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Submission on Integrating Hosting Capacity into Small-Scale Distributed Generation Connections

Introduction

1. This is Vector Limited's (Vector) submission on the Electricity Authority's (the Authority) consultation paper, *Integrating hosting capacity into small-scale distributed generation connections*, published on 15 October 2019.
2. We generally support the Authority's proposed amendments to the *Electricity Industry Participation Code 2010* (the Code), which promote the use of more advanced inverter standards without precluding consumers who are not able to adopt those standards from participating in electricity markets.
3. No part of this submission is confidential. Vector's contact person for this submission is:

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The proposed Code amendments

4. Vector generally supports the promotion of more advanced technologies and standards that contribute to greater network efficiency and safety. We therefore support the Authority's proposed amendments to Part 6 of the Code (*Connection of distributed generation*), which include:
 - a. updating the reference to the superseded AS 4777.1 standard in clause 1D with the current AS/NZS 4777.1:2016 standard. This standard specifies good inverter installation practices to ensure the safe, secure and reliable installations of inverters; and
 - b. adding two new eligibility criteria to the existing criteria for the Part 1A application process for connecting distributed energy resources (DER), which include:
 - 1) making mandatory two advanced power quality modes for inverters - the volt-watt response and volt-var response modes; and
 - 2) introducing a maximum export limit for consumer installations to which new or upgraded distribution generation is to be connected. Applications must comply with the limit specified by the distributor.
5. In our view, the proposed Code amendments will provide or strengthen incentives for the use of more advanced technologies. It will increase distribution networks' hosting capacity and enhance voltage quality and network reliability while ensuring that consumers who are

not able (or choose not) to use them will still be able to apply for connection through the alternative Part 1 process and participate in electricity markets.

Ensuring flexibility and optionality for participants and consumers

6. Vector encourages the Authority to adopt smart regulatory approaches that promote flexibility and optionality, and avoid complex rules that could be more costly to implement (or resolve later). A key aspect of such approaches is to exercise restraint in imposing prescriptive, or more prescriptive measures, that disincentivise market entry and innovation. This includes exploring alternatives to codification, e.g. guidelines, protocols or voluntary codes that can easily be updated to respond to, or better anticipate, technological developments.
7. The codification of technological updates, particularly technical and functional specifications, can be a blunt and disproportionate measure, and result in unintended consequences. For example, it could 'lock out' from the market those not able to use the mandated technology or standards, creating a barrier to market entry and limiting competition. It could also result in 'stranded' investment for those who already possess older but still functioning devices, removing their ability to recover the cost of their investment.
8. We support the Authority's intention, signalled at its meeting with regulatory managers and consumer representatives on 22 November 2019, to move from annually reviewing and updating the Code (for technical or non-controversial omnibus amendments) to six-monthly reviews. We agree that this would make the Code more responsive to rapidly evolving technologies and consumer expectations.

Collaboration with the ENA

9. Vector further encourages the Authority to collaborate with the Electricity Networks Association (ENA) on the ENA's work to progress its *Network Transformation Roadmap* (NTR). The ENA's NTR Working Group 3 is developing options/recommendations for appropriate arrangements for new DER connections to low voltage networks, including DER connection standards.
10. Close collaboration with the ENA would promote information sharing on rapidly evolving technologies between the Authority and industry participants, and avoid overlapping work and gaps. For example, the Authority and the ENA NTR Working Group 3 could collaborate closely in considering the development of a cost-effective DER register for the New Zealand electricity sector, including considering the model adopted for Australia's National Electricity Market.

Concluding comment

11. We are happy to discuss any aspects of this submission with the Authority.

Yours sincerely
For and on behalf of Vector Limited



Richard Sharp
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