



Katy Brady & Andrew Pirie
Project Leaders
Australian Energy Market Commission

16 July 2020

Re: Compensation for Intervention and Direction Consultations (ERC0284 & ERC0287)

Dear Katy and Andrew,

Tesla Motors Australia, Pty Ltd (Tesla) welcomes the opportunity to provide feedback on the AEMC's consultation processes exploring appropriate compensation mechanisms for interventions and direction in the National Electricity Market (NEM). Given the concurrent rule change requests that relate to the amount of compensation payable to market participants (and the overlap of relevant implications on battery energy storage), Tesla has consolidated its response for both ERC0284 (Compensation for market participants affected by intervention events) and ERC0287 (Compensation following directions for other services) as part of this single response.

As a world-leading manufacturer of battery energy storage systems and given its mission to accelerate the world's transition to sustainable energy, Tesla is acutely aware of the role that new technologies can play in supporting the transition to predominantly renewable electricity generation in the NEM.

We are strongly motivated to work closely with the AEMC to create a fit for purpose technical system framework, which includes ensuring ad-hoc intervention mechanisms are appropriately designed to work alongside market operations to underpin the safe, secure and reliable operation of the NEM in the decades to come. As such, Tesla is fully supportive of the review of compensation mechanisms to ensure the principles of equity, neutrality and transparency are upheld. A summary of our key points is included below:

- Tesla agrees with the need for change in existing frameworks given the increasing use (and cost impacts) of interventions, the Reliability and Emergency Reserve Trader (RERT), and the increasing utilisation of new technologies - particularly in South Australia where several directions have already been issued to battery energy storage systems specifically.
 - As noted by the AEMC, battery energy storage was directed to provide 'other services' to ensure the network and power system maintained stable and secure operation and AEMO had sufficient reserves for contingency events.
 - Battery technologies also continue to demonstrate the capability to provide additional system services beyond in-market provision of energy and premium FCAS, including self-start, virtual inertia, voltage and reactive power stability, fast frequency response, and restoration and re-synchronisation services.
- The South Australian separation event in January and February 2020 provides the most notable recent example of the existing capabilities of battery systems to respond rapidly to AEMO directions for 'other services' (e.g. holding a specified state of charge) and highlights the critical role batteries are expected to play as our market frameworks continue to transition to support a high renewables NEM (and with requisite investments in complementary storage capacity as noted by the Integrated System Plan).
 - "The plan [for managing SA islanding] involved Lake Bonney, Dalrymple, and Hornsdale batteries being constrained to zero MW output but remaining at a state of charge sufficient to allow provision of raise and lower contingency frequency control ancillary services (FCAS)" (AEMO Preliminary Report - Victoria and South Australia Separation Event, 31 January 2020)

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- Tesla strongly supports the need to address potential asymmetries in current framework design – including between generators and loads; and across energy and Frequency Control Ancillary Service (FCAS) compensation.
- The compensation framework should be revised to ensure principles of technology and market participant neutrality. If storage technologies are providing a clear service in response to AEMO directions - they should be compensated to the full extent of their affected operational impacts. For example, if the rules are structured to ensure scheduled generators are paid due compensation (for both energy and FCAS); but scheduled loads are only compensated for energy - this is in clear violation of the neutrality principle. Accordingly:
 - We support a **revision of the definition of ‘BidP’ in clause 3.12.2 to avoid under-compensation of scheduled loads** affected by interventions
 - We support the move to **include FCAS compensation** in the list of factors - clause 3.12.2 (j) - that are to be considered when determining amounts due to relevant participants. However, we note this would only apply to the generation side of storage technologies (and exclude their operation as scheduled loads).
 - Therefore, under the principles outlined above, this change should naturally extend to **compensation for scheduled loads to include FCAS losses** if they occur as a result of an intervention event.
 - As the AEMC recognise, for storage technologies there is the potential for distortion under the existing rule change proposal. We see this largely as a temporal issue with the current framework, which being designed around the binary classification concepts of "generation" and "load" does not recognise storage assets that can act as both, behind a single connection point. We understand these classification issues have been incorporated into the pending 'Integrating energy storage systems into the NEM' rule change proposal - that will seek to more efficiently define, classify and remove inherent barriers to these bi-directional technologies - including how they are compensated when charging (as load) or discharging (as a generator). In the interim, we suggest scheduled load compensation should consider including both energy and FCAS (aligning with compensation for generators).
- Relating to ERC0287 specifically, Tesla recognises the intent to ensure administrative and operational efficiencies. However, the compensation review process must maintain the opportunity for participants to engage prior to the final determination of the fair price (noting the complexity and level of analysis involved).
- Finally, AEMC need to ensure intervention pricing amendments align with future direction of market, most notably: the Energy Security Board (ESB) 2-sided market design; the Wholesale Demand Response Mechanism; and the significant integration of storage (including the demonstrated potential of Virtual Power Plants being deployed at scale).
 - We note fast-response battery technologies continue to be explored for system protection schemes and to support localised essential system service provision. Structural market changes may also see a shift in the frequency or application of directions and instructions by AEMO, for instance if the ESB recommends some form of day-ahead market or strengthens elements of the unit commitment for security process where there will be increased visibility of the sufficiency of energy, FCAS and other system strength service provision pre-dispatch.

A long-term, fit-for-purpose market framework to support reliability and system security will necessarily rely on the capabilities of fast-response and flexible resources, including demand side response, battery storage and distributed energy resource participation. Efficient incentive (and compensation) mechanisms for all market participants are critical to support the effective operation of the power system and are in the long-term interests of consumers, and we look forward to supporting the AEMC and AEMO progress this important reform element.

Kind regards



Emma Fagan

Head of Energy Policy and Regulation