

TO/

Australian Energy Market Commission
PO BOX A2449
Sydney South NSW 1235

13 February 2020

Dear Australian Energy Market Commission,

Firm Power Submission on Updating the Regulatory Frameworks for Distributor-Led Stand-Alone Power Systems, Ref EMO0038

Firm Power is pleased to provide a submission to the Australian Energy Market Commission's (AEMC's) market review for updating the regulatory frameworks for distributor-led stand-alone power systems (Market Review).

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 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>).

Firm Power is a turn-key generation service provider, leveraging private investment to provide innovative solutions to generation and network services. Firm Power 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 broadly supports the intent of the Market Review to allow NEM distributors to use stand-alone power systems (SAPS) where it would be economically efficient to do so. We believe this will encourage competition in the market in providing SAPS generation services and lead to product innovation and efficient price discovery with flow on benefits to end customers.

We support the view that technology and technology costs are making it increasingly viable to provide electricity services to customers through SAPS generation services. However, in order for the broader market to actively participate in providing SAPS services, it is important that frameworks, technical requirements and economic objectives are completely clear and transparent and commercial contracts are structured so they can leverage equity and debt investment in the space.

The SAPs market has a high barrier to entry. The technical rules are complicated. Engineering solutions will initially need to be customised before proprietary systems can be developed. Commercial contracts will need to be negotiated so risks and incentives can be balanced sufficiently for financiers to leverage equity and debt instruments. Therefore, until there are examples of private sector investment in SAPS generation services, costs are likely to be initially high, but this should not be used to justify an unwillingness or inability of the market to participate in SAPS generation services. A series of pilot projects would greatly unlock a pathway to commercialisation and future investment in the SAPS market.

In light of the above, Firm Power provides the following responses to the Market Review:

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Item	Issue	Comments and Recommendations
1	Classification of SAPS generation services and application of Distribution Use-of-Service (DUoS) tariffs	<p>Clause 5.2 of the draft report recommends that a generating system(s) connected to the stand-alone distribution system is an input into the distribution service and should be classified as a standard control service.</p> <p>We accept the justification that swapping existing grid-connected customers to SAPS distribution services is only likely to work at a cross-subsidised price. However, the application of Network Use of Service (NUoS) tariffs to SAPS generation services should allow for the bi-directional nature of new technology, such as battery storage.</p> <p>NUoS is a major inhibitor of bi-directional technologies such as battery storage and tariff structures do not recognise the “balancing” services provided by batteries as they treat them as a load like any other customer load.</p> <p>Given SAPS generation services are likely to provide a full end-to-end solution for generation and “balancing” services within a microgrid or individual customer setting, SAPS generation services should be charged NUoS proportionally to the cost impacts they have on the network, otherwise this will artificially inflate the cost of generation services.</p> <p>This may involve a NUoS tariff structure that reflects the controllability and dispatchability of the bi-directional service offered and its capability to maintain or even reduce the demands on the network.</p>
2	Amendments to RIT-D principles to mandate quantification of applicable classes of market benefits	<p>As per clause A.2 of the draft report, Firm Power supports the Commission’s recommendation to mandate the quantification of applicable classes of market benefits where these may be material or where they may alter the selection of the preferred option. We agreed that applying these principles to all projects would create a more predictable, transparent and consistent approach to RIT-D processes.</p>
3	SAPS technical standards should be fit for purpose	<p>Section C.2 Box 6 proposes to use Schedule 5.1a of the NER “System Standards” to apply to SAPS customers. Whilst we are supportive of SAPS customers having access to the same quality, safety and reliability standards as when they were grid-connected, the application of NEM-wide standards to SAPS generation services is impractical and would not necessarily lead to a beneficial outcome for customers.</p> <p>For example, Schedule 5.1a requires tightly controlled frequency bands such that if the largest NEM generator or NEM load were to trip, systems would respond in harmony to adjust frequency (through active power control) without causing oscillations or instability. Although the same principles apply to small, isolated SAPS projects, the application of controls should be sympathetic to the size and type of technologies used (e.g. asynchronous inverter based technologies).</p> <p>Instead we recommend Australian Standard AS4509, Stand-Alone Power Systems, would provide a more targeted approach to quality, safety and reliability that is more sympathetic to SAPS applications.</p> <p>Other distributors, such as Horizon Power, also have a number of standards that could be applied to SAPS that are more fit for purpose.</p>

In addition to our responses to the Market Review, we have also provided responses to the AER's explanatory note on the ring-fencing interaction with distributor-led stand-alone power systems, ref: 65303-D19/172916. For ease of reference we have included this as a separate attachment in **Attachment A**.

We thank you for the opportunity to provide a submission to the Market Review. If you have any questions in relation to this submission please don't hesitate to contact Chris Wilson on the contact details provided below.

Your sincerely,



Chris Wilson
Director, Firm Power
Email: chris@firmpower.com.au

Attachment A

TO/

Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

13 February 2020

Dear Australian Energy Regulator,

Firm Power Submission on the Ring-Fencing Interaction with Distributor-Led Stand-Alone Power Systems, Explanatory Note dated December 2019 (Ref: 65303-D19/172916)

Firm Power is pleased to provide a submission to the Australian Energy Regulator's (AER's) explanatory note on ring-fencing interaction with distributor-led stand-alone power systems dated December 2019 (Explanatory Note).

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 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>).

Firm Power is a turn-key generation service provider, leveraging private investment to provide innovative solutions to generation and network services. Firm Power 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 broadly supports the intent of the ring-fencing rules to encourage competition in the market in providing generation services and lead to product innovation and efficient price discovery with flow on benefits to end customers.

Without ring-fencing rules, we believe the market would not seek to compete against distribution network service providers given the asymmetry that exists in NSP's knowledge of the *identified need*, the conflict of interest that would arise in NSPs fairly sharing and distributing that knowledge to competitors and the ability for NSPs to monopolise unregulated services given the lack of a level playing field.

Therefore, as a generation service provider, we are concerned with the possibility of NSPs seeking an exemption from the ring-fencing rules, giving them the ability to monopolise generation services before a private market and industry can be established for providing stand alone power systems (SAPS) generation services.

The SAPs market has a high barrier to entry. The technical rules are complicated. Engineering solutions will initially need to be customised before proprietary systems can be developed. Commercial contracts will need to be negotiated so risks and incentives can be balanced sufficiently for financiers to leverage equity and debt instruments. Therefore, until there are examples of private sector investment in SAPS generation services, costs are likely to be initially high, but this should not be used to justify an unwillingness or inability of the market to participate in SAPS generation services. A series of pilot projects would greatly unlock a pathway to commercialisation and future investment in the SAPS market.

It should be expected that the development of SAPS market may take time and a gradually increasing market participation will most likely yield the best results for the consumer in the long term because lessons learned can be incorporated into solutions offered and thereby reducing the potential costs of required retrofitting. A lack of

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immediate response to the new SAPS market should not be considered a failure and therefore justification for removing ring fencing.

In light of the above, Firm Power provides the following responses to the Explanatory Note:

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Item	Issue	Comments and Recommendations
1	Evidence to be provided for DNSPs sufficiently demonstrating that third-party providers are unable to provide the SAPS generation service.	<p>As previously mentioned, there is an asymmetry in the knowledge and information DNSPs have regarding the factors to be considered for SAPS generation service providers. Our experience in providing submissions to RIT-D processes is that there is rarely sufficient information or time provided to proponents to develop solutions that adequately meet DNSPs requirements. This can discourage proponents from participating in EOI and tender processes given the amount of resource risk proponents face in preparing a submission.</p> <p>This is further compounded by many EOIs (such as RIT-Ds) simply done for price discovering and seeking innovative ideas to problems just to have those ideas tendered at a later date. This provides no incentive for proponents to be innovative given there is no protection of intellectual property.</p> <p>Firm Power recommends the following guidelines are adhered to by DNSPs when demonstrating they have adequately engaged with third-party providers:</p> <ol style="list-style-type: none"> 1. Invitations to participate in the tender, EOI or consultation process were adequately advertised by the DNSP. 2. All adequate information is provided to generation proponents as part of the tender. This may involve the DNSP developing network models, load flows, protection concept designs, etc. so third-parties can sufficiently price solutions. 3. Timeframes for generation proponents to respond to tenders should be a minimum of 4 months once all adequate information is provided to generation proponents. 4. EOIs should only be used to shortlist SAPS generator proponents whereas tenders should be used to solicit SAPS generator proposals submissions kept confidential so pricing and IP can be protected. 5. DNSPs should either be forced to award a contract at the end of the tender process or be clear on the necessary technical and pricing hurdles required to result in a contract being awarded so there is certainty given to generation proponents that the tender is not simply an exercise in price discovery. 6. DNSPs should declare when unregulated "related parties" are invited to participate in tenders. Given the perceived conflict of related parties by the market, every tender that includes submissions from related parties should be audited by the AER. 7. Commercial contracts should be legitimately open to negotiation and justification should be provided to the AER where a DNSP does not accept amendments to commercial contracts, particularly around contract term and risk allocation.

2	Scope of waivers should be limited	Firm Power accepts that in some cases, aspects of the SAPS generation service may be better provided by the DNSP. This includes the provision of operation and maintenance services in remote and isolated areas. However, we do not agree that a waiver should be able to be sought for the design and construction of SAPS, therefore we recommend that waivers be limited so they do not cover the design and construction aspects of SAPS.
3	Applications for waivers should all be advertised and open for comment by the AER	The AER should advertise and seek comments from proponents for each and every waiver application. This ensures there is enough transparency provided in the consultation process and provides an alternative avenue for generation proponents to provide comment outside of the DNSPs.

We thank you for the opportunity to provide a submission to the Explanatory Note. If you have any questions in relation to this submission please don't hesitate to contact Chris Wilson on the contact details provided below.

Your sincerely,



Chris Wilson
Director, Firm Power
Email: chris@firmpower.com.au