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Submitted online to:

<http://www.aemc.gov.au/Rule-Changes/Managing-the-rate-of-change-of-power-system-freque>

8<sup>th</sup> August 2017

## Managing the Rate of Change of Power System Frequency Reference: ERC0214

The Australian Energy Council (the “**Energy Council**”) welcomes the opportunity to make a submission in response to the Australian Energy Market Commission’s (“**AEMC**’s”) *Managing the Rate of Change of Power System Frequency Draft Rule Determination*.

The Energy Council is the industry body representing 21 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia and sell gas and electricity to over 10 million homes and businesses.

### Introduction

As increasing volumes of intermittent renewable energy generation permeate the Australian energy markets, the maintenance of system security becomes a progressively more important issue. The AEMC’s *System Security Market Frameworks Review* made nine recommendations for changes to market and regulatory frameworks to support the shift towards new forms of generation while maintaining power system security.

While this Draft Rule Determination addresses the risk of rapid changes in frequency leading to system instability and possibly blackouts, the Energy Council notes that security of supply is an issue that is being addressed simultaneously by a range of different regulatory bodies and independent panels including:

- (a) the AEMC in the form of the *System Security Market Frameworks Review*, *Frequency Control Frameworks Review*, *Reliability Frameworks Review* and related rule changes;
- (b) the Reliability Panel via the *Reliability Standard and Settings Review 2018* and the *Review of the Frequency Operating Standard*;
- (c) the Australian Energy Market Operator (“**AEMO**”) through its system security initiatives;
- (d) the Essential Services Commission of South Australia via its *Inquiry into the Licensing Arrangements for Generators in South Australia*;
- (e) the SA Office of the Technical Regulator via its *Generator Development Approval Procedure*; and
- (f) the *Independent Review into the Future Security of the National Electricity Market: Blueprint for the Future*, chaired by Dr Alan Finkel AO.

The proposed rule change therefore needs to consider the regulatory context in which it is made, and its interaction with other processes, both current and planned.

### Discussion

The Energy Council acknowledges the need for inertia and other frequency control measures to maintain the security of supply in the National Electricity Market (“**NEM**”). The Draft Rule Determination identifies that there

is a “minimum level of inertia” to maintain an islanded system in a satisfactory operating state (and avoid a system black condition), and “additional inertia”, which would allow for a more unconstrained operation of the islanded system or additional interconnector flows when not islanded.

As the AEMC identifies, once a minimum level of inertia is obtained, then additional inertia’s market benefits diminish as inertia increases, to the point where additional inertia provides no additional benefits.

The AEMC proposes that Transmission Network Service Providers (“**TNSPs**”) provide the minimum level of inertia required to maintain the secure operation of the power system, and additional levels of inertia be provided via a market mechanism to be considered in conjunction with the proposed *Inertia Ancillary Service Market* rule change (ERC0208).

In the Energy Council’s previous submission, it was argued that the TNSPs are not the most appropriate entity to provide inertia services because they may act as both procurer and supplier of the services, creating a conflict of interest and entrenching economic inefficiencies. The Energy Council still holds this view. While it appreciates the AEMC’s proposed approach to allow TNSPs flexibility in how they meet the inertia services obligation, the Energy Council still believes that TNSPs are less likely to consider third party and non-network solutions due to their staff skills and organisational culture, and to this end, their provision of minimum inertia services is likely to be less efficient than they otherwise could be.

The Energy Council’s concerns that TNSPs are not the most appropriate administrators of inertia schemes are exacerbated by the Draft Rule Determination’s proposed separation of inertia services into a regulated portion for the minimum level required, and a market-based portion for additional inertia services.

The minimum threshold level of inertia for an inertial sub-network is dependent upon the availability & capability of contingency frequency control ancillary services, the maximum contingency size, and expectations about the possible further loss of inertia. Under Clause 5.20B.2 of the draft rule, AEMO must determine the inertia requirements (which includes the minimum threshold level of inertia) for each inertia sub-network no more frequently than annually (unless there is a major change in the power system, such as the retirement of a synchronous generating unit). The Energy Council argues that the factors which affect the determination of the minimum threshold level of inertia are sufficiently variable that the minimum threshold level is actually a dynamic value, rather than one which should be determined annually or less frequently.

AEMO, as the entity responsible for managing the NEM, must continuously calculate the power system’s inertia requirements, therefore it seems complicated, inefficient and simply inappropriate that two mechanisms, a regulated mechanism and a market-based mechanism, be introduced to provide the same services to the NEM, which are based on a continuum.

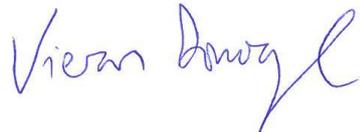
On this basis, the Energy Council contends that it is premature to make the draft more preferable rule as proposed. Instead, it should be deferred, and considered in conjunction with the proposed *Inertia Ancillary Service Market* rule change.

**Conclusion**

As outlined above, the separation of the provision of inertia services into a regulatory mechanism and a market-based mechanism is unnecessarily complex and inefficient, and the Energy Council submits that the draft rule determination should be deferred and the issue considered in conjunction with the proposed *Inertia Ancillary Service Market* rule change.

Any questions about this submission should be addressed to Duncan MacKinnon, by e-mail to [duncan.mackinnon@energycouncil.com.au](mailto:duncan.mackinnon@energycouncil.com.au) or by telephone on (03) 9205 3103.

Yours sincerely,

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