



Clarifying mandatory PFR obligations for bidirectional plant

The Commission has made a draft determination and a more preferable draft rule to clarify the obligations of bidirectional plant to provide mandatory PFR

The Commission has decided to make a more preferable draft rule clarifying the mandatory PFR obligations of scheduled bidirectional units (i.e. batteries with a capacity of 5MW or greater) in response to a rule change request received from the Australian Energy Market Operator (AEMO). Under the draft rule, batteries would have to provide primary frequency response (PFR) when they are exporting or importing energy, including when enabled to provide a regulation service. They would not have to provide PFR when solely providing contingency services or at rest.

The draft rule seeks to promote the long-term, consistent and predictable provision of PFR by balancing security benefits and any incremental costs incurred by battery operators. Importantly, the widespread provision of PFR will continue to play a key role in maintaining system security as the generation mix continues to decarbonise.

Stakeholder submissions are due by 25 January 2024.

The draft rule clarifies the mandatory PFR obligations of batteries when discharging, charging and enabled for market ancillary services

As illustrated in the figure below, the core elements of the draft rule would require scheduled bidirectional units (BDUs) to provide PFR when:

- they receive a dispatch instruction to generate a volume greater than zero MW — commencing 3 June 2024
- they receive a dispatch instruction to charge (consume electricity) at a volume greater than zero MW (except when solely powering auxiliary loads) — commencing 8 June 2025
- they receive a dispatch instruction to provide a regulation service — commencing 8 June 2025.

Under the draft rule, scheduled BDUs would **not** be required to provide PFR when at rest and enabled solely for contingency frequency control ancillary services (FCAS).

The Commission notes that a scheduled BDU may be technically capable of providing continuous narrow-band PFR when at rest and may choose to do so. **The draft rule is not intended to preclude or restrict the provision of PFR in this case.**

Operating state	Proposed mandatory PFR obligations	
	Scheduled & Semi-Scheduled Generators	Scheduled Bidirectional Units
Dispatched generating state		✓ Required to adhere to the PFRR
Dispatched charging state		✓ Required to adhere to the PFRR (except when solely charging auxiliary loads)
When enabled for regulation FCAS		✓ Required to adhere to the PFRR
When enabled for contingency FCAS		✗ Not required to adhere to the PFRR (voluntary provision incentivised by frequency performance payments)
When at rest (not dispatched to consume, generate or enabled for FCAS)		✗ Not required to adhere to the PFRR (voluntary provision incentivised by frequency performance payments)

Note: The proposed obligation on scheduled bidirectional units when discharging, charging, and enabled for regulation FCAS would commence on 3 June 2024, 8 June 2025 and 8 June 2025 respectively. Greyed out areas represent operating states that scheduled or semi-scheduled generators are technically incapable of meeting without being dispatched for energy.

The Commission considers that these reforms would provide AEMO with the tools it needs

to manage the secure operation of the power system in accordance with the technical limits specified in the frequency operating standard. At the same time, the draft rule would deliver more efficient operation of power system plant by supporting the utilisation of the frequency control capability of scheduled bidirectional units, thereby lowering costs for consumers over the long term.

The draft rule includes several incremental changes that seek to build on the existing mandatory PFR and PFR incentive frameworks

In addition to clarifying the mandatory PFR obligations of scheduled bidirectional units, the Commission proposes several minor changes to the rules that seek to improve the effectiveness of the frequency control frameworks and promote the long-term, predictable and consistent provision of PFR. These include:

- clarifying that scheduled bidirectional units would not need to renegotiate their connection agreement when revising PFR settings in accordance with the primary frequency response requirements (PFRR)
- enabling AEMO to request that affected plant transmit the status of their frequency controller through existing communications equipment to improve AEMO's operational awareness of the frequency responsiveness of the system
- clarifying that semi-scheduled generators and scheduled bidirectional units may not change frequency control settings without the prior approval of AEMO.

The draft rule builds on previous work by the Commission and the Reliability Panel

This rule change builds on work completed by the Commission and the Reliability Panel to establish enduring arrangements for the long-term provision of PFR. In particular, this proposal follows on from the Primary frequency response incentive arrangements rule 2022 that introduced frequency performance payments (commencing in June 2025) and confirmed the mandatory PFR obligations for scheduled and semi-scheduled generators.

Stakeholder submissions have reinforced the Commission's concerns that the prolonged consideration of the mandatory PFR obligations at this time could act to increase the overall perceived financial risk faced by potential investors in power system plant. As such, the Commission has sought to quickly, transparently and effectively progress this rule change project to provide certainty for investors and minimise inherent regulatory risk given the important role that batteries are likely to play in the future power system.

Submissions are due by 25 January 2024 with other engagement opportunities to follow

The Commission welcomes stakeholder feedback on the draft determination and rule. Collaboration through submissions, technical working groups (TWGs) and with other market bodies has been critical to developing the draft rule.

Written submissions must be lodged with the Commission by **25 January 2024**.

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The Commission is seeking feedback to this draft determination and draft rule to progress this rule change and minimise real or perceived uncertainty for battery investors and operators.

Stakeholder submissions are requested by 25 January 2024.