

TO/

Department of Planning, Industry and Environment
New South Wales Government
GPO Box 39
Sydney NSW 2001

E: Electricity.Roadmap@dpie.nsw.gov.au

Friday 21st May 2021

Dear Electricity Roadmap Team,

Firm Power submission to the NSW Government on Tranche 2 Regulations; Electricity Infrastructure Roadmap.

Firm Power is pleased to provide a submission to the Department of Planning, Industry and Environment, Tranche 2 Regulations Issues Paper dated April 2021.

Firm Power is an intending participant in the National Electricity Rules as a Generator and specialises in providing energy services as a non-network solution to network limitations and constraints. Firm Power leverages private investment to provide innovative solutions, actively participates in Regulatory Investment Tests (RITs) and works with NSPs to design efficient and cost-effective means to save customers money through non-network solutions.

Firm Power was recently awarded a grant under the NSW Emerging Energy Program to develop two battery energy storage systems in Western Sydney as a way of deferring network investment to meet peak summer loads (see here for further details: <https://energy.nsw.gov.au/renewables/clean-energy-initiatives/emerging-energy-program>).

Around the world, network operators are re-imaging the grid as an interactive network that provides value to connected end-users. However, the challenge is to implement change in a fair and equitable manner that does not have the potential to create stranded assets or provide perverse incentives to concentrate new technologies within specific regions of the grid while neglecting other areas of the network where this technology can provide a positive benefit to end-consumers.

Firm Power broadly supports the objectives and principles of the Energy Security Board's (ESB's) "two-sided market" in streamlining services for those who use electricity and those who sell electricity on behalf of end users. Development of market rules which encourage Network Service Providers (NSP's) to interact with the private sector and create a level playing field in the provision of network services is a critical element of the ESB's vision of a two-sided market.

In light of the above and as a non-network service provider, we thank you for the opportunity to provide a submission to the Tranche 2 Issues paper.

If you have any questions please don't hesitate to contact me via my details below.

Your sincerely,

A handwritten signature in black ink, appearing to read 'MK' or 'Keller', written in a cursive style.

Marcus Keller
Commercial Director, Firm Power
Email: [REDACTED]

Tranche two regulations issues paper: Consultation submission form

This form is to be used to provide feedback on a series of questions included in the [Tranche two regulations to support the Electricity Infrastructure Roadmap Issues Paper \(PDF 800KB\)](#) to help inform the development of the regulations.

Please see the [Electricity Infrastructure Roadmap webpage](#) for more information.

Consultation questions

You do not need to answer every question. Please answer the questions of interest to you.

Chapter numbers indicate the location of questions in the Issues Paper.

Please make your submission by **5pm on Friday 21 May**.

Confidentiality and submissions

Providing submissions is entirely voluntary, is not assessable, and does not in any way include, exclude, advance or diminish any entity from any future procurement or competitive process regarding the Electricity Infrastructure Roadmap, or any other NSW programs.

The NSW Government is committed to an open and transparent process, and all submissions will be made publicly available unless the stakeholder advises the Department not to publish all or part of its submission. Authors may elect for some or all of their submission to be kept confidential. If you wish for your submission to remain confidential please clearly state this in your submission.

Your details

Submission type	<input type="checkbox"/> Individual <input checked="" type="checkbox"/> Organisation <input type="checkbox"/> Other Click or tap here to enter text.
Author name	Marcus Keller
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Stakeholder group	<input checked="" type="checkbox"/> Generation or storage infrastructure provider <input type="checkbox"/> Electricity consumer or representative body <input type="checkbox"/> Network infrastructure provider

	<input type="checkbox"/> Energy retailer <input type="checkbox"/> Government or market institution <input type="checkbox"/> Individual <input type="checkbox"/> Other (please specify) Click or tap here to enter text.
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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?

Firm Power would support the definition of derating factors to be managed by the Energy Security Target Monitor versus having these elements enshrined in regulation.

We believe a deterministic approach for derating with a lower "firming capacity" and hence a higher "reserve margin" will incrementally increase system security and reliability. Event's such as the 31 January 2020 Victoria/South Australia separation event and the prevalence of limited reserve margins could have been avoided in part by using a deterministic approach.

We believe a deterministic approach focused on firm capacity during extreme network contingency events and take into account both interconnector capacity, failure of the interconnector with the greatest power flow, and maximum simultaneous demand across the NEM.

Taking into account the impact of high temperatures on the thermal rating of transmission equipment we would suggest any assessment of firm capacity should be based on summer periods. An assessment should consider available capacity from scheduled storage assets in NSW with the primary interconnector out of service together with any NEMDE binding constraints on storage dispatch associated with that network configuration.

Question 2: Should the regulations prescribe any other matters for inclusion in the Energy Security Target Monitor's report? If so, what are they?

We believe consideration should be provided to a semi-scheduled generator which has committed to invest in the installation of a behind the meter BESS or bilateral contract of capacity with a remotely located BESS in order to establish a firm profile capability. Sophisticated proponents will be able to apply financial instruments to not only hedge

their own position but also assist the NSW Consumer Trustee in hedging its position using inverse swaps.

When considering Priority Transmission Infrastructure in its calculation of firm capacity, we would offer guidance on the following:

- Encourage the Energy Security Target Monitor and related regulations to consider the capability of Distribution Infrastructure to support the objectives of firm capacity, considering:
 - The Distribution network's significant Transmission Use of System (TUoS) financial contributions to access (and support) Transmission level network capacity and
 - Ability to provide capacity on the Transmission network by using dynamic load shedding and localised generation to release capacity at the Distribution level and 'self-support' power flow.
- Encourage Transmission Infrastructure Providers to develop location specific 'Capacity Reserve' contracts with non-network service providers. These contracts may exist at Transmission or Distribution level and will offer 'low hanging fruit' in terms of achieving speed to market for the network capacity required by Priority Infrastructure. It will also create more capital efficient network capacity outcomes for the NSW consumer, vs building additional (but infrequently utilised) Priority Transmission Infrastructure.

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?

Click or tap here to enter text.

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?

We would query as to why there are no sensitivities to greenhouse gas emissions and carbon abatement in the Infrastructure Investment Objectives considering we understand from recent announcements NSW is aiming to achieve a 35 per cent reduction in emissions compared to 2005 levels by 2030.

We would seek to understand how any intervention by the Consumer Trustee to manage any given electricity supply/demand imbalance may alter AEMO's existing approach to the procurement of Frequency Control Ancillary Services. There is concern that State Government intervention could impact on the future value of FCAS and arbitrage revenues, and compromise the fundamental economics of BESS projects being planned to achieve commercial operations in the period 2023-2030.

When assessing scenarios and selecting the preferred scenario there should be consideration for the long term impact on the investment community. Using public funds to support infrastructure investment which results in stranded assets and inefficient capital allocation of private funds may damage future investment attractiveness of the State, not just least regrets to NSW consumers.

In the spirit of facilitating market growth and technology competitiveness, we would encourage the LTESA criteria targeting large BESS to support the following:

- Multiple project proponents vs a single project (or two) large BESS. Provided projects and their proponents are able to prove their ability to deliver projects in a timely manner and to economic targets, projects should not be prioritised simply because they can offer scale.
- Distribution as well as Transmission connected BESS should be considered for LTESA participation. Where Distribution connected projects are able to be presented, the Transmission component of Network charges should be waived to create a level

	playing field between Distribution and Transmission connected projects.
Question 5: In what circumstances should the Consumer Trustee prefer long duration storage over firming infrastructure to meet the reliability standard?	<p>Firm Power would ask the reciprocal question of how firming infrastructure targeting durations of 2-4 hours could meet the requirements of long duration storage. We believe the market is well positioned to provide contractual solutions to this network capacity and reliability challenge, and can offer the Consumer Trustee firming services that offer a diverse portfolio across technologies, scale and geography.</p> <p>This enables the Consumer Trustee to avoid high impact single points of failure caused by network contingency events, natural disasters, etc. and achieve enduring resilience to these types of events.</p> <p>As Tasmania experienced in 2015 and 2016 El Nino weather events will preclude the ability of hydro generation to provide predictable long duration storage.</p> <p>We believe long duration storage projects should not be given preference to firming projects with regard to meeting reliability targets on the basis that the two mechanisms are achieving two different (and often misaligned) outcomes i.e. long duration storage projects will primarily support renewable LTESA fixed shape / fixed volume swaptions whereas firming contracts will target reliability outcomes.</p> <p>There is the potential for a conflict of interest if long duration storage projects are awarded both types of contracts. We query how a hydro project will prioritise between competing demands; supporting commercial hedges and reserving availability for network contingency events. We believe the answer may not be in the economic interests of the NSW consumer.</p>
Chapter 6 – Classification of 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?	Click or tap here to enter text.
Question 7: What types of network infrastructure could be subject to economic regulation under Part 5 of the EII Act?	Click or tap here to enter text.

Tranche two regulations issues paper

Consultation submission form



Supporting information

If you have additional information you would like to provide to support your views, please provide it here.

If you have additional documents to provide to support your views, please email it with your submission.

Click or tap here to enter text.

Confidentiality and submission publication preferences

Please indicate your publication preferences.

Would you like all or part of your submission to be confidential? If so, please identify the part(s) in your submission	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>For confidential submissions: Some confidential submissions may be shared with the Australian Energy Market Operator, Australian Energy Market Commission, Australian Energy Regulator, the Energy Security Board, TransGrid, the Clean Energy Finance Corporation, Australian Renewable Energy Agency, Essential Energy, Endeavour Energy and/or Ausgrid to better understand and respond to issues raised.</p> <p>Would you like your submission to be kept confidential from these parties?</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If your submission is published, only your name and organisation would be published. Would you like your submission to be anonymous and these personal details redacted?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>The Department will redact personal details from submissions made by individuals to protect personal information. In the absence of an explicit declaration to the contrary, the Department will assume that information provided by respondents is not considered intellectual property of the respondent.</p> <p>The Department may disclose confidential information provided by you to the following parties:</p> <ul style="list-style-type: none">• The NSW Minister for Energy and Environment or Minister's office• The NSW Ombudsman, Audit Office of NSW or as may be otherwise required for auditing purposes or Parliamentary accountability• Directly relevant departmental staff, consultants and advisors• The Australian Energy Market Operator, Energy Security Board, Australian Energy Market Commission, Australian Energy Regulator, or the Australian Competition & Consumer Commission• TransGrid, the Clean Energy Finance Corporation or the Australian Renewable Energy Agency or distribution network service providers• Other parties where authorised or required by law to be disclosed.	

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Where the Department discloses this information to any of these parties, it will inform them that the information is strictly confidential.

The Department may publish or reference aggregated findings from the consultation process in an anonymised way that does not disclose confidential information.

We may be required to release the information in your submission in some circumstances, such as under the *Government Information (Public Access) Act 2009*.

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