Locked Bag 14051
Melbourne City Mail Centre
Victoria 8001 Australia
T: 1300 360 795
www.ausnetservices.com.au

26 July 2019

John Pierce
Chair
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Reference code: ERC0251

Dear Mr Pierce,

Consultation Paper on Transmission Loss Factors

AusNet Services appreciates the opportunity to respond to the Australian Energy Market Commission (AEMC) Consultation Paper – Transmission Loss Factors.

The Consultation Paper covers two rule change proposals submitted by Adani Renewables seeking to alter the allocation of the intra-regional settlements residue (IRSR) and to change the marginal loss factor (MLF) calculation methodology to an average loss factor methodology. The costs and financial impacts associated with transmission losses are significant to stakeholders. Additionally, the physical loss of electricity along a transmission line is directly proportional to the electrical current squared. Therefore, it is important the regulatory framework incentivises investment and behaviour that, where possible, minimises these losses.

Most stakeholders acknowledge that the application of MLFs (which seek to reflect the incremental losses for the next dispatched unit of generation that are being incurred from a connection point to the regional reference node) are essential for efficient dispatch of generation in the NEM. There are limitations on the accuracy of current MLFs due to their static nature. Hence, a move to more dynamic approach is being considered as part of the Coordination of Generation and Transmission Investment (COGATI) review. AusNet Services supports a move to dynamic MLFs.

The proposal by Adani to consider options to move to an average loss factor methodology, or average the transmission loss factor between generators (such as cap and collar or grandfathering), would be a retrograde step reducing rather than improving the accuracy of MLFs and their ability to support efficient market outcomes including:

- efficient dispatch and future location of generation in the NEM;
- incentives to reduce transmission line physical losses of electricity; and
- incentives for investment in beneficial electricity storage on the network that could store the coincident output of the renewable generators and provide electricity at times of higher demand or lower transmission line utilisation.

In addition, it would be contrary to COGATI reforms that seek to improve the coordination of generation and transmission investment. Therefore, the proposed rule change to average MLFs is not supported.

While supporting a move to universally applied dynamic MLFs, AusNet Services would also see value in allowing generators and market customers to opt-in to dynamic MLFs as an interim step. Under this approach the opting-in market participant is allocated a dynamic MLF for each trading interval, within a week of the trading interval.

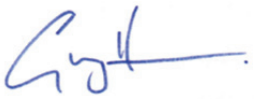
With greater proportion of electricity generation coming from generators with near zero marginal cost of generation and being coincident in nature, we believe there is new opportunity emerging for energy storage operators to store generated electricity and transmit it at times of higher demand or lower transmission line utilisation. This dynamic price signal would provide future operators of batteries, pumped hydro and electrolysers producing hydrogen with greater incentives to store energy when transmission line saturation is high. With the reducing reliance on thermal generation, it is becoming more unlikely that peak dispatch prices will coincide with peak transmission line saturation making the application dynamic MLFs more favourable to energy storage operators.

This alterative arrangement would not result in any risks or detriments for existing generators or customers, because its benefits would result from reductions in physical losses of electricity over transmission lines. To demonstrate this, we have included the below attachment presenting a hypothetical example of how a grid battery responding to a dynamic MLF can reduce transmission line losses for it and another generator sharing the same transmission line. In the following financial year, generators that have chosen to not opt-in to this dynamic arrangement and share the same transmission lines would also benefit from lower expected saturation levels. This would allow MLFs to be accurate and drive a greater utilisation of existing transmission lines.

Therefore, we recommend a more preferable rule to allow market participants to opt-in for dynamic MLFs calculated ex-post of generation and consumption occurring.

If you have any queries on our submission, please do not hesitate to contact Justin Betlehem on 03 9695 6288.

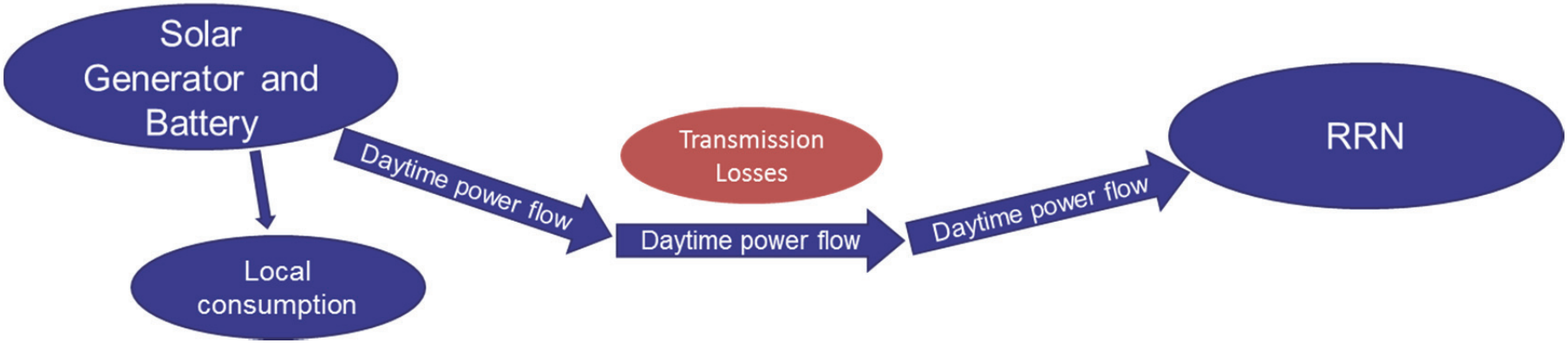
Yours sincerely,

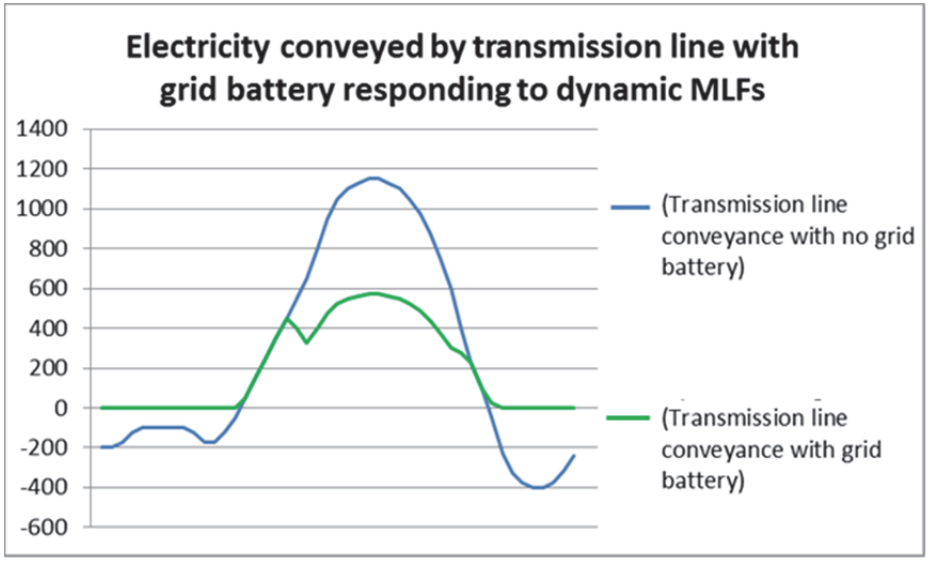


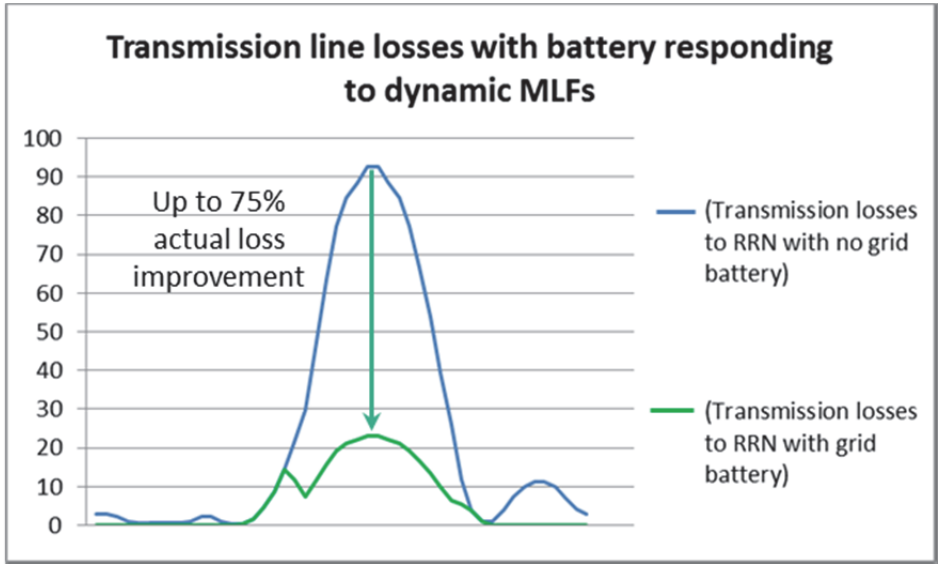
Greg Hannan
Manager Economic Regulation

Attachment - Dynamic MLFs reward grid batteries high utilisation of transmission assets (hypothetical case)

Consider a hypothetical situation of large solar generator with most of its generated electricity transmitted to customers located in a distant city where the regional reference node (RRN) is located. Some of the generation is consumed by residents of a local town. In this hypothetical case, a grid scale battery is set up near the large solar generator and starts storing half the output of the solar generator between 9:30 am and 6:00 pm, and discharging in the evening and during the night to meet local demand. Shown below, the large solar generator will benefit from close to a 75% improvement on its losses when recalculated by AEMO at the start of the next financial year, even though only the grid battery has chosen to opt in to a dynamic MLF.







With only the grid battery, responding to the dynamic MLF signals both the solar generator and the grid battery will benefit from lower losses.