12 November 2024

Electricity Authority
PO Box 10041
Wellington 6143

Submitted via email to fsr@ea.govt.nz

Consultation Paper – Part 8 Code amendment proposal – Part 1

Introduction

1. Thank you for the opportunity to submit on the consultation paper 'Part 8 Code amendment proposal – Part 1.'[1] This submission is not confidential and can be publicly disclosed.
2. Orion owns and operates the electricity distribution infrastructure in Central Canterbury, including Ōtautahi Christchurch city and Selwyn District. Our network is both rural and urban and extends over 8,000 square kilometres from the Waimakariri River in the north to the Rakaia River in the south; from the Canterbury coast to Arthur's Pass. We deliver electricity to more than 228,000 homes and businesses and are New Zealand's third largest Electricity Distribution Business (EDB).

Orion summary points

3. We have reviewed the consultation paper, and our specific responses to the questions posed by the Authority as well as other feedback we consider appropriate to the consultation are set out in Appendix A.
4. We commend and support the Authority's efforts to enable the integration of emerging technologies through appropriate Code amendments. However, we observe that the proposed changes appear to place a disproportionate burden on existing participants. The electricity market structure has evolved significantly from its traditional two-tier relationship between the System Operator and market participants to a more complex multi-tier framework. In this new paradigm, distributors increasingly find themselves mediating between the System Operator and new market actors, often bearing additional operational and compliance responsibilities without corresponding authority or compensation.
5. We believe a comprehensive end-to-end market review is necessary to ensure the regulatory framework remains fit for purpose. Such a review would help establish a more equitable distribution of rights, obligations, and responsibilities across all market participants, both existing and emerging. This would better support the efficient operation of the electricity industry while promoting innovation and the integration of new technologies.

Concluding remarks

6. Thank you for the opportunity to provide feedback on this consultation.

[1] https://www.ea.govt.nz/documents/5740/Part_8_Code_amendment_proposal_-_Part_1.pdf

Orion New Zealand Ltd
565 Wairakei Road
PO Box 13896
Christchurch 8141
+64 3 363 9898
oriongroup.co.nz

7. If you have any questions or queries on aspects of this submission which you would like to discuss, please contact us on 03 363 9898.

Yours sincerely,

Connor Reich

Regulatory Lead – Electricity Authority

Appendix A

Submitter	Orion New Zealand Limited (“Orion”)

Proposal Number	FSR-002
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?	Yes, we support the Authority's proposal to clarify these requirements in principle but have several concerns that should be addressed. A significant area of uncertainty relates to how aggregated distributed energy resources should be treated under these requirements. For example, we were recently made aware that an aggregator has the ability to control a fleet of residential batteries dispersed across our network that collectively amounts to 6.6MW, but individual units range from only 3.6-5kW. While the proposal focusses on "generators with a generating unit with rated net maximum capacity equal to or greater than 1MW," it fails to address the growing reality of aggregator-controlled fleets. This is particularly problematic as aggregators are not currently recognized as Participants in the Code and have no obligations to act in accordance with Good Electricity Industry Practice. We strongly recommend the Authority consider either including aggregators as Code participants or establishing clear obligations for aggregators to provide asset capability statements to both System Operators and distributors, as their actions can significantly impact network operations. Additionally, the proposal needs to provide clearer guidance regarding the treatment of backup generators. There is uncertainty around whether EDBs, hospitals, schools and other entities with backup fossil fuel generators ≥ 1MW are considered "asset owners that are generators.” Requiring asset capability statements from these facilities would create unnecessary administrative burden for both the facility owners and the System Operator with limited benefit to system operation. 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. It would be beneficial for the Authority to exclude these embedded generating stations from providing asset capability statement information to the System Operator.

Q2.2. Do you see any unintended consequences in making such an amendment? Please explain your answers.	The proposed code amendment risks exacerbating the existing regulatory gap on aggregators, and the role that they may play in DER management that individually falls below the 1MW threshold but collectively has a potentially material system impact.
Q2.3. Do you agree with the proposed Code amendment? 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	Yes, we agree with the proposed Code amendment in principle. However, as we have outlined in our response to Q2.1 and Q2.2, we strongly advise the Authority to consider how aggregators should be included in the Code, and ensure that there are no material system impacts caused by their operation of aggregated DER.
Q2.4. Do you agree with the analysis presented in this Regulatory Statement? If not, why not?	No comment.

Proposal Number	**FSR-003**
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?	While we agree that it is 'fair' for distributors to be included as 'causers' of UFEs, we have several concerns about the proposed amendment that should be addressed before implementation. A fundamental issue is that the Code does not address aggregators, yet their operations have the potential to cause an under-frequency event (UFE) on to the power system. While it is very unlikely that aggregators could cause a 150-200MW of sudden load drop isolated in one distribution network, there is the potential that this could materialise across the power system in the near-future. We need a clear framework for attributing responsibility when aggregator actions cause an event.

	The Authority should also consider the risk that Traders may inadvertently be the root cause of a UFE event on a distribution network, through improper shared load control. For example, if multiple Traders all tried to reduce load on one distribution network at the same time in response to a price spike in one trading period, it may be difficult to identify the culpable Trader. While the development of a Load Management Protocol will somewhat mitigate this risk, the Authority should be aware that in the future, UFEs that may originate from a distribution network may not always be the fault of the distributor. The treatment of distributed generation also requires clarification, particularly regarding responsibility for UFEs caused by embedded DG. This may occur through no fault of the distributor for reasons that could include sudden solar output drops due to cloud cover. There is a significant risk that distributors could be defaulted to as the responsible party rather than conducting proper investigation to identify the root cause of the UFE. We also have concerns that in areas where there are several significant embedded grid scale DG connected to our network that it may be difficult to identify which DG installation caused the UFE, and whether other DG installations exacerbated the issue. Given that the Authority states in paragraph 5.11 that they expect UFEs in the future will "continue to be caused by generators or by the HVDC owner", we question whether this change is truly necessary, as there is no requirement for distributors to make contributions to availability costs, or receive a rebate for payment of event costs. Before proceeding with amendments that could have unintended consequences, we believe the Authority should provide concrete examples of historical UFEs that were caused by Participants not currently considered "causers" under the Code. This would help demonstrate clear evidence of the problem this amendment aims to solve. Finally, we raise that distributors currently provide a Code-obligated AUFLS response to the System Operator, in response to UFEs. While the Authority, in paragraph 5.10 has advised that distributors will make no contribution to availability costs or rebate from event costs, it is important to recognise if the Authority changes direction in the future, it is important to recognise that distributors are not currently recompensed for providing the AUFLS service.
Q3.2. Do you see any unintended consequences in making such an amendment? Please explain your answers.	Please see our response to Q3.1 for further details on the unintended consequences.

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?	The analysis would benefit from broader consideration of several key factors that include the potential impact on grid-scale DER integration on distribution networks, and the long-term implications for aggregator or Trader-controlled load management practices. A more comprehensive analysis would help ensure the amendment supports rather than hinders the evolution of our electricity system.

Proposal Number	**FSR-007**
Questions	**Comments**
Q7.1. Do you support the Authority's proposal to amend the Code to treat ESSs as generation for the purposes of Part 8?	We have concerns about the proposed amendment being positioned as an 'interim' measure, and we support a full and urgent evaluation of the role of Energy Storage Systems in Part 8 to ensure efficient operation of the electricity sector. The proposal raises important questions about the application of the 30MW threshold that need to be addressed before implementation. Specifically, the Authority needs to clarify whether the 30MW threshold applies only to single-site installations or whether it also applies to aggregated smaller batteries operating as a virtual power plant. As the Code does not address aggregators, this creates uncertainty around how aggregated battery fleets should be treated under this amendment. For example, would multiple small-scale batteries that collectively exceed 30MW (this may occur at various levels, including within distribution networks, regionally, or nationally) when aggregated be subject to these requirements?

	We recommend the Authority consider a more comprehensive approach rather than an interim measure, particularly given the rapid deployment of energy storage systems across the nation and their increasing importance in system operation. Our recent letter to the Authority and Transpower on the impact that aggregated residential batteries are making on our ability to meet our AUFLS obligation is a real, persistent challenge, that must be resolved.
Q7.2. Do you see any unintended consequences in making such an amendment? Please explain your answers.	Yes, treating all ESS as generation could have several unintended consequences. By not explicitly addressing aggregated resources, the amendment may create regulatory and operational uncertainty for the sector. This could inadvertently discourage innovative business models that rely on aggregating smaller storage systems. Additionally, treating ESS solely as generation may not fully capture the unique characteristics of storage systems that can rapidly switch between charging and discharging states.
Q7.3. 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	While we understand the Authority's desire for a quick solution, we believe that a comprehensive review of ESS obligations would be more appropriate, and more in line with the main objective of the Authority – reliable supply by, and the efficient operation of, the electricity industry. The rapid evolution of storage technologies and business models suggests that a thorough review now would be more efficient than implementing an interim measure that may need significant revision in the near future.
Q7.4. Do you agree with the analysis presented in this Regulatory Statement? If not, why not?	The analysis would benefit from a more detailed examination of how aggregated storage systems impact system operation and security. Additionally, the Regulatory Statement should consider the potential costs of implementing an interim measure followed by a more comprehensive solution, versus waiting for a complete review of ESS obligations.

Proposal Number	**FSR-008**
Questions	**Comments**

Q8.1. Do you support the Authority's proposal to amend the definition of generating unit in clause 1.1 of the Code so that it refers to a generating unit having a frequency and/or voltage control system?	While we appreciate the Authority's effort to clarify the definition of generating unit, the definition of "smallest set" needs clarification, particularly given that the entire power system operates together. We question whether this definition aligns with the definition recently used in the Omnibus 3 Decision Paper, and resultant Code amendment. [2] Consistency across areas of the Code is crucial for effective implementation. We also question as to whether all consumer-grade solar PV installations, inverters, batteries and vehicle-to-grid interfaces have both frequency and voltage control systems. The Authority should clarify whether basic inverter settings would satisfy this definition, or if more sophisticated control systems would be required.
Q8.2. Do you see any unintended consequences in making such an amendment? Please explain your answers.	The proposed definition could create the risk that the "smallest set" criterion could be interpreted differently by different parties, potentially leading to inconsistent application of Code obligations.
Q8.3. Do you agree the proposed Code amendment is preferable to the other option 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.	The alternative option of specifically clarifying what constitutes a generating unit for each technology type would provide more immediate clarity, though we acknowledge this could become unwieldy as new technologies emerge. The proposed amendment could be improved by including specific guidance on how it applies to different scenarios.
Q8.4. Do you agree with the analysis presented in this Regulatory Statement? If not, why not?	No comment.

[2] https://www.ea.govt.nz/documents/5426/Code_amendment_omnibus_3_-_Decision_paper_9NcHlpD.pdf