



Part of Energy Queensland

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Mr Daniel Westerman
Chief Executive Officer
Australian Energy Market Operator
Submitted via email to: futureenergy@aemo.com.au

Dear Mr Westerman

Technical Requirements for 200 kW to 5 MW DER connections

Ergon Energy Corporation Limited (Ergon Energy) and Energex Limited (Energex), both distribution network service providers (DNSPs) operating in Queensland, welcome the opportunity to provide feedback to the Australian Energy Market Operator's (AEMO) public consultation report on *Technical Requirements for 200 kW to 5 MW DER connections*.

Proposed performance requirements

Ergon Energy and Energex are supportive of:

- International Electrotechnical Commission (IEC) Technical Specification (TS) 62786-1 for <5MW Inverter Energy System (IES) connections for High Voltage (HV); and
- Australian and New Zealand Standard (AS/NZS) 4777.2 applying to <5MW IES connections on Low Voltage (LV) and suggest this should be considered as an alternative, particularly, for ≤ 1.5 MW.

We consider that some provisions for reactive current contribution during faults could be considered by DNSPs, as articulated in IEC TS 62786-1.

We also acknowledge that with changes to AS/NZS4777.1, for example, no longer having an 'upper threshold', a review of how requirements beyond AS/NZS 4777.2 could be applied to large LV-connected systems up to 5MW should be considered. We are concerned there could be a perverse incentive where a <5MW Distributed Energy Resource (DER) may be incentivised to connect at LV to avoid the requirements under the IEC standard.

Ergon Energy and Energex support IEC TS 62786-1 applying to rotating machines <5MW.

With respect to synchronous generation, it is reasonable that aspects of performance proposed under IEC TS 62786-1 are also considered, including for synchronous generation <200 kVA. We note that some synchronous generation is operated with minimal interaction with the grid such as limited maintenance for stand-by or transfer for bumpless arrangements and it is expected in such cases where fewer technical performance requirements may apply.

Ergon Energy and Energex are supportive of communications requirements remaining within the remit of the connecting DNSP, as this allows for implementation options to be considered, ensuring a lowest-cost outcome.

We also consider that measures other than supervisory control and data acquisition control (SCADA), such as backstop via Automatic Load Frequency Control (ALFC) or Common Smart Inverter Profile for Australia (CSIP-AUS), could be options which are further explored to minimise costs. In addition, greater clarity around ramp rates is also welcomed.

Implementation approach

Ergon Energy and Energex are supportive of AEMO working with DNSPs to develop an implementation guideline which could then be adopted by DNSPs and result in common requirements across all DNSPs. This approach is preferred over alternative approaches, such as embedding performance standards for these systems in the National Electricity Rules (NER). If this were to occur, the NER will contain two DER Technical Standards. In our view, the existing DER Technical Standard content should be removed from the NER and included in a guideline, as mentioned above, which captures the technical arrangements intended under this consultation report.

Ergon Energy and Energex:

- are supportive of recommending to Australian Standards to adopt the IEC TS 62786-1 specification, with modifications;
- recommend undertaking an approach of including the majority, if not all required settings, that require specification within the modified IEC TS 62786-1 to ensure a consultative industry process;
- see merit in following the established Standards Australia process and do not see any barriers considering this specification is supported by the Standards Australia technical committee *EL-064 Decentralised electric energy and grid integration of renewable energy systems*;
- note there could be some amendments related to system strength (such as short circuit ratio withstand); and
- do not recommend mandating the IEC TS 62786-1 without adopting it as an Australian Standard as future updates will automatically apply when the IEC TS is updated.

In terms of areas for further consideration, a review of the definition of micro embedded generation in the NER should be undertaken by the Australian Energy Market Commission. While the definition may be suitable in respect of the DER Technical Standard, the other uses of this term within the NER does not ensure the appropriate treatment of larger systems.

For example, applying this to model standing offer connections for all <5MW connections of IES requiring expedited connections, is likely to lead to substandard outcomes at both the network and the system level.

Further, we consider greater consistency in regulatory requirements could be introduced for ≥ 5 MW generating systems. As noted by AEMO in Table 2 of the public consultation report, ≥ 5 MW generating systems may be subject to different regulatory requirements where the system is exempt from registration under section 5.2 of the NER.

We consider that the introduction of requirements for <5MW should also consider how these requirements may apply as a minimum to any system that was exempt from registration under section 5.2 of the NER to ensure consistency and prevent the opportunity to bypass the regulatory framework.

This submission does not contain confidential information and may be published. Should the AEMO require additional information or wish to discuss any aspect of this submission, please contact either myself, or Sarah Jacobson on 0484 783 507.

Yours sincerely



Alena Christmas
Manager Regulatory Affairs

Telephone: 0429 394 855
Email: alena.christmas@energyq.com.au