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AEMO

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To whom it may concern

### Consultation on Guide to Generator Exemption and Classification of Generating Units

Thank you for the opportunity to submit on the Guide to Generator Exemption and Classification of Generating Units.

Firmus Grid Pty Ltd (**Firmus**) commenced participation in the NEM as a Market Ancillary Service Provider (MASP) by providing 2MW of contingency raise FCAS services as a load side proportionate controller – the first of its kind in the NEM. Firmus delivers these services very quickly (< 1 second) using a combination of hardware and software deployed at its facility in Launceston, Tasmania. The hardware comprises a load source, networking and switch gear and a frequency reader.

By February 2022 Firmus had scaled up to provide 17MW of FCAS services via this load side proportionate control system.

Building on the intellectual property and experience that gained when developing and scaling its load side proportionate control system, Firmus has now developed a modularised lithium-ion battery based uninterruptable power supply (**UPS**), called a Powercube, that is capable of utilising latent battery capacity to provide FCAS services via supply side proportionate control.

Subject to verification and testing of the PoC, it is expected the Firmus Powercube will be able provide FCAS by way of participation in the fast and very fast raise markets.

Firmus recently installed the proof-of-concept 2MW Powercube (**PoC**) at its Launceston facility. Once this unit has been commissioned, tested and placed into service, Firmus has plans to add a further 12 Powercubes at the same facility for a total initial installed capacity of 26MW.

Beyond this, Firmus will seek to deploy Powercubes at other sites across Australia and to adapt its control system so that it can be applied to installed UPS systems in data centres and other similar industrial facilities. By Firmus' estimate this could potentially unlock in excess of 1 GW of latent battery capacity for provision of FCAS services.

In light of the above, Firmus submits the following response to the consultation:

Questions	Response
<ul style="list-style-type: none"><li>What changes, if any, are missing from the HLD (High Level Design) or Final Strawperson that have not been addressed in the Guide?</li></ul>	Changes that would better facilitate the use of systems that inject electricity into the grid (such as the Firmus Powercube) if they do so for the purpose of provision of FCAS only.

Questions	Response
<ul style="list-style-type: none"> <li>What other changes should be reflected?</li> </ul>	<p>Owners, operators and controllers of such systems should not need to be registered Generators or Integrated Resource Providers. They are not providing generation in the typical sense because they only ever inject electricity over a very short time periods in response to FCAS events (significantly less than the 5 minute minimum) – at all other times they are either recharging or standing idle.</p> <p>Firmus' view is that it would be more appropriate for such system to either:</p> <ul style="list-style-type: none"> <li>be exempted from the requirements to be registered as Generators or Integrated Resource Providers regardless of the nameplate capacity (i.e. create a new class of exemption specifically for systems that inject electricity into the grid for the purpose of providing FCAS only); or</li> <li>revise the exemptions to the requirements to be registered as Generators or Integrated Resource Providers to apply on an alternative basis to the nameplate capacity if they relate to systems that inject electricity into the grid for the purpose of providing FCAS only</li> </ul> <p>rather than require such providers to be registered in an unsuitable category.</p> <p>If this is not possible within the confines of this consultation the Firmus is of the view that AEMO should consider the creation of a new category of market participant for owners, operators or controllers of systems that inject electricity into the grid for provision of FCAS only which has registration requirements and other obligations that better reflect the nature of such systems rather than require such providers to be registered in an unsuitable category.</p>
<ul style="list-style-type: none"> <li>How suitable are the proposed terms and conditions and why?</li> <li>What other terms and conditions should be considered and why?</li> </ul>	<ul style="list-style-type: none"> <li>Firmus is of the view that they are suitable for the specific scenarios that have been identified but not the scenario described above.</li> <li>See responses above.</li> </ul>

Questions	Response
<ul style="list-style-type: none"> <li>What are your views on AEMO periodically reviewing and updating the average dispatch error threshold (currently 2.5%)?</li> </ul>	<ul style="list-style-type: none"> <li>Firmus has no specific view on the periodic review and update of the average dispatch error threshold.</li> </ul>
<ul style="list-style-type: none"> <li>What other scenarios can be identified that currently fall outside of this framework?</li> </ul>	<ul style="list-style-type: none"> <li>See responses above</li> </ul>
<ul style="list-style-type: none"> <li>What other clarifications could be identified that would be appropriate to consider include in the Guide?</li> </ul>	<ul style="list-style-type: none"> <li>See responses above</li> </ul>

Your faithfully



**Oliver Curtis**  
Founder & Chief Operating Officer