AUSTRALIAN ENERGY COUNCIL

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Australian Energy Market Commission
GPO Box 2603
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15th October 2020

Submitted online to: https://www.aemc.gov.au/rule-changes/integrating-energy-storage-systems-nem

Dear Mr Aulbury,

Integrating Energy Storage Systems into the NEM
Reference: ERC0280

The Australian Energy Council (the "**Energy Council**") welcomes the opportunity to make a submission in response to the Australian Energy Market Commission's ("**AEMC**'s") *Integrating Energy Storage Systems into the NEM Consultation Paper*.

The Energy Council is the industry body representing 21 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia, sell gas and electricity to over ten million homes and businesses, and are major investors in renewable energy generation.

Introduction

Due to reduced technology costs and economic incentives, there is increased energy storage, in a range of different forms, and this trend is expected to continue. The Energy Council appreciates the challenges facing the Australian Energy Market Operator ("**AEMO**") in integrating storage into the power system, and appreciates the efforts it has made in drafting the rule change request, and the accompanying draft rules.

Nevertheless, the current development of the Energy Security Board's ("**ESB's**") post-2025 National Electricity Market ("**NEM**") design programme (which includes a Two-sided Market Design Initiative),[1] the limited participation of storage in the market to date, the fact that the rule is unlikely to be in place before 2022,[2] and AEMO's estimated cost of $8-10m to implement the change,[3] means that the value of implementing the proposed rule change, which was submitted over a year ago, will necessarily be limited. However the Energy Council suggests that the AEMC's final determination for this rule change will be valuable input to the ESB's post-2025 work.

Discussion

Need for change

The Energy Council acknowledges that treating storage as a combination of generation and load is a clumsy, but practical solution to the increasing penetration of storage systems which have a range of different technologies, sizes, technical characteristics and configurations.

[1] See http://www.coagenergycouncil.gov.au/publications/two-sided-markets
[2] Consultation Paper, p.3
[3] p.1

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Acting within the limitations of the current National Electricity Rules, AEMO has developed its processes to cater for storage, for example by publishing guidelines such as the *Interim Arrangements for Utility Scale Battery Technology*.[4]

Over the coming three financial years, the ISP shows that AEMO expects 1.8GW of dispatchable and behind-the-meter storage to be installed.[5] This is a very small proportion of the expected 68.8GW of installed capacity, 40.0GW of which will be dispatchable. Of course storage will increase markedly with the commissioning of the 2.0GW Snowy 2.0 project in 2024-25, but for the subsequent five years, only another 0.7GW of storage is expected to be installed (compared with a further 8.9GW of installed capacity and a minor 0.3GW reduction in dispatchable capacity).

The period from 2025 will fall squarely within the considerations of the Post-2025 NEM Design process therefore, on the basis of the limited new storage expected over the next three years, some of which will not be able to enjoy a change in the Rules until 2022, there is no compelling reason to undertake and implement a major Rules revision to cater for one or more new market participant registration categories.

Distinction between storage and hybrid facilities

The rule change request makes a distinction between bi-directional units (single or aggregated), and bi-directional "hybrid" facilities, with the difference being that hybrid facilities have a range of technologies behind the connection point.

The Energy Council has sympathy for the distinction, but believes that it's ultimately not needed, since it can already be managed by AEMO and battery operators under existing processes. In addition, the Energy Council is concerned that the proposed distinction is based on current power system technologies and arrangements. Instead the treatment of storage should be broad enough to cater for existing technologies (e.g. pumped hydro, flywheels & batteries), innovation in technologies, behind the connection point arrangements and commercial service agreements. In this respect the Energy Council agrees with the ESB's view that connection points should be considered as offering and receiving services,[6] around which there are physical parameters which need to be considered, such as ramp rates, which may be specific to particular technologies. The Energy Council therefore does not support AEMO's proposed classification, and suggests consideration being given to defining the needed category more broadly, to ensure it is robust for future developments.

Cost-Benefit of rule change proposal

The rule change request identifies the benefits to the rule change request as being:

- reduced administrative costs;
- reduced registration costs for intending participants; and
- reduced uncertainty and complexity in the registration process.

Weighed against these benefits is the $8-10m cost to AEMO of making the changes, predominantly system, application, procedure and guideline changes. It is also noted that AEMO is currently reviewing whether the Projected Assessment of System Adequacy (PASA) tools and processes are fit for purpose,[7] therefore there is a likelihood that these costs may increase further.

In the absence of the benefits being quantified, it is the Energy Council's view that there is not a definitive advantage to making the rule change that would outweigh the risk of AEMO's costs

[4] Available at https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/participate-in-the-market/registration/register-as-a-generator-in-the-nem
[5] Source: 2020 ISP NEM Generation Outlook, available at https://www.aemo.com.au/aemo/apps/visualisations/map.html
[6] Energy Security Board, *Moving to a Two-sided Market*, April 2020
[7] Rule change request, p.28

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increasing beyond expectation, particularly when the likely short-term nature of the change is considered in the context of the coming Post-2025 NEM Design work.

Participant Fees

The allocation of fees and charges is becoming more of an issue as the generation mix changes. With growing amounts of distributed generation, and behind-the-meter generation, the management of the power system is becoming more complex, and the costs of managing it are not being borne by the facilities which are causing the issues.

To the Energy Council this suggests that AEMO's participant fees should be recast to allocate more costs to these facilities, perhaps by charging on a National Metering Identifier (NMI) basis and also charging according to frequency control ancillary services markets enablement quantities. This matter should be dealt with by AEMO itself in its current fees consultation.[8]

Non-Energy cost recovery

With respect to non-energy cost recovery, the Energy Council suggests:

- ancillary services energy cost recovery should replicate market customers when storage is charging, and replicate generation when storage is exporting;
- where SCADA metering exists, causer-pays should apply to scheduled storage in the same manner as it applies to generation and load with SCADA;
- intervention and administered price compensation cost recoveries that are levied on market customers should not be levied on storage, as these are to benefit end-use customers;
- intervention and market suspension adjustments that apply to generators should equally apply to storage exports;
- Participant Fund cost recovery should be levied on storage exports; and
- market shortfall and surplus should apply to storage exports as applies to generation.

TUOS and DUOS

The Energy Council's view is that facilities dedicated purely to storage should not pay network usage charges ("**UOS**") because:

- the current regime intentionally allocates shared UOS towards end-users, and pure storage is not an end-user;
- to do so would result in effectively a double-charge on electricity that is stored and then consumed; and
- to do so would cause a dispatch inefficiency, as storage would require additional arbitrage to cover the UOS.

However the Energy Council also agrees that the above does not fully hold with respect to hybrid facilities. A consumer should not be able to use an in-premises storage system to effectively avoid paying UOS charges. To avoid this risk it may be better to lay out clear principles about the intent of UOS charging, but not to propose black-letter rules. Thus it can be then left to the network provider to determine whether UOS is applicable, after considering the beneficial purpose of the energy that is being drawn from its network.

Reliability Panel representation

AEMO has suggested that storage providers should be formally represented on the Reliability Panel.[9] The Energy Council believes that the existing representation, coupled with the ability to have discretionary appointments, is sufficient until such time as storage has more of a presence within the NEM, and is observed to be commonly owned by participant classes not presently represented.

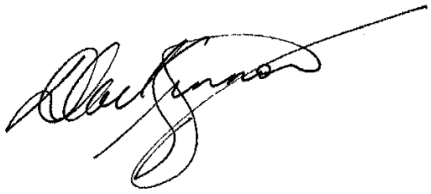
[8] Australian Energy Market Operator, *Electricity Fee Structures Consultation* Paper, August 2020
[9] p.46

Conclusion

In conclusion, the Energy Council believes that the time for AEMO's rule change request has passed. With the ESB's Post-2025 NEM Design work gathering momentum, it is appropriate that this be the vehicle for the accommodation of energy storage systems in the NEM. Instead the Energy Council suggests that, as an interim measure (and at significantly lower cost), AEMO considers revising its relevant guidelines, processes and fees to facilitate, in a broad and technologically-neutral manner, the entry of new storage facilities, with existing energy storage systems having their current arrangements grandfathered.

Any questions about this submission should be addressed to the writer, by e-mail to Duncan.MacKinnon@energycouncil.com.au.

Yours sincerely,



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