23 July 2020

Submission made online at www.aemc.gov.au

Subject: ERC0301 - National Electricity Amendment (Technical Standards for Distributed Energy Resources) Rule 2020

SA Power Networks welcomes the opportunity to provide feedback in response to the Australian Energy Market Commission's consultation paper on the above rule change proposal ERC0301 relating to technical standards for Distributed Energy Resources (DER).

As the Distribution Network Service Provider (DNSP) for the state at the forefront of DER uptake nationally, SA Power Networks has been actively supporting both AEMO and the SA Government in efforts to mitigate the immediate system security challenges in South Australia. We have also been very actively working with the DER industry, AEMO and others to help progress Australian standards for smart DER that will enable more effective integration of DER with the distribution network and overall power system, and create greater long-term value for the community from DER.

Our feedback on the proposed rule change is summarised as follows:

1. We support the need for immediate short-term actions to address urgent system security issues in South Australia, notably DER autonomous response to disturbances (voltage ride-through).
2. We do not support the proposed rule change in its current form because it proposes a fundamental change to governance arrangements for DER standards that:
    - is not necessary to address the urgent system security issues in South Australia;
    - does not appear to be consistent with the recommendations of the recent review conducted by Sapere and CutlerMerz for the Energy Security Board (ESB) into future governance of DER standards, which did not recommend fundamental changes to current roles and responsibilities, but rather the establishment of a DER Standards Governance Committee to strengthen and provide oversight over existing processes[1]; and
    - pre-empts the findings of the further review of DER standards governance arrangements currently being undertaken by the ESB, which is expected to result in another rule change proposal addressing this issue.
3. We do not support the proposal to give a single entity (the Australian Energy Market Operator, AEMO) sole responsibility for setting DER technical standards, which DNSPs would then be required by the rules to include in their connection agreements and enforce. This is because:
    - we are concerned that such an arrangement would result in standards that focus on AEMO's requirements and do not properly take into account the technical requirements and needs of other stakeholders in areas outside AEMO's sphere of expertise and responsibility. Standards of the kind contemplated in the rule change, which are very broad in scope and include interoperability, communications and cyber-security standards for a broad range of behind-the-meter devices, are complex and have wide-ranging impacts. They must be developed with

[1] Energy Security Board Governance of DER Technical Standards Consultation Paper, July 2020, accessed at http://www.coagenergycouncil.gov.au/publications/governance-distributed-energy-resources-technical-standards-consultation

due consideration of the views of all affected stakeholders, including stakeholders outside the NEM, DER customers and the DER industry. They must, in particular, consider the operational requirements of the DNSPs to whose networks the DER is connected. DNSPs have a key role in determining technical standards for parties connecting to the distribution network. DNSPs have a detailed understanding of local distribution network issues, and need to have flexibility to ensure that connection standards are reflective of these local operational requirements, as well as the broader obligations, risks and customer considerations DNSPs carry.

The ESB recognises these things in its recently-issued consultation paper for the DER Standards Governance review, which observes that:

> *It is vitally important that the minimum technical standards are nationally consistent, recognising that some jurisdictions or Distribution Network Service Providers (DNSPs) will need to set additional requirements for their circumstances. The governance process therefore needs to include input from a broad range of stakeholders, including some from outside the NEM.*[2]

We consider that a committee such as the DER Standards Governance Committee contemplated in the ongoing ESB review of DER standards governance, with representation from all key stakeholder groups and chaired by an independent DER expert, would be a much more appropriate and effective body to have responsibility for DER standards than any single entity.

- The rule change proposes to rely on the Rules consultation procedures to canvas input from other stakeholders and cites the DER Register as an example of the successful application of this principle. In our view, the level of stakeholder consultation undertaken for the DER Register was not sufficient. Similarly, AEMO's consultation in setting the Minimum Functional Specification for smart meters, while extensive, did not adequately take into account the views of DNSPs at the time, including in relation to requirements for network visibility, and has not, in our view, delivered the best outcome from the contestable metering rollout. DER standards must be developed through more rigorous processes that require both consultation and collective decision making by key stakeholders.
- the proposal would make DNSPs responsible for ongoing enforcement of compliance, for which DNSPs are not funded and have limited powers and capabilities. DNSPs may be unable to meet these responsibilities for standards that are set, and varied, outside of their control.

4. We understand that the primary outcome sought by the Energy Security Board (ESB) and Council Of Australian Governments (COAG) in recommending a rule change in this area at this time is to address immediate system security risks in high-DER states such as South Australia arising from shortcomings in current inverter standards, specifically voltage ride-through capabilities. We consider that these outcomes can be achieved without a change to the Rules that pre-empts the outcomes of the ESB review into the long-term governance of DER standards. In particular, we note that the SA Government is currently consulting on specific short-term actions to address system security concerns in SA, and we expect that jurisdictional arrangements will be put in place urgently to mitigate these issues in SA any event, notwithstanding any change to the Rules[3].
5. Taking into account the above, we consider that the proposed rule change is not warranted at this time. Further consideration and consultation on DER standards governance is required, and the ESB review should run its course before any change to the Rules is made in this area.
6. If AEMC considers that there is merit in some strengthening of existing obligations to support short-term outcomes, then there may be scope to make more explicit in the Rules DNSPs' obligations to have regard to AEMO's technical requirements specifically in relation to system security in setting their connection standards for DER.

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[2] Ibid, i

[3] South Australian Government Consultation on Regulatory Changes for Smarter Homes, accessed at http://www.energymining.sa.gov.au/energy_and_technical_regulation/energy_resources_and_supply/consultation_on_regulatory_changes_for_smarter_homes

In the remainder of this response, we provide further feedback on the specific questions posed in the consultation paper. If the AEMC would like to discuss any aspect of our response, please contact Bryn Williams, Future Networks Strategy Manager at bryn.williams@sapowernetworks.com.au or on 0416 152 553.

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Manager Network Strategy

Attachment: Feedback on specific consultation questions

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?

Given that the scope of the proposed rule change extends beyond standards that relate to system security requirements, AEMC needs to consider:

- whether the rule will impact on or present barriers to the efficient operation of the distribution network and the management of distribution network capacity. DER standards need to facilitate DNSPs more actively managing hosting capacity constraints in their distribution networks and the provision of flexible (dynamic) export limits (or 'operating envelopes') in network connection agreements.
- the customer impacts of the rule change. Is there a risk that customer choice of products would be limited or customers would choose not to take up DER if the standards are not developed with a full appreciation of customer impacts?
- impacts on inverter manufacturers, DER technology vendors and the DER industry more broadly. Does the rule change facilitate greater certainty of future technical standards and requirements in Australia for manufacturers, promote alignment with international standards, etc?

QUESTION 2: SETTING THE INITIAL STANDARD AND DEFINITION OF DER

1. Should the initial DER technical standard be set by AEMO?

It is entirely appropriate that AEMO should recommend technical requirements for DER in relation to system security, but it is not appropriate to place sole responsibility for all DER technical standards, with the broad scope proposed in the rule change proposal, with AEMO, as these standards will affect areas outside of AEMO's sphere of expertise and responsibility.

With regard to communications standards for emergency curtailment of generation for system security, our view is that AEMO should define the functional requirements of an emergency generation shedding service to be provided by DNSPs, but not prescribe the detail of how this is to be delivered, which should be left for DNSPs to determine in consultation with AEMO, industry and other stakeholders, taking into account specific jurisdictional needs. This is the case for the load shedding service provided by DNSPs to AEMO today.

In relation to standards for interoperability, communications and security more broadly, we support a nationally consistent approach to smart DER based on established international standards, notably IEEE2030.5. We are working actively with the DER industry, other DNSPs and AEMO through the DER API Working Group convened under the ARENA DEIP programme to bring forward this capability as a standard across the NEM as soon as possible, and to accelerate transition to production in South Australia through ARENA-funded field trials. There is considerable momentum behind this effort across a broad range of industry stakeholders, including Australia's leading inverter manufacturers. Any change to governance arrangements for DER standards should aim to strengthen and support this effort and facilitate the timely translation of the outputs to proper Australian Standards; changes that are not well considered could actually derail and decelerate the work already underway.

It is also unclear as to how this process would interact with the current development of AS4777.2.

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

DER standards should be reflected in DNSP connection contracts but these should reference applicable Australian Standards, along with industry guidelines such as Energy Networks Australia's that guide the application of these standards, and any jurisdictional requirements.

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

The focus of this activity should be the immediate identified gaps in inverter technical requirements. Broader standards for DER interoperability, cyber security, flexible loads, etc should be developed rigorously and collaboratively by relevant industry stakeholders, as is currently happening within the cross-industry DER API Working Group, and formalised as national standards through a proper process with buy-in from all industry.

4. 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?

We agree with the principle that the need to expedite uptake of new standards needs to be balanced against impacts on customers who have invested in systems; we would not generally prescribe a new standard and require legacy devices to be compliant, although in the case of DER there may be scope for some devices to be made compliant to new standards by remote software update.

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

1. Should the scope of the initial technical standard be limited by the NER?
2. If so, should there be arrangements to allow for a review of the scope at a future date?

The scope of any interim Rule change would have to be limited to the scope required to address the immediate shortcomings with ride-through capabilities in AS4777, to avoid pre-empting longer-term arrangements arising from the ESB's review of DER standards governance arrangements.

3. 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?

We do not see the need for the proposed subordinate instrument at this time and consider that rushing a rule change in this area would be counterproductive given that the ESB governance review will deliver its findings in a matter of months. If any such rule were made, we consider that it would need to be limited in both scope (per question 1) and time. Limiting in time without limiting in scope could lead to the perverse outcome that standards are rushed through with broad scope and minimal consultation in order to fit within the time afforded by the Rules, which would be unlikely to deliver outcomes that are in the long-term interest of stakeholders (including customers).

QUESTION 4: APPLYING THE STANDARD AND MONITORING COMPLIANCE

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

We note Sapere/CutlerMerz's original recommendation that the CEC could include specific additional requirements in its approval process for inverters[4]. CEC is national, and bases its approvals on national standards, not NEM rules, and this would seem to be an avenue to address urgent issues, pending the establishment of new standards governance arrangements of the kind being considered by the ESB review that could develop true national standards that are endorsed outside of the NEM.

It is noted that the interim arrangements already proposed by both AEMO and SA Government regarding voltage ride-through capabilities in South Australia will be facilitated by the CEC accredited inverter listing process.

[4] Sapere and CutlerMerz Review of governance of Distributed Energy Resource (DER) technical standards, report prepared for Energy Security Board, accessed at https://srgexpert.com/wp-content/uploads/2020/04/ESB-Governance-of-DER-Technical-Standards.pdf, p89 ('quick win #4')

2. 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?

Any changes would require adequate consultation on implementation timeframes.

3. What level of compliance monitoring is needed?
4. Who should monitor compliance with the technical standards?
5. How can compliance be enforced?

This would depend on the nature of the standards. CEC is responsible for testing and accreditation of inverters against applicable technical standards today, but the definition of DER standards contemplated in the rule change is extremely broad in scope and the resulting standards could require a variety of compliance regimes. In many cases networks would not be best placed to enforce compliance, and this could drive costs on to networks that are not allowed for in their five-year regulatory revenue allowances. We note also that the proposal would place an ongoing obligation on networks for ensuring compliance, which implies that this would need to extend beyond the initial connection agreement.

It is noted that compliance enforcement is within scope of the ESB's DER Standards Governance Review, and we continue to advocate for this approach to ensuring standards are well considered, consulted and implemented.

QUESTION 5: COST OF THE INITIAL STANDARD

1. 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 proposed rule change is very open ended and gives no certainty as to how often standards would change, the scope of them, the timeframe provided for implementation and the level of consultation with industry, so there is no basis to comment on the potential costs and benefits.

However, that said, if DNSPs are required to ensure compliance then with the many 100,000s of installations the costs would likely be considerable and ongoing, so a proper cost/benefit assessment of any such compliance obligation would be required.