



Tilt Renewables Australia Pty Ltd
ACN 101 038 331

28 October 2021

Ms Anna Collyer
Chair
Australian Energy Market Commission

Lodged via the AEMC website

Dear Ms Collyer,

PROJECT ERC0263: Primary Frequency Response Incentive Arrangements

Tilt Renewables (TLT) is an owner, operator and developer of renewable energy and storage projects in Australia, owned by the Powering Australian Renewables (PowAR) group. PowAR is the largest owner of wind and solar generation in Australia with more than 1,313 MW of renewable generation capacity, including seven operating wind and solar farms, two projects in the final stages of commissioning and one wind farm shortly to commence construction.

TLT welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC) Draft Determination (Paper) on the primary frequency response (PFR) incentive arrangements rule change process. TLT is concerned that the AEMC is proposing to remove the PFR sunset trigger without having suggested an adequate mechanism to appropriately incentivize and reward the provision of PFR. TLT also has serious concerns regarding the intention to charge all market participants for regulation services enabled and not used in proportion to the energy consumed or generated.

The removal of the sunset trigger will result in the procurement of PFR beyond the needs of the power system, as made evident by GHD's observation that most of the frequency performance was derived from the coal generating fleet. Furthermore, mandated PFR is not the most efficient option as varying technology types will encounter different levels of costs to provide the service, and frameworks should be designed such that efficient levels of the service are procured and delivered by those participants that can do so at the least cost.

TLT notes that the sunset clause was added to the mandatory primary frequency response rule change to give time for the AEMC to appropriately value and reward the provision of frequency control services. The Paper is proposing a Double-Sided Causer Pays (DSCP) mechanism to incentivize the provision of PFR, however having PFR enabled does not necessarily translate to better causer pays outcomes. The two are correlated, not causal. This is due to the fact that causer pays performance is measured against the frequency indicator and PFR is delivered against local measured frequency.

TLT considers the proposed DSCP mechanism as a minor tweak to the current arrangements that does not adequately compensate participants for wear and tear as well as foregone



revenues, especially for the semi-scheduled generating fleet which will be spilling zero cost (and emissions-free) resource to provide lower PFR services. To exacerbate the issue, AEMO had made the decision to use P_max instead of P_available in the formation of the Primary Frequency Response Requirements (PFRR) droop calculation which dictates the level of response for PFR. The consequence of this for Variable Renewable Energy (VRE) is that its share of PFR lower provided will be much higher than its share of energy supply compared to conventional generators. Wind in particular is nearly always online, so under the current droop definition wind generators would be providing PFR proportional to its installed capacity most of the time, despite only being capable of producing a proportion of that installed capacity as active power due to prevailing wind speeds.

AEMO in its formulation of the PFRR has failed to consider differing technologies and has placed a more cumbersome burden with respect to PFR on VRE. If the AEMC does decide to press ahead with the removal of the sunset trigger, TLT requests that the AEMC considers mandating the use of P_available instead of P_max in the droop calculation for PFR. The AEMC needs to be cognisant that AEMO will prioritise system security and operability over efficient outcomes when left to design choices of such mechanisms.

TLT can envisage itself being worse off under the proposed reform, in addition to foregone generation and wear and tear impacts on plant. This is largely due to the AEMC's proposal to share out the cost of regulation services enabled and not used in proportion to the energy consumed or generated. There are multiple issues with this aspect of the causer pays reforms, the first of which is that risk is not appropriately allocated, and market participants will likely be punished for good frequency performance with payments for regulation services enabled and not used. By behaving in a way that reduces the need for regulation services an extra cost for regulation enabled but not used is incurred, an outcome which TLT deems undesirable and directly contradicts the appropriate risk allocation principle described in the Paper.

The AEMC's proposal to share out the cost of regulation services enabled and not used also adds an additional marginal cost to generators. The cost is additional because under the current framework it is possible to receive a zero market participant factor (MPF) and some participating generators, including semi-scheduled generators can achieve this outcome. As the uptake of self-forecasting technology being used by the semi-scheduled fleet increases and the technology and forecasting techniques improve, TLT expects to see more semi-scheduled participants receive zero MPFs despite some of the claims made in the paper e.g., "AEMO advises that there is a risk of greater imbalances between generation and load as inverter connected variable renewable energy generation technologies displace synchronous generation." There seems to be a perception across industry that inverter-based resources (IBR) are to blame for declining frequency performance, however self-forecasting providers have been able to go beyond out-performing AEMO's AWEFS/ASEFS forecasts to the point where semi-scheduled generators can provide positive outcomes to frequency control in the NEM.

Industry has used significant resources developing self-forecasting solutions. ARENA supported initial trials, AEMO has developed systems to use and monitor self-forecasts in dispatch and generators have invested in the technology in order to improve frequency



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performance and reduce their MPF, behaviours which the causer pays framework was rightly designed to encourage. Moving to a mechanism where the cost of regulation services enabled and not used is shared out undermines these investments and does not allocate the risk efficiently. The market participants who are behaving with detrimental outcomes to frequency are creating the need for the enablement of regulation frequency services, this is the principle by which costs should be allocated.

Under the current arrangements generators and loads are currently able to factor in contingency raise and contingency lower costs into their energy offer. They can do this because they know the enablement amount and have a reasonably accurate forecast of the cost of the service in advance. Under the proposed arrangements an additional cost for regulation services enabled and not used cannot be reasonably forecast, as the amount of the regulation not used in any trading interval cannot be known in advance. This outcome will lead to less transparency and will result in inefficient energy offers where a portion of the marginal costs are unknown. It can be reasonably foreseen that this may result in unusual energy market outcomes, particularly during elevated regulation prices as participants will be blind to their regulation costs under the proposed reform.

In summary, the DSCP proposal does not adequately incentivize the provision of mandated PFR, a service which under the proposal will be procured in amounts in excess of the requirements of the system. The suggestion to share out regulation enabled and not used will lead to non-transparent energy market outcomes and does not appropriately allocate risk. Given this, TLT does not endorse the proposal to remove the sunset clause for mandatory PFR.

Thank you for the opportunity to provide a submission on this matter. If you would like to discuss any of the issues raised in this submission further, please contact Rhys Albanese on +61 423 423 797 or rhys.albanese@tiltrenewables.com .

Yours sincerely,

A handwritten signature in blue ink that reads "Nigel Baker".

Nigel Baker
Executive General Manager, Generation and Trading
Tilt Renewables