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Submission on the EA's *Addressing Common Quality Information Requirements* and *Part 8 Code amendment proposal* consultation papers

Introduction

1. This is Vector Limited's (Vector) submission on the Electricity Authority's (the Authority) consultation papers, *Addressing Common Quality Information Requirements* and *Part 8 Code amendment proposal*, published on 1 October 2024.

2. In the *Addressing Common Quality Information Requirements* consultation paper, we support the intention behind Option 2 to improve visibility of the behaviour and performance of distributed generation connected to distribution networks. In the long-term, high-quality information will help distribution businesses to better forecast the impacts of demand and generation and therefore plan and operate networks in a way that supports the electricity system.

3. The importance of understanding the performance of DER to support planning and coordination for DER on distribution networks is clear, therefore distribution network operators should be included in drafting documents related to common quality information requirements in collaboration with the system operator. Additionally, the Authority should prioritise distributors' access to enhanced smart meter data to improve network operators' abilities to monitor, assess, and forecast DER impacts on their networks.

4. In the *Part 8 Code amendment proposal* consultation paper, related to proposal FSR-003, it is reasonable that IF we can prove that actions by an industry participant have caused an UFE then that participant should be the 'causer' of that event, however we have concerns about the interactions between DER aggregator behaviour and distribution networks.

5. Given the anticipated increase of managed DER participation in the electricity system going forward, we are concerned that non-retailer aggregators are not a defined industry participant in the Code, and there is no apparent plan to add them to the Code. This means a non-retailer DER aggregator could not be found as a causer of a UFE even when it could be proven that they were the causer. This feels like a significant oversight, and a flaw in this proposal. It will be critical that distributors are not held liable for the actions of DER aggregators on their networks.

6. This proposed change will unreasonably expose EDBs to the risk of being found to be the 'causer' of UFEs even when other users of the distribution networks are to blame; users who may not be industry participants or are not subject to any obligations to coordinate with or consider local network constraints when operating their equipment. If the Authority is committed to bringing these parties into the market, it must ensure the commensurate safeguards are in place first.

7. Part 8 is dedicated to maintaining common quality on the transmission network, but there is no equivalent for distribution network operators. Clearer expectations or requirements could be written into the Code to ensure that distribution-connected parties (e.g. DG owners/operators, aggregators, etc) must operate their assets (or pool of assets) in such a way as to avoid to risk of causing an UFE. These expectations/requirements would be the good electricity industry practice that also helps avoid local power quality issues, damage to network infrastructure, or unplanned outages.

8. We have set out our responses to the consultation questions for *Addressing Common Quality Information Requirements* in Appendix A and *Part 8 Code amendment proposal* in Appendix B below. No part of this submission is confidential, and we are happy for the Authority to publish it in its entirety.

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

Sincerely
For and on behalf of Vector Limited

Matt Smith
Policy Advisor, Strategic Planning and Technology Integration

Appendix A – Response to *Addressing Common Quality Information Requirements* consultation questions

Question	Comment
Q1. Do you agree with the key drivers of change in power system modelling requirements identified in this section? If you disagree, please explain why.	We appreciate the acknowledgment that distribution network operators sometimes lack the necessary information, or find it difficult to obtain the information, about DERs to assess network impacts. We generally agree with the key drivers of change in power system modelling requirements.
Q2. Are there any other drivers of change in power system modelling requirements which are not covered in this section? If so, please elaborate.	No comment.
Q3. Do you agree with the Authority's elaboration on the common quality-related information issue set out in this section? If you disagree, please explain why.	We agree with the Authority's explanation of common quality-related information issues in the distribution sector.
Q4. Do you agree that the current provisions in the Code are insufficient to address the common quality-related information issue described in this section? If you disagree, please explain why.	We agree that the Code does not currently provide sufficient mechanisms for network owners to obtain common quality-related information from asset owners. In addition to requiring more detailed information about DER at the time of connection, the Authority should continue to work on improved access to smart metering data, such as network operational data like voltage and reactive power.
Q5. Do you consider there to be any other aspects of the common quality-related asset information issue that are not covered in this section? If so, please elaborate.	Streamlined, frequent, and ongoing access to enhanced smart metering data (more than just half hourly consumption data – this needs to include critical operational data such as voltage) for distributors would support improved distribution network security and performance.
Q6. Do you agree with the shortlisted options presented by the Authority? If you disagree, please explain why.	We agree with the shortlisted options identified by the Authority.

Q7. Do you have any feedback on the desirability of a document incorporated by reference in the Code specifying various common quality-related information requirements?	Vector would prefer a document incorporated by reference in the Code that specifies various common quality-related information requirements. We note that distribution network operators should also be included in drafting this document, in addition to the system operator, given the importance of modelling to support more efficient planning and coordination for DER on distribution networks.
Q8. Do you agree with the pros and cons associated with each option? What costs are likely to arise for affected parties (eg, asset owners, network operators and network owners) under each of the options?	We do not agree the risk identified under option 2 (5.21(a)) is significant. There is a robust set of competition law in place, as well as oversight from the Commerce Commission to mitigate these risks. Furthermore, there is no evidence that this kind of unfair advantage has ever arisen in NZ.
Q9. Do you consider any perceived conflicts of interest under the second and third shortlisted options to be material in nature? If so, please elaborate.	As noted above, we do not agree that the conflict of interest identified under option 2 (5.21(a)) creates a significant or plausible risk in providing detailed DER performance models to electricity distribution businesses.
Q10. Do you propose any alternative options to address the common quality-related information issue? If so, please elaborate.	No comment.
Q11. Do you agree with the Authority's high-level evaluation of the short-listed options to help address the common quality-related information issue? If you disagree, please explain why.	No comment.

Appendix B – Response to *Part 8 Code amendment proposal* consultation questions

FSR-002: Clarify that embedded generators must provide an asset capability statement in a format specified by the system operator

Questions	Comments
Q2.1. Do you support the Authority's proposal to amend the Code to clarify that: (a) embedded generators must provide asset capability statement information to the system operator in the form from time to time published by the system operator, and (b) the requirement to provide an asset capability statement to the system operator applies only to generators with a generating unit with rated net maximum capacity equal to or greater than 1MW?	In principle this proposal makes sense, however we have some additional questions and concerns, when considering this proposal in the context of encouraging dual control of consumer DER in the DDA and the Authority's desire to increase the involvement of aggregators in energy markets. Would the 1MW threshold of capacity cover an aggregator that manages a fleet of DERs that exceeds 1MW in aggregate, or would those aggregators be excluded from providing asset capability statements? In principle an aggregation of distributed generation managed by a single party which exceeds 1MW behind a GXP can pose similar concerns to the system operator as a single 1MW generator. If there are two parties controlling the same distributed generation asset, which is suggested as an acceptable arrangement in the draft revisions of the DDA (Code Review Programme 6), which party is responsible for providing the capability statements to the system operator? Finally, would 'asset owners that are generators' include EDBs, hospitals, schools, etc that use generators as back-up systems? The definition for 'distributed generation' excludes 'generating plant that is only momentarily synchronised'; however, the definition for embedded generating stations does not have this exclusion.
Q2.2. Do you see any unintended consequences in making such an amendment? Please explain your answers.	We believe that the above examples highlight an additional reason to consider how aggregators should be covered by the Code – especially those aggregators which are not retailers, and therefore not required to enter a DDA with their host networks. Additionally, the definitions of distributed generation and embedded generation should seek to avoid any ambiguity in order to avoid unintended consequences.
Q2.3. Do you agree the proposed Code amendment is preferable to the other options identified? If you disagree, please explain why and give your preferred option in terms consistent with the Authority's main statutory objective in	No comment.

Questions	Comments
section 15 of the Electricity Industry Act 2010.	
Q2.4 Do you agree with the analysis presented in this Regulatory Statement? If not, why not?	No comment.

FSR-003: Include distributors and energy storage systems as potential causers of under-frequency events

Questions	Comments
Q3.1. Do you support the Authority's proposal to amend the definition of 'causer' in clause 1.1 of the Code so that it refers to the action that results in a UFE, including an increase in electricity demand (load), and the consequential amendments to clauses 8.60 to 8.66, including proposed new clause 8.64A?	In principle, it is reasonable that IF it can be proven that actions by an industry participant have caused an UFE THEN that participant should be the 'causer' of that event, however we have concerns about the interactions between DER aggregator behaviour and distribution networks. Given the anticipated increase of managed DER participation in the electricity system going forward, we are concerned that non-retailer aggregators are still not a defined industry participant in the Code, and thus could not be found as a causer of a UFE. This feels like a significant oversight, and a flaw in this proposal. It will be critical that distributors are not held liable for the actions of DER aggregators on their networks.
Q3.2. Do you see any unintended consequences in making such an amendment? Please explain your answers.	We support the ENA's concern that EDBs may be unreasonably exposed to the likelihood of being found to be a causer of an UFE. As noted above, there is an anticipated increase in the number of DER, both generation and managed load, that will be connected to the distribution networks and could be synchronised at sufficient scale to cause voltage and frequency issues on the electricity system. If a UFE has arisen because of issues on the distribution networks, it may be difficult in practice to determine which connected party was the ultimate causer, and the ENA has noted that assigning blame to the EDB may be the quickest and easy way to resolve such situations. As already noted, we also support the ENA's concern that the Code does not currently recognise non-retailer aggregators operating on EDB networks as industry participants. The actions that aggregators take to chase a New Zealand wide pricing signal, or even a cyber-security event causing synchronised activity, could lead to an UFE and in the proposed Code change these aggregators would not be found at fault of causing that event. We strongly support ENA's encouragement to the Authority to consider how aggregators may be brought under the scope of the Code.

Questions	Comments
	The System Operator has well-established powers and capabilities that help avoid UFEs occurring, however EDBs have far fewer mechanisms to influence the behaviour of generation and load connected to the distribution networks. If the Authority intends for EDBs to have similar obligations as the System Operator, then the Authority should consider whether the prevention and management of local network emergencies should be accompanied with additional powers and capabilities. For example, Part 8 is dedicated to maintaining common quality on the transmission network, but there is no equivalent for distribution network operators. Clearer expectations or requirements could be written into the Code to ensure that distribution-connected parties (e.g. DG owners/operators, aggregators, etc) must operate their assets (or pool of assets) in such a way as to avoid to risk of causing an UFE. These expectations/requirements would be the good electricity industry practice that also helps avoid local power quality issues, damage to network infrastructure, or unplanned outages. Bringing all of these together, an unintended consequence of this change is that EDBs are unreasonably exposed to the risk of being found to have caused a UFE, because the UFE may be caused by other users of the distribution networks, who may not be industry participants or are not subject to any obligations to coordinate with or consider local network constraints when operating their equipment. If the Authority is committed to bringing these parties into the market, it must ensure the commensurate safeguards are in place first.
Q3.3. Do you agree the proposed Code amendment is preferable to the other options identified? If you disagree, please explain why and give your preferred option in terms consistent with the Authority's main statutory objective in section 15 of the Electricity Industry Act 2010.	No comment.
Q3.4 Do you agree with the analysis presented in this Regulatory Statement? If not, why not?	No comment.