



**EnergyAustralia**

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Australian Energy Market Commission

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Dear Commissioners

Lodged electronically: [www.aemc.gov.au](http://www.aemc.gov.au) (ERC0214)

**AEMC, Managing the Rate of Change of Power System Frequency, Draft Determination, 27 June 2017**

EnergyAustralia is one of Australia's largest energy companies with over 2.6 million electricity and gas accounts in NSW, Victoria, Queensland, South Australia, and the Australian Capital Territory. We also own and operate a multi-billion dollar energy generation portfolio across Australia, including coal, gas, and wind assets with control of over 4,500MW of generation in the National Electricity Market.

EnergyAustralia welcomes the opportunity to provide further input on the Rule changes relating to the System Security Market Frameworks Review (Review). As previously stated we agree with the findings of the Review, reiterated in the Draft Determination, that inertia is identified as primarily assisting power system security by allowing other system security measures such as emergency frequency control schemes to operate. Under frequency load shedding and over frequency generation shedding schemes provide a low-cost solution to ensuring that the power system remains in a secure state in the event of foreseeable but non-credible contingencies.

Reviews into system security by both the Australian Energy Market Operator (AEMO) and the Commission have identified higher rates of change of power system frequency (RoCoF) as being a fundamental risk to the operation of emergency frequency control schemes and therefore the continued satisfactory operation of the integrated power system. We note, however, that there is still not a settled understanding of the specific RoCoF limits that the power system is capable of withstanding. Inertia is an element of the power system that affects the RoCoF following a contingency, and the specific requirements in terms of inertia under given circumstances are also not fully understood. This presents a challenge in terms of determining the requirements for inertia services.

We note that the Draft Determination will include a requirement for further assessment of required inertia levels by AEMO. As we stated in our previous submissions on this topic, we consider that the requirement for inertia is likely to be a dynamic requirement, rather than a set limit. In order to ensure that measures to maintain system security are imposed at least cost, any mechanism to obtain inertia should require the minimum amount needed to ensure that emergency frequency control schemes can operate as intended during a non-credible contingency. Again, this relies on more detailed understanding of generator performance and

impact of RoCoF. Otherwise there is a risk that a much higher level of inertia is mandated than required leading to suboptimal outcomes for customers and the industry.

### **Mechanism for procuring inertia**

We previously stated, and still consider, that the mechanisms established to procure the relevant services need to be least cost and fit for purpose. This mechanism should be both technology and participant neutral. Market solutions that allow for innovation in the supply of the required services should be prioritised over non-competitive mechanisms. These mechanisms should also be able to ensure that services can be procured on a dynamic basis, and only to the minimum level required.

The Draft Determination proposes to utilise a Transmission Network Service Provider (TNSP)-led approach for procurement of fixed minimum levels of inertia. It also proposes to consider the introduction of a market mechanism to obtain additional inertia where required. This mechanism is subject to a separate rule change proposal to be concluded later this year. Given the interrelationship between these two mechanisms, we are concerned that they are being considered under separate processes. This split process may result in a sub-optimal balance between the proposed centrally-planned and procured approach to minimum levels and the market mechanism to be reviewed later. We would support this decision being deferred and considered in conjunction with the *Inertia Ancillary Services Market* (ERC0208) Rule change proposal.

In terms of the specific mechanism proposed under the Draft Determination, we still have reservations that the TNSP-led approach does not provide the best mechanism for ensuring inertia is procured in a truly competitive and least cost manner. While the Draft Determination sets out that the requirements of the Regulatory Investment Test – Transmission acts as a means for ensuring the most efficient mechanism for procuring inertia, there are still strong incentives on the TNSP to construct network assets over non-network solutions. Inertia is capable of being provided through other technologies such as synchronous condensers. This equipment may be installed as part of network businesses network augmentations for the purpose of voltage control, required as part of their obligations<sup>1</sup> to plan and operate their network in a way to reduce the risk of cascading failures for any credible or non-credible event. A corollary benefit would be the provision of inertia when the condenser is in operation. However, consideration should be given to ensuring that benefits of such installations can be captured, without market distortion from allowing monopoly asset owners to be involved in a competitive element of the market. Such distortion could well flow into the proposed market mechanism for obtaining additional inertia. For this reason, we would reiterate our position that the two mechanisms should be considered together.

If you would like to discuss this submission, please contact Chris Streets on (03) 8628 1393.

Regards

**Melinda Green**

Industry Regulation Leader

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<sup>1</sup> S5.1.8 NER