



2 February 2023

Charles Pople
Chair
AEMC Reliability Panel

Submitted online: www.aemc.gov.au

Dear Mr Pople,

REVIEW OF THE FREQUENCY OPERATING STANDARD 2022 – DRAFT DETERMINATION

Origin Energy Limited (Origin) welcomes the opportunity to provide feedback to the AEMC Reliability Panel on the Draft Determination for the Review of the Frequency Operating Standard (FOS) 2022.

We broadly support the Panel's Draft Determination. In particular, we support the draft decision to introduce a rate of change of frequency (RoCoF) standard which could be used to guide the modelling of Very Fast frequency control ancillary services (FCAS) requirements. The draft decision not to impose a maximum contingency size limit for the mainland is also appropriate, as such a limit could discourage investment in new generation projects. However, we consider the relationship between the FOS settings during normal operation and the primary frequency control band (PFCB) should be further explored by the Panel. Specifically, a slightly wider PFCB of +/-30mHz may reduce the costs incurred by generators while still ensuring tight frequency control.

We expand on these points below.

1. Settings in the FOS for normal operation - PFCB

Under the Draft Determination, the PFCB would be defined as 49.985Hz to 50.015Hz, consistent with current settings in the National Electricity Rules (NER) that govern the provision of mandatory primary frequency response. We understand the Panel sought expert advice from GHD to support the retention of this setting. However, the analysis undertaken only considered the effects of a substantial broadening of the PFCB to +/-50mHz and +/-150mHz. In Origin's view, the potential costs / benefits of a more incremental widening of the PFCB to +/-30mHz, as explored in analysis provided by specialist consultancy Provecta, should also be considered.¹

Provecta found that the narrowness of the existing PFCB is contributing to system frequency 'wobble' or cycling. The cyclic nature of frequency deviations is in turn causing excessive movement and wear and tear on many generator controlling devices, particularly in boiler components. Provecta suggests this undesired outcome could be relieved by slightly widening the PFCB to +/-30mHz. Provecta considers this change would reduce the costs incurred by generators while still facilitating tight frequency control.

Separately, we support the Panel's decision not to introduce the additional, and more stringent Normal Operating Primary Frequency Band (NOPFB) proposed in the earlier issues paper. We agree the case had not been made for its introduction and consider its application would likely lead to a material increase in regulation FCAS costs for an unclear benefit.

¹ Provecta, *Review of NEM Frequency Operating Standard GHD consultancy report*, attached to the Australian Energy Council's submission to this review, December 2022.

2. Introduction of a RoCoF standard

We support the Panel's draft decision to introduce a new RoCoF standard in the FOS which could be used to inform Very Fast FCAS and inertia requirements for future markets. A formal RoCoF standard which guides the calculation of optimal Very Fast FCAS volumes for different system conditions would help to make this calculation process more transparent and consistent.

3. Contingency event limit

The Panel's draft decision not to amend the FOS and introduce a maximum contingency limit on the mainland is appropriate. A maximum contingency limit could see generators face a greater risk of curtailment which could discourage investment in new generation. We agree with the Panel's conclusion that specifying a firm limit would represent a blunt and inflexible approach that is unlikely to result in improvements in system security.

Lastly, we support the Panel's recommendation to review the FOS in 2027, two years after the commencement of the frequency performance payments arrangements.

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