further with the Commission.

3. PROPOSED MARKET OPERATOR CHARGES FOR 2021-22

Power and Water has applied the prescribed formula identified in the Commission's final decision and subsequent correspondence. The key inputs we have used to calculate the market operator charges are identified in Table 6 below.

The first step is to calculate the adjusted annual smooth revenue requirement (AAR) for 2021-22. This is achieved by adjusting the smoothed revenue in the 2019-20 Final Decision for the most recent inflation data, and the 2021-22 'X-factor' in the decision. The second step is to calculate the TAR by summing the ARR for 2021-22, pass through amounts, and under-over recovery amounts. We have no pass through amounts approved or for approval in 2020-21. We have calculated the under-over recovery amount by applying the prescribed formula in the Commission's final decision incorporating under-recovery amounts in 2019-20 (t-2) and accrued interest. The last step to derive the market operator charge is to divide the TAR by forecast energy consumption for the Darwin-Katherine region only, consistent with the Commission's approach in the final decision. This is the energy forecast in our 2021-22 Network Pricing Proposal to the AER, but only the proportion relating to Darwin-Katherine. This was based on AEMO's split of energy consumption by region of 86.4%.

Table 6: Key inputs to derive market operator charges for 2021-22

Terms	Input	Source / underlying values to calculate input
Adjusted annual smoothed revenue requirement in 2020-21 (AAR_{t-1})	\$822,998	This is consistent with the smoothed revenue for 2020-21 set out in Power and Water's approved 2020-21 pricing proposal, and subsequently approved by the Commission.
Inflation update (CPI_t)	0.86%	Reflect the December 2020 ABS update, consistent with past advice from the Commission.
X-factor (X_t)	1.63%	Table 5 of Commission's final decision
Adjusted annual smoothed revenue requirement in 2021-22 (AAR_t)	\$816,550	This is calculated as adjusted annual smoothed revenue in 2019 multiplied by 1+ change in CPI multiplied by 1-X-factor. Mathematically: $AAR_t = AAR_{t-1} \times (1 + \Delta CPI_t) \times (1 - X_t)$
Pass through amounts (C_t)	\$0	We have not sought a pass through amount from the Commission in 2020-21.
True up for under-over recovery adjustment (B_t)	\$89,929	We have calculated an under-recovery amount consistent with Appendix B of the Commission's final decision. ⁹
Total Allowable Revenue in 2021-22 (TAR_t) (\$, nominal)	\$906,479	This is the sum of AAR_t , pass through amounts and under-over recovery amounts.
Energy forecast for 2021-22 for Darwin-Katherine (DKIS) regulated network (kwh)	1,381,285,789	This is our estimate of the forecast energy consumption for 2021-22 that relates only to Darwin-Katherine. We have assumed that 86.4% of total energy consumption is related to Darwin-Katherine consistent with the proportion in AEMO's forecast of energy sent out in our 2019-24 regulatory proposal.
Proposed market operator charge for 2021-22 (\$/kwh, nominal)	\$0.000656	This is the Total Allowed Revenue divided by the energy forecast for 2021-22 for DKIS

⁹ The model which accompanies our proposal calculates the same amount as what would occur under the steps in the final decision of the Commission, but slightly deviates in application. Rather than applying 18 months interest to the closing account at t-2, we have applied 6 months of interest. We have then subsequently applied the residual 12 months of interest as part of the formula for the annual adjustment in t. This overcomes a potential error in overstating interest that may occur under Appendix B of the Commission's final decision when the 5 per cent materiality threshold is not met. We would be happy to discuss this issue further with the Commission.

GLOSSARY

AARt	Adjusted annual revenue
AER	Australian Energy Regulator
AEMO	Australian Energy Market Operator
Commission	Utilities Commission of the Northern Territory
CPI	Consumer Price Index
DKIS	Darwin-Katherine Interconnected System
Final Decision	Final Decision: 2019-System Control Charges Review
kWh	Kilowatt hour
MW	Megawatt
MWh	Megawatt hour
Power and Water	Power and Water Corporation
TAR	Total allowable revenue