

**Ben Hiron**

Advisor  
Australian Energy Market Commission  
201 Elizabeth Street  
Sydney NSW 2000  
Submitted via AEMC website 'lodge a submission' function.

Sydney, 3 November 2019

Dear Mr Hiron,

**RE: Mandatory Primary Frequency Response Rule Change Consultation Paper (ERC0274)**

Enel Green Power (EGP) welcomes the opportunity to respond to the Australian Energy Market Commission (AEMC) "Mandatory Primary Frequency Response Rule Change Consultation Paper."

Founded in 2008, and part of Enel Group, EGP invests in and operates large scale renewable generation capacity in energy markets around the world. EGP operates in 29 countries on 5 continents with a managed capacity of over 43 GW and over 1,200 plants. EGP is one of largest renewable energy companies in the world, generating approximately 82 TWh of renewable electricity from hydro, solar, wind and geothermal resources.

EGP supports proposals by the Australian Energy Market Operator (AEMO) to:

- remove disincentives for Primary Frequency Response (PFR);
- exempt generators that provide PFR from causer pays fees; and
- clarify that operating in a frequency response mode does not constitute a breach of a generator's requirement to comply with its dispatch instructions.

EGP does not however support a mandatory PFR obligation for generators.

Our reasoning is set out below.

**1. A mandatory PFR obligation will increase power system costs**

A uniform mandatory PFR obligation will inevitably impose additional costs on generators, such as ongoing wear and tear and additional fuel costs for ramping up capacity when required.<sup>1</sup> It also risks leading to an oversupply of the service, unnecessarily increasing the costs of procurement. Many generation plants will be either on standby or forced to run at capacity levels that do not use their fuel most efficiently. A blanket obligation also does not distinguish those who can provide the service cheaply (e.g. large conventional generators) from those for whom it is more expensive to provide the service (gas fired generation and renewable capacity) which also increases the overall costs of providing PFR.

EGP notes that compliance with the mandatory obligation would not be required for those generators who would need 'headroom' in order to provide the service. Large conventional generators will typically operate in the energy market with a substantive level headroom at any specific point in time, for a variety of reasons (e.g. for insurance purposes or to leave some capacity in very high price bands at all times to take advantage of high price spikes in the market). This means that such generators can reduce their

---

<sup>1</sup> As AEMO itself acknowledges in the Rule Change Proposal.

output at relatively low cost with the right governor settings in place. Renewable energy plants, on the other hand, will typically operate at maximum rated capacity into the energy market. While they can change active power output with the addition of advanced inverters, they would however need to operate in a pre-curtailed state for them to be capable of providing a raise PFR.

AEMO proposes that compliance should not be enforced for generators who cannot provide PFR without maintaining headroom. This would appear to exempt the majority of renewable generators in the National Electricity Market (NEM). However, if the proposed mandatory obligation is largely avoidable by renewable generation capacity this could present an issue as the energy transition gathers pace and forces conventional plants to exit the market over the coming years. The rule as currently crafted may therefore achieve the opposite of its intended objective and lead to too few generators providing the PFR services moving forward.

It is likely therefore that the mandatory obligation would need to be reviewed down the track, as the no 'headroom' requirement is proven to be no longer tenable. This would expose renewable generators to the future regulatory risk of a more onerous mandatory obligation which forces them to run in a partially curtailed state or install batteries with the headroom to provide the required PFR. This would reduce available future revenues from the wholesale market without any form of compensation.

EGP considers that establishing a mandatory obligation that will inevitably be subject to future change exposes generators to a regulatory risk which could largely be avoidable through implementation of a market mechanism.

## **2. A mandatory PFR obligation would distort existing and future Frequency Control Ancillary Services (FCAS) markets and crowd out innovative technologies**

Forcing all generators to provide PFR for free will distort existing FCAS markets and revenue streams.

An increase in supply of PFR will inevitably reduce the requirement for services provided through existing FCAS markets. It is likely also to reduce the value of a future market for Fast Frequency Response Services (FFR). PFR provided through mandatory governor control can respond automatically to frequency changes is therefore likely to compete directly with future FFR services, which address frequency deviations through almost instantaneous responses.

In the context of an anticipated progressive phase out of conventional thermal generation, EGP considers it important that the proposed rule change does not crowd out the potential of new technologies to provide innovative and cost-effective solutions for managing frequency on the network. For example, Everoze has found that, on the islanded Irish electricity grid, 360MW of battery storage could provide the same amount of stability to the system as 3000 MW of conventional thermal generation.<sup>2</sup>

## **3. Alternatives to a mandatory PFR obligation**

AEMOs proposals for removing current disincentives to PFR (i.e. generators turning off their governor control settings in order to avoid causer pays charges) will assist in addressing the current deterioration in power system frequency. However, EGP acknowledges that more is likely to be required to address the rapidly deteriorating frequency situation in the NEM in the near term, given the lack of a regulatory requirement, or market-based mechanism, for the provision of PFR.

The AEMC explored a range of incentive and market-based approaches to frequency control in its Frequency Control Frameworks Review (FCFR) Final Report.<sup>3</sup> EGP supports further detailed consideration and consultation on these approaches as an alternative to a mandatory requirement.

---

<sup>2</sup> Everoze, 2017, "Batteries: Beyond the Spin: the dawning era of digital inertia on the Island of Ireland". Accessed at: <http://info.fluenceenergy.com/>

<sup>3</sup> AEMC, "Frequency Control Frameworks Review," Final Report, 26 July 2018; available at [aemc.gov.au](http://aemc.gov.au)

EGP recognises the development of a market mechanism will take some time and would not address AEMO's requirement for a timelier solution. As canvassed in the AEMC's FCFR Final Report, EGP would support the interim implementation of a competitive contractual procurement mechanism.

The advantage of this type of approach is that the service and performance requirements could be specified up front and competition 'for the market' would reveal which providers are best placed to provide those services and could do so most cost effectively. This type of procurement mechanism would better contain costs compared to a mandatory requirement while also ensuring that providers of the PFR service are appropriately compensated.

In the longer term, EGP would support the implementation of more dynamic price signals through implementation of additional FCAS markets for PFR.

Please feel free to contact Con Van Kemenade, Head of Regulatory Affairs Australia, on 0439399943 to discuss anything we have raised in this submission.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'Javier Blanco', is positioned above the printed name.

Javier Blanco

Country Manager

Enel Green Power Australia