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Powering Australian Renewables Fund

16 January 2020

Mr John Pierce AO
Chairman
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

Lodged via AEMC Website

Dear Mr Pierce

NATIONAL ELECTRICITY AMENDMENT (TRANSMISSION LOSS FACTORS) RULE (ERC0251)

The Powering Australian Renewables Fund (**PARF Group**) was established in 2016 as a co-investment between AGL, QIC and its client the Future Fund. PARF Group aims to construct and own at least 1,000 MW of large-scale renewable generation in Australia and, in doing so, support Australia's transition to a low-carbon economy. PARF Group wholly-owns the following assets:

- the 102 MW Solar Plant at Nyngan in New South Wales, which commenced operation in June 2015;
- the 53 MW Solar Plant at Broken Hill in New South Wales, which commenced operation in October 2015;
- the 200 MW Wind Farm Project at Silverton in New South Wales, which is under construction; and
- the 453 MW Wind Farm Project at Coopers Gap in Queensland which is under construction.

PARF Group is a member of the Clean Energy Investor Group (**CEIG**) which represents a group of approximately 20 significant renewable energy developers and investors. PARF Group is making this submission on the AEMC Transmission Loss Factor Draft Determination (**ERC0251**) in conjunction with CEIG's submission on the same. PARF Group made an initial submission 18 July 2019 and subsequently held direct meetings with the AEMC, participated in the AEMC stakeholder workshops, attended public and private hearings on this matter, and now makes this further submission.

Status of Transmission Loss Factors in the NEM

Immediate changes to the current Marginal Loss Factor (**MLF**) framework are required to address material risks to current and future generation investment in the NEM which will ultimately impact the long-term interests of customers.

The recent reduction in MLFs and its overall volatility is adversely impacting incumbent generator revenues and influencing future investment decisions in the short to medium term. The significant volatility in MLFs is directly impacting the ability to service debt, resulting in the need to restructure existing debt, and thereby restricting access to low cost debt capital. PARF Group is of the view that these impacts could be avoided by adopting an Average Loss Factor (**ALF**) methodology to provide stable and long-term signals to the market.

PARF Group asserts that the ALF methodology represents a suitable balance between revenue stability and support of the National Electricity Objective (**NEO**) as follows:

- *efficient investment in the NEM* – by providing debt and equity investors with reasonable revenue stability to assist with continued investment in the NEM
- *efficient operation and use of the electricity system* – by allocating losses, reducing settlement residues and ensuring that locational signalling/ranking is retained
- *for the long-term interests of consumers of electricity* – by providing generators with reasonable revenue stability, lower risk premium from debt and equity investors will result in lower long-term prices for consumers.

Conversely, PARF Group believes that retaining the current MLF framework is likely to:

- materially increase the cost of new generation projects, resulting in higher wholesale prices for consumers;
- reduce the volume of cost effective new renewable energy generation as the risk premium applied to equity and debt hurdle rates resulting from MLF uncertainty for generators is likely to render these projects financially unfeasible; and
- result in an investment moratorium/strike for some investors and increase refinancing risk for existing projects.

PARF Group therefore proposes moving to the ALF methodology, to achieve an optimal balance between the need for investor certainty and the need for accurate calculation and apportionment of losses in electricity supply; as well as balancing key stakeholder objectives, being the need for investment certainty, efficient locational signalling, calculation simplicity and ease of implementation.

AEMC Draft Determination

PARF Group has reviewed the Draft Rule Determination *National Electricity Amendment (Transmission Loss Factors) Rule 2020* (**Draft Determination**) published by the AEMC on 14 November 2019. PARF Group believes that the AEMC's analysis and subsequent draft rule has not adequately considered all the elements of the NEO.

Consistent with the NEO, the assessment of the relative merits of the ALF and MLF framework needs to consider the trade-off between:

- efficient investment;
- operational efficiency; and
- risk allocation.

In the Draft Determination the AEMC have made a number of statements in relation to the assessment criteria but have provided little or no analysis (quantitative or otherwise) or evidence to support these conclusions. As such, PARF Group requests that the AEMC re-evaluates aspects of the Draft Determination, including but not limited to:

Efficient Investment

In assessing the impact of the ALF framework on the locational signal the AEMC made the following statement:

> *"It may also lead to more generation investment in inefficient locations, increasing physical transmission losses further. This would, in the long-run, be likely to lead to higher electricity costs for consumers."*

The AEMC's assessment of the relative locational signal of the ALF and MLF frameworks should consider the following points:

- The ALF framework includes a locational signal and whilst it may be dampened compared to the MLF framework it maintains the same relative ranking of sites to the MLF framework.
- The AEMC's assessment does not acknowledge that loss factors are only one consideration when determining the efficient location for generation investment. The reliance on an increasingly volatile single year MLF ignores the importance of the availability of land, development approvals and resource in determining the optimal location for new investment.
- The disproportionate weighting given to the MLF as a locational signal is inconsistent with the principles of the Integrated System Plan (**ISP**) and the Renewable Energy Zone (**REZ**) framework which has identified the locations for future generation investment.

As noted above, PARF Group believes the AEMC's conclusion is not supported by relevant quantitative analysis and encourages the AEMC to liaise with respective stakeholders (including CEIG) to undertake further quantitative analysis to support its conclusions.

Operational Efficiency

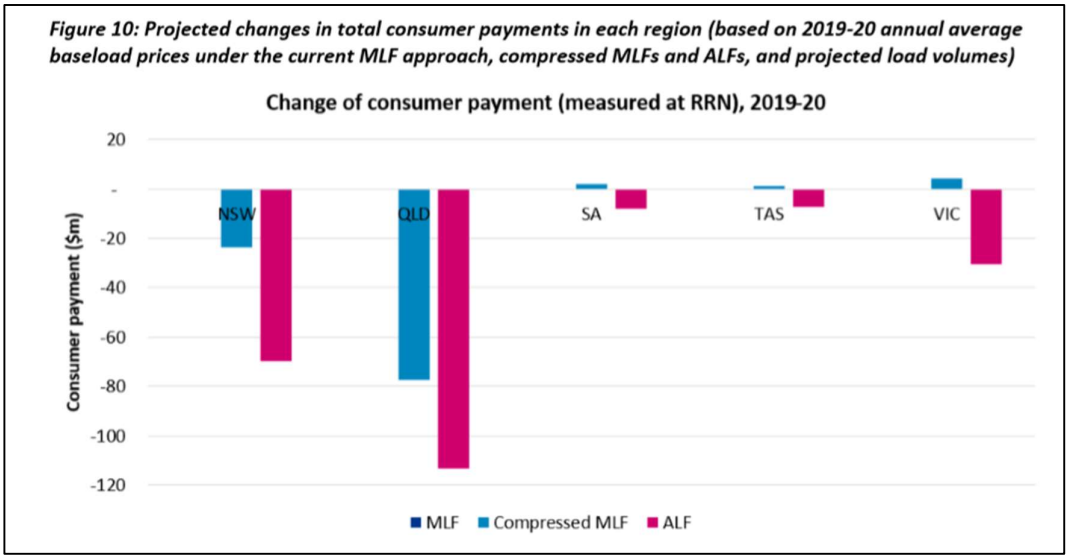
In assessing the impact of the ALF framework on the operational investment, the AEMC made the following statement:

> *"The use of an average loss factor may change the merit order to dispatch generators, resulting in less efficient use of the generation fleet and reducing the efficient operation of the NEM in real time. This may have the effect of wholesale electricity prices being higher than they would using MLFs."*

The AEMC's assessment of the relative operational efficiency of the ALF and MLF frameworks should consider the following points:

- The current MLF framework is not completely consistent with the marginal pricing approach of the NEM. This is because it applies forecast volume-weighted values that do not correspond to the five-minute marginal price from which electricity is dispatched.
- Detailed modelling by Baringa Partners found that the ALF framework resulted in a reduction in wholesale electricity prices and consumer payment across all five NEM regions as illustrated in the chart below.

Chart 1: Projected changes in total consumer payments in each region[1].



- In the NEM approximately 98% of the time the marginal generator is either a coal, gas or hydro power station[2] noting that variable renewable energy generators typically bids at zero or negative prices depending on their contract position. Indicative analysis of the 2019-20 MLF values shows that a change to the ALF framework would on average change the loss factor of these generators by less than 2%[3].

Given the relatively modest impact of a change to ALF on the loss factor of the marginal generator and the results of the detailed Baringa Partners analysis it is not clear that a shift to an ALF framework would materially impact the operational efficiency of the NEM. The AEMC's approach and apparent desktop level of analysis is not commensurate with the importance of the issue under consideration and PARF Group recommends undertaking further analysis (including detailed quantitative analysis) to assess the relative impact of the ALF and MLF on operational efficiency.

Risk Allocation (Investor Uncertainty)

The AEMC was provided extensive evidence and quantitative analysis through the consultation process and stakeholder submissions on the impact of the current MLF framework on investor uncertainty and implications for customer electricity costs. These issues are now evident in the market as noted by the approximately 95% year-on-year reduction in new projects considered by the Australian Energy Market Operator (**AEMO**) in its recent publication of Indicative 2020-21 MLF values.

In the Draft Determination the AEMC made the following statement:

> *"a reduction in the gearing level (so that there is more equity funds invested compared to debt) will increase the cost of capital but overall, the cost of capital for renewable generation investments seems to be relatively low compared to the market"*

[1] Baringa Partners *Transmission Loss Factors Input to CEC Response to AEMC Consultation on Transmission Loss Factors (Erc-0251)* August 2019

[2] AEMO Quarterly Dynamics Report Q3 2019 and CEIG analysis.

[3] Draft 2020 ISP Input Assumptions and CEIG analysis.

In PARF's view, instead of comparing the higher cost of capital due to MLF uncertainty to the "market" cost of capital, the better comparison is what would be the cost of capital without the MLF uncertainty. PARF Group therefore encourages the AEMC to reassess its cost of capital analysis and update the assessment of the relative merits of the ALF and MLF frameworks to reflect the adverse customer impact of the uncertainty associated with the MLF framework. The ALF framework would reduce the volatility of transmission losses and hence minimise the likelihood of adversely impacting existing project loan arrangements. This reduced volatility would lower the cost of debt (relative to MLF framework) and correspondingly the overall cost of capital.

To illustrate this point, PARF Group understands that a number of generator projects are, due to the unprecedented MLF volatility, facing a potential requirement to restructure debt facilities. Furthermore, this MLF volatility trend has adversely impacted the amount of debt available for new generation projects and has consequently increased the risk premium applied to new generation investment.

Additionally, the AEMC stated that some investment risk mentioned by stakeholders in submissions can be diversified away by holding a diversified portfolio of assets. For diversification to be effective the portfolio would need to include projects that have negative correlation in MLF movements. As the transmission loss factor attributable to each project is a function of its electricity flow towards the respective Regional Reference Node, negative correlation is unlikely to be achieved and thereby limits the ability to hedge the risk through diversification. Similarly, there is no recent market precedent for managing the loss factor risk by entering into long term power purchase arrangements.

The AEMC has the ability to reduce and remove unnecessary risks emerging from the market design that creates both a more stable and competitive investment environment and improved long-term customer outcomes. Adopting an ALF methodology to calculate the transmission loss factors will alleviate the requirement for potential debt restructurings and consequently assist new generation investment to access low-cost debt capital and reduce the requirement to apply higher equity risk premium.

Coordination of Generation and Transmission Investment (COGATI)

In the Draft Determination the AEMC noted that:

> *"the COGATI review represents the most appropriate forum to engage in assessing potential reforms that may be able to provide a long-term solution to stakeholders' concerns regarding the transmission loss factor framework"*

PARF Group is concerned that adopting a 'do nothing' approach under the Draft Determination and favouring the proposed COGATI reforms (which are currently incomplete and largely unsupported) creates a sub-optimal outcome for the reasons outlined in this submission. Deferring the reform of the required loss factor framework to the highly uncertain COGATI process is an unnecessary risk, given the nature of the proposed ALF framework for the following reasons:

- In deferring the MLF issue to the COGATI Market Review, the AEMC fails to acknowledge the fundamental issues identified in the stakeholder feedback on the October 2019 COGATI discussion papers including the following feedback from AEMO:

  > *"Initial indications from independent consultants highlight implementation of FNP/FTR could cost hundreds of millions. This would be a substantial amount of expenditure and divert resources away from addressing other necessary reforms. AEMO and the Energy Security Board has also identified more pressing priorities such as ensuring the market has the range of services available for system security and consideration of ahead markets to provide the ability to manage variability in generation unit commitment to ensure the right resources are available at the right time. For these reasons AEMO considers it inappropriate to commit to this significant reform prior to addressing more pressing priorities in the NEM"*[4]

- On 19 December 2019 the AEMC published a COGATI Update Paper. In response to the submissions received on the October 2019 Discussion Papers the AEMC has proposed that the COGATI market review would be implemented 4 years after the rule change. Based on this revised timetable the current MLF framework would remain in place for at least 5 more years. A lack of immediate reform to the loss factor calculation methodology will have a detrimental impact on consumer prices in the short term. Additionally, it will have a detrimental impact on continued investment in renewable projects when significant further investment is required to replace an ageing thermal fleet and secure Australia's future renewable energy supply, with AEMO estimating 30-50GW of new grid-scale renewables capacity being required by 2040[5].

[4] AEMO submission on Coordination of Generation and Transmission Investment – Proposed Access Model Consultation Paper 2019, 8 November 2019

[5] AEMO 2019 Draft 2020 Integrated System Plan

An ALF methodology will assist in addressing investment concerns

PARF Group believes that the current Transmission Loss Factor rule change process is the most appropriate forum to address this important issue. Rather than deferring the MLF issue for another 5 plus years, PARF Group recommends changing to an ALF framework as a solution that will reduce the level of loss factor volatility, improve investment certainty and restore investor confidence – all of which will keep consumer prices lower when compared with the current situation, while the broader reform program progresses.

PARF Group encourages the AEMC to continue to engage constructively with stakeholders including CEIG, to undertake the quantitative analysis required to support its conclusions while at the same time considering evidence and analysis presented by stakeholders on the merit of a change to an ALF framework.

PARF Group is committed to finding a solution consistent with the AEMC's objectives and timetable for broader reform and is open to discussing the matters raised in this submission further.

Please do not hesitate to contact me should you have any queries.

Yours sincerely,

Katie Barnett
Chief Executive Officer
Powering Australian Renewables Fund