

**TO/**

Michelle Shepherd  
Commissioner  
Australian Energy Market Commission  
Level 15  
60 Castlereagh Street  
Sydney NSW 2000

Tuesday, June 1, 2021

Dear Australian Energy Markey Commission,

**Firm Power submission to the AEMC's Draft Rule Determination 'Fast Frequency response market ancillary services' dated 22 April 2021 (ERC0296).**

Firm Power is pleased to provide a submission to the Australian Energy Market Commission (AEMCs) Draft Rule Determination 'Fast frequency response market ancillary service' dated 22 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.

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Firm Power is supportive of the AEMC's role in advancing the National Electricity Rules and updating the framework and aligning incentives to support productive efficiency in the provision of fast frequency response market ancillary services. We believe the proposed rule change will foster innovation in faster responding technologies and deliver lower costs for consumers with flow on effects to system reliability and security.

Firm Power seeks to highlight the following key considerations of the Draft Rule:

1. In terms of development options Firm Power is supportive of Option 1.
2. We believe that faster response by a generator and load under 6 seconds should be rewarded by a premium, and a scalar multiplier would be a suitable mechanism.
3. We believe that any modification to the FCAS framework for FFR should be future proofed and encourage some form of speed parameterisation when responses are offered faster than 1 second.
4. We would encourage development of a hedging and derivative market to support FCAS modifications.
5. We would encourage the timetable for FFR commencement to be accelerated in the interests of system security.

As a BESS project developer and provider of grid flexibility services, we thank you for the opportunity to provide a submission to the AEMC's Draft Rule Determination.

If you have any questions in relation to this submission please don't hesitate to contact Marcus Keller at [marcus@firmpower.com.au](mailto:marcus@firmpower.com.au).

Your sincerely,



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<p><b>1. Development Options for Fast Frequency Response services in the NEM</b></p> <p>Firm Power is supportive of a spot market for the provision of FFR.</p> <p>Firm Power is supportive of Option 1, and we would encourage consideration of four markets not just 2:</p> <p><b>Tier 1:</b> Raise and Lower (150ms to 500ms)  <b>Tier 2:</b> Raise and Lower (501ms to 6 seconds)</p> <p>Firm Power is supportive of a scalar multiplier approach to incentivize full responses over shorter periods of time.</p>
<p><b>2. Procurement of FFR</b></p> <p>Firm Power would suggest that procurement of FFR should be based on total required contingency independent of inertia. We recognize it will be challenging to balance procurement of FFR, inertia and primary frequency response (PFR) in a last cost manner whilst optimizing system strength and reliability.</p> <p>We would support a two tier FFR approach:</p> <ul style="list-style-type: none"> <li>• Tier 1: Would reward participants able to offer a fast response requirement of 150ms to 500ms, and</li> <li>• Tier 2: Would reward participants able to offer a fast response requirement of 501ms to 2 seconds with the response to be maintained until the next 6 second FCAS market response.</li> <li>• Tier 1 proponents could carry through Tier 2 but only obtain one clip of the ticket i.e. would not be able to double dip.</li> <li>• This would reward proponents who seek to invest in the necessary equipment and communications pathways to secure either Tier 1 or 2 response capability.</li> </ul>
<p><b>3. Cost allocation considerations.</b></p> <p>Firm Power is supportive of the allocation of FFR costs to be weighted based on the degree to which a participant causes the need for FFR. This is aligned with the existing cost allocation methodology with FCAS; raise contingency services being allocated to market generators and lower contingency services being allocated to market customers.</p>
<p><b>4. Revenue certainty for required investments in FFR technology</b></p> <p>Firm Power would support the introduction of a hedging and derivative market to provide the necessary price signals for new investment in FFR technology. The net present value of FCAS revenues continues to be heavily discounted by investors who continue to perceive this income stream as highly volatile, diminishing in value over the long term and potentially compromised by market redesign and Government intervention.</p> <p>The ex ante energy markets of the I-SEM market in Ireland and Northern Ireland provide project proponents with hedging facilities against price fluctuations months to years in advance of energy delivery. Firm Power would encourage development of a Capacity Market and/or Forwards Market to facilitate establishment, trade and settlement of Contract-for-Difference derivatives and capacity payments well in advance of the actual trading day.</p> <p>Introduction of a hedging and derivative market would also increase the attractiveness of bi-lateral contracts between Variable Renewable Energy (VRE) project proponents and developers of stand-alone battery energy storage (BESS) projects. BESS projects will be able to operate in a manner which provides a synthetic hedge for VRE projects by providing a FFR service which compensates the VRE project for its FFR obligations as a low inertia generator.</p>
<p><b>5. Timing of FFR market transitional arrangements</b></p> <p>Firm Power believes that given the recent events with Callide which caused system frequency to dip to 48.55Hz, that implementation and commencement of an FFR market should be fast tracked by AEMO. We would query whether work streams such as the following could be undertaken in parallel to accelerate the timetable:</p>

- Engineering work to update the MASS
- Development of constraint equations
- Optimisation changes to NEMDE
- Market bidding system and IT modifications to existing databases