

Our ref: RN

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Joel Aulbury
Senior Advisor
Australian Energy Market Commission

Lodged via AEMC website

Dear Mr Aulbury

Submission on Integrating Energy Storage Draft Determination

CleanCo welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC) Integrating Energy Storage Draft Determination. This submission focusses on the proposed Transmission Use of System (TUOS) charges for storage because we are concerned that this proposal will inhibit new investment in the significant storage we know the NEM needs in the coming decades, while also disincentivising owners and operators of today's storage from dispatching their assets.

CleanCo is the Queensland Government's newest electricity generator. Our purpose is to support the reliable, affordable integration of renewable energy into the Queensland grid, and to provide firmed low-emissions energy at a competitive price for customers. We will contribute to the achievement of Queensland's 50 per cent renewable energy target by 2030 by supporting 1,400MW of new renewable generation by 2025 and will support new investment and jobs in regional Queensland. CleanCo supports rule and policy changes that facilitate an affordable, reliable supply of clean energy to customers into the future.

After reviewing the AEMC's Draft Determination, attending various briefings, having one on one meetings with the AEMC and industry bodies, we are not clear on the AEMC's intentions for this rule change. We have heard different views from different people within the AEMC on how to interpret the draft determination, different reasonings for the proposals, and different intended outcomes. This uncertainty, which is not unique to CleanCo, has required more effort and resources from industry to consider the rule change, and remains a concern for participants to whom we have spoken.

This submission is based on CleanCo's interpretation of AEMC's intent in terms of TUOS for storage, which is:

- a) storage proponents should be able to access prescribed transmission service levels if they choose, and should pay for these higher service levels;
- b) if they choose not to use prescribed transmission services, storage proponents should be required to engage with their Transmission Network Service Provider (TNSP) to determine what level of negotiated TOUS (if any) may be appropriate; and
- c) existing proponents should be largely protected from the changes.

If this interpretation is incorrect, we would welcome clarification.

Overall, CleanCo's view is that storage proponents should not pay TUOS. Our view is based on economic distortion from the potential charges and their likely inhibition of further investment in storage.

As noted in the Australian Energy Council's submission, the choice to distribute TUOS costs to customers reflected the improved economic outcomes (and lower distortion) of taxing end users of a good or service. Taxing end users rather than participants further up the supply chain causes less distortion.

As an example, if Wivenhoe had been required to pay prescribed TUOS in 2020-21, it would have led negative gross margin in 5 of 12 months. In fact, over the 9 months to 31 March 2021 (during relatively low pricing conditions in the market), paying TUOS would have reduced Wivenhoe's gross margin by 97%. If CleanCo was a private sector generator making purely commercial decisions, it may have not operated Wivenhoe through those times. That would have meant up to 500MW lower demand during high solar output and 570MW less available generation during evening peaks over 9 months of the year. And, over that time, Powerlink would not have received any additional revenue to help offset customers' costs.

We question technology neutrality as a key benefit/reasoning for the AEMC's position on this matter. Rather, in determining changes to the NER, the AEMC must make determinations based on the betterment of the National Electricity Objective (NEO). CleanCo's view is that the proposal in the draft determination will be to the detriment of the National Electricity Objective (NEO); in almost all instances it will lead to less efficient investment in and use of the electricity sector, which will increase overall costs to consumers. This will become evident over time as TUOS costs are incorporated into modelling for the Integrated System Plan and other key publications.

Given the significant volume of storage that will be required over the next few decades, it is important to ensure that the AEMC's final position on TUOS provides clear guidelines to make informed locational decisions on storage simple. If the AEMC chooses to pursue TUOS charges for storage, there are a range of key matters that need to be addressed beforehand. These are outlined below, with further details provided in Attachment 1 (public) and Attachment 2 (**confidential**):

- prescribed TUOS tariff structures send inappropriate signals to storage providers and will lead to significant distortion. This is largely because, apart from AEMO in Victoria, TNSPs have failed to implement the AEMC's 2006 rule change on the pricing of prescribed transmission services¹;
- the rules around negotiated TUOS are unclear and inconsistent, which places storage proponents at a disadvantage when negotiating with TNSPs and increases uncertainty and costs for potential investors. Moreover, as revenue from negotiated TUOS does not form part of a TNSP's maximum allowable revenue (MAR), consumers get no benefit from this payment – it is just a transfer of wealth from storage proponents to TNSPs. At a minimum, if the AEMC plans to rely on the negotiated TUOS framework, then it should require TNSPs to publish guidelines on how they propose to treat storage (as AEMO has for Victoria)²; and
- the AEMC should implement clear grandfathering clauses in the rules to ensure existing proponents are not impacted by the proposal. The AEMC's proposal provides no protection to CleanCo, and we expect there are a range of other proponents in similar positions.

We thank the AEMC for the opportunity to make a submission on this process. If you have any questions about our submission, please contact me at rimu.nelson@cleancoqld.com.au or on 0455 080 871.

Yours sincerely

¹ <https://www.aemc.gov.au/rule-changes/pricing-of-prescribed-transmission-services>

² https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2021/tuos-pricing-methodology/pricing-methodology-final-decision-paper.pdf?la=en



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Attachment 1 – Issues with AEMC’s proposal in more detail

Attachment 2 – Confidential

Attachment 1 – Issues with AEMC’s proposal in more detail

As outlined above, CleanCo does not support storage proponents being liable for TUOS. To the extent AEMC decides to confirm its draft position, it needs to consider and act on the below issues.

Shortfalls of Prescribed TUOS

In principle, we agree that storage participants should have the option of using prescribed transmission services if they want. However, in practice, the structure and levels of prescribed TUOS charges will largely rule this out³.

The key challenge with prescribed services for storage proponents (and a range of other customers) relates to locational demand charges; or more importantly, the fact that the locational charges offered by TNSPs across the NEM are out of step with the intention and requirements of the NER.

In its 2006 final determination on Pricing of Prescribed Transmission Services, the AEMC determined⁴:

... prices intended to send locational investment or network usage signals ... to be based on a transmission customer’s demand at times of peak system demand. This is because it is network loading during peak system conditions that drives TNSPs to contemplate transmission investment to satisfy reliability criteria or enhance net market benefits.

The Commission has been persuaded ... that the Rules should be explicit that pricing for the locational TUOS charge should be based on demand (rather than consumption) of times of peak system conditions

At that time, the NER were amended to include⁵:

Prices for recovering the locational component of providing prescribed TUOS services must be based on demand at times of greatest utilisation of the transmission network and for which network investment is most likely to be contemplated

Almost 15 years on (and 159 versions of the NER later) only AEMO in Victoria has implemented this rule^{6, 7, 8, 9, 10}. Locational charges in Victoria are based on actual demand between 11am and 7pm on the 10 highest-peak peak days over a year. While CleanCo questions whether starting at 11am is still the optimal

³ Prescribed services may be attractive in instances where storage is a small component of a larger load. For instance, a large commercial and industrial customer may choose to install storage to optimise its energy usage but would still require high levels of network reliability.

⁴ AEMC, 2006, *Rule Determination for National Electricity Amendment (Pricing of Prescribed Transmission Services) Rule 2006*, Page 44

<https://www.aemc.gov.au/sites/default/files/content/dfd89237-4c6b-44ea-a251-c611dc715d21/Rule-Determination.pdf>

⁵ AEMC, 2006, *National Electricity Rules - Version 12*, Clause 6A.23.4(b)(1), Page 510

[file:///C:/Users/Rimu.Nelson/Downloads/Chapter-6A-Economic-Regulation-of-Transmission-Services%20\(6\).PDF](file:///C:/Users/Rimu.Nelson/Downloads/Chapter-6A-Economic-Regulation-of-Transmission-Services%20(6).PDF)

⁶ <https://www.powerlink.com.au/sites/default/files/2021-03/2021-2022%20Schedule%20of%20Transmission%20Shared%20Network%20Prices.pdf>

⁷ <https://www.transgrid.com.au/what-we-do/our-network/our-pricing/Documents/Transmission%20Prices%202021-22.pdf>

⁸ https://aemo.com.au/-/media/files/electricity/nem/participant_information/fees/2020/electricity-transmission-use-of-system-prices-1-july-2020--30-june-2021.pdf?la=en

⁹ <https://www.electranet.com.au/wp-content/uploads/resource/2015/07/20160701-Resource-PrescribedTransmissionServicePricingSchedule2016to2017.pdf>

¹⁰ <https://www.tasnetworks.com.au/config/getattachment/182eee68-8619-4b9d-9db8-3fba1b36f6b6/2020-21-prescribed-transmission-services-prices.pdf>

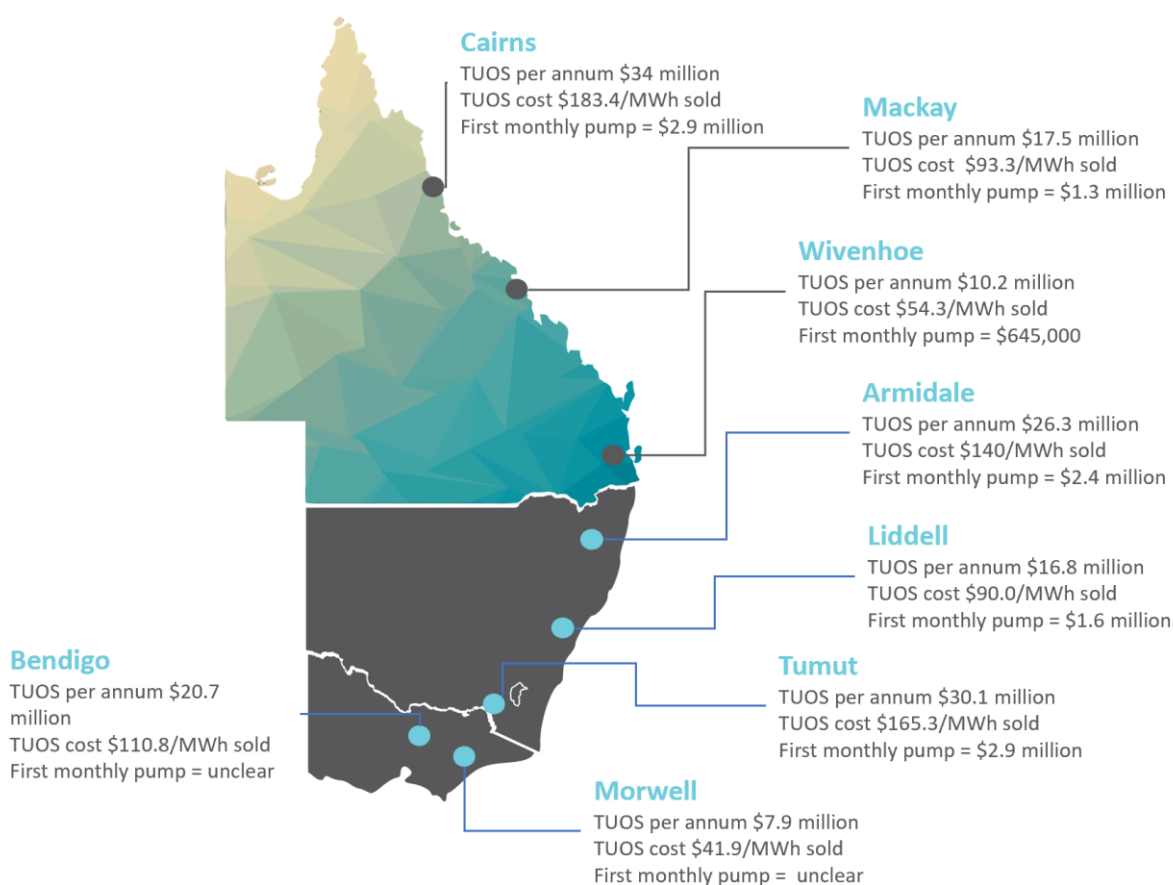
period, we see that AEMO has endeavoured to meet the requirements of the NER. No other TNSP includes targeted or even time of use signals in their locational charges.

Through ignoring the targeting of locational charges as required under the NER, storage (and other customers) who typically use the grid at times of low demand are penalised. For instance, if Wivenhoe were paying prescribed transmission services in 2020-21, it would have cost in the order of \$10 million, 70% of which related to locational demand charges. This amount would not have changed if all consumption was at times of the lowest or highest utilisation of the grid. This is at odds with the requirements of the NER.

Over the same period, there were 105,000 price signals in the energy market to help incentivise and optimise dispatch.

CleanCo has investigated the levels of prescribed TUOS charges across the NEM. As a hypothetical, if Wivenhoe had operated in Cairns in 2020-21 and was required to pay prescribed TUOS, the total cost would have been \$34 million. \$31 million (90%) of this would have been the locational charge. If the tariffs reflected the intent of the NER, the location charge should have been \$0. As further detailed in Chart 1, similar distortions would have been experienced across the NEM, leading to prescribed TUOS costs between \$40/MWh to \$185/MWh.

Chart 1 – Prescribed TUOS charges if Wivenhoe was located elsewhere



Challenges and shortfalls with the negotiated TUOS framework

Firstly, as revenue from negotiated TUOS does not form part of a TNSP’s MAR, consumers do not benefit from storage proponents paying TUOS. In effect, the AEMC’s proposal transfers wealth from storage

owners to transmission owners. This will make it considerably harder for new storage projects to pass commercial hurdles.

The economics of storage is challenging, and transferring operating proceeds to TNSPs will simply reduce the capacity and volume of storage developed in the NEM. While it is unclear how significant negotiated TUOS charges would be for Wivenhoe, S5.11(4) of the rules suggests they would be somewhere close to the prescribed rates (which would have led to a 97% reduction in gross margin over the 9 months to 31 March 2021). Gross margin is the income that investors require to pay wages, service debt and cover capital and fixed operating expenses. No new storage projects will be financed or constructed if 97% (or any significant proportion) of their proceeds are transferred to a TNSP.

Secondly, the rules around negotiated TUOS are opaque, inconsistent and create uncertainty for storage providers (and other large customers more broadly). Given the significant amount of storage that will be required in coming decades, there is merit in clarifying and streamlining the process, including by providing certainty wherever possible.

For instance, S5.11(1) requires negotiated TUOS to be based on costs incurred in providing the service. However, S5.11(4) sets prescribed TUOS charges as the baseline for negotiated TUOS charges, which can only be reduced if avoided cost can be established. It will be difficult to meet both clauses. This disempowers storage proponents and significantly increases the uncertainty and transaction costs involved in negotiating an outcome with a TNSP.

CleanCo commends AEMO's pricing methodology in Victoria as being the next best thing to waiving TUOS for storage¹¹. It provides clarity of intent and clear guidance on how AEMO proposes to deal with TUOS for storage. If the AEMC wants to use the negotiated TUOS framework to implement TUOS charges for storage, it should require each TNSP to develop and publish clear policies on their stance on TUOS for storage. This will significantly reduce uncertainty for storage proponents and make inter-state comparisons clearer.

Grandfathering

The AEMC should implement clear grandfathering clauses in the rules to ensure existing proponents are not impacted by the proposal. The approach in the Draft Determination provides CleanCo with no protection from any changes arising from the rule. We expect there are other proponents in similar positions. Key excerpts from CleanCo's connection agreement are provided in Attachment 2 to illustrate this further.

¹¹ AEMO, 2021, *TUOS Pricing Methodology Decision Paper*, page 3
https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2021/tuos-pricing-methodology/pricing-methodology-final-decision-paper.pdf?la=en