



Clean Energy Council submission to the Australian Energy Market Commission consultation paper: Technical standards for distributed energy resources

The Clean Energy Council (CEC) welcomes the opportunity to provide feedback on the Australian Energy Market Commission (AEMC) consultation paper on technical standards for distributed energy resources (DER).

The Clean Energy Council is the peak body for the clean energy industry in Australia. We represent and work with Australia's leading renewable energy and energy storage businesses, as well as rooftop solar installers, to further the development of clean energy in Australia. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

The Energy Security Board (ESB) review of the governance of DER technical standards should not be circumvented simply because the AEMC is required to respond to a rule change proposal. The argument that this rule change needs to happen immediately is undermined by the fact that the South Australian (SA) government will be implementing a raft of proposals from the Australian Energy Market Operator (AEMO) using state regulations and commencing by September this year. Changes to the National Electricity Rules (NER) should wait until after the ESB review of governance of DER technical standards.

AEMO has an important contribution to make to the engineering side of DER technical standards. They should not be appointed Chief Economist as well. There is a need for appropriate governance to ensure that the long-term interests of consumers are properly considered by a body with recognised economic expertise.

The proposal to insert minimum standards into connection contracts is a retrograde step. Standards and grid connection rules should be transparent and accessible. Grid connection contracts are opaque. It would be far preferable for minimum standards to be published in the NER.

Integration of DER involves more than coming up with new device requirements and then thinking about an enforcement approach. The DER standard setting process might appear fragmented, but the enforcement of regulated network voltages and inspection for compliance is even more fragmented. Governance of standards for DER integration should be considered in a broad ranging process (like the ESB's current review of governance arrangements) rather than in a narrow, piecemeal way (as AEMO is proposing).

We would be happy to discuss these issues in further detail with representatives of the AEMC.

QUESTION 1: ASSESSMENT FRAMEWORK

Do you agree with the proposed assessment framework? Should the assessment framework include any additional considerations, and if so, what are they and why?

A strong case can be made for the Australian Energy Market Operator (AEMO) to take a leading role in the development DER technical standards, particularly those relating to AEMO's core responsibilities. However, AEMO should not be given the role of Chief Economist, whether by design or by default.

Recently, AEMO has been very active in development of DER technical standards including revisions to AS/NZS 4777.2, proposed requirements for a new inverter testing procedure for short duration under voltage ride through and proposals for mandatory multi-element smart meters in South Australia. The CEC has supported that work and AEMO's technical capabilities have been clearly demonstrated. However, what is less evident is whether AEMO can (or should) be responsible for processes to assess consumer benefits, cost-benefit analysis, and the cost of regulatory impacts on businesses. A clear governance framework is required.

We realise that ESB is currently undertaking a review of governance frameworks for DER. That should not absolve the AEMC of the need to consider how impacts on consumers and businesses will be evaluated in this or future AEMO proposals.

The CEC calls on the AEMC to explain how and by whom AEMO proposals will be assessed to ensure that proposed technical solutions satisfy the national electricity objective (NEO). It is not sufficient for the AEMC to tell us what is supposed to be done, in theory. We want to know how this will be done.

QUESTION 2: SETTING THE INITIAL STANDARD AND DEFINITION OF DER

Should the initial DER technical standard be set by AEMO?

It would not be appropriate for AEMO to take the leading role in all DER technical standards – only those that relate to its core power system responsibilities and (arguably) to cyber security.

The CEC has been working collaboratively with AEMO on the proposed requirements for a new inverter testing procedure for short duration under voltage ride through. AEMO is the appropriate organisation to be providing recommendations for the content of this technical standard. The South Australian (SA) government has recently announced that it will mandate this new testing procedure commencing September 2020, in advance of the November 2020 commencement date initially proposed by AEMO. The CEC has outlined in writing to AEMO and the SA government the difficulties that this will cause for businesses and consumers, noting that:

- AEMO has not yet published the final version of the test, and
- AEMO has not yet confirmed which test labs are acceptable to it, and
- September is only six weeks away, and
- Even if an inverter is already compliant without any modification, we estimate between 13 and 17 weeks are needed to demonstrate compliance, taking account of the 8 to 12 week waiting times at test labs.

This experience has demonstrated the importance of ensuring that bodies responsible for setting standards understand the industry and the practicality of their proposals. It also highlights the importance of ensuring that policy makers consider the interests of consumers and the impact of proposals on businesses, rather than narrowly focusing on technical issues.

Should the minimum standards be inserted into the minimum content requirements of connection contracts, negotiation frameworks and model standing offers or terms?

Minimum standards should be transparent and accessible. Inserting minimum standards into connection contracts would not ensure transparency and accessibility. To test this, the AEMC could attempt to put together a summary of all grid connection rules based on connection contracts. This exercise would demonstrate just how complex and opaque a process is being proposed.

The CEC knows from experience the difficulty of understanding grid connection rules based on information available from connection contracts or direct contact with distribution network service providers (DNSPs). We spent more than a year collecting information from DNSPs to piece together a comprehensive set of advice on power quality requirements for grid connection of inverters. And that is just one of many requirements included in grid connection agreements.

Grid connection rules are opaque. We would be extremely disappointed if the AEMC does not take the opportunity to review the system to ensure more transparency and accessibility of grid connection rules. It might be convenient for AEMO to make this someone else's problem, but this overlooks the cost impacts of burying new rules in grid connection agreements.

It would be far preferable for minimum standards to be published in the National Electricity Rules (NER). DER technical standards should also be reflected in connection agreements, but connection agreements should not be their primary place of residence. If AEMO is going to take advantage of a head of power conferred via the NER then it should be willing to publish new requirements in the NER. This improved level of transparency and accountability was one of the reasons CEC had initially been supportive of AEMO's proposal. We are very disappointed to see the proposal to revert to relying on connection agreements.

What should the standard apply to and is a DER definition needed in the NER?

The standard should apply to AEMO's immediate concerns of voltage ride through and emergency disconnection and reconnection of generation and load. Other DER technical standards should be developed collaboratively across industry, as is currently the case with the Standards Australia process and with field trials and related working groups, such as the work initiated by SA Power Networks and now being progressed through the DER API Working Group.

The approach to DER integration on distribution networks appears to be very one-sided. DER integration requires standards for the devices being integrated (DER systems) and standards for the systems into which the DER is being integrated (distribution networks). The consultation paper states that,

In short, the growth of DER has been substantial, yet the standards which specify minimum performance or operation of these assets remained fragmented.

No mention is made of the fragmented regulation of DNSPs. For example, the ESB review of voltage management in the low voltage networks found that "even in the absence of solar PV, there is a significant level of high voltage across all DNSPs in all NEM states". Voltage management is a crucial part of DER integration and is the regulatory responsibility of state and territories.

The scope of rules and technical standards should not be determined by a definition of what is 'DER'? Focusing on the nature of the services provided, rather than a description of devices that can provide the services, would be a better pathway to integration into future market frameworks that recognise and reward provisions of essential system services.

***Do stakeholders agree that the standard should only apply to new and replacement devices?
Will this meet the objectives of the desired policy outcome of this rule change request?***

Applying standards to devices already installed would be utterly impractical, prohibitively expensive and could not be required through regulation. Where devices can be upgraded remotely (e.g. with firmware updates) a voluntary, incentive-based scheme could be a practical way to drive an uplift in standards for devices already installed.

QUESTION 3: CONTENT AND DURATION OF THE INITIAL MINIMUM TECHNICAL STANDARD

Should the scope of the initial technical standard be limited by the NER?

The changes should ideally wait until after the ESB review of governance of DER technical standards.

The argument for rapid changes to the NER is undermined by the fact that the SA government proposes to implement AEMO's new testing requirement for under voltage ride through by September, without any reference to the NER, ESB, AEMC or others. If the AEMC believes that, despite the SA government response, there is still a need for rapid changes prior to the ESB review of governance then the initial changes should be limited in scope and duration, with a sunset clause.

The consultation paper states that AEMO is expected to release an issues paper on the initial DER minimum technical standard by early July 2020. It is unclear whether this refers to proposed requirements for a new inverter testing procedure for short duration under voltage ride through or if there is another draft standard yet to be published. The consultation paper also states that the initial DER minimum technical standard will include matters covered in AS/NZS 4777.2. The revised version of that standard has been published for public comment. It is unclear how the AEMO proposal will take account of the proposed changes to the inverter standard.

DER technical standards are in danger of becoming a jumbled mess. This has been primarily caused by short term, reactive interventions in South Australia that have given insufficient regard to practicality of proposals, impacts on businesses and the long-term interests of consumers. It is also unclear as to how the proposed AEMO initial standard interacts with the updated AS4777.2 which is currently out for comment. In the absence of a clear governance framework, it is not clear how the AEMO standard would be called up or enforced. There is a significant risk of redundancy in the testing and compliance requirements. The AEMC must ensure that it does not create multiple, overlapping compliance requirements.

The DER industry is currently responding to multiple overlapping processes and rule changes looking to address the same issues relevant to DER. Rushing through a new AEMO-led DER standard in the absence of a governance framework will only serve to exacerbate this issue. We urge the AEMC to lend its weight to a more considered, collaborative approach.

If so, should there be arrangements to allow for a review of the scope at a future date?

Yes. These are important long-term decisions and it feels like we are being railroaded due to the perceived need for rapid changes in SA. However, the SA government proposes to make the changes through jurisdictional legislation. The AEMC does not need to take governance short cuts. Act in haste, repent at leisure.

Should the role of AEMO in setting DER minimum technical standards (the subordinate instrument) be limited in time, with the ESB's governance review outcomes to be introduced into the framework at a later date?

Yes. The ESB review of governance should not be circumvented simply because the AEMC is required to respond to a rule change proposal prior to the completion of the governance review.

QUESTION 4: APPLYING THE STANDARD AND MONITORING COMPLIANCE

How can the proposed solution be applied in Western Australia, Victoria, and the Northern Territory?

The ESB proposal to develop a national governance framework is superior to the AEMO proposal and does not suffer the same limitations with respect to Western Australia, Victoria, and the Northern Territory. We urge the AEMC to support the approach recommended by the ESB. Short term interventions in SA are being implemented using jurisdictional regulations and AEMO does not require an additional head of power in the NER to achieve its short-term objectives.

Is it sufficient to specify a commencement date for the DER minimum technical standard only and have the implementation dates for the individual standard components set out in the standard itself?

There needs to be a way of preventing regulators setting unachievable implementation dates. The proposals from AEMO and the SA government are the most recent example. The proposed implementation date of September is unreasonable, impractical and will very likely result in unnecessary job losses. There needs to be an independent review process to consider what can be practically achieved. The key question is not where implementation dates are published. The key question should be about review and accountability to ensure that regulators do not set dates without understanding the practical issues and likely impacts on industry.

What level of compliance monitoring is needed?

The most appropriate means of compliance monitoring will be determined by what is being monitored. If devices are being monitored for compliance at the level of make and model and if they must apply to DNSPs for grid connection, then the CEC product listing process should be utilised. The CEC is currently in discussion with AEMO to formalise an agreement under which the CEC would maintain a register of inverters that have demonstrated compliance with the proposed new testing procedure for short duration under voltage ride through.

If devices are being monitored for compliance at the level of make and model and if they do not need to apply to DNSPs for grid connection, then either DNSP grid connection rules need to be broadened to include other appliances or an alternative approach will be needed.

If devices need to be checked individually (e.g. to verify installer settings) then inspections of individual installations will be required. Governance of electrical inspection is very fragmented.

Who should monitor compliance with the technical standards? How can compliance be enforced?

This question should be addressed by the ESB review of the governance of DER technical standards.

DER integration needs to be about more than just coming up with new rules for inverters or DER and then thinking about how to enforce the new rules. Integration also requires joining up the regulation of DER with the regulation of DNSP performance and inspection regimes.

The definition of DER standards contemplated in the rule change proposal is extremely broad. The compliance issues would also be broad. Governance of electrical inspection and compliance is highly fragmented. We look forward to reviewing the ESB recommendations in relation to compliance and the implications for governance of DER technical standards.

The AEMO proposal seems to assume that DNSPs will take on the compliance role. It is unclear whether they would be allowed additional expenditure for this new role and what implications this would have for customers and costs.

QUESTION 5: COST OF THE INITIAL STANDARD

Considering AEMO's proposed initial standard in section 5.2, Box 1, what are the expected costs and benefits of implementing the initial standard for consumers, other affected parties and DNSPs?

The fact that this question is being raised in a consultation paper speaks volumes for the need for an appropriate governance framework that considers economic costs and benefits and impacts on consumers and business. It would not be in the long-term interests of all consumers to simply hand the keys to DER technical standards over to AEMO. We need a process more rigorous than seeking feedback in a consultation paper.

Given the very open-ended nature of the AEMO rule change proposal, it is difficult to conceive how the costs and benefits would be rigorously assessed. Even if we were to undertake a thorough cost benefit analysis to answer this question, it is unclear what, if anything, the AEMC would do with it.