



Tesla Motors Australia Pty Ltd  
650 Church St  
Cremorne, Victoria, 3121

John Pierce  
Australian Energy Market Commission  
PO Box A2449  
Sydney South NSW 1235

17 October 2017

**Re: 5 minute settlement – Draft Determination (ref. code: ERC0201)**

Dear John,

Tesla Motors Australia Pty Ltd (Tesla) welcomes the opportunity to provide final comments to the Australian Energy Market Commission (AEMC) on the proposed Five Minute Settlement Rule Change – Draft Rule.

As noted in our previous submission on the 5 minute settlement – Directions Paper (ref. code: ERC0201), Tesla fully supports the proposed transition to an alignment between the current dispatch and settlement periods.

In our previous submission on this rule change, Tesla also supported an accelerated transitional period, noting that:

- a) battery energy storage is technically capable, and market ready, to participate in five minute dispatch intervals, and
- b) that battery storage has the capability to be deployed at scale with short project lead time.

As such, Tesla does not perceive that the proposed transition period of three years and seven months will cause disruption to the ongoing security and reliability of the national electricity market (NEM).

In respect of the explicit system security and reliability risks raised in Chapter 5 of the Draft Determination, Tesla feels that the system security risks associated with behind the meter battery energy storage are already well managed by existing network requirements.

Behind the meter battery energy storage systems are controllable generation. These distributed assets can provide frequency support and participate in the frequency control ancillary services (FCAS) markets in an aggregated capacity.

The risks noted in Chapter 5 regarding the sudden changes to frequency and voltage batteries voltage and reactive power fluctuations are minimised by strict distribution network service provider (DNSP) connection requirements, and, in some instances, export limitation requirements. Further the noted risks of battery energy storage being 'invisible' to AEMO, will be well managed by the National Battery Storage Register, which the COAG Energy Council has proposed that AEMO maintains<sup>1</sup>.

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<sup>1</sup> Jacobs, "Cost Benefit Analysis of options to collect and share information about small scale battery storage", Paper for COAG Energy Council, available at [https://prod-energycouncil.energy.slicedtech.com.au/sites/prod.energycouncil/files/publications/documents/CBA%20consultation%20paper%20for%20battery%20storage%20register.\\_0.pdf](https://prod-energycouncil.energy.slicedtech.com.au/sites/prod.energycouncil/files/publications/documents/CBA%20consultation%20paper%20for%20battery%20storage%20register._0.pdf)

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As noted by the AEMC – the ongoing frequency control framework review and reliability frameworks review workstreams that are also being undertaken by the AEMC will include further provisions to manage any risks to ongoing system security and reliability.

### **Rule change logistical considerations**

Tesla supports the position put forward by the AEMC that a five minute settlement will still allow for hedging and risk management. Specifically Tesla supports the statement by the AEMC that energy storage can provide an alternative means to create synthetic financial instruments, where there is sufficient lead time. A key consideration during this lead time period will be ensuring that the understanding of the market implications is robust enough to provide investor certainty.

To reiterate our previous position put forward to the AEMC, Tesla believes the following key points are relevant for the AEMC to note during the consideration of the 5 minute settlement rule change:

- Battery energy storage is technically capable of responding in a near instantaneous manner to price and demand signals, and as such, can provide required capacity during a five minute dispatch interval.
- We anticipate that the shift to a five minute settlement period will ultimately result in improved wholesale market participation revenue for battery energy storage leading to improved uptake trajectories.
- Increased uptake of utility scale battery energy storage will ultimately manage some concerns raised during this rule change process regarding the liquidity of the cap market as utility scale battery energy storage can increasingly be used as energy capacity by counter-parties participating in the cap market.

Tesla does not note any concerns with any of the proposed provisions of the Draft Determination noted in Chapter 6. We look forward to working with the AEMC going forward, and assisting with the exploration of the role of battery energy storage in the Australian energy market.

Kind Regards



Mark Twidell

APAC Director – Energy Products