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8 November 2024

Australian Energy Market Operator

By email: futurenergy@aemo.com.au

RE: Technical Requirements for 200 kW to 5 MW DER connections September 2024 – Public Consultation Report

Standards Australia (SA) welcomes the opportunity to make this submission in response to the Australian Energy Market Operator's (AEMO) Public consultation report with respect to the Technical Requirements for 200 kW to 5 MW Distributed Energy Resource (DER) connections.

As Australia's peak national standards body, we harmonise specifications and procedures to ensure products and services are safe, efficient, and benefit the Australian community. In addition, as representatives of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), we are also specialists in the development and adoption of internationally aligned standards in Australia.

SA has long recognised the importance of the development of standards associated with grid connection of distributed energy resources since the early 2000s. Australia has been an active member of the IEC, and work is ongoing.

SA would be pleased to collaborate with AEMO on the proposed implementation approach, which includes the adoption of IEC TS 62786-1 *Distributed energy resources connection with the grid - Part 1: General requirements*. The international standard was developed by IEC Technical Committee 8 *Systems Aspects for Electrical Energy* (TC 8). SA is pleased to confirm that two national committees currently mirror the work of TC 8 – EL-064 *Decentralised electrical energy and grid integration of renewable energy systems*; and EL-034 *Power Quality.*

We have a strong track record in stakeholder engagement, with SA currently facilitating hundreds of technical committees operating across the Australian economy. SA is confident that the technical experts on national committees EL-064 and EL-034 will be able to work with AEMO to facilitate the Australian adoption of IEC TS 62786-1 and make any other necessary recommendations.

Standards Australia is willing, and able, to support AEMO on this initiative and have provided further comments to the AEMO paper.

We look forward to the opportunity to discuss the submission in further detail. Please contact George Sfinas, Engagement Manager at george.sfinas@standards.org.au

Yours sincerely,

Kareen Riley-Takos
Chief Operating Officer, Standards Australia

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Standards Australia Comments re AEMO paper:

It is noted that the key focus areas of the AEMO report is for the DER technical performance in relation to the security of the bulk power system. There may be additional issues that need to be considered to address all stakeholder requirements.

The recently published IEC TS 62786-1:*2023 "Distributed energy resources connection with the grid - Part 1: General requirements"* provides a good foundation for defining requirements of distributed energy resource connections with the grid. The technical specification has been developed with a view to define technical requirements of distributed energy resource connections. As this is a first edition publication, there is the opportunity to propose additions, enhancement or additional parts.

Other parts of the documents in the IEC 62796 series include:

- IEC TS 62786-3:2023 *Distributed energy resources connection with the grid - Part 3: Additional requirements for stationary battery energy storage system*
- IEC TS 62786-41:*2023 Distributed energy resources connection with the grid - Part 41: Requirements for frequency measurement used to control distributed energy resources (DER) and loads*

Further parts are under development within the IEC.

In defining the performance parameters, it is preferred that the parameters be defined within the Australia adoption of IEC 62786-1, where country or regional specific parameters are defined rather than having such parameters defined in an AEMO application guide document or the National Electricity Rules (NER). Furthermore, in defining the parameters, the objective would be to ensure, to the extent possible, consistency is maintained with AS/NZS 4777.2 *Grid connection of energy systems via inverters, Part 2: Inverter requirements* for the lower power levels.

We would recommend that if AEMO is seeking to mandate the IEC TS62786-1 specification in either the NER or a new guideline, that reference to an Australian adoption would best support current industry practice in Australia for implementation of legislated standards. If an IEC standard is mandated, future updates will automatically apply when the standard is updated without the option for any consultation or transition periods within Australia.

Amongst other matters that are under evaluation in the industry includes the interoperability from a power system sense of multiple generation sources, particularly with invertor-based resources together with grid forming functionality.