Draft Decision

Power and Water Corporation Electricity Distribution Determination 2024 to 2029

(1 July 2024 to 30 June 2029)

Attachment 19
Tariff structure statement

September 2023

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601
Tel: 1300 585 165

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19 Tariff structure statement

This attachment sets out our draft decision on Power and Water Corporation's (Power and Water) tariff structure statement to apply for the 2024–29 regulatory control period.

A tariff structure statement applies to a distributor's tariffs for the duration of the regulatory control period providing consumers and retailers with certainty and transparency in relation to their distribution charges. This allows consumers to make more informed decisions about their energy use. A tariff structure statement informs customer choices by:

- providing better price signals— network tariffs which reflect what it costs to use electricity at different times can allow customers to make informed decisions to better manage their bills
- transitioning tariffs to greater cost reflectivity—with the requirement that distributors explicitly consider the impacts of network tariff changes on retail customers, by engaging with customers, customer representatives and retailers in developing network tariff proposals
- managing future expectations—providing guidance for retailers, customers and suppliers of services such as local generation, batteries and demand management by setting out the distributor's tariff approaches for a set period of time.

In this round of tariff structure statements, all 6 participating distributors have continued to move towards more cost reflective tariff structures.[1] In particular, the tariff structure statements respond to the trend of increased consumer energy resources (CER) and the role network tariffs can play in assisting their integration into the grid by signalling how and when the use of those resources drives costs and benefits to the network. For example:

- the number of solar photo voltaic (PV) installations continues to increase, requiring distributors to manage minimum demand on their networks when solar generation is high
- the uptake of electric vehicles is ramping up in all jurisdictions, requiring distributors to consider how to encourage charging of electric vehicles (EVs) in ways that minimise their contribution to existing demand peaks, avoid the creation of new peaks, and maximise their contribution to efficient use of the network
- there is increasing interest in residential, community and grid-scale batteries and several national and state level government programs encouraging their uptake.

Further supporting their path towards more cost reflective tariffs, distributors have been able to propose export reward tariffs for the first time in this round of tariff structure statements. It follows the Australian Energy Market Commission (AEMC) 2021 rule change, *Final determination - Access, pricing and incentive arrangements for distributed energy resources* to allow the introduction of two-way pricing (i.e. rewards and charges for exporting energy as well as consuming energy).

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[1] Ausgrid, Endeavour Energy, Essential Energy (NSW), Evoenergy (ACT), TasNetworks (Tasmania) and Power and Water Corporation (NT).

Smart meters are essential for the application of most cost-reflective network tariffs. The percentage of residential customers with smart meters on Power and Water's network has increased from 16% in 2018 to 24%.[2] Increasing smart meter penetration would typically encourage retail competition and innovation in retail tariffs and service products for consumers. The opportunity for retail competition and innovative retail offers is more limited in the Northern Territory than other jurisdictions. In the Northern Territory, retail bills are regulated by the Northern Territory Government's Electricity Pricing Order (pricing order). Under the pricing order, retailers are constrained in passing through network tariff signals to customers consuming less than 750 MWh pa.[3] In this context, Power and Water has focussed its reforms on ensuring its tariffs provide better price signals to retailers about what it costs to use electricity on its network at different times.

Retail pricing interactions with network tariffs

In the Northern Territory the network tariff price signals we approve are not directly passed on to end-use customers consuming less than 750 MWh pa (i.e. the retail customer) because of the pricing order. Even in other jurisdictions, they may not be passed on. Distributors charge the relevant retailers for the transport of electricity to serve end-use customers connected to their networks. In most jurisdictions, a retailer may choose to pass on the network price signals exactly or repackage them into their retail offers (including in insurance style flat rate retail offers).

Cost reflective network tariffs provide signals to retailers of the costs of using the network at different times and encourage retailers to design retail tariff offers that reflect network costs and signal to end-use customers when it is more or less costly to use the network. Ultimately cost reflective network tariffs encourage retailer competition and innovation in how they reflect these network costs in diverse retail offers. Importantly, customers can then choose the retail tariff structure that best suits their needs and preferences.

Our discussion in this report may talk about (retail) customers being assigned to a network tariff and these customers having choice in tariffs or the ability (or inability) to opt into or out of particular tariffs. We also talk about customer impacts under the distributor's assignment policies. These customer impacts assume the network price signals are directly passed on to the end-use customer by the retailer. We acknowledge that it is the retailer who may seek reassignment where choice is provided through network tariff opt-in or opt-out provisions, rather than the customer (although we note that Power and Water does not provide tariff choice). Actual customer outcomes as a result of our approval of the proposed tariff structure statements, and the incentive for any customer behavioural change associated with our approval of these tariffs, will also depend on the retailer, the retail tariff the customer chooses, how the retailer chose to package or pass on the network tariff costs, and most importantly in the Northern Territory, the pricing order.

For ease of communicating particular issues, our language may not always accurately reflect the indirectness of the relationship between a customer and their network tariff. We

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2 Power and Water 2022 RIN data.

3 MWh pa = megawatt hours per annum.

occasionally refer explicitly to retail tariffs but any reference to tariffs generally, refers to network tariffs.

The distributors' consumer consultation processes have improved over successive resets and the AER's Better Resets Handbook published in 2021 supports this improvement. The handbook encourages network businesses to better engage with stakeholders and to have consumer preferences drive the development of their regulatory proposals.

The distributors have generally engaged well with stakeholders in developing their 2024–29 tariff structure statements. Customer input is important in developing tariffs since their ultimate objective is to influence consumer behaviour. We acknowledge it is challenging for distributors to engage consumers on network tariffs they will not see directly and that may be complex and not structured for consumer understanding. This is particularly the case in the Northern Territory where the retail tariffs customers see are driven by the pricing order.[4] When it comes to consumers' real experience, it is the retailer's role to develop and communicate retail tariffs that are appealing and understandable to consumers, appropriate to their customers' circumstances and incentivise customer behaviour to support efficient use of the network (i.e. to reduce the network bill that the retailer is charged for their customers' use of the network).

Retail offers cover the costs of providing energy services, which include wholesale costs, the costs of transporting energy through the networks, their retail costs and margin, and any costs associated with jurisdictional environmental schemes. The network component of a customer's retail bill makes up approximately 45% of the final bill.

However, as mentioned throughout this decision, under the Northern Territory government's pricing order retailers are constrained in passing through network tariff signals to customers consuming less than 750 MWh pa. The Northern Territory Government's 2023–24 pricing order specifies the maximum charges retailers can set for a standard flat tariff (which most customers are on) and a standard time-of-use tariff with peak (6am – 6pm) and off-peak charging windows (all other times). That is, retailers cannot pass on cost reflective tariff signals and charges in full. Until pricing order reform allows for network tariff price signals to be passed on, network tariffs will continue to signal the true costs of the network only to retailers.

19.1 Draft decision

Our draft decision is to not approve Power and Water's proposed tariff structure statement, as we are not satisfied that all elements comply with the pricing principles for direct control services in the National Electricity Rules – Northern Territory (NT NER) and other applicable requirements of the NT NER.

We are satisfied that most elements of the proposed tariff structure statement comply with the pricing principles and contribute to the achievement of the network pricing objective. We also consider that the proposed tariff structure statement includes features to support future retailer innovation in the event the pricing order is reformed to enable retailers to charge its

[4] The NT NER allows for tariffs that may not be understood by retail customers, if the tariffs instead are capable of being understood and incorporated by retailers in retail tariffs, NT NER, cl. 6.18.5(i).

customers cost reflective retail tariffs. However, we consider that one element is not consistent with the pricing principles and requires amendment.

Our draft decision is to accept the following elements of the Power and Water's 2024–29 tariff structure statement as we consider that these comply with the distribution pricing principles and contribute to the achievement of the network pricing objective:

- tariff assignment and new time-of-use tariff structures for low voltage (LV) customers
- the tariff assignment and tariff structure for high voltage (HV) customers with smart meters consuming less than 10 GWh pa
- a seasonal component to the demand charges for large business consuming above 750 MWh and those connected to the HV network
- refining and shortening of Power and Water's peak demand window to 3pm – 9pm on weekdays (from the current 12pm – 9pm).[5]

We require the following change to Power and Water's tariff structure statement as we are not satisfied that this element complies with the pricing principles based on the information available (we have advised Power and Water of this requirement):

- a cost reflective charging parameter to be included in the proposed super users tariff to reflect the long-run marginal cost (LRMC) of providing the service.

We also encourage Power and Water to consider including the following with its revised proposal to make further improvements to its tariff structure statement, noting it may also require pricing order reform to be introduced:

- in recognition of the potential rapid uptake in EV load, further tariff options targeting flexible load, for example an opt-in controlled load tariff for flexible load.

19.2 Power and Water Corporation's proposal

Power and Water's 2024–29 tariff structure statement seeks to continue the pricing reform it commenced in 2019 by:

- splitting its current LV smart meter tariff for small and medium sized customers (Tariff 3) into three tariffs:
  - 3a: residential customers consuming <160 MWh pa
  - 3b: commercial LV customers consuming <160 MWh pa
  - 3c: residential and commercial LV customers consuming >160 MWh and <750 MWh pa.
- removing demand charges for the residential, and small and medium-sized commercial customers and introducing a time-of-use tariff structure with:
  - peak charges on weekdays from 3pm – 9pm (only applied during the hot season of 1 October to 31 March, with off-peak charges applying at other times of the year)
  - a low-price period (zero charge) from 9am – 3pm

[5] GWh pa = gigawatt hours per annum.

  - off-peak charges from 9pm – 9am.
- continuing its existing tariff assignment policies in the 2024–29 period for small and medium customers. Under this approach:
  - small and medium customers with old accumulation meters are assigned to flat network tariffs
  - small and medium customers with smart meters are default assigned to a tariff with time-of-use charging and have no alternative tariff option.
- reducing the peak demand period for large customers by three hours to 3pm – 9pm (from the current 12pm – 9pm)
- introducing revenue recovery for large customers during the 'off season' rather than only during the 'on season' to smooth energy costs for these customers across the year
- introducing a new, flat 'super user' tariff (Tariff 7) for customers connected to the HV network and consuming above 10,000 MWh pa that includes only a fixed access charge and an anytime energy consumption charge (i.e. removing the current demand charge faced by retailers for these customers).

Power and Water is not proposing to introduce two-way tariffs in the 2024–29 period but our decision on its Export Tariff Transition Strategy is explained in the sub-section labelled Two-way tariffs.

19.3 Assessment approach

This section outlines our approach to assessing tariff structure statements.

The NT NER set out elements that an approved tariff structure statement must contain.[6] A tariff structure statement must also comply with the distribution pricing principles.[7]

19.3.1 What must a tariff structure statement contain?

The NT NER require a tariff structure statement to include:

- the tariff classes into which retail customers for direct control services will be divided
- the policies and procedures the distributor will apply for assigning retail customers to tariffs or reassigning retail customers from one tariff to another
- a description of the strategy or strategies the distributor has adopted, taking into account the pricing principle in clause 6.18.5(h), for the introduction of export tariffs including where relevant the period of transition (export tariff transition strategy)
- structures for each proposed tariff
- charging parameters for each proposed tariff
- a description of the approach that the distributor will take in setting each tariff in each pricing proposal.[8]

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6 NT NER, cl. 6.18.1A(a).

7 NT NER, cl. 6.8.2 (d2) and cl. 6.18.1A(b).

8 NT NER, cl. 6.18.1A(a).

A distributor's tariff structure statement must be accompanied by an indicative pricing schedule.[9]

19.3.2 What must a tariff structure statement comply with?

The NT NER require distributors to demonstrate how their proposed tariff structure statement complies with the distribution pricing principles.[10]

Broadly the pricing principles require:

- for each tariff class, the revenue expected to be recovered must lie between the avoidable cost of not serving those customers and the standalone cost of serving those customers
- tariffs to be based on the LRMC of providing the service
- revenue collected from each tariff to reflect the total efficient costs of customers assigned to the tariff
- distortions to price signals to be minimised
- consideration of the impact of proposed changes to tariffs on customers
- each tariff to be reasonably capable of being understood by retail customers or incorporated into retail tariffs.

19.3.3 How we will assess tariff structure statement proposals

In reviewing tariff structure statement proposals we will assess compliance with the distribution pricing principles and other applicable requirements of the NT NER.

In line with our Better Resets Handbook (Handbook), our expectation is that distributors have demonstrated the following elements in their proposed tariff structure statements:

- progression of tariff reform
- incorporation of their tariff strategy in their overall business plans
- significant stakeholder engagement and broad stakeholder support for their proposed tariff structures
- insight into and management of any adverse customer impacts.

For the 2024–29 period our engagement with Power and Water to develop its tariff structure statement commenced 18 months prior to its formal submission. This included observing stakeholder engagement sessions and working closely with Power and Water to support their development of a compliant tariff structure statement.

Due to our significant pre-lodgement engagement with Power and Water we will more closely examine those issues not addressed during our engagement and issues we have concerns about than issues on which we already significantly engaged.

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9 NT NER, cl. 6.8.2(d1) and cl. 6.18.1A(e).

10 NT NER, cl. 6.8.2(c)(7) and cl. 6.18.5.

The *AEMC's Access, pricing and incentive arrangements for distributed energy resources* rule change in August 2021 allows for the introduction of two-way pricing for the first time.[11, 12] We will assess two-way pricing proposals with regard to the AEMC's new rule and the guidance we provided in our *Export Tariff Guidelines*.[13]

19.3.4 How tariff structure statements relate to broader pricing process

The tariff structure statement is the first stage of a two-stage network pricing process. The second stage is for distributors to develop and submit an annual pricing proposal to the AER. The annual pricing proposals apply pricing levels to each of the tariff structures outlined in the approved tariff structure statement. Distributor's proposed pricing levels must be consistent with the corresponding indicative pricing levels for the relevant regulatory year as set out in the relevant indicative pricing schedule, or the distributor must explain any material differences between them.[14]

19.4 Reasons for draft decision

Our draft decision is to accept most elements of Power and Water's proposed tariff structure statement.

In line with our Handbook, we consider Power and Water demonstrated:

- incorporation of its tariff strategy in its overall business plan by explaining how its tariff strategy linked to its future network strategy, its investment in dynamic operating envelope capability and the potential to use demand management tools
- significant stakeholder engagement and broad stakeholder support by conducting a broad stakeholder engagement program and responding to stakeholder feedback on its published draft tariff plan with adjustments to its proposed tariff structures
- insight into and management of any adverse customer impacts through modelling customer bill impacts (noting its small customers would not be impacted by the proposed changes due to the pricing order)

Power and Water is making progress on tariff reform. However, we are not satisfied that its proposed 'super users' tariff (Tariff 7) is compliant with the pricing principles.

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11 Distributed energy resources (DER) / consumer energy resources (CER) are renewable energy units or systems that are commonly located at houses or businesses to provide them with power. This also includes energy storage and energy management assets. This can also be referred to as 'behind the meter' because the electricity is generated or managed 'behind' the electricity meter in the home or business. Common examples include rooftop solar units, battery storage, thermal energy storage, electric vehicles and chargers, smart meters and home energy management technologies.

12 Previously under the NT NER, distribution services involved one-way flows of electricity imported from the grid for consumption. The AEMC's rule change updated the NT NER to clarify that distribution services can be two-way. That is, they include both the 'import' of energy from the grid for consumption and 'export' of energy, such as rooftop solar, to the grid.

13 AER, *Export Tariff Guidelines*, May 2022.

14 NT NER, cl. 6.18.2(b)(7A).

Below we outline the reasoning for our decision for each customer group as well as discussing our assessment of some specific tariff issues. It is structured as follows:

- Residential and small business customer tariffs
- HV and Large business customer tariffs
- LRMC methodologies.

19.4.1 Residential, small and medium business customer tariffs

We are satisfied with most aspects of Power and Water's proposal for residential customers because:

- the tariffs have been structured to reflect the efficient costs of providing services and include maturing of price signals and alignment of charges to network demand peaks and troughs
- the segmentation of its small customer class into 3 sub-categories provides a platform for further progress on tariff reform
- the introduction of time-of-use tariffs for small customers responds to stakeholder views
- the tariffs signal to retailers the network benefits of customers using excess solar generation
- assignment policies increase exposure of retailers to cost reflective network tariffs, with adverse impacts to customers avoided through the Northern Territory pricing order.

19.4.1.1 Consumption Tariffs

Power and Water's engagement with stakeholders to develop its tariff strategy

We consider that Power and Water engaged well with stakeholders on its small customer tariff plans. The plans reflect stakeholder input and have broad stakeholder support.

Customer engagement in tariff structure statement development is an important consideration for our assessment. Open and productive engagement is key to successful tariff reforms. We take customer and other stakeholder views into account when assessing whether each proposed tariff is reasonably capable of being understood by customers or incorporated into retail offerings.[15] Distributors should demonstrate significant customer engagement, clear links between customer feedback and the tariff structure statement proposal and, where possible, broad stakeholder support for their tariff plans.

Over the past two years we have observed much of Power and Water's tariff related engagement with its customers and other stakeholders. This included engagement on tariff plans through industry forums and discussion of potential tariff structures and pricing with a representative panel of residential customers (its 'People Panel'). This has given us a deeper insight into how Power and Water engages with its stakeholders and how it responded to feedback. We also met individually with prominent retailers in the Northern Territory to gauge their understanding and acceptance of Power and Water's tariff plans.

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15 NT NER, cl 6.18.5(i).

Power and Water's engagement focussed mainly on retailers because they are the stakeholder that sees and bundles its network charges for customers and small customers. The retailer focus is largely because small customers are not directly exposed to cost reflective network pricing due to the Northern Territory Government's pricing order that drives the structure of their bills. Power and Water's price signals encourage the Northern Territory Government to better reflect the network costs within the pricing order and encourage retailers to design retail tariff structures that reflect network costs, ultimately encouraging retailer competition.

Despite this, Power and Water considered and responded to feedback from its People's Panel in the development of its proposal to ensure small retail customers also had opportunity to shape the proposal. Customer input to Power and Water's tariff plans is still important since an ultimate objective, whether or not their structure is currently passed through, is to influence consumer behaviour.

Power and Water's proposal considered and responded to stakeholder preferences. For example, its proposal to separate the existing Tariff 3 for small customers with smart meters into more segments responded to retailer feedback on how to encourage and expand retail competition in the future and support pricing order reform. Its proposed shift to a time-of-use default tariff from a demand tariff was also a direct response to a stakeholder preference for simplicity. And following a further round of consultation on its draft plans in August 2022, Power and Water responded to retailer feedback with adjustments that included increasing the small customer tariff thresholds from 100 MWh pa to 160 MWh pa.

Charging windows align with demand peaks and minimum demand periods

Our draft decision is to accept Power and Water's new small customer tariff structures. In our 2019–24 determination, we encouraged Power and Water to continue investigating and refining the methods for determining its charging windows, including the charging windows themselves, for the 2024–29 period. We note Power and Water's efforts to address this and we consider the charging windows of the proposed time-of-use tariffs align with Power and Water's network demand peaks and anticipated minimum network demand periods.

Power and Water's network is experiencing rising peak demand in the afternoon/evening periods in summer. Solar exports in the middle of the day are increasing (reducing demand met by the power system), and the impact of minimum demand during the middle of the day during winter months is anticipated to increase.

Power and Water has responded to these impacts with the three new time-of-use tariff structures for its small customers. These tariffs will replace Power and Water's current single default demand tariff for these customers. If reform of the Northern Territory pricing order enables tariffs structures to be passed through, the new structures would facilitate retail tariffs that encourage customers with flexible load to shift consumption out of peak periods and into the high solar generation periods. Territory Generation submitted that it supported Power and Water's proposed change (from demand) to time-of-use tariffs.[16]

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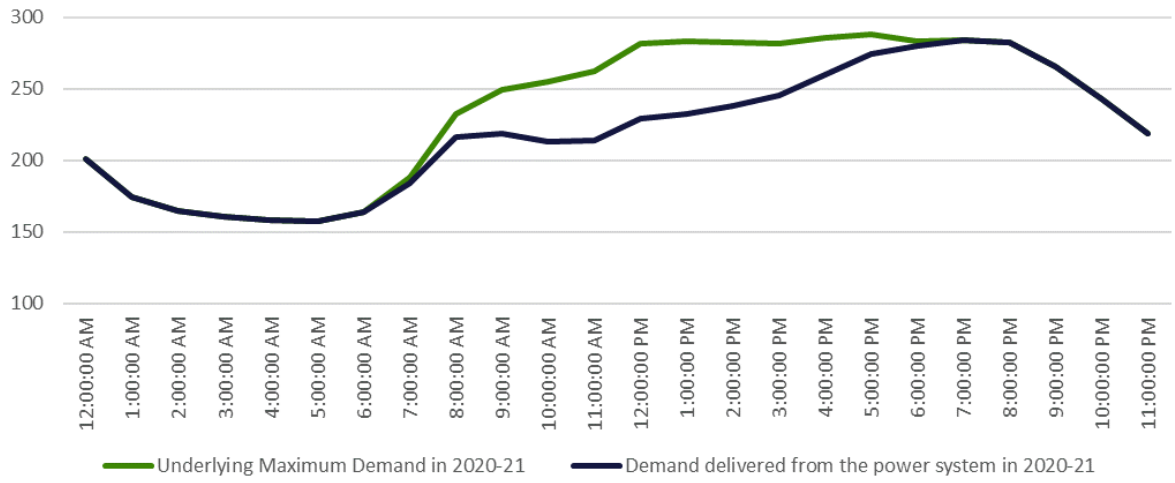
16 *Territory Generation - Submission - 2024-29 Electricity Determination - Power and Water Corporation - May 2023.*

Power and Water proposed to refine its peak period from its current 12pm – 9pm on weekdays in the hot season (October to March) to 3pm – 9pm on weekdays in the hot season. The 12pm – 9pm peak period applies to its current (peak) demand tariff for small customers and the new window will apply to its three new time-of-use tariffs for these customers. Figure 1 shows the load profile for demand delivered from the power system on Power and Water's maximum demand day. It demonstrates that Power and Water's new peak period of 3pm – 9pm approximately aligns with the demand peak, i.e. the period of the load curve above 250MW (the blue line).

Shortening the peak period responds to feedback we provided to Power and Water on its 2019–24 tariff structure statement. We had recommended Power and Water consider locational variations to enable it to shorten its peak window. We are pleased to see the shortened peak, noting that Power and Water's analysis for its proposed tariff structure statement supported a single shortened window that still provides for slight variations across its three regulated electricity networks.

Figure 19.1: Power and Water's Network maximum demand day profile (MW)[17]



Source: *PWC - 11.01 - Tariff Structure Statement (TSS) - 31 January 2023*, p28, figure 6.1

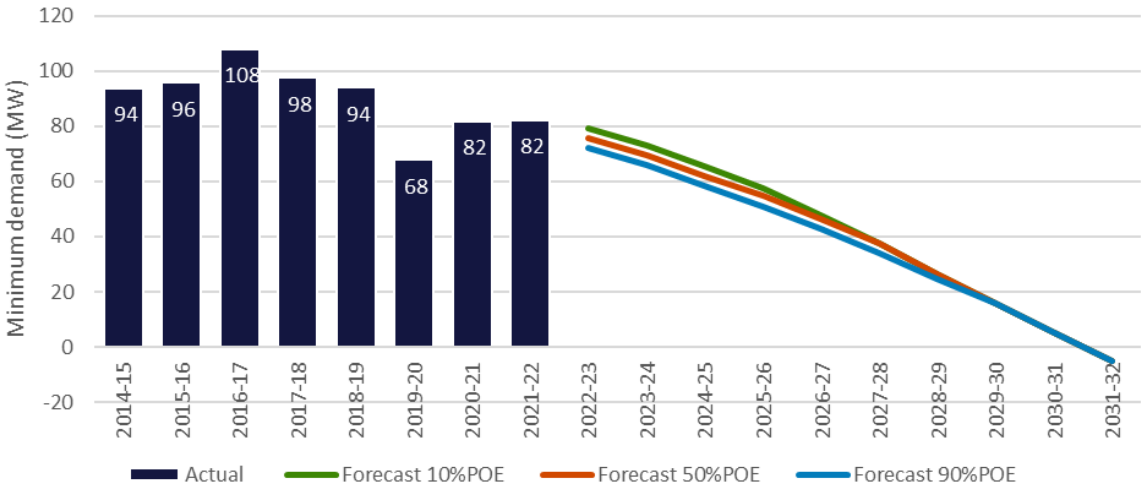
At the same time, Power and Water proposed to introduce a low-priced period from 9am – 3pm. Power and Water is applying the same time window for its low-priced period across all three of its network areas, noting that it expects the timing of springtime minimum demand to be relatively consistent across the networks. The low-priced period sends the signal to retailers to encourage energy use during the middle of the day.

Figure 2 shows minimum demand is expected to decrease from 2022–23, becoming a potential issue that may emerge on the Power and Water network in the 2024–29 period. Power and Water reasoned that the network tariffs (if supported by Northern Territory Pricing Reform) could facilitate retail tariffs that increase demand during the middle of the day. This

[17] MW = megawatt.

would help to increase load on minimum demand days and thus help Power and Water lift constraints on solar exports.

Figure 19.2: Darwin-Katherine network minimum periods increasing over the 2024–29 period (P10)



Source: *PWC - 11.02 - Tariff Structure Explanatory Statement - 31 January 2023*, p55 figure 6.6

Tariff structures respond to energy sector developments

The accelerating uptake of EVs and consequential need to manage EV charging on the grid is becoming integral to the design of network tariff structures and to the AER's decision-making. Power and Water anticipates EV uptake will rise noticeably from 2030.[18]

As discussed above, our draft decision is to approve Power and Water's small customer tariffs. We consider that its suite of tariffs adequately consider EV charging load at the residential and small business level, in the context of the Northern Territory's retail pricing order. In recognition of the uncertainty surrounding forecast EV load and to better manage EV load, we also encourage Power and Water to explore an optional controlled load tariff to better accommodate EV load growth.

Power and Water is managing this anticipated increase in EV load by progressing its tariff reform program broadly rather than by establishing specific tariffs for EV owners or charge point operators. We support this approach and consider it aligns with the NER's principle that customers with a similar connection and usage profile be treated equally.[19] It also recognises that distributors currently do not have visibility of customers with EVs. Consistent with the AER's determinations for the Victorian electricity distributors' 2021–26 tariff structure statements, we do not support the introduction of discounted tariffs for EV owners or EV

[18] Distributors in NSW anticipate EV uptake to accelerate towards the end of the 2024–29 period. Evoenergy will see EV uptake rise earlier than Ausgrid since the ACT is leading other States on EV uptake rates.

[19] NT NER, cl. 6.18.4(a)(2).

charge point operators.[20] Rather, we support the continued implementation of cost-reflective tariffs for all customers, including EV owners.

The key change that will apply to EV owners who have smart meters is the proposed LV smart meter time-of-use tariff (if the structures are passed onto customers via reform of the Northern Territory's pricing order). This new tariff introduced peak charging windows from 3pm – 9pm (during the hot/on season, from 1 October to 31 March), zero charges from 9am – 3pm and off-peak charges at other times. We consider these targeted charging window reforms send signals to facilitate retail tariffs that encourage residential EV owners to shift charging to the middle of the day when prices are zero, or to overnight, when prices are low.

While our draft decision is to accept Power and Water's residential and small business tariffs we also encourage Power and Water to continue to explore tariff mechanisms to prepare for accelerated EV growth from 2030. Controlled load tariffs have traditionally been used for large regular loads such as hot water and pool pumps. We also recognise the continued development of dynamic operating envelop capabilities will increase the range of options available to distributors for flexible load. Nonetheless, we encourage Power and Water to explore the feasibility and benefits of developing and trialling in the 2024–29 period a controlled load tariff with targeted windows and sharp price signals, aimed at flexible load like EVs. We consider such tariffs may be of benefit in assisting distributors to maximise network utilisation in the 2029–34 period.

Our encouragement reflects our concern that the existing tariff structure statement framework lacks flexibility to respond to potential rapid growth in EV uptake during the upcoming 5-year regulatory period and its potential contribution to peak demand periods. Without these additional tariff considerations, the only option distributors have to respond to unexpectedly high demand from EV charging is to seek a tariff structure statement amendment under NER cl. 6.18.1B.[21] While the risk of unanticipated EV growth is lower in the Northern Territory than in some other states, Power and Water has an opportunity to get ahead of any surge in EV demand by exploring tariff structures now.

For charge point operators, we accept that Power and Water's tariffs would send appropriate signals to retailers, without favouring one customer group over another, if the pricing order allowed these signals to be passed onto customers. Under Power and Water's proposed time-of-use tariffs for small and medium business customers, retailers for charge point operators consuming less than 750 MWh per annum will be able to access time-of-use tariffs instead of demand tariffs. Retailers for EV charge point operators which consume over 750 MWh per annum would continue to have access to demand tariffs only.

We encourage Power and Water to develop trials for cost reflective tariffs aimed at industries like EV charging stations that have high demand but low utilisation.

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20 *AER – Final Decision – CitiPower distribution determination 2021-26 – Attachment 19 Tariff structure Statement – Appendix C*, p 40.

21 The AER will only approve a request by a distributor to amendment its tariff structure statement if an event has occurred that is beyond the reasonable control of the distributor and could not have been foreseen by the distributor at the time the tariff structure statement was approved. NER, cl. 6.18.1B(d)(1).

Progressing tariff reform in the context of the Northern Territory pricing order

We consider Power and Water's reforms for the 2024–29 period to be positive, although modest. They could facilitate further progress on tariff reform in the following regulatory control period, or in the event that the Northern Territory Government amends its pricing order during the 2024–29 period.

Influenced by the constraints of the pricing order, Power and Water's progress on tariff reform for small customers is focussed on two core elements. The first is segmenting its LV smart meter tariffs in anticipation of and to support potential pricing order reform. The second is to shift the default tariff for customers consuming below 750MWh per annum to a time-of-use tariff (from a demand tariff), the details of which are discussed above. This second change provides for a peak-priced evening consumption charge during the hot season and a low-priced middle of the day charging period all year.

The retailer Jacana Energy questioned the benefits of Power and Water 's inclusion of some cost reflective elements of tariffs when those signals are not passed through to customers due to the pricing order.[22] Power and Water has reasoned in its tariff structure statement that the price signals encourage the Northern Territory Government to better reflect the network costs within the pricing order and encourage retailers to design retail tariff structures that reflect network costs, ultimately encouraging retailer competition. Power and Water further explained that the changes would support simpler and clearer messages to customers in the event that pricing order protections are reviewed, i.e. on what times of the year the network experiences peak demand in the evening, and what times of the day there is network capacity to meet demand.

The maturity of cost reflective price signals is reasonable in the context of Northern Territory pricing order

We consider the strength of Power and Water's price levels to be acceptable in the context of the pricing order that currently manages the impacts to customers. In the event of pricing order reform that enables Power and Water's price signals to pass through to customers, we would expect Power and Water to develop mechanisms to manage adverse impacts to customers moving from flat to cost reflective network tariffs, including:

- transitional approaches that assist customers to understand their energy use
- transitional approaches that begin with softer price signals that mature over time as understanding of the cost reflective tariff structures increases
- alternative cost reflective tariff structures provided in addition to the time-of-use tariffs to provide customer choice, for example a demand tariff.

Power and Water's tariff structure statement is accompanied by indicative prices (noting that Power and Water may vary these when it submits each annual pricing proposal). Power and Water is proposing very sharp indicative price signals in its new time-of-use tariffs, particularly for residential customers at 45 c/kWh for peak period energy use, 2 c/kWh for off-peak and a zero charge for the middle of the day.[23] For small and medium commercial

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22 *Jacana Energy - Submission - 2024–29 Electricity Determination - Power and Water Corporation - May 2023*.

23 c/kWh = cents per kilowatt hour.

customers, the respective rates are 29 c/kWh, 10 c/kWh and zero, and 26 c/kWh, 4 c/kWh and zero respectively.

These tariff structures and price levels would create a very strong incentive and customer benefit from shifting flexible load outside peak periods. Incentives are slightly higher to shift load to the middle of the day which would soak up excess generation from solar PVs. That is, if retail tariffs passed the charges through, customers would receive strong signals on when their use of the network imposes additional cost or benefit to the network. Customers with solar would benefit from increased network export capacity and customers without solar PVs would be able to benefit indirectly from access to the zero-cost energy through the middle of the day.

The proposed assignment approach is reasonable in the context of Northern Territory pricing order

In reviewing this proposal we considered Power and Water's tariff assignment policies, the requirement for each tariff structure statement to progress tariff reform, and the impact of its assignment policies on customers.[24]

Our draft decision is to approve Power and Water's residential and small and medium business customer assignment policies. We consider the assignment approach supports progress on tariff reform and that customer impacts are avoided due to the pricing order.

Power and Water proposed to largely continue its tariff assignment policies in the 2024–29 period. Its tariff assignment approach supports strong progress on tariff reform by moving all customers onto more cost reflective tariffs if their meter allows for it, with no opt-out provisions.

Power and Water proposed to split its current Tariff 3 for LV customers into three segments – Tariff 3a (residential customers consuming less than 160 MWh pa), Tariff 3b (non-residential customers consuming less than 160 MWh pa) and Tariff 3c (residential and non-residential customers consuming between 160 MWh pa and 750 MWh pa). Customers currently on tariff 3 would be reassigned to the appropriate new tariff segment. Customers with basic meters would continue to face flat tariffs.

19.4.1.2 Two-way tariffs

A long running and broad collaborative policy development process was led by the Australian Renewable Energy Agency (ARENA), as part of the Distributed Energy Integration Program with market bodies, Energy Consumers Australia and consumer advocates. This preceded consideration of a rule change by the Australian Energy Market Commission (AEMC).[25] On 12 August 2021, the AEMC published its *Access, pricing and incentive arrangements for distributed energy resources* final determination. Amongst other things, the rule change

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[24] NT NER, cl 6.18.5(a) sets out the network pricing objective, that tariffs should reflect the efficient costs of providing those services to the retail customer. That is, tariffs should be cost reflective. NT NER, cl 6.18.5(h) sets out that a distributor must consider the impact on retail customers of any changes in tariffs from the previous year. So, distributors should balance increasingly cost reflective tariffs with consideration of the impact these tariffs may have on customers and include mechanisms to manage adverse impacts.

[25] https://arena.gov.au/knowledge-innovation/distributed-energy-integration-program/access-and-pricing-workstream/.

removed the historical prohibition on export tariffs and allowed distributors to propose two-way pricing to match two-way energy flows on electricity networks.

Our draft decision is to accept the Export Tariff Transition Strategy[26] included in Power and Water's tariff structure statement, which proposed to not introduce two-way pricing for the 2024–29 period. We consider Power and Water's proposal is reasonable because it is not currently experiencing network related constraints from excess solar exports that demonstrate the need for two-way pricing.

The AEMC's rule change followed requests from SA Power Networks (SAPN), St Vincent de Paul Society Victoria, and the Total Environmental Centre jointly with the Australian Council of Social Services to make changes to the NT NER to integrate CER into the electricity grid in a way that benefits all electricity users. These groups sought for the costs associated with supporting the energy transition and the growth of CER to be distributed equitably.

Through the joint operation of the rule change and our *Export Tariff Guidelines* distributors may now introduce price signals which, if passed through to customers by retailers, encourage exporting customers to self-consume or store their own solar energy during the middle of the day when the costs to host excess solar on the grid are high and to export to the grid, or self-consume, during the evening consumption peak. As with any network tariff, retailers may or may not reflect network price signals, including export rewards, in their retail offers to customers.

Power and Water submitted that analysis of its network showed that increasing small-scale solar will lead to the number of 'minimum demand events' increasing over time, particularly from 2028 in the Darwin Katherine region, and will increase significantly each year unless the problem is mitigated. Power and Water proposed to address hosting capacity constraints resulting from increasing small-scale solar through investing in dynamic operating envelope (DOE) capability.[27] This is because Power and Water's cost benefit analysis showed this to be the most prudent and efficient option to meet the identified needs.[28]

Under this option DOEs would curtail solar exports at times of minimum demand but allow customers to export at all other times in the year.[29] Power and Water also noted its small customers are under the pricing order and are not subject to its network tariff structures and that this limits the effectiveness of export tariffs and incentives. We accept Power and Water's strategy that its forecasted hosting capacity constraints can be addressed more efficiently, at this stage, through options other than two-way pricing.

In its export tariff transition strategy Power and Water proposed it would collaborate with retailers and the Northern Territory Government to design targeted trials that can inform

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26 NT NER, cl. 6.18.1A(2A).

27 Operating envelopes are the limits that an electricity customer can import and export to the electricity grid. These limits are agreed between networks, customers and the AER as part of the customer connection or regulatory process. A dynamic operating envelope is a principled allocation of the available hosting capacity to individual or aggregate DER or connection points within a segment of an electricity distribution network in each time interval.

28 *PWC - 8.08 - Future Network Strategy - 31 January 2023*, p.26.

29 *PWC - 8.08 - Future Network Strategy - 31 January 2023,* p.26.

future two-way pricing.[30] Power and Water submitted the timing of its two-way pricing trials would be after its investment in DOE capabilities are operational and following further engagement with retailers on trial tariff co-design.[31]

Power and Water also outlined in its tariff transition strategy its proposed approach and methodology for setting the basic export level and proposed to apply and test this methodology as part of its proposed two-way pricing tariff trial.[32] We note the basic export level is a protection for customers that any distributor proposing to introduce two-way pricing must include with its proposal. It is the threshold level up to which customers can export to the grid for free during the export charging period (i.e. typically between 10am – 3pm). This means, even during an export charging window, customers could still export some of their solar power for free.

We consider Power and Water's proposed short to medium term strategy to engage with stakeholder and undertake tariff trials prior to introducing two-way pricing is consistent with the AEMC's rule and our *Export Tariff Guidelines*.[33]

19.4.2 HV and Large business customer tariffs

We are satisfied with most aspects of Power and Water's proposal for commercial customers because:

- tariffs 5 and tariff 6 are structured to reflect the efficient costs of providing the relevant services
- the tariff structures are reasonably capable of being understood by customers or of being directly or indirectly incorporated by retailers or aggregators into retail offers
- the introduction of a seasonal component to the demand reflects the seasonal nature of Power and Water's network constraints
- revision of the peak demand window to 3pm – 9pm on weekdays better reflects Power and Water's network peaks demand profile compared to its current peak demand window and is consistent with changes being introduced for small and medium customers
- its proposal to recover revenue for large customers during the 'off season' rather than only during the 'on season' responds to stakeholder feedback and assists customers to manage electricity bills across the year.

Power and Water proposed 3 tariffs for its HV and large customers:

- Tariff 5 – applying to LV customers consuming above 750MWh pa

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30 *PWC - 8.08 - Future Network Strategy - 31 January 2023*, p.28.

31 *PWC - 11.02 - Tariff Structure Explanatory Statement - 31 January 2023*, p.56.

32 *PWC - 8.08 - Future Network Strategy - 31 January 2023*, p.38.

33 AER, *Export Tariff Guidelines*, May 2022, p 2. For distributors not proposing two-way pricing the export tariff transition strategy should include:

- An explanation of the medium to longer-term strategy for introducing two-way pricing, should it prove necessary, including any planned export tariff trials

- A description of present or intended future stakeholder engagement related to two-way pricing.

- Tariff 6 – applying to HV customers consuming between up to 10 GWhs pa. It combines Power and Water's current Tariff 6 ('HV Minors' consuming up to 750 MWh pa) and current Tariff 7 ('HV Majors' consuming over 750 MWh pa)
- Tariff 7 – a new 'super users' tariff applying to HV customers consuming over 10 GWhs pa.

Tariffs 5 and 6 have fixed (system availability), anytime consumption and seasonal peak demand charging components. Tariff 7 has fixed (system availability) and anytime consumption charging components.

Charging windows and seasonality reflect network demand

We consider Power and Water's revised peak demand window for large business customers complies with the distribution pricing principles. The changes respond to feedback we provided in our 2019–24 determination that encouraged Power and Water to consider shortening its peak window. We acknowledge Power and Water's efforts to address this issue.

Power and Water progressed the cost reflectivity of its largest LV and HV customers through reforms introduced in the 2019–24 period. It has proposed some adjustment to its charging periods and the seasonality of charges that reflect analysis of its network peaks and are consistent with changes being introduced for small and medium customers which were discussed above.

One proposed change is the shortened peak demand window that will change from 12pm – 9pm, to 3pm – 9pm, and will continue to apply only on weekdays. This change better aligns Power and Water's peak charging window with its network demand profile as discussed under the section Residential, small and medium businesses and shown in figure 1.

The second change is to introduce a seasonal component to its peak demand charges for large business consuming above 750 MWh pa and those connected to the HV network. This was to reflect the seasonal nature of network impacts which are highest on Power and Water's network in the hot season. Power and Water also considered stakeholder feedback in its design with some smoothing of the LRMC price signals across the seasons to assist customers manage their electricity bills across the year.

The proposed 'super users' tariff (Tariff 7)

A more substantial change for Power and Water's HV customers is the proposed introduction of a 'super users' tariff (Tariff 7). We consider that the proposed tariff is not compliant with the pricing principles because it is not based on LRMC. Our draft decision is to not accept the 'super users' tariff until it includes a cost reflective charging parameter to reflect the LRMC of providing the service.

Power and Water proposed a new 'super users' tariff for its customers connected to the HV network and consuming above 10 GWh pa. The proposed tariff includes only fixed and 'anytime energy consumption' charges, i.e. it is a flat tariff.

Power and Water's fixed and anytime energy consumption charges will have no price signal to reflect the LRMC of providing the service. The NT NER pricing principles require that tariffs be based on the LRMC of providing the relevant service.[34]

Power and Water reasons that the relevant customers prefer a simple tariff structure, that the large and flat load profiles of these customers can support system stability and that either the customers have already paid for their capacity through connection charges or that there are no shared network assets upstream impacted by the customers.[35]

Retailer Jacana Energy submitted that it did not support the tariff. It considered creating a new tariff for a few customers may not be efficient and that there was a lack of transparency on the upfront connection charges, adding complexity for end users and making it harder for retailers to develop innovative tariffs for their customers.[36]

We consider Power and Water has not sufficiently established there are no shared network assets upstream impacted by the customers, or that the customers have already fully paid for their capacity through connection charges. We consider, therefore, that there is a risk that Power and Water's proposed super user tariff could result in other network customers cross-subsidising the forward looking costs of Power and Water's proposed HV super users, i.e. that it is not cost reflective.

We also consider that as the largest consumers of electricity, the affected customers are capable of understanding and responding to cost reflective price signals.[37] Further, we note that the large and flat load profiles that Power and Water ascribes to these customers should enable them to manage a demand or capacity charge with relative ease.

19.4.3 Grid-scale battery tariffs

At this stage Power and Water is not proposing to introduce grid-scale battery tariffs. However, it noted the potential to use tariff trials to inform future proposals once its dynamic operating envelopes are operational.[38]

Grid-scale batteries have come into focus for the 2024–29 period in response to the Australian Government program to fund the deployment of 400 community batteries across the country. With the right network price signals to indicate when battery operation drives costs or benefits to the network, grid-scale batteries have the potential to reduce long-run network costs for all customers by improving network utilisation. Conversely, without such price signals, battery owners may not factor network costs into their decisions on battery operation and may operate batteries in ways that trigger network investment, increasing future network costs to all consumers. Therefore, there is benefit for distributors (and ultimately all consumers) in developing network tariffs to facilitate retail tariffs that encourage

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34 NT NER, cl. 6.18.5(f).

35 Power and Water information request: *PWC IR#006 – Super users tariff – 20230321*.

36 *Jacana Energy - Submission - 2024–29 Electricity Determination - Power and Water Corporation - May 2023*.

37 NT NER, cl. 6.18.5(i).

38 *PWC - 11.02 - Tariff Structure Explanatory Statement - 31 January 2023*, pp. 56–57.

battery operators to import energy during periods of low network demand and export energy during periods of peak demand.

The NSW distributors and Evoenergy proposed to introduce grid-scale battery tariffs for the 2024–29 period as a response to the anticipated increase in grid-scale batteries. These proposed tariffs are the first to be offered by NEM distributors that are tailored to large-scale storage. We observe the three NSW distributors and Evoenergy have been preparing for these grid-scale battery tariff proposals with tariff trials conducted between 2021–22 and 2022–23.

We encourage Power and Water to perform research, as well as use learnings from other distributors' grid-scale battery tariffs, with a view to proposing tariff trials for the upcoming period and grid-scale battery tariffs for the subsequent period.

19.4.4 LRMC methodology

The NT NER require network tariffs to be based on LRMC.[39] For consumption services this means a tariff for the import of electricity must be based on the LRMC of providing additional capacity to support the import of electricity from grid to customers assigned to the tariff. For export capacity, this means export charges must be based on the LRMC of providing additional capacity to support / host exports to the grid by the customers assigned to the tariff.

However, not all distributor's costs are forward-looking and responsive to changes in demand for its service. If tariffs only reflected LRMC, a distributor would not recover all of its total efficient costs. Costs not covered by a distributor's LRMC are called 'residual costs'. The NT NER requires network tariffs to recover a distributor's total efficient costs (i.e., both LRMC and residual costs) in a way that minimises distortions to price signals for efficient usage that would result from tariffs reflecting LRMC.[40]

Assessment approach

Our assessment approach is focused on considering Power and Water's overall approach and estimation of LRMC, including the justification of its estimation method and how its method changed compared to its previous tariff structure statement.

An important input into LRMC calculation is the distributor's forecast of long-run expenditure associated with incremental demand in the case of consumption services. For these services forecasts comprise estimates of:

- augmentation expenditure (augex) on new network assets to increase the capacity for import and/or export distribution services
- operating expenditure (opex) dedicated to providing additional capacity for distribution services
- replacement expenditure (repex) to replace existing network assets. Distributors may estimate a proportion of repex which occurs to incremental demand or estimate avoided

[39] NT NER, cl. 6.18.5(f).

[40] NT NER, cl. 6.18.5(g)(3).

repex in areas of the network with declining demand (in these areas, distributors may opt to use assets with lower capacity which reduces repex).

19.4.4.1 Import LRMC

We consider the methods that Power and Water used to estimate its import LRMC comply with the pricing principles.

Power and Water adjusted its approach by implementing the average incremental cost approach over a twenty-year period to estimate forward looking costs. We consider this approach to be appropriate at this stage of tariff reform given its low cost of implementation and the continuation of postage stamp pricing across its network.

Power and Water enhanced the accuracy of its methodology in comparison to the 2019–24 period by using the average incremental cost method which is a more sophisticated approach accepted by the AER and other distributors to estimate LRMC. The previous two-stage approach determined 'system-wide' LRMC estimates and compared them to other networks' LRMC estimates.

As part of its estimation process, Power and Water addressed the other concerns we raised in our previous determination. This includes greater transparency in its approach, calculating separate LRMC estimates for its three grids (rather than calculating a single 'system-wide' LRMC), and the inclusion of a set proportion of forecast repex and opex in its LRMC estimates. It also trended out estimates where it did not have the data for the twenty-year estimate.

We commend Power and Water for enhancing the accuracy of its LRMC estimates. However, there are further changes we consider it could make in order to improve the accuracy of its estimates:

- instead of assuming a certain proportion of repex being growth related (in that it would be lower if growth were negative), use the perturbation approach to determine how avoided repex estimates affect LRMC for areas of the network where demand is stable or falling
- where possible, not trending out forecasts and instead limiting the forecast horizon to the years Power and Water has data for (while maintaining a forecast horizon of at least ten years).

19.5 Assignment to tariff classes

Our draft decision is to accept the policies and procedures governing assignment or reassignment of Power and Water's retail customers for direct control services.[41] The table below summarises how Power and Water assigns customers to their respective tariff classes.

[41] NT NER, cl. 6.12.1(17).

Tariff Class	Assignment
LV 0 – 750MWh per annum	Customers who connect to the LV network and consume less than 750MWh per annum
LV greater than 750MWh per annum	Customers connected to the LV network and consuming greater than 750MWh per annum
HV	Customers connected to the HV network (at a voltage of 11 kilovolts (kV) or higher)

19.6 Statement structure and completeness

Power and Water must include the following elements within its tariff structure statements:

- the tariff classes into which retail customers for direct control services will be divided
- the policies and procedures the distributor will apply for assigning retail customers to tariffs or reassigning retail customers from one tariff to another
- a description of the strategy or strategies the distributor has adopted, taking into account the pricing principle in clause 6.18.5(h), for the introduction of export tariffs including where relevant the period of transition (export tariff transition strategy)
- structures for each proposed tariff
- charging parameters for each proposed tariff
- a description of the approach that the distributor will take in setting each tariff in each pricing proposal.[42]

A distributor's tariff structure statement must be accompanied by an indicative pricing schedule.[43]

Power and Water's proposed tariff structure statement incorporates each of the elements required under the NT NER. The key focus of our assessment for this draft decision is on whether these elements satisfy the pricing principles for direct control services in the NT NER. That assessment is covered in the sections above.

Power and Water has adopted our preferred two document approach, intended to improve the clarity for the retailers, customers, and the AER:

- the first document should include only include the aspects of the tariff structure statement that will bind it over the 2024–29 period
- the second document should explain the reasons for what it has proposed.[44]

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42 NT NER, cl. 6.18.1A(a).

43 NT NER, cl. 6.8.2(d1).

44 NT NER, cl. 6.18.5(i).

Shortened forms

Term	Definition
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
augex	augmentation expenditure
capex	capital expenditure
CER	consumer energy resources
CPI	consumer price index
HV	high voltage
LRMC	long-run marginal cost
LV	low voltage
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
opex	operating expenditure
PV	photovoltaic
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure
RIN	regulatory information notice