

24 August 2022

Australian Energy Market Operator

Lodged via email: [contact.connections@aemo.com.au](mailto:contact.connections@aemo.com.au)

Dear Sir/Madam,

**Re: NER S5.2.5.10 – Asynchronous generating units and dynamic reactive plant.  
Initial summary guide.**

ElectraNet welcomes the opportunity to comment on the initial summary guide published by AEMO seeking to initiate stakeholder engagement to support the development of guidelines on the treatment of NER clause S5.2.5.10.

ElectraNet shares AEMO's view that, while the detection of instability and the implementation of protection systems for synchronous generator units is established and well understood, this is not the case for asynchronous generating systems and reactive plant.

Our experience has been that proponents of asynchronous generator connections and Original Equipment Manufacturers have often relied on over and under voltage protection when proposing access standards under NER S5.2.5.10. This type of non-dedicated protection, however, cannot reliably detect instability and does not meet our understanding of the intent of this performance standard.

ElectraNet considers that the definitions of stability as provided in the Power System Stability Guidelines remain appropriate; however, we note that this guideline is primarily focused on the assessment of stability using analytical models. We support AEMO's initiative to further clarify the treatment of NER clause S5.2.5.10 and agree that this is necessary given the ongoing and rapid connection of asynchronous generation in the NEM.

Consistent with the Power System Stability Guidelines, unstable operation of a generating system should be defined as sustained or growing oscillations in active power, reactive power or voltage magnitude observed at the connection point of a generating system as a direct result of the operation of that generating system.

While we note that there has been advances in available technology to identify instability in asynchronous generating systems, ElectraNet considers that caution should be exercised in deploying protection systems that automatically disconnect generators. The reason for this view is that it remains unclear that such systems can successfully discriminate between instability caused

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by a generating system and instability caused externally to which a generating system is acting to counter. Our view is that it is likely that wide area monitoring is required to successfully identify a generating system that is contributing to instability. ElectraNet considers that monitoring and alarming together with documented operational plans can form the basis of an acceptable negotiated access standard under S5.2.5.10. Such an approach is considered appropriate given the adverse impacts to system of the disconnection of generating systems that are not contributing to an unstable condition. We note that this approach has been used on recent South Australian projects.

ElectraNet appreciates the opportunity to provide initial feedback on the summary guide, and we look forward to engaging further on this issue once AEMO publish the draft S5.2.5.10 Guideline for consultation. Should you have any queries, please contact Andrew van Eyk in the first instance on (08) 8404 7296.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'HK', written in a stylized, cursive manner.

Hugo Klingenberg

**Manager Network Development**