7 October 2021

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Australian Energy Market Commission
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Submission on the Governance of DER Technical Standards

Introduction

1. This is Vector Limited's (Vector)[1] submission on the Australian Energy Market Commission's (AEMC) Consultation Paper, dated 2 September 2021, on the proposed:

   - *National Electricity Amendment (Governance of Distributed Energy Resources Technical Standards) Rule 2022*; and
   - *National Energy Retail Amendment (Governance of Distributed Energy Resources Technical Standards) Rule 2022*.

2. Vector supports governance arrangements for distributed energy resources (DER) standards that optimise the benefits of DER to industry participants and consumers. Such arrangements are those that remain sufficiently adaptive over time to an environment of increasingly shorter technology lifecycles and potentially disruptive energy markets.

3. We believe longer-term governance arrangements for DER standards can be implemented more efficiently and effectively where the process of adopting new technologies and standards is not limited by highly prescriptive arrangements. As such, while we support the creation of an advisory committee for DER technical standards in the National Electricity Market (NEM), we do not support the creation of a subordinate instrument for mandating DER technical standards. We suggest that the proposed advisory committee include a representative from smart metering service providers.

4. We discuss our views under the various questions/themes below, as set out in the Consultation Paper. This submission reflects the views we expressed in our submissions on DER technical standards to the AEMC on 23 July 2020 and to the Energy Security Board (ESB) on 28 July 2020. Our views have taken into account the recent changes to the National Electricity Rules (NER) that introduced "DER Technical Standards" related to inverter performance and grid responsiveness on 25 February 2021, and which would commence on 18 December 2021. As with the Consultation Paper, references to DER technical standards in this submission largely refer to technical standards that apply to solar PV systems.

Q1: Assessment framework

5. Vector generally agrees with the proposed assessment framework that focuses on security and reliability, price, and safety considerations. In addition, we suggest that the proposed framework also consider factors that enable innovation and minimise regulatory burden.

[1] Vector's Australian and New Zealand advanced metering business, Vector Metering, is an accredited Metering Provider and Metering Data Provider, and a registered Metering Coordinator, in Australia's National Electricity Market and the equivalent in New Zealand. Vector Metering provides a cost-effective end-to-end suite of energy metering and control services to energy retailers, distributors and consumers.

- *Enabling innovation* – Any future governance arrangements for DER standards should provide, rather than diminish, incentives for innovation and investment that help accelerate the introduction of DER. The increasing integration of more renewable DER, such as solar PV, into the low-voltage network and the electricity market facilitates the electricity sector's transition into a digital and low-carbon future.

- *Minimising regulatory burden* – We support compliance arrangements for DER standards that do not increase the regulatory burden and are primarily for transparency purposes. This incentivises DER service providers to focus on delivering new and innovative services, rather than on regulatory or technical compliance. New compliance requirements also expand regulators' role, including in addressing industry disputes, some of which could ordinarily be resolved through commercial means.

6. We agree with the AEMC's description of the assessment framework's price objective (Table 4.1, page 13 of the Consultation Paper) and proposes the amendment below to reflect the above additional factors:

> Complexity, cost and timeliness of standard setting and compliance under any new governance arrangements are no more than necessary to achieve security, reliability, ~~and~~ safety, and other desired objectives (including internal opportunity costs for the AEMC from appropriately resourcing any new governance activities)...

Q2: Identifying governance problems

7. The AEMC's Final Rule Determination on Technical Standards for DER, dated 25 February 2021, stated that:

> …The governance arrangements included in this final rule do not limit, in any way, consideration of the most suitable pathway to establish enduring governance arrangements for setting technical standards in the future.[2]

8. In developing longer-term DER governance standards, we believe a broad view is required. While seemingly technical in nature, identifying the appropriate DER standards for a specific period or stage of market development can be complex and multi-faceted, and requires holistic solutions. This requires an understanding of exactly how a DER service is to be used, under what circumstances and timeframes the service must operate, and what supporting processes are required to enable the service. This is expected to take some time to design and implement – beyond publishing a set of technical standards – before any benefits will be realised.

9. We suggest that any future governance arrangements be subject to a cost-benefit assessment, capturing costs arising from mandating DER technical standards or specifications, to the extent possible. Consideration of costs beyond those directly associated with the DER device or installation is required to determine the full cost of any proposed requirements. For example, requiring DER devices to be switched on or off also requires the establishment of a back office and business-to-business ecosystem to achieve the desired outcomes. Failure to identify these other requirements will understate the real costs of any proposed arrangements.

10. Any cost-benefit assessment should also consider whether all reasonably practicable options to address the identified problem(s), including non-regulatory options, have been explored.

[2] https://www.aemc.gov.au/sites/default/files/documents/technical_standards_for_distributed_energy_resources_final_determination_0.pdf, page iv

Q3: Assessing the market impact of identified problems

11. The decision whether new longer-term governance arrangements for DER technical standards need to be established will have no direct or immediate significant impact on our business. However, as a smart metering service provider in the NEM, we believe that the value of DER can be optimised where there is widespread uptake of smart meters. This can best be achieved by large-scale retailer-led deployments of smart meters in a timely manner and in a competitive market. (While a smart meter plays an important role in delivering DER services, it is not solely a DER device. It has other uses such as remote reads, more accurate billing, load control, real-time detection of faults on the low voltage network, etc.)

12. Any proposed governance arrangements should not assume that imposing technical solutions at customers' premises would deliver outcomes that cost lower than other solutions, e.g. network augmentation. There is a risk that consumers could disengage from innovative programmes that could benefit them (over time) if they find the cost of owning and operating DER installations to be onerous.

13. We suggest that the AEMC also consider concerns around the impact of introducing new DER technical standards that can potentially enable the curtailment of customers' generation, and how this is communicated to existing and potential customers. Insufficient consumer engagement could generate negative sentiment towards the industry – a topic already of interest to stakeholders and the media. The industry needs to take consumers along in the transition to new technologies.

Q4: DER technical standards in the rules

14. Vector does not consider the creation of a subordinate instrument for mandating minimum technical standards to be warranted. It will add complexity to an already complex regulatory environment, will likely increase the regulatory burden, and could result in unintended consequences.

15. We agree with the AEMC's statement in its February 2021 Final Rule Determination on Technical Standards for DER that:

> …establishing a new process may result in duplication and potentially inefficient costs borne by consumers. In addition, confusion and additional compliance costs for industry participants are likely to arise where there are differences between the requirements included in AS 4777.2:2020 and the standards specified in a NER subordinate instrument. Further, creating a subordinate instrument would require a bespoke governance framework to also be created.
>
> For these reasons, the final rule has not created a subordinate instrument for AEMO to administer. Instead, the final rule creates a definition of DER Technical Standards that incorporates AS 4777.2:2020 as in force from time to time in the NER. Consequently, the AEMC will be the responsible body for any changes to the DER Technical Standards.[3]

16. Importantly, industry/stakeholder input could potentially be bypassed under a subordinate instrument, which could have adverse implications for those who will be directly affected by any new arrangements. Where an issue requires urgent resolution, we consider the AEMC's expedited consultation processes to be sufficiently robust for this purpose.

17. However, should the AEMC decide to create a subordinate instrument, we suggest that the existing principles guiding Standards Australia's development of standards be adhered to:

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[3] https://www.aemc.gov.au/sites/default/files/documents/technical_standards_for_distributed_energy_resources_final_determination_0.pdf, page iv

> Our standards development process is based on the key principles of transparency, consensus and balanced expert committee representation. This process is regarded as one of the most rigorous in the world.
>
> Before a project to develop a new Australian Standard or revise an existing Australian Standard commences, there needs to be demonstrable evidence that the standard will deliver a net benefit to the Australian community. Stakeholders also need to demonstrate there is sufficient industry and stakeholder support for the development of the standard.
>
> Our policy is to base the development of Australian Standards on current international standards, avoiding unnecessary duplication, and allowing us to meet the requirements of the World Trade Organisation's Agreement on Technical Barriers to Trade.[4]

18. We agree with the above principles and suggest that any new processes for establishing standards subscribe to similar principles. We therefore question the need to create a new subordinate instrument for setting standards where a similar mechanism already exists. This unnecessary duplication is likely to increase costs for industry participants and consumers.

Q5: Who develops and maintains DER technical standards

19. Vector supports the establishment of a committee that provides advice on DER standards in the NEM, not a committee that makes determinations or decisions. We support a committee that provides advice on standards for DER systems and installations (rather than mandates them) based on the nature of the service rather than on the device. This committee could focus on defining the outcomes required and specifying a set of minimum services or service levels that must be supported.

20. In our view, it would be sensible for the proposed advisory committee to report to the AEMC, which is the responsible body for any changes to the DER Technical Standards in the NER, rather than to other entities.

21. We encourage the proposed committee to use targeted approaches where these are more efficient or suitable to avoid 'locking in' existing technologies and 'locking out' service providers with better alternative offerings. Targeted approaches could include:

    - *Locational targeting* – It is reasonable to expect that the functioning of DER systems would be geographically based. For example, solar systems would be switched off in areas that are experiencing grid constraints while other customers remain unaffected, in which case locations of solar systems will need to be mapped against network infrastructure. The committee could target these 'hot spots' rather than adopt a blanket solution that may impact customers who are not affected in the first place.

    - *Sequential targeting* – The committee could consider more mature or more developed technologies earlier than emerging ones, e.g. develop guidelines for inverters and coordinate with importers, manufacturers, and installers. We note that some of the communications capabilities that make DER systems/devices 'pluggable' are some way off and may not need to be considered in the same timeframe as inverters.

22. We further suggest that the proposed committee consider the principles guiding Standards Australia's standards development processes in establishing its own coordinating structure and processes. The committee could improve coordination with existing standards bodies

[4] https://www.standards.org.au/StandardAU/Media/SA-Archive/OurOrganisation/Documents/Developing-Australian-Standards.pdf, page 4

and provide a 'line of sight' for industry participants and other interested parties for DER standards-related matters.

23. Given the importance of measurements and smart meter data to the delivery of DER services and functioning of DER systems/installations, we suggest that the proposed committee include a representative from smart metering service providers. This representative should have an in-depth appreciation of the use of real-time smart metering and other data in the delivery of DER services, and the challenges (including regulatory challenges) of the application of this data to rapidly evolving energy markets.

Q6: How prescriptive should new governance standards be

24. Vector encourages the AEMC to consider flexible longer-term governance arrangements for DER standards, i.e. beyond a purely technical and engineering approach to standards setting. Flexibility can be promoted, for example, by adopting common design principles, rather than mandating technical specifications, so existing service providers and new entrants can benefit from interoperability and efficiency gains without stifling innovation.

25. We support the "less prescriptive solutions" suggested by the AEMC (pages 18-19 of the Consultation Paper), including:

- Introducing a provision in the NER for regular reviews of DER technical standards which would make this an ongoing priority for the AEMC; and
- Complementing voluntary activities being led or undertaken by other agencies, e.g. the Distributed Energy Integration Program being coordinated by the Australian Renewable Energy Agency.

26. In the development of future DER standards, we would support consideration of the "interim Guidelines phase" suggested by the ESB "to trial new standards and to prevent lock-in of existing approaches as technologies develop".[5] We agree that this approach is "particularly important in an emerging area like DER, where many products are competing to establish their protocols…[as] the industry standard".[6] Such Guidelines could include examples of best practice in the industry.

27. Greater flexibility can also be promoted by ensuring that ongoing market reforms intended to promote greater transparency around demand and innovative pricing are not delayed. Various service providers are already responding to changing demand patterns, for example, by offering huge discounts on electricity prices during the middle of the day.

The limits of a highly prescriptive approach and focusing only on technical solutions

28. In dynamic environments such as the electricity sector, the uptake of and transition to new technologies are driven by market outcomes and positive consumer outcomes, rather than by regulatory or technical prescription. It is important for new technologies to be tested or installed to meet the changing requirements of the industry and consumers, rather than stifled through greater prescription.

29. Mandating future DER technical standards or technical specifications/functionalities is likely to impose the following limits and costs:
    - Market competition is limited by locking out existing and potential market participants who are not currently using the required technical standards or who believe that better

[5] https://www.energyministers.gov.au/sites/prod.energycouncil/files/publications/documents/Governance%20of%20DER%20Standards%20Consultation%20Paper.pdf, page 10

[6] *Ibid.*

standards or technologies are available or could become available. This effectively becomes a barrier to market entry that could stifle market competition and innovation.

- Where barriers to entry are created, consumers will not benefit from lower cost service provision or the choice of better services that meet their specific needs.

- Mandating technical standards makes service providers compliance/regulator focused, rather than focusing on introducing new offerings to the market in a timely manner. This does not provide strong incentives for market participants to become effective competitors and innovators that keep striving to meet rising consumer expectations.

- Mandating specific technical standards before they are used (or widely used) creates the risk of 'gold plating' services. This generates unnecessary costs for consumers who do not want or need some of the mandated functionalities.

- In the future, new technical functionalities may not be able to be delivered using today's technology. It would not benefit consumers if market participants do not have ample flexibility to upgrade or alter technical specifications in a timely manner. This could lead to outcomes where the delivery of services is not keeping pace with technological changes or what consumers value.

- Mandating technical standards is likely to increase the regulatory burden (for both regulators and industry participants), increase costs for consumers, require substantial resources, and usually takes time (in years).

30. As such, we encourage the AEMC to consider longer-term governance approaches that are flexible and focused on outcomes, rather than focusing only on technical solutions such as mandating technical standards or technical specifications

Concluding comments

31. We are happy to discuss this submission with the AEMC. Please contact Paul Greenwood (Industry Development Australia - Vector Metering) at 0404 046 613 or Paul.Greenwood@vectormetering.com in the first instance.

32. No part of this submission is confidential, and we are happy for the AEMC to publish it in its entirety.

Yours sincerely

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