AUSTRALIAN ENERGY COUNCIL

Claire Richards
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

5th December 2017

Submitted online to: http://www.aemc.gov.au/Markets-Reviews-Advice/Frequency-control-frameworks-review

Dear Ms Richards,

Frequency Control Frameworks Review
Reference: EPR0059

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") *Frequency Control Frameworks Review Issues Paper*.

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 ten million homes and businesses.

Introduction

The *Frequency Control Frameworks Review* is one of a number of measures from the *System Security Market Frameworks Review* being considered by the AEMC to transform the National Energy Market ("**NEM**") in the face of increasing penetration of variable renewable energy. In addition, there are a number of other market reviews (such as the *Reliability Frameworks Review* and the *Reliability Standard and Settings Review)* and rule changes (such as *Five Minute Settlement* and *Generator Technical Performance Standards*) which the AEMC has before it, which may affect the outcome of this review. In parallel with this work, the Energy Security Board is developing the National Energy Guarantee, one of the components of which is the Reliability Guarantee. Based on preliminary information received regarding the Reliability Guarantee, the Energy Council expects that its implementation will affect frequency control frameworks, and the AEMC should be cognisant of this when consulting on the Issues Paper.

Discussion

The Energy Council acknowledges DIgSILENT's analysis which shows that power system frequency is increasingly deviating from the nominal 50Hz standard, but notes, as the AEMC has, that frequency remains compliant with the frequency operating standard. In the Energy Council's view, as long as the power system remains compliant with the frequency operating standard, there is no cause for alarm. If significant variation within the normal operating frequency band were to be an unacceptable outcome, as assessed by the Reliability Panel, then the frequency operating standard would need revision, rather than the framework within which the frequency is controlled.

This is an important issue when other affecting factors are considered. For example, the Australian Energy Market Operator's ("**AEMO**'s") Frequency Monitoring Report[1] states that Automatic Generator Control ("**AGC**") system settings adversely affected frequency performance during late 2016 and early 2017, and AEMO is currently working to improve the performance of the AGC system and improve compliance & regulation in relation to regulation services[2]. It is clear from reports such as these that frequency control frameworks are

[1] Australian Energy Market Operator, *Frequency Monitoring – Three Year Historical Trends for the National Electricity Market*, 9th August 2017
[2] *Issues Paper*, p.76

one factor which contributes to frequency control performance, but they are not the only factor. The AEMC also notes[3] that generators have favoured compliance with dispatch targets ahead of providing primary governor response. From these two examples it is evident that frequency control is affected by a number of factors, and it is important for the AEMC to consider all factors' interactions when reaching any conclusions.

As the AEMC rightfully recognises[4], non-dispatchable generation and distributed energy resources will form an increasing proportion of the market, and complicate AEMO's forecasting processes. The Energy Council remains disappointed that the AEMC decided not to make a rule in response to the proposed *Non-scheduled Generation and Load in Central Dispatch* rule change to allow more generation and load visibility. Such a change may have assisted in addressing the daily ramping requirements identified within the *Issues Paper*[5]. At page 47 the AEMC asserts that "[f]or any five-minute dispatch interval throughout the day, the average ramping capacity available to be dispatched is substantial when compared with the average ramping needs expected out to 2035-36". Ramping capacity is an important issue in the *Frequency Control Frameworks Review*, and apart from the obvious assumption that there will be additional penetration of variable renewable energy, the Energy Council submits that when the *Five Minute Settlement* rule takes effect, there will be less plant available to meet the power system's ramping requirements as conventional fast-start plant, unable to respond within the five minute settlement period and defend its cap products, will withdraw from the market, thereby compromising market responsiveness. To meet the expected shortfall, it is important that markets are established to provide the necessary capacity as economically efficiently as possible.

The Energy Council acknowledges the AEMC's listed risks of reduced frequency performance[6], and supports further analysis to assess the scale of the economic and security impacts of such risks, while being mindful of the fact that frequency remains within the frequency operating standard. The Energy Council believes it is important that, as with the review of *Generator Technical Performance Standards*, the proposed framework be optimised to ensure that overall costs to consumers are minimised, new market participants are not dissuaded from entering, and reliable, secure supply is maintained. At the same time, any changes to the frequency control framework must ensure that existing generation does not suffer additional costs which were not anticipated at the time of commissioning the plant or is forced to retire prematurely by the imposition of a mandatory framework that physically cannot be met. In this way the market's ability to provide frequency control services will not be compromised and additional costs will not be borne by consumers. It is important that the AEMC considers the outcomes it is seeking to achieve, and identifies the most economically efficient means of doing so. This is also important when considering how distributed energy resources should be incorporated into system security frameworks. The Energy Council believes that such resources should provide the same services as larger generators, and technological neutrality should be maintained. In this way, competitive forces will be allowed to work, and the necessary services will be provided to the market at the least cost to consumers.

[3] *ibid.*, p.38
[4] *ibid*., p.43
[5] *ibid*., p.43
[6] *ibid*., p.59

Level 14, 50 Market Street
Melbourne 3000
GPO Box 1823 Melbourne Victoria 3001

Phone +61 3 9205 3100
Email info@energycouncil.com.au
Website www.energycouncil.com.au

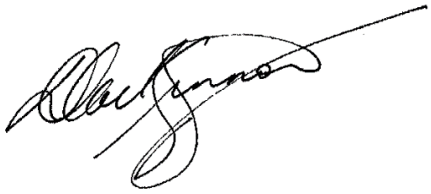
ABN 98 052 416 083

Conclusion

In conclusion, when the AEMC is reviewing frequency control frameworks, the Energy Council believes it is important to consider the interaction of any possible rule changes with other proposed policy changes, as well as pursuing an economically efficient market outcome to provide the necessary services within the frequency operating standard, and at least cost to consumers.

Any questions about this submission should be addressed to the writer, by e-mail to Duncan.MacKinnon@energycouncil.com.au or by telephone on (03) 9205 3103.

Yours sincerely,



Duncan MacKinnon
Wholesale Policy Manager
Australian Energy Council

Level 14, 50 Market Street
Melbourne 3000
GPO Box 1823 Melbourne Victoria 3001

Phone +61 3 9205 3100
Email info@energycouncil.com.au
Website www.energycouncil.com.au

ABN 98 052 416 083