RESPONSE #4745 SUBMITTED ON 05/21/2021 11:58:24 AM

Tranche two regulations issues paper consultation submission form

Your details

Submission type	**Organisation**
If Other, please describe	*No answer given*
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Stakeholder group	**Generation or storage infrastructure provider**
If Other, please describe	*No answer given*

Questions

Chapter 4 – Energy Security Target

Question 1: Should the Energy Security Target Monitor define the method to determine the derating factor or should the method be defined in the regulations? If not by the derating factor, how else should the regulations address the probabilistic nature of semi-scheduled generators in the context of the deterministic Energy Security Target?	**We support the approach of using de-rating factors to address the probabilistic nature of semi-scheduled generators and the duration limitations of storage – when considering their ability to address NSW's reliability risks.** **Whether defined in the regulations or not, the method used should be transparent and decided in collaboration with industry – to ensure individual technology characteristics are accurately represented. For example, for storage, it would not make sense to base de-rates on overly conservative duration assumptions, when peak demand events are typically under 4 hours. Recognising 100% firm capacity for storage with at least 4 hours duration would be consistent with capacity accreditation processes in place in the UK and WA.** **The methodology should allow for regular updates and flexibility to adapt in line with any system and technology changes.** **It will also be important to consider the additional buffer provided by assets under 30MW, particularly where schedulable and actively controllable (e.g. Virtual Power Plants). Provided VPPs (and other small-scale demand response) are given the right price signals, they can respond to both peak capacity events (discharging fleets of behind the meter or**

	community-scale batteries) as well as reduce minimum operational demand risks (charging fleets of batteries). Excluding small-scale assets will lead to overestimation of the scale and duration of any potential security target breaches.
Question 2: Should the regulations prescribe any other matters for inclusion in the Energy Security Target Monitor's report? If so, what are they?	n/a

Chapter 5 – Electricity Infrastructure Investment Safeguard

Question 3: To what extent are the requirements for carrying out competitive tenders of Long Term Energy Service agreements appropriate? Are there any other requirements that should be considered?	The requirements are all appropriate. To expand on the last point "can readily adjust to significant changes in technology and market settings" – this will be critical to ensure value for money and efficiency for consumers over the long term. We have already seen the rapid pace of technology innovation apply to battery storage technologies, where the general consensus in 2017 was for grid-scale batteries to be 5 to 10 years away – until the arrival of Hornsdale Power Reserve in late 2017 showed just how effective and cost competitive storage can be in providing energy and ancillary services. Similarly, today grid-forming battery storage systems are rapidly demonstrating their ability to provide system strength and inertia, amongst other essential system services – and highlight the suite of services and range of value that single assets can provide.
Question 4: Do you agree with the matters the Consumer Trustee must take into account when preparing the Infrastructure Investment Objectives Report? Are there any other matters that should be taken into account?	All investments made under the Infrastructure Roadmap should seek to be largely technology or characteristic neutral and within the overarching categories of 'renewables', 'storage' and 'firming'. The 8-hour duration requirements for 'long-duration storage' should be removed from the legislation completely – as it is both unnecessary and inefficient – and does not uphold the neutrality principle. It is unclear why or how this 8-hours figure was determined, but based on market and system needs, enforcing it would drive over-investment in long-duration storage, when shorter duration fast response battery storage would still be required to provide essential system services such as system strength, inertia and fast frequency response. If it is not practicable for the legislation to be updated, the regulations should establish technology neutral principles that can still satisfy Part 5; Clause 36 (1)(b)(i) in the Act. For example, NSW Government can work with industry to provide for additional flexibility in the regulations - e.g. create a NSW Roadmap register that allows the same 400MWh storage system to register with 8 hour dispatch capacity (50MW / 400MWh); in parallel to AEMO's central dispatch registration based on total nameplate capacity (200MW / 400MWh). It would be sensible for the Consumer Trustee to also consider emissions impacts on investment decisions – given NSW's target of achieving net zero by 2050. This will indirectly apply a cost to the carbon emission externality that some technologies will have and others will not.

Question 5: In what circumstances should the Consumer Trustee prefer long duration storage over firming infrastructure to meet the reliability standard?	**Beyond the comments above, the Consumer Trustee should let existing market frameworks drive the most efficient investment in electricity assets – whether they be storage or firming infrastructure – and effectively be agnostic provided the reliability standard and emissions reduction targets are being met.** **Given the other reform processes underway, AEMO will have sufficient operational visibility over essential system services, and network service providers will have incentives to procure network services such as system strength over the investment timeframe.**

Chapter 6 – Classification of Renewable Energy Zone (REZ) network infrastructure

Question 6: Are there any other considerations that should be taken into account in classifying REZ network infrastructure in regulations, including the need for, and scope of, sub-classifications?	**We note there will need to be a fit-for-purpose new Transmission Efficiency Test to ensure the barriers of the current RIT-T process can be overcome – particularly in relation to non-network solutions.** **Non-network solutions themselves may warrant a sub-classification, recognising they may need to be partitioned to be a combination of a regulated network component, and unregulated component. For example a single battery asset, owned by the network service provider, may be providing network services but may also be leasing some capacity to a market operator to provide the market energy and ancillary services. It is unclear how the REZ classes would capture this single asset.**
Question 7: What types of network infrastructure could be subject to economic regulation under Part 5 of the EII Act?	**As per above, it would be helpful to provide additional guidance for single assets providing multiple services to multiple parties. Particularly where current economic regulation frameworks such as the RIT-T fail to capture the full value of market benefits being provided, and are not suited to recognise a single asset may be owned and/or operated by multiple parties.**

Supporting information

If you have additional information you would like to provide to support your views, please provide it here	**The integration of storage is rightly recognised as a critical element of the roadmap. However, the focus to date appears to be on a single service, when storage can play multiple roles beyond simply time-shifting energy services – e.g. its ability to provide system strength and inertia (as demonstrated by TransGrid's Wallgrove Grid Battery), voltage support, and enable additional renewable connections whilst mitigating potential congestion within and around REZs.** **Coordinating central storage assets could de-risk the entire NSW Electricity Roadmap by providing capital efficient storage deployment. This will help to address existing barriers and ensure delivery of location specific services (e.g. system strength) that cannot be easily or efficiently be provided from other assets on the shared network.**
If you have additional documents to provide to support your views, please upload them here	*No answer given*

Confidentiality and submission publication preferences

Would you like all or part of your submission to be confidential?	**No**

Would you like your submission to be anonymous and these personal details redacted?	**No**