AUSTRALIAN ENERGY REGULATOR

Our Ref: AER22005903
Contact Officer: Simon Kidd
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17 November 2022

Anna Collyer
Chair
Australian Energy Market Commission
Level 15. 60 Castlereagh Street
SYDNEY NSW 2000

Dear Anna

Re: REVIEW INTO CONSUMER ENERGY RESOURCES TECHNICAL STANDARDS

The Australian Energy Regulator (AER) welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC) consultation paper on the review into Consumer Energy Resources (CER) technical standards.

The continued growth of investment by consumers in Consumer Energy Resources presents enormous opportunities which can benefit all consumers. The effective integration of CER and flexible demand is one of the four key reform pathways recommended by the Energy Security Board (ESB), with analysis showing savings in electricity system costs in order of $6.3 billion over the next 20 years.[1]

Consumer take-up and participation is central to realising these benefits and as such it is appropriate to consider the market setting that will best support this goal. In this context, we consider the review is timely as a robust framework for CER technical standards will support the effective integration of these resources, ensure consumers are able to obtain value from their investments in CER and flexible demand, and improve trust in the market.

We note the close linkages between the AEMC's review with the ESB's directions paper on interoperability policy, published on 13 October 2022[2], the AER's issues paper on flexible export limits, published on 19 October 2022[3] and the AER's options paper on consumer

[1] ESB Post-2025 Market Design Final Advice to Energy Ministers Part A, 2021, p 39

[2] See https://www.energy.gov.au/sites/default/files/2021-12/ESB%20Interoperability%20Policy%20-%20final%20for%20consultation%20-%20December%202021.pdf

[3] See https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/review-of-regulatory-framework-for-flexible-export-limit-implementation

protections for future energy services, published on 28 October 2022.[4] As set out in the AEMC's consultation paper, we will work closely with the AEMC and ESB across the four reviews to ensure any stakeholder feedback relevant is shared and there is joint consideration of common issues.

Context

The introduction of minimum inverter standards into the National Energy Rules (NER) in 2021 introduced valuable functionality to manage system security risks, improve Consumer Energy Resources (CER) hosting capacity, and ultimately facilitate more efficient operation and investment of energy networks.

A high level of compliance with the current Australian Standard for inverter functionality, AS4777.2 (the standard) is critical if the increasing investment in CER is to support the long-term interests of consumers. As the AEMC notes, there are real costs and impacts for consumers if widespread non-compliance means CER can't be relied upon, such as:

- distribution businesses implementing operational and planning measures to manage voltage across their networks, that would be more cost-effectively managed through compliant inverters
- the AEMO making more significant interventions to manage these system risks, for instance by pre-emptively curtailing or disconnecting customers with CER, or imposing export limits on customers wanting to install CER.
- missed benefits, as potential higher CER hosting capacity is not realised, meaning fewer solar PV customers connected.

Available evidence suggests that high levels of compliance are not currently being achieved.

The AEMC's review of CER technical standards provides an important opportunity to identify current levels of non-compliance with the standard, the reasons for non-compliance, impacts, and options to improve levels of compliance.

We consider the current governance framework for the standard under the NER is not working effectively to deliver appropriate levels of compliance and requires reform. We observe that rule-makers incorporated AS4777.2:2020 into the NER, by requiring distribution businesses to include into the model terms and conditions of their relevant connection agreements with retail customers a requirement that all new or replacement micro-embedded generators comply with AS4777.2:2020. The effect of this rule is to require distribution businesses to monitor and ensure compliance. However, we consider there are a number of practical difficulties with this framework:

- Consumers are not well placed to ensure compliance with the agreement given they are unlikely to be aware of the technical requirements or be able to identify whether they have been complied with
- Under the connection agreements, the only enforcement option available to these businesses where micro-embedded generators are non-compliant is to take action for breach of contract or void the applicable connection agreement and disconnect the retail customer.

We consider a better governance framework needs to be developed; one that targets the stakeholders best placed to ensure compliance and that provides a range of tools to encourage compliance.

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[4] See https://www.aer.gov.au/retail-markets/guidelines-reviews/review-of-consumer-protections-for-future-energy-services

While AS4777.2:2020 is currently the only technical standard that has been incorporated in the NER as a mandatory requirement, we understand that rule-makers are considering whether other technical standards should also be incorporated in the NER as mandatory requirements in the near future. For example, the ESB's interoperability policy directions paper proposes mandating new inverter installations comply with the communication protocols set out in the Common Smart Inverter Profile – Australia and seeks stakeholder views on how this could be achieved. Many of the questions relevant to AS4777.2:2020, including where requirements to comply with the technical standard should sit in the framework, and who is best placed to regulate compliance, are relevant to the broader governance of these standards.

This submission sets out our view on these issues, and in particular the compliance and enforcement framework for CER technical standards.

Causes and impacts of non-compliance

The AEMC's consultation paper suggests that only a small proportion of inverter installations – around 20 to 30% – are compliant with the relevant Australian Standard for inverters.

We agree with the AEMC that at current levels of CER penetration, this low level of compliance creates significant cost impacts for consumers, and that these will rapidly increase as CER investment grows in coming decades. In addition, we are concerned that these outcomes have the potential to undermine consumer trust in the market, itself a barrier to the type and level of participation required to realise the benefits forecast by the ESB.

Ensuring higher levels of compliance with the standard is a cost-effective approach to mitigate these significant impacts and ensure the integration of CER into the grid is in the long-term interests of consumers.

Regulatory framework issues

Issues with the current framework

In our view, the current governance framework for technical standards is not capable of achieving the high levels of compliance needed to deliver the significant system benefits and avoid the risks the AEMC has identified. This is in part due to the fragmented roles and responsibilities in the current governance framework, particularly when viewed from the perspective of the consumer journey.[5] This is illustrated by **Table 1** below.

[5] For example, Energy and Water Ombudsman of Victoria's Solar Customer Journey Roadmap (April 2022) provides a useful overview of the issues consumers experience at different stages of the installation process. See https://www.ewov.com.au/uploads/main/Reports/ewov_solar_customer_journey_map_april_2022.pdf

Table 1 – Regulatory frameworks at different stages of the customer journey

Customer journey stage	Applicable regulatory framework
Search and purchase	Misleading conduct and warranty-related issues are regulated by the Australian Consumer Law
Installation	Regulated by state technical regulators and CEC Code. State frameworks do not address conduct relating to non-compliance with the inverter technical standards, while the CEC code is voluntary and may not provide sufficiently strong incentives to achieve the high level of compliance required
Operation	The requirement to comply with the standard is set out in the connection agreement between consumers and network businesses, which is not a suitable governance instrument to address the harms of non-compliance. As noted above, enforcing compliance with the standard through the connection agreement places an inappropriate burden of risk with consumers by making them liable for the consequences of non-compliance with the standard when many issues are caused by incorrect installation.

This fragmentation leads to unacceptable outcomes for consumers, who are entitled to expect that installers supply compliant equipment, are unlikely to be aware of the terms and conditions of the connection agreement and are unlikely to have any realistic capacity to rectify non-compliance on their own.

The AEMC's consultation paper references the final determination on DER technical standards[6], stating that placing the standard in the NER places an obligation on DNSPs to ensure the standard is met, and that 'This triggers the AER's existing capability to monitor and enforce this obligation.'[7]

While in theory it may be possible for the AER to enforce compliance by network businesses to ensure the standard is met, this would in our view result in adverse outcomes for consumers for the reasons set out above. Further, the AER has not oversight of installers of CER equipment, which also creates significant challenges for any compliance or enforcement task.

Roles and responsibilities/Changing the regulatory framework

Noting the above issues with the current framework, we encourage the AEMC to take a first principles approach when considering which bodies and instruments are the best placed to deliver a framework for CER technical standards in which there is minimal confusion regarding rights and responsibilities, and issues can be resolved with minimal consumer action or intervention. This should include considering the role of bodies and frameworks outside the NEM framework.

We do not have a view on a preferred approach but discuss our observations on some key questions and issues below.

[6] AEMC, Governance of distributed energy resources technical standards, rule determination, 17 March 2022.
[7] AEMC, CER Technical standards consultation paper, October 2022, p24

Where should standards sit within the framework?

Given the unsuitability of the connection agreement as the location of the standards obligation, a fundamental question for the AEMC in this review is where CER standards should sit within the governance framework.

We encourage the AEMC to approach this question from first principles, for example:

a. What are the drivers for non-compliance with CER Technical Standards?

b. How should the drivers for non-compliance with CER Technical Standards and associated harms be best addressed?

c. Which parties are best placed to bear the risks and hold the relevant accountabilities and liabilities?

d. What are the most appropriate governance instruments to establish obligations and responsibilities on the relevant parties?

e. What body should be responsible for ensuring compliance (including enforcement action)?

In applying this framework, we note that incorrect configuration at point of installation appears to be a major cause of inverter non-compliance. A first principles analysis would suggest that any solutions or interventions should focus on this stage of the inverter life cycle. Given that the complexity and potentially cost of rectification increases after the point of installation, this approach is likely to also be the most economically efficient.

Noting that installers are not covered under the NER framework, options within existing framework to address this issue may include:

- exploring whether current audit and inspection obligations (under the Clean Energy Regulator solar inspection scheme, or jurisdictional safety regulations) could be expanded to include compliance with AS4777.2:2020 or CER technical standards more generally.
- whether the Clean Energy Council (CEC) accreditation framework could be adapted to improve installer training and incentives for compliant installations.
- further exploring whether technical standards could be published in a new subordinate instrument, such as a guideline or procedure, and require compliance with that instrument.[8]

Both items ‘d’ and ‘e’ above should also consider whether the governance framework and regulatory arrangements should be national or state/territory based.

It should consider the relative costs and benefits of national versus jurisdictional approaches. This analysis could consider the role of NEM market bodies, the Clean Energy Regulator, as well as jurisdictional regulators and self-regulation (including accreditation through the Clean Energy Council).

The AEMC’s consultation paper raises the question of whether a dedicated national technical regulator may be required to oversee the implementation of CER technical standards.

Determining who is the best placed body – new or existing – to monitor and enforce any requirements to comply with AS4777.2:2020 and other CER technical standards, should be

[8] Potentially similar to AEMO’s proposed approach in its 2020 DER technical standards rule change request.

informed by the first principles analysis. We would be happy to work with the AEMC to further explore the issue.

Near-term approaches to rectify non-compliance

The likely high rate of non-compliance suggests pragmatic options to rectify non-compliance under the current framework are needed in the near term, until any reforms resulting from this review are implemented.

In addition to the potential roles for the Clean Energy Regulator, CEC and jurisdictional regulators to identify and rectify non-compliance with AS4777.2:2020, we would encourage the AEMC to consider other options.

For instance, there may be opportunities to increase inverter compliance by focusing on the role of manufacturers – including removing legacy inverter settings or undertaking remote updates to implement the current standard.

Network businesses may have a role in identifying non-compliance and may have some options to engage with manufacturers and installers.

We note that Victorian network businesses received AER approval to add clauses into model standing offers that enable them to contact manufacturers on behalf of customers.[9] While this arrangement does not address the issue of customer disconnection ultimately being a network business's only option to enforce compliance, this approach could increase the likelihood of manufacturers configuring correct settings. Therefore, it may be a viable near-term option to improve prospective compliance.

We would be open to working with the AEMC to consider what near term options could be undertaken to rectify non-compliance.

If you have any questions about this submission, please contact Simon Kidd, simon.kidd@aer.gov.au or 03 9290 1913.

Yours sincerely

Jim Cox

Deputy Chair, Australian Energy Regulator

Sent by email on: 29.11.2022

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[9] See, for example – Citipower/Powercor model standing offer for retail customers with micro-generators, April 2022, cl 39. - https://media.powercor.com.au/wp-content/uploads/2022/04/04172452/CPPALUE-MSO-for-EG-version-3-AER-approved13317322.1.pdf