



2023-24 Annual Pricing Proposal

System Control and Market Operator

31 March 2023

PowerWater

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Abbreviations

The following table provides a list of abbreviations and acronyms used throughout this document. Defined terms are identified in this document by capitals.

| Term | Definition |
|----------------|--------------------------------------------------------------------------|
| ARR | Adjusted annual smoothed revenue requirement |
| Commission | Utilities Commission of the Northern Territory |
| DKIS | Darwin-Katherine Interconnected System |
| DTF | Department of Treasury and Finance |
| Final decision | Final Decision on System Control and Market Operator Charges for 2019-24 |
| NTEM | Northern Territory Electricity Market |
| Pricing Order | NT Government Electricity Pricing Order |
| SCTC | System Control Technical Code |
| TAR | Total Allowed Revenue |

Overview

This document is our 2023-24 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 is 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.

Lower proposed charges for 2023-24

Table 1 shows that our proposed system control and market operator charges for 2023-24 are lower than 2022-23.

Table 1: Comparison of 2022-23 approved and 2023-24 proposed system control and market operator charges

| | 2022-23 approved charge (\$/kWh, nominal) | 2023-24 proposed charge (\$/kWh, nominal) |
|-------------------------|----------------------------------------------|----------------------------------------------|
| System control* | \$0.005407 | \$0.005214 |
| Market operator* | \$0.000574 | \$0.000552 |

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

The key reason for lower charges in 2023-24 directly relate to lower allowable revenues. While inflation is significantly high at over 7 per cent, the over-recovery adjustment related to actual revenue recovered in 2021-22 has resulted in lower allowed revenue. We have forecast a slight increase in energy consumption for 2023-24, which is being primarily driven by increased activity in our major customer segment.

Our actual energy consumption in 2022-23 is tracking in line with the forecast provided in our 2022-23 pricing proposal to the Commission. We have forecasted a slight increase in energy consumption for 2023-24, which is being primarily driven by increased activity in our major customer segment.

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

Bill impacts

| Customer type | Total charge (\$, nominal) | | Price Movement | |
|------------------------------------------|----------------------------|-------------|----------------|-------|
| | 2022-23 | 2023-24 | \$ | % |
| Small Residential (8500 kWh pa) | \$45.96 | \$44.32 | -\$1.64 | -3.6% |
| Large Residential (15,000 kWh pa) | \$81.11 | \$78.21 | -\$2.90 | -3.6% |
| Small Medium Business (30,000 kWh pa) | \$162.21 | \$156.42 | -\$5.79 | -3.6% |
| Medium Business (150,000 kWh pa) | \$811.05 | \$782.10 | -\$28.95 | -3.6% |
| Large C&I (500,000 kWh pa) | \$2,703.50 | \$2,607.00 | -\$96.50 | -3.6% |
| Industrial (1,000,000 kWh pa - LV) | \$5,407.00 | \$5,214.00 | -\$193.00 | -3.6% |
| Large Industrial (6,000,000 kWh pa - HV) | \$32,442.00 | \$31,284.00 | -\$1,158.00 | -3.6% |

Table 2 and Table 3 below outline the bill impact associated with typical customer cohorts based on the proposed reduction in system control and market operator charges in 2023-24. They show that all customer segments will experience a reduction of 3.6 per cent for system control and 3.9 per cent for market operator charges.

Table 2: Change in a typical customer's System Control bill between 2022-23 and 2023-24

| Customer type | Total charge (\$, nominal) | | Price Movement | |
|---------------------------------------|----------------------------|------------|----------------|-------|
| | 2022-23 | 2023-24 | \$ | % |
| Small Residential (8500 kWh pa) | \$45.96 | \$44.32 | -\$1.64 | -3.6% |
| Large Residential (15,000 kWh pa) | \$81.11 | \$78.21 | -\$2.90 | -3.6% |
| Small Medium Business (30,000 kWh pa) | \$162.21 | \$156.42 | -\$5.79 | -3.6% |
| Medium Business (150,000 kWh pa) | \$811.05 | \$782.10 | -\$28.95 | -3.6% |
| Large C&I (500,000 kWh pa) | \$2,703.50 | \$2,607.00 | -\$96.50 | -3.6% |
| Industrial (1,000,000 kWh pa - LV) | \$5,407.00 | \$5,214.00 | -\$193.00 | -3.6% |

| | | | | |
|------------------------------------------|-------------|-------------|-------------|-------|
| Large Industrial (6,000,000 kWh pa - HV) | \$32,442.00 | \$31,284.00 | -\$1,158.00 | -3.6% |
|------------------------------------------|-------------|-------------|-------------|-------|

Table 3: Change in a typical customer's Market Operator bill between 2022-23 and 2023-24

| Customer type | Total charge (\$, nominal) | | Price Movement | |
|------------------------------------------|----------------------------|------------|----------------|-------|
| | 2022-23 | 2023-24 | \$ | % |
| Small Residential (8500 kWh pa) | \$4.88 | \$4.69 | -\$0.19 | -3.9% |
| Large Residential (15,000 kWh pa) | \$8.61 | \$8.27 | -\$0.34 | -3.9% |
| Small Medium Business (30,000 kWh pa) | \$17.22 | \$16.55 | -\$0.67 | -3.9% |
| Medium Business (150,000 kWh pa) | \$86.10 | \$82.73 | -\$3.37 | -3.9% |
| Large C&I (500,000 kWh pa) | \$287.00 | \$275.75 | -\$11.25 | -3.9% |
| Industrial (1,000,000 kWh pa - LV) | \$574.00 | \$551.50 | -\$22.50 | -3.9% |
| Large Industrial (6,000,000 kWh pa - HV) | \$3,444.00 | \$3,309.00 | -\$135.00 | -3.9% |

Currently, customers who consume less than 750MWh per annum are subject to retail price protection under the Northern Territory Government's Electricity Pricing Order (**Pricing Order**). We anticipate that the Pricing Order will continue through 2023-24, meaning that changes in Power and Water's charges will not directly impact retail electricity bills to over 99 per cent of the customer base.

Our major energy customers, those consuming above 750Mwh per annum are not protected by the Pricing Order and represent less than 1 per cent of the customer base. These customers while small in number currently account for over 30 per cent of the revenue we recover.

We note that Power and Water's proposed increases in network charges, as outlined in our 2023-24 Network Pricing Proposal, will result in higher combined network, system control and market operator bill impacts than in 2022-23 across all customers cohorts.

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.

Under Northern Territory legislation, a system controller is entitled to impose and recover charges relating to the operations of the regulated 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 charges 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 (**DKIS**), Alice Springs, and Tennant Creek regulated grids for system control charges, and based on energy consumed by customers connected to the regulated DKIS 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 2023-24 Annual Pricing Proposal is our final annual 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 2023-

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* 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.

24. This is calculated by adjusting the 2022-23 AAR by most recent data on actual inflation, and the X-factor in the final decision.⁶

The second step is to calculate the total allowed revenue (**TAR**) for 2023-24. This is the sum of the AAR for 2023-24, 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 charges for system control and the market operator. This is the TAR divided by the relevant energy forecast. On 12 February 2020, Power and Water raised a concern about using the same source as final decision (AEMO energy sent out) for energy forecasts. On 19 February 2020, the Commission 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 Forecast consumption for 2023-24

The next step in our process is to forecast energy consumption (kWh) for 2023-24. We began by analysing and reforecasting the current year (2022-23) based on the latest trends observed in the first half of 2022-23 financial year, slightly increasing our forecasted NMI's and slightly reducing our forecast energy consumption. Based on this revised baseline, we then forecast consumption for the 2023-24 regulatory year.

We began with applying minimal growth rate of 1 per cent to our NMI count. This increase was based on two major factors. Firstly we took into account the NT population growth rate of 0.74 per cent over the last ten years, and secondly we accounted for the scheduled completion of new connections in 2023-24.

In forecasting our energy (kWh) we began by adjusting the revised consumption in 2022-23 to account for the predicted growth in NMI's in 2023-24. This was achieved by calculating the average consumption of each tariff and multiplying the averages by the revised NMI count. We then applied a minimal growth rate of 1.5 per cent, incorporating the 5-year average increase of approximately 1 per cent in consumption across all three Power and Water regulated grids, and an additional increase of 0.5 per cent to account for new connections, tariff reassignments and operational consumption variations by major customers. Finally we incorporated the forecast of two new major customers scheduled to increase consumption in 2023-24 financial year.

It should be noted that in developing our forecasts we utilised both quantitative and qualitative information, however uncertainty still remains regarding the ongoing effects of the current economic conditions, including rising inflation, cost of living pressures and numerous increase to interest rates over the past 12 months.

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

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.

1.5 Structure of proposal

Chapter 2 identifies our proposed system control charge for 2023-24, and the underlying inputs and calculations to derive the charge. Chapter 3 identifies our proposed market operator charge for 2023-24, 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.

2. Proposed System Control Charges for 2023-24

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 2023-24. The key inputs we have used to calculate the system control charge are identified in Table 4 below.

The first step is to calculate the adjusted annual smooth revenue requirement (**AAR**) for 2023-24. This is achieved by adjusting the smoothed revenue in the 2022-23 Final Decision for the most recent inflation data, and the 2023-24 ‘X-factor’ in the decision. The second step is to calculate the TAR by summing the ARR for 2022-23, pass through amounts, and under-over recovery amounts. We have no pass through amounts approved or pending approval in 2023-24. We have calculated the under-over recovery amount by applying the prescribed formula in the Commission’s final decision incorporating these in 2021-22 (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 three regulated networks. We have applied the same energy forecast provided in our 2023-24 Annual Network Pricing Proposal to the AER, as required by the Commission.

Table 4: Key inputs to derive system control charges for 2023-24

| Terms | Input | Source / underlying values to calculate input |
|-------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Adjusted annual smoothed revenue requirement in 2022-23 (AARt-1) | \$9,058,684 | This is consistent with the smoothed revenue for 2023-23 set out in Power and Water’s approved 2022-23 pricing proposal, and subsequently approved by the Commission. |
| Inflation update (CPIt) | 7.83% | Reflect the December 2022 ABS update, consistent with past advice from the Commission. |
| X-factor (Xt) | 1.02% | Table 5 of UC’s final decision. |
| Adjusted annual smoothed revenue requirement in 2023-24 (AARt) | \$9,668,509 | This is calculated as adjusted annual smoothed revenue in 2019 multiplied by 1+ change in CPI multiplied by 1-X-factor. Mathematically: $AARt = AARt-1 \times (1 + \Delta CPIt) \times (1 - Xt)$ |
| Pass through amounts (Ct) | \$0 | We have not sought a pass through amount from the Commission in 2022-23. |

| Terms | Input | Source / underlying values to calculate input |
|---------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| True-up for under-over recovery adjustment (Bt) | \$792,729 | We have calculated an over-recovery amount consistent with Appendix B of the Commission's final decision. ⁸ |
| Total Allowable Revenue in 2023-24 (TARt) (\$, nominal) | \$8,875,779 | This is the sum of AARt, pass through amounts and under-over recovery amounts. |
| Energy forecast for 2023-24 for 3 regulated networks (kwh) | 1,702,288,464 | This is the energy consumption forecast for 2023-24 for the 3 regulated networks, consistent with the total energy consumption forecast submitted in our AER Network Pricing Proposal. |
| Proposed system control charge for 2023-24 (\$/kwh, nominal) | \$0.005214 | This is the Total Allowed Revenue divided by the energy forecast for 2023-24 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 2023-24

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 5 below.

The first step is to calculate the adjusted annual smooth revenue requirement (**AAR**) for 2023-24. This is achieved by adjusting the smoothed revenue in the 2019-20 Final Decision for the most recent inflation data, and the 2023-24 ‘X-factor’ in the decision. The second step is to calculate the TAR by summing the ARR for 2023-24, pass through amounts, and under-over recovery amounts. We have no pass through amounts approved or pending approval in 2023-24. We have calculated the under-over recovery amount by applying the prescribed formula in the Commission’s final decision incorporating these amounts in 2021-22 (t-2) and accrued interest. The last step to derive the market operator charge is to divide the TAR by forecast energy consumption for DKIS only, consistent with the Commission’s approach in the final decision. This is the energy forecast in our 2023-24 Annual Network Pricing Proposal to the AER, but only the proportion relating to DKIS. This is based on the split of energy consumption in the Commission’s final decision by region of 86.4 per cent.

Table 5: Key inputs to derive market operator charges for 2023-24

| Terms | Input | Source / underlying values to calculate input |
|-------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Adjusted annual smoothed revenue requirement in 2022-23 (AARt-1) | \$831,340 | This is consistent with the smoothed revenue for 2022-23 set out in Power and Water’s approved 2022-23 pricing proposal, and subsequently approved by the Commission. |
| Inflation update (CPIt) | 7.83% | Reflect the December 2022 ABS update, consistent with past advice from the Commission. |
| X-factor (Xt) | 1.63% | Table 5 of Commission’s final decision |
| Adjusted annual smoothed revenue requirement in 2023-24 (AARt) | \$881,837 | This is calculated as adjusted annual smoothed revenue in 2019 multiplied by 1+ change in CPI multiplied by 1-X-factor. Mathematically: $AARt = AARt-1 \times (1 + \Delta CPIt) \times (1 - Xt)$ |
| Pass through amounts (Ct) | \$0 | We have not sought a pass through amount from the Commission in 2022-23. |

| Terms | Input | Source / underlying values to calculate input |
|----------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| True up for under-over recovery adjustment (Bt) | \$70,670 | We have calculated an over-recovery amount consistent with Appendix B of the Commission's final decision. ⁹ |
| Total Allowable Revenue in 2023-24 (TARt) (\$, nominal) | \$811,167 | This is the sum of AARt, pass through amounts and under-over recovery amounts. |
| Energy forecast for 2023-24 for Darwin-Katherine (DKIS) regulated network (kwh) | 1,470,777,233 | This is our estimate of the forecast energy consumption for 2023-24 that relates only to Darwin-Katherine. We have assumed that 86.4per cent 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 2023-24 (\$/kwh, nominal) | \$0.000552 | This is the Total Allowed Revenue divided by the energy forecast for 2023-24 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.

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