AUSTRALIAN ENERGY COUNCIL

Ben Hiron
Australian Energy Market Commission
GPO Box 2603
SYDNEY NSW 2001

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Submitted online to: www.aemc.gov.au

Dear Mr Hiron,

Fast Frequency Response Draft Determination ERC0296

The Australian Energy Council (the "**AEC**") welcomes the opportunity to make a submission in response to the Draft Determination on Infigen's proposed Fast Frequency Response ("**FFR**") Draft Determination.

The AEC 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, sell gas and electricity to over ten million homes and businesses, and are major investors in renewable energy generation.

Introduction

The AEC supports the introduction of FFR which it considers to be consistent with the broad direction of the Energy Security Board ("**ESB**") Post-2025 Review's Essential System Services ("**ESS**") workstream.

The AEC recognises the AEMC considered different options for the introduction of FFR, but ultimately chose the pragmatic approach of adding two additional services, "Very Fast Raise" ("**VFR**") and "Very Fast Lower" ("**VFL**"), structured largely along the lines of the existing contingency services. The AEC supports this conclusion.

The AEC considers this is the simplest way to introduce a new service with a low risk of creating unexpected complexities. Meanwhile it should not detract from deeper work on frequency control within the ESS theme. The AEC supports consideration over time of:

- Valuing inertia services;
- Valuing small deviation primary frequency control;
- Developing a sloping demand-side for all ancillary services; and
- Opportunities for rationalisation of the Fast, Slow and Delayed contingency services.

Valuing FFR

The Frequency Control Ancillary Services ("**FCAS**") contingency markets were intentionally subdivided into a spectrum of response periods in order to maximise participation, recognising that different technologies had strengths at different time intervals after the disturbance. Meanwhile, the use of co-optimisation logic in the dispatch engine ensures that this granularity doesn't limit competition where technologies are substitutable.

Counter-intuitively, increasing the number of markets actually *increases* competition (through greater participation), and, (due to the co-optimisation logic), cannot *reduce* competition.

When the FCAS markets were introduced in 2001, it was always assumed that the existing suite could be adjusted or added to, especially as new technologies arose that could assist in achieving

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the continuous and sustained response characteristic that the power system requires. Indeed it is surprising that the spectrum has remained unchanged for two decades. Introduction of a very fast service is timely because:

- Batteries are a new form of technology that can provide substantial response within the first second or two;
- The gradual decline in system inertia means that there is likely to be a greater value in response in those immediate seconds than there was previously. In short, it can partially replace the loss of inertia.

Transitional Arrangements

The AEC supports the draft decision not to apply any transitional arrangements, such as a non-market ancillary service. The proposed approach for the purchase of very fast services uses the conventional FCAS design which is pragmatic and expedient. A temporary non-market purchasing technique would be a rather complex diversion.

Furthermore, the AEC understands the system security need for very fast services is not yet critical, so there is no need to be distracted by stop-gap measures. For the avoidance of doubt, the AEC supports introducing very fast services as soon as practical, but in the short-term the main benefit will be market efficiency rather than system security.

Reconfiguring Existing Services

The AEC recognises the detailed consideration the AEMC and AEMO have undertaken on whether the existing suite can be readjusted to recognise very fast services whilst not introducing new markets. Whilst not disagreeing that some existing timeframes could potentially be rationalised, the AEC agrees with the draft determination to leave these services as is and to introduce a new very fast service.

Adjusting existing services would force all existing FCAS providers to revisit their registration, including those not involved very fast response, and may force some providers who cannot meet the changed requirements to withdraw.

The exploration of retaining three timeframes was driven by a desire to reduce systems changes. Somewhat contrarily, the AEC would have expected it to be simpler to replicate the current systems into a fourth timeframe rather than to adjust existing timeframes.

Scaling Factors/Differential Pricing

The AEC also supports the rejection of this proposed enhancement at this time. The AEC considers that the differential performance of technologies can be recognised through the volumes registered, as it is in the existing services, rather than creating the complexity of new prices.

Interaction with Inertia

The AEC's previous submission recommended that the AEMC consider this very fast service as a way to value inertia in the market – by explicitly disallowing AEMO from discounting inertia response from the registration volume.

The AEC is pleased that AEMC considered this suggestion in some detail. The AEC accepts that the format of the FCAS contingency services are designed to procure a form of response that is sustained through the interval, including when the rate of change of frequency has fallen to zero. For that reason the AEMC has not taken up the AEC's suggestion, effectively inviting AEMO to subtract inertial response from very fast services.

The AEC accepts this conclusion in the context of the incremental addition of a very fast service along the current contingency FCAS design. However given concerns raised in AEMO's Renewable Integration Studies about declining system inertia, and the direction given by the ESB to develop an

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inertia service, the AEC recommends work begin soon on a mechanism. In that regard the AEC has begun working with its own members on a preferred design.

Sloping Demand-side
The AEC recognises the theoretical efficiency benefits of applying a sloping demand-side to the procurement of ancillary services, which was recommended by the ESB. However as expressed in our earlier submission, this is a very challenging concept to implement and introduces many complexities. If introduced, it would necessarily apply to all co-optimised FCAS services simultaneously. Thus it seems beyond the scope of this rule change.

The AEC supports the AEMC's decision to not introduce a sloping demand-side within this rule change.

Implementation timing
The AEC notes that under advice from AEMO the AEMC is proposing an effective three-year lead time to introduce the services. This seems generous for an incremental design. However the AEC is not in a position to challenge AEMO's advice, and is therefore not necessarily opposed, noting that the immediate value of very fast services is one of market efficiency rather than system security.

The AEC recommends that the rule be structured such that three years is the longest implementation, whilst also permitting AEMO to introduce the service earlier should it be achievable.

Any questions about this submission should be addressed to the writer, by e-mail to Ben.Skinner@energycouncil.com.au or by telephone on (03) 9205 3116.

Yours sincerely,

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