



4 February 2021

Ms Anna Collyer
Chair
Australian Energy Market Commission

Lodged via the AEMC website

Dear Ms Collyer,

ERC0263, ERC0296: FREQUENCY CONTROL RULE CHANGES DIRECTIONS PAPER

The Clean Energy Council (CEC) is the peak body for the clean energy industry in Australia. We represent and work with hundreds of leading businesses operating in renewable energy and energy storage along with more than 7,000 solar and battery installers. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

The CEC welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC's) directions paper in relation to the frequency control rule changes. Both the AEMC and the Australian Energy Market Operator (AEMO) have observed a deterioration of system frequency in recent years that requires corrective action. Given this and the criticality of controlling power system frequency in order to ensure a secure operating state and avoid unplanned system outages, the CEC supports the AEMC's frequency control work package and believes this package should be progressed to implementation as a priority.

The remainder of our submission separately discusses fast frequency response (FFR) and primary frequency response (PFR). Please note that due to the timing of this consultation in relation to Christmas shutdowns for the CEC and many of our member companies and the large number of open consultations at this time across the market bodies our comments below may not be an exhaustive list of industry's questions and concerns.

Fast frequency response

Since the AEMC's frequency control frameworks review in 2017/18, the CEC has supported the need to encourage FFR capability in the National Electricity Market (NEM). We agree that the existing market and regulatory arrangements do not explicitly provide for effective utilisation of FFR services. As a result, we consider the creation of fast response markets that recognise both the speed and accuracy of frequency response is a no regrets change that should be implemented as soon as practical. In this way, we can ensure that FFR services are in place and incentivising the development of appropriate technologies well in advance of when these services are needed.

The directions paper suggests that for the central scenario in the Integrated System Plan (ISP), the dynamic requirement for R6 services would be almost double the static requirement by 2030. For the ISP step-change scenario, the dynamic requirement for R6 services would be almost double the static requirement by 2025.¹ The step change scenario is likely already out of date because of the recent passage of legislation giving effect to the NSW Electricity Infrastructure Roadmap. As a result, the CEC suggests the AEMC work towards an implementation timeframe of late 2021 / early 2022 for FFR. Our preference is that a new market is established directly but should it not be practically possible to do so expeditiously, we suggest the AEMC consider a staged approach, such as contracting, in order that FFR services can be valued as quickly as possible.

The CEC supports option 1 to establish explicit new market ancillary services to procure FFR. We also support that the pricing and cost allocation approaches for FFR services should be similar to those that are used for the operation of the existing frequency control ancillary services (FCAS) markets. While there may be some merit to the introduction of performance factors to reward the speed and quality of the service provided, there is a potential that performance factors could complicate dispatch and settlement and subsequently lead to higher prices. Any such potential adverse outcomes should be fully evaluated before progressing performance factors.

The CEC understands that it is the Energy Security Board's long-term intention that inertia is valued and procured through a spot market. Until such time, we agree it may be appropriate for inertial response to be valued as part of new market arrangements for FFR as an interim measure to reward inertia provision, noting there are some practical challenges with this that require further investigation. The co-optimisation of FFR, inertia and other FCAS services will be an important consideration moving forward.

Primary frequency response

As was our position in the AEMC's consideration of mandatory PFR in 2019/20, the CEC supports the development of an enduring incentive-based framework for PFR to be implemented following the 2023 sunset of the current mandatory PFR requirement. Like any other form of frequency control service, PFR is a service that should be paid for and requires providers to incur ongoing costs. A market would provide an incentive for the lowest cost technologies to provide the service while avoiding the imposition of unnecessary costs on those who prefer to direct their valuable resources elsewhere. This would ensure an efficient level of the service is provided.

The CEC also considers a market-based framework a better long-term arrangement as it could deliver better outcomes as the system transitions to higher levels of renewable energy. The weather dependent nature of renewable energy generators means they typically operate at full output. As a result, these generators are typically unable to raise PFR under a mandatory PFR requirement and therefore, a market arrangement would more efficiently provide raise and also lower PFR.

The CEC understand the AEMC's reasoning for maintaining at least some level of mandatory PFR requirement on all scheduled and semi-scheduled generators, potentially at a wider frequency response band as a system safety net measure. An ongoing mandatory obligation will create

¹ AEMC, Directions Paper, 17 December 2020, p. 31.

excessive PFR volumes and extra costs (as there would be redundant capability), while also acting to suppress prices and value in the proposed adjacent PFR incentive arrangements and existing ancillary services markets. We suggest that any decision to maintain some form of mandatory PFR should only be made if it can be demonstrated that the inefficiency created by retaining a mandatory obligation has clear net benefits from a system resiliency perspective when compared with a pure market-based approach.

The CEC supports the development of a new market ancillary services arrangement to procure reserves for provision of continuous PFR. We consider it likely that narrow band PFR should probably be valued higher than the secondary response (i.e. regulation FCAS provided by the Automatic Generation Control (AGC)).

The CEC supports the PFR pricing arrangements operating in a similar way to the existing FCAS market arrangements, namely that it may be appropriate to incorporate the costs of any new arrangement for pricing narrow band PFR within the existing cost allocation for regulation services. We also broadly support the potential improvements to the causer pays framework that have been identified by the AEMC and AEMO.

As noted in the directions paper, the Australian Energy Council (AEC) is currently seeking support from the Australian Renewable Energy Agency for a project to assess the merits of a double-sided causer pays (DSCP) mechanism for PFR in the NEM. The CEC is supporting the AEC's investigation of DSCP as an academic study of one potential option that could support the provision of PFR. Notably, we have suggested that this investigation should consider how a DSCP mechanism would assist the current energy transition and how it will perform in a robust high-renewables scenario. It is also imperative that the study pay particular attention to how DSCP would apply to stand-alone battery storage assets as these assets already accurately meet their dispatch targets and therefore face different incentives to other generators that are seeking to minimise negative contribution factors. Our support for this project does not constitute explicit support of DSCP as we consider a spot market mechanism operated similarly to the current FCAS market will better deliver PFR.

The directions paper suggests that the development of enduring PFR arrangements is likely to necessitate a future review of the Frequency Operating Standard (FOS) for normal operation. We suggest that a review of the FOS should occur before (rather than after) the AEMC finalises its frequency control work plan in order that it can lead the development of appropriate frequency control rules.

Technological evolution

For both FFR and PFR, the AEMC's work program should recognise the frequency control contributions that can be made from distributed energy resources, demand response and virtual power plants. Likewise, it should also recognise that services can be provided by traditional synchronous machines and new technologies, such as synthetic or virtual inertia. As a result, the FFR and PFR frameworks should be structured in a way that are future proof, not reliant on synchronous machines, encourage technological development and allow for future flexibility as technological capabilities evolve. The AEMC may want to consider the need for a future review of the frequency control frameworks to ensure they remain fit for purpose as the NEM continues to change.

Thank you for the opportunity to comment on this consultation. If you would like to discuss any of the issues raised in this submission, please contact me on lpatterson@cleanenergycouncil.org.au or (03) 9929 4142.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Lillian Patterson', written in a cursive style.

Lillian Patterson
Director Energy Transformation