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19 June 2025

Tiffany O'Keefe
Australian Energy Market Commission
60 Castlereagh Street, Sydney
Submitted via Online Portal

Essential Energy Submission – Improving the NEM access standards (Package 2) ERC0393

Dear Ms O'Keefe

Essential Energy welcomes the opportunity to respond to the Australian Energy Market Commission's (AEMC) *Improving the NEM access standards Package 2 Consultation Paper* (the Consultation Paper). Essential Energy manages over 183,000 km of powerlines, covering 95 per cent of NSW and serving approximately 900,000 regional customers.

Essential Energy supports market bodies periodically reviewing technical access standards to ensure they remain fit for purpose. We also recognise that it is the Australian Energy Market Operators (AEMO's) prerogative to bring forward reforms where it considers emerging risks to power system security warrant further examination. Periodic checks of access standards are important; however, proposed reforms must strike an appropriate balance between managing risk and supporting efficient investment and economic growth.

Currently there are a number of data centres connected to Essential Energy's distribution network with several other connections currently progressing through the various stages of the connection process under the National Electricity Rules (NER). These data centres may be directly affected by the reforms as currently proposed.

Essential Energy's feedback on the Package 2 consultation paper below focus on two aspects of the proposal:

- The intention to apply the new Schedule 5.3 obligations to every single-facility inverter-based load (IBL) of 5 MW or greater; and
- Transitionary arrangements where those obligations might extend to projects already progressing through the Chapter 5 connection process.

Schedule 5.3 – Proposed 5MW Threshold

The Consultation Paper draws on AEMO's System Strength Impact Assessment Guidelines, which suggest 5 MW/5 MVA as the screening threshold for inverter-based loads. The Consultation Paper notes that the impetus for change is a growing cohort of "large load customers" across the National Electricity Market (NEM), including hydrogen electrolysers and data centres, with capacities larger than 100 MW and up to 600 MW, which are already in the connection enquiry pipeline or intend to connect in the near term.

"Throughout the Access Standards Review, AEMO's consultation revealed that multiple potential new data-centre loads larger than 100 MW and up to 600 MW are at the connection enquiry or pre-application phase, and some projects propose to connect within the next two years."[i1]

Under AEMO's proposal for 5MW IBL's, proponents would now be required to establish and formally record their disturbance ride-through capability, demonstrate compliance with minimum short-circuit-ratio limits, confirm protection system performance, and provide evidence that their control systems remain stable under credible contingency events. 5MW IBLs could also be asked to facilitate real-time monitoring of stability parameters or fast-ramp-down schemes where necessary.

In Essential Energy's experience the existing Chapter 5 processes already deliver outcomes for this load class on the distribution network through negotiated performance standards and, where appropriate, staged commissioning in order to protect system security. Imposing the full technical work package as required under NER Schedule 5.3 on every 5MW IBL proponent would lengthen connection timeframes, increase costs, and risk deterring regional data centre investment without delivering commensurate benefits or protections to the network.

The NER already obliges Essential Energy to maintain the security, reliability and quality of supply on the network. Schedule 5.3 enables Essential Energy to negotiate higher performance standards where site-specific conditions require them. In Essential Energy's view, reserving network discretion is preferable to constraining local engineering judgement.

Alternatively, setting a higher materiality threshold to the application of the technical work package may also provide a more proportionate balance between managing emerging risks and facilitating efficient investment. Another alternative the AEMC may wish to consider would be applying the 5 MW threshold only to transmission-connected projects, given that extremely large capacity data centres are typically expected to connect at that level.

These alternative proposals aside, should AEMO possess forecasts or evidence that 5 MW IBLs are likely to compromise system security, Essential Energy suggests such analysis should be provided at the next stage of consultation for industry to assess.

Treatment of projects already in the connection process

Section 1.5 of the Consultation Paper states that the new obligations "would not apply to existing connections"[2] but leaves open the prospect of applying them to proponents "currently in the connection process".

Introducing new technical requirements midway through the connection cycle may require Essential Energy to re-run technical studies or revisit previously undertaken assessments. Such work will redirect connection assessments, potentially delaying connection offers and slowing unrelated generation and storage connections also in the connections pipeline. Extending any new obligations to in-flight connections would also impose financial costs on both Essential Energy and connection applicants.

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[1] Australian Energy Market Commission (AEMC), Improving the NEM Access Standards – Package 2 (Consultation Paper, ERC0394, 8 May 2025), Section 2.2 "Growth in data centres", p. 17.

[2] Australian Energy Market Commission (AEMC), Improving the NEM Access Standards – Package 2 (Consultation Paper, ERC0394, 8 May 2025), Section 2.2 "Growth in data centres", p. 9.

For these reasons Essential Energy would support a transitional provision that explicitly excludes every project which, at any future rule-commencement date, has already entered the Chapter 5 enquiry, application or negotiation stage.

Conclusion

We look forward to participating in the next stage of the consultation process. If you have any questions in relation to this submission, please contact Mr Anders Sangkuhl, Regulatory Strategy Manager via email anders.sangkuhl@essentialenergy.com.au.

Yours sincerely,

Hilary Priest
Head of Regulatory Affairs