

Frequency Control Frameworks Review
Australian Energy Markets Commission
PO Box A249
SYDNEY SOUTH NSW 1235

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Australian Energy Council Submission to Frequency Control Frameworks Review Draft Report

The Australian Energy Council (the Energy Council) welcomes the opportunity to make a submission to the Frequency Control Frameworks Review Draft report.

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.

The Energy Council endorses for Commission consideration a consultancy paper previously submitted by a number of our members¹.

Discussion

Approach

The Energy Council accepts there has been a material decline in Normal Operating Frequency Band (NOFB) frequency stability in recent years, and that this may present a risk to system security. Our members also report that the deterioration has created additional operating challenges for some synchronous units.

This decline has occurred progressively over many years, and has a range of causes that could have been detected earlier and/or foreseen. It is unfortunate the situation has progressed to a level where the Commission now feels pressured to seek quick solutions. The Energy Council's view is that reform should ideally follow a structured and considered approach, focussing first on defining the desired outcome through the Frequency Operating Standard (FOS), followed by designing a sound market mechanism that encourages voluntary provision from the widest possible range of competing technologies.

At the same time the Energy Council recognises the seriousness of the concerns being expressed to the Commission. If the Commission feels it is necessary to implement an urgent solution, this should not be allowed to endure. Rather it should be a temporary measure, so a process like that described above can be followed and a long-term solution implemented.

Draft Recommendation 1

The Energy Council supports the investigation of whether causer pays contribution factors could be aligned with the period over which costs are incurred and that AEMO should clarify more details about the procedure.

¹ "Market Based Solutions" by SW Advisory and DigSILENT submitted to the review 5 March 2018.
https://www.aemc.gov.au/sites/default/files/2018-03/Generator%20Group_0.pdf

Draft Recommendation 2

Options C and D: mandated provision

The Energy Council supports the Commission's draft view that mandatory provision of primary regulating response will be problematic. In the first instance there are practical considerations regarding the selection of generators to which such mandates could be technically and legally applied. Secondly mandating provision from capable technologies does not learn from the practical experience the NEM has had with other non-funded services such as inertia and system strength where unrewarded provision led to the supply disappearing.

Option A: combining primary regulating response with regulation

The Energy Council does not support requiring primary regulating response to be delivered in tandem with the existing regulation FCAS for the following reasons:

- The regulation service is designed and pays for a unit's ability to respond to AEMO's remote AGC pulses. Primary regulating response is quite different – the response to local frequency changes as soon as a governor detects it - and it is not appropriate to conflate the distinct concepts into one dispatch and settlement stream.
- Plants that are capable of providing one service may or may not be able to provide the other service. If both are required from all plants, then this will limit the field and inhibit potential innovations in regulation provision.
- The correlation between a conventional unit's ability to provide regulation and primary regulating response is not consistent across plants that are capable of providing both. A 100MW hydro unit, for example, might be able to provide as large a regulation service as a 660MW steam plant, and therefore receive equal payment, but would only provide about one sixth the primary regulating response. This would also complicate AEMO's calculation of the requirement.
- Many generators have governors that require deadband settings to be adjusted manually. For these generators, in order to remain registered for the FCAS regulation market they will be effectively obliged to provide continuous primary regulating response without payment. This raises the same issues that led to the Commission rejecting the mandatory options C & D.
- Provision of primary regulating response in the 49.85-50.15 Hz band has potentially complex impacts on a generator's ability to provide contingency services. For example the primary regulation response may use up the headroom available to provide a contingency response, thereby complicating generator management.
- By effectively mandating continuous provision of uncompensated primary regulating response, some providers may choose to exit the regulation market.
- By leveraging an existing FCAS market, the option appears attractive as a short-term fix, but this may not be the case in practice. There would be considerable technical challenges for AEMO in determining volumes and new rules to apply in the Market Ancillary Services Specification (MASS) for regulation. There would then be challenges for generators in determining whether and how to comply if they wish to remain in the regulation market, and the impacts on their compliance with the contingency services specification. Developing a new market to explicitly value and settle primary regulating response may in fact prove to be no more time consuming.

Option E – New market for primary regulating response

The Energy Council supports development of an explicit new market in primary regulating response as a long-term solution. This is similar to the recommendation in the consultancy paper mentioned earlier. Although the Commission itself is unable to propose a Rule change to create one, it has developed the expertise during this

review to scope out such a rule change so that another body, for example AEMO or the COAG Energy Council, could easily adopt it as a proponent. This approach has been used in many previous Commission reviews.

Option F – Changes to Causer pays

The Energy Council also supports this option in principle, at least as a short-term enhancement whilst awaiting a new market approach.

Some of our members report that the crediting of positive contributions in causer-pays factors across portfolios does create an incentive for some voluntary provision of primary regulating response. To that end, we support efforts to extend similar incentives to non-portfolio units. Depending on the averaging period, this could be done as a credit over time and/or a specific payment as described in the report.

As it leverages existing systems, the approach is a potentially expedient and low-cost enhancement. However there is not yet enough analysis to be fully confident of its effectiveness. The Commission should arrange some specific detailed analysis on this option before concluding the review. Some early observations from members include:

- Whilst it is appropriate a unit that is enabled for regulation services is not double paid through a causer pays payment, performance beyond the enabled range should be recognised.
- If the mechanism's design is successful in providing a voluntary incentive for primary regulating service, it must also ensure that the volume of the regulation market is not consequently eroded and remains large enough to keep producing a price signal for both activities.

If a specific market is eventually adopted for primary regulating response (as per Option E), then the ongoing role of this incentive-based causer-pays approach should be considered as part of it. It may well be worthwhile retaining it to operate in parallel with a market-based solution for procurement.

Global Regulation quantity

The Draft Report has noted that the purchase of global regulation was reduced from 250MW to around 130MW between 2003 and 2006 and that AEMO is currently reviewing these matters². Whilst it is possible that a re-expansion of the regulation service will not alone address the decrease in NOFB stability, this can be readily confirmed and should be demonstrated through a trial period of higher global regulation volumes.

Draft Recommendation 3

The Energy Council strongly supports the provision of frequent detailed reports on the technical performance of frequency control in the NEM. AEMO has begun publishing “Quarterly Energy Market Dynamics”³ reports which include useful information on the price and cost of FCAS markets, however the industry could benefit from a similar approach to the technical performance of frequency control services. This should demonstrate where the frequency has sat in the NOFB over time, and also whether the regulation service is being exhausted over dispatch intervals.

The value of such reports to good system operation and market development seems self-evident. They should not have to wait for a rule change and it is unclear why one is required to initiate their creation.

Draft Recommendation 8

The planned approach being recommended for the consideration of new technologies and services represents good regulatory practice and is supported. The Energy Council recommends this form of approach also to the question of procuring primary regulating response.

² Page 50 & 51 Draft Report

³ <https://www.aemo.com.au/Media-Centre/AEMO-publishes-Quarter-Energy-Dynamics---Q4-2017>

Conclusion

In conclusion, the Energy Council acknowledges the deterioration of frequency stability, and strongly supports Option E, the development of a new market for primary regulating response. Nevertheless, the Energy Council has sympathy with the view that a short-term solution be implemented to arrest the frequency decline, and in that regard the options to enhance causer-pays hold most promise.

To assist in the development of the preferred new primary regulating response market, the Energy Council supports AEMO providing additional data on frequency control performance.

Any questions about our submission should be addressed to ben.skinner@energycouncil.com.au or by telephone on (03) 9205 3116.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Ben Skinner', with a large, sweeping flourish at the end.

Ben Skinner

General Manager, Policy & Research
Australian Energy Council