



Your ref: ERC0364

31 August 2023

Mr Victor Stollman  
Project Lead, AEMC  
Submitted online at: [www.aemc.gov.au](http://www.aemc.gov.au)

Dear Mr Stollman

### **Submission: Clarifying Mandatory PFR Obligations for Bidirectional Units**

CS Energy welcomes the opportunity to provide a submission to the Australian Energy Market Commission's (**AEMC's**) *Consultation Paper – Clarifying Mandatory Primary Frequency Response Obligations for Bidirectional Units* (**Consultation Paper**).

#### **About CS Energy**

CS Energy is a proudly Queensland-owned and based energy company that provides power to some of our state's biggest industries and employers. We employ almost 500 people who live and work in the Queensland communities where we operate. CS Energy owns and operates the Kogan Creek and Callide B coal-fired power stations and has a 50% share in the Callide C station (which it also operates). CS Energy sells electricity into the National Electricity Market (**NEM**) from these power stations, as well as electricity generated by Gladstone Power Station for which CS Energy holds the trading rights.

CS Energy also provides retail electricity services to large commercial and industrial customers throughout Queensland and has a retail joint venture with Alinta Energy to support household and small business customers in South-East Queensland.

CS Energy is creating a more diverse portfolio of energy sources as we transition to a new energy future and is committed to supporting regional Queensland through the development of clean energy hubs at our existing power system sites as part of the Queensland Energy and Jobs Plan (**QEJP**).

#### **Key recommendations**

The NEM is changing and will continue to do so as it transitions to a market with more variable renewable energy (**VRE**) and an overall lower carbon footprint. The ability to effectively and efficiently manage power system security and reliability against this evolving landscape is paramount, and CS Energy supports the need to ensure frequency control

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frameworks are appropriate to meet the requirements of the NEM and long-term consumer needs.

CS Energy acknowledges the omission of *bidirectional units* (**BDUs**) from units obliged to provide mandatory Primary Frequency Response (**PFR**) which means that once the Integrating Energy Storage Systems (**IESS**) Rule change comes into effect, batteries will no longer be obligated to provide PFR. Given the relative timing of the completion of the IESS rule change with respect to the PFR rule change, CS Energy is concerned that this oversight occurred.

CS Energy's support for clarifying the PFR obligations for BDUs extends only to the extent that these obligations mirror those that were placed on batteries under the mandatory PFR rule, that is, the provision of PFR is mandatory only when a battery is operating in scheduled generator mode.

CS Energy strongly disagrees with the Australian Energy Market Operator's (**AEMO's**) request to extend the PFR obligations to be enforce when BDUs are charging from the grid or enabled for Frequency Control Ancillary Services (**FCAS**) while at zero output. These arrangements violate the AEMC's proposed assessment criteria, specifically *Principles of Market Efficiency and Innovation and Flexibility*:

- The obligations for batteries were considered at length in the development of the mandatory PFR rule change and the AEMC ruled that the efficient outcome was for batteries to only provide PFR when discharging into the grid. Given the finalisation of this rule was only relatively recent, it would be expected that any request to amend the obligations would be substantiated yet AEMO has provided no justification whatsoever other than the broadbrush of system resilience.

Since mandatory PFR came into effect, observations of the power system have suggested that there is currently too much narrow band PFR. Generators in their endeavours to provide the required frequency control outcomes are actually in competition with each other with hunting occurring as governors with differing time constants interact to the extent there is an observed and continual 50-100 mHz power system frequency oscillation. Details of these observations were provided in Provecta's technical advice commissioned by the Australian Energy Council (**AEC**) and provided in response to the Reliability Panel's review of the Frequency Operating Standard.<sup>1</sup> Increasing the obligation on BDUs will only serve to exacerbate these challenges.

- The re-prosecution of mandatory obligations on a technology within a year of them being established represents material investment uncertainty, leading to increased costs. Furthermore, without the appropriate justification as discussed above, this prosecution undermines the integrity of the NEM's broader rule change process introducing unnecessary, undesirable and concerning risk to the regulatory domain .
- The increase in obligations for BDUs will also result in an increase in costs due to the increased cycling when units are enabled for FCAS but not actually charging or discharging. The cumulative effect of this cycling will reduce the battery's throughput, having implications for both the lifetime of the asset and its warranty. Consequently, BDUs will have disincentives to participate in the FCAS markets or, if they do participate, will do so at increased costs.

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<sup>1</sup> Provecta Consulting, [Analysis of Mandatory Frequency Control](#), February 2023

CS Energy has always advocated for the development of metrics and mechanisms that appropriately value system services and is not supportive of frameworks that further seek to mandate the provision of system services. In its previous submissions, CS Energy was supportive of mandatory wide-band PFR but considered the provision of narrow PFR should be at the discretion of individual participants based on market incentives. The development of primary frequency performance incentives to be introduced in June 2025 was, prior to the mandatory sunset clause being revoked, welcomed as a step towards providing market signals that facilitate participants to voluntarily provide PFR when effective to do so.

CS Energy is supportive of the AEMC's proposal to allow market participants to voluntarily register frequency response settings to benefit from the incentive arrangements. However, consideration should not be limited to the performance incentive framework. CS Energy maintains that the long-term provision of PFR should be via a market-based mechanism, a position advocated by much of industry, and encourages the AEMC to continue exploring this option.

If you would like to discuss this submission, please contact myself on either 0407 548 627 or [ademaria@csenergy.com.au](mailto:ademaria@csenergy.com.au).

Yours sincerely

A handwritten signature in black ink, appearing to read 'A. Demaria', with a stylized flourish at the end.

**Dr Alison Demaria**  
Head of Policy and Regulation