



6 December 2022

Daniel Westerman
Chief Executive Officer
Australian Energy Market Operator

Submitted online: FPPconsultation@aemo.com.au

Dear Mr Westerman

Draft Frequency Contribution Factors Procedure

Origin Energy Limited (Origin) welcomes the opportunity to provide comments on the Australian Energy Market Operator's (AEMO) draft Frequency Contribution Factors Procedure (FCFP).

The draft FCFP sets out how AEMO proposes to calculate contribution factors that will be used to determine new frequency performance payments (FPP) and allocate costs for the enablement of regulation services, following the final primary frequency response (PFR) incentive arrangements rule change. We have identified several aspects of the draft procedures that require further consideration to ensure contribution factors are appropriately and accurately calculated, as discussed further below.

1. Frequency Measure

The Frequency Measure (FM) will be used to indicate whether system frequency needs to be raised or lowered and hence will determine whether unit deviations are 'good' or 'bad'. We support AEMO's proposal to measure frequency regionally rather than at every connection point, given the implementation costs associated with the latter could be significant.

It is important to note the tuning of the FM (i.e. how frequency deviations are averaged in the FM calculation) will be more important under this approach due to the potential impact of communication delays. This is because even a slight communications delay or sampling misalignment could lead to a unit incorrectly, and repeatedly, appearing to be on the wrong side of system frequency movements in a scenario where there are rapid oscillations around 50 Hz. To alleviate this issue, we support AEMO applying a moving average approach to determining frequency deviations that will smooth the impact of any instantaneous deviations that could not be reasonably controlled / responded to by generators. We also agree AEMO should undertake further detailed studies to inform the optimum approach to averaging.

2. Contribution Factors

The FCFP consultation paper asks what timeframe should be used to determine average performance for historical default contribution factors. In our view, a weekly sample period close to the actual settlement period would be appropriate. We do not consider offline units should be liable for regulation FCAS costs as they are not contributing to any poor frequency performance.

3. Requirement for corrective response

The requirement for corrective response (RCR) is a measure of the total volume in MW that contributed to reducing the deviation in frequency of the power system, as determined by the peak of aggregate

gross deviations in each direction. It would be prudent to ensure the RCR is capped in certain circumstances to provide participants with a level of certainty around FPP exposures. This would be particularly important where a region is islanded or at risk of islanding and there are only a limited number of resources available for service provision, given the potential for extreme outcomes to occur.

We support the introduction of minimum thresholds for the RCR (e.g. a minimum number of consecutive raise or lower 4-second intervals as suggested by AEMO), to reduce the risk that a single 4-second interval can be used to determine the RCR for the whole 5-minute trading interval.

4. Further consultation after trial

We understand AEMO intends to conduct a non-financial industry trial of the new FPP and frequency contribution factor processes for a period of three to six months prior to the formal commencement of the rule on 8 June 2025.¹ We support this approach, but strongly encourage AEMO to revisit the FCFP and undertake an abridged stakeholder consultation process following the trial so that any lessons learned can be incorporated in the FCFP. The earlier AEMO can commence this trial, the greater the opportunity to improve industry understanding of the highly complex new process and enhance the FCFP.

If you wish to discuss any aspect of this submission further, please contact Thomas Lozanov at thomas.lozanov@originenergy.com.au.

Yours Sincerely,



Shaun Cole
Group Manager, Regulatory Policy

¹ AEMC, *PFR Incentive Arrangements – Final Determination*, Sept 2022, p. 7.