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Dear Grant

Submission on Code Review Program 6 – proposals 2 and 5

1. This is Vector's submission to proposals 2 and 5 of the Code Review Programme number 6, dated 3 September 2024.

2. We support the ability to make quicker, non-technical, non-controversial changes to the Code, via the Code Review Programme (CRP) mechanism. Changes such as that proposed under CRP6-005 relating to interconnection point audit requirements for the distributor are a good example of the use of this mechanism. We agree with the proposed changes in proposal 5.

3. However, we disagree with the use of this mechanism for proposal 2, which proposes changes to clause 5.3 and other clauses of the Default Distributor Agreement (DDA).

4. We have contributed to, and support, the submission by Electricity Networks Aotearoa.

Complexity in enabling dual control has been understated

5. Clause 5 is the principal clause in the DDA, and possibly even the Code, currently governing distributed demand management and how parties managing distributed energy resources (DER) should interact or coordinate their activities with each other. Any changes made to these provisions of the DDA (clause 5 and others) could have a knock-on effect on other provisions of the DDA and should be made in a considered, rather than piecemeal manner. Otherwise, changes could result in unintended consequences.

6. For example, whilst dual control may enable more customer choice through increased flexibility options, it could also create greater uncertainty for host network operators in relation to keeping the network and its users safe and secure. It will require greater levels of cooperation and coordination to ensure the network remains safe and secure even as we give customers more optionality through flexibility services.

7. The proposed new wording in clause 5.3 is intended to extend control to two and indeed potentially multiple parties. It is tightly aligned to clauses 5.1, 5.2 and 5.6, the (load management) protocol ("LMP") contemplated in clause 5.6, schedules 4 and 8, as well as the liability regime under the DDA. Any changes to one provision have a follow-on effect on other provisions. This could result in unintended consequences if not considered as a whole, particularly around the coordination required in clause 5.6, the LMP and schedule 4.

8. For this reason, as we have previously submitted several times over the past two years[1], a full and proper consultation on clause 5, load management and the DDA as a whole is needed:

> *"Clause 5 does not adequately address market evolution in the area of DER management and aggregation…In the interests of resource and cost efficiencies, to avoid duplication of cost and effort and to ensure the DDA remains fit for purposes, we support a more substantive review of the DDA being undertake later, that incorporates …(b) alignment of provisions with the DSR (Distribution Sector Reform) work programme. This will ensure alignment of the DDA with that workstream and ensure the DDA remains fit for purpose and appropriately forward-looking."*

9. Although we support the overall intent of CRP6-002, to enable dual (and indeed multi-party) control, we consider the amendments only get us some of the way there. There are other necessary changes that need to be made to properly give effect to dual control under clause 5.3 and to schedule 8, as a minimum. We outline what these changes are below. Overall, however, we do not support these changes being made now. Instead, as we have previously suggested, we support a full and considered consultation on load management under the DDA and any related Authority workstreams to ensure unintended consequences are properly considered, as well as to future-proof the DDA. Quite clearly at the time the DDA was published, the only load management occurring at any scale was legacy ripple hot water management by distributors.

10. That landscape has changed significantly, and we need to ensure the DDA remains fit for purpose and enduring. The power system must remain resilient in the face of change. To date, 'power system' security has tended to mean grid security. Parts 8 and 13 of the Code are focused on grid security and grid emergencies. Conversely, not much, if anything, exists in the Code around network security and network emergencies. The lack of urgency to address this is concerning. Grid security is a given through the energy transition; network security is not. As activities on the distribution network increase through the transition, including dual- and multi-party ability to manage load under the DDA, equal consideration

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[1] https://blob-static.vector.co.nz/blob/vector/media/vector-2023/vector-submission-ea-dda-amendment-consultation.pdf and https://blob-static.vector.co.nz/blob/vector/media/vector-2024/vector-submission-follow-up-consultation-31-july.pdf

does not appear to have been given to network impact and/or how to mitigate and manage this.

11. The only current mitigant available is under clause 5.6 of the DDA and the LMP it envisages. It requires retailers only to (a) inform distributors when they acquire rights to control load and (b) agree, through a protocol, to prioritise a distributor's emergency activities – whether responding to a grid or local network emergency – over their own activities. However, there are some obvious limitations to this regime, including:

    a. the lack of a separate definition for network emergencies, as distinct from grid emergencies. This makes it potentially more challenging to request/require retailers to take preventative actions to avoid 'imminent' (network) emergencies, in the same way that the industry is called on to take action to avoid grid emergencies. The process in the lead-up to grid emergencies is well established and understood, but equivalents are needed for distribution networks.
    b. the 60 working day timeframe noted at clause 5.6 to conclude the LMP, although the parties can agree to extend this.
    c. the proposal under new clause 5.6(b)(iv) requiring standardisation of LMPs. Whilst we agree this ought to be standard, it is practicably difficult to achieve until we can also bring non-retailer aggregators into to the Code and until gaps such as we describe in paragraph (a) are addressed.
    d. a liability regime in the DDA that is not fit for purpose for the flexibility the Authority is looking to enable with these changes.

Question 1 – Do you agree the issue(s) identified by the Authority need attention? Any comments?

12. We comment below on the Authority's framing statements around the changes proposed and in particular on the statements underlined. We also note additional issues or aspects that either require further consideration or further amendment or definition in the DDA. The latter apply equally to consultation question 5 below. For convenience we have highlighted these in blue below as also relevant to Q5.

Authority framing	Vector's comment
"*Clauses 5.1 and 5.2 specify that each party may control a customer's load <u>where the customer has agreed (or elected</u> to take the controlled service).*"	References to customer election and/or agreement to a Distributor's control tariff in both clauses 5.1(a) and 5.3 are misplaced, create confusion and are incorrect. Clause 5.1(a) expressly notes Distributors *"charge the Trader on the basis of the Controlled Load Option"*, with clause 8 setting out the mechanics for how price categories are allocated between Distributor and Trader.

	Both clauses 5.1(b) and 5.2 expressly contain an election. Clause 5.1(a) does not, because under an interposed arrangement, Distributors charge Traders, rather than end customers. Any selection that happens occurs under clause 8, with the Trader selecting a different price category if it so wishes under clause 8. The customer's election is irrelevant to clause 5.1(a). This makes the proposed new wording in clause 5.3(a) wrong, at least in respect of clause 5.1(a) which currently is the primary way in which distributors acquire the right to manage hot water. The proposed new wording does not work with respect to clause 5.1(a) because it contains a requirement that the customer elect or agree to the *"Entrant"* managing their load. Where the Distributor is the Entrant (or even the Incumbent), the customer generally does not elect or enter into an "agreement" with the Distributor. This is only possible under clause 5.1(b) but is not likely to be widely used given our more limited direct involvement with customers. If the present wording stands, then under the interposed DDA arrangements dual control under clause 5.3(a) will only be achieved for a handful of ICPs with whom we enter into direct contracts. We expect this is not the Authority's intention.
"Clause 5.3 specifies the entrant (the second party, usually the retailer*)...The incumbent is usually the distributor"*	These statements are unhelpful and incorrect. Whilst Distributors may be the incumbent for legacy or ripple hot water control in parts of New Zealand, they are clearly not (or likely to be) the incumbent for other types of controllable load, such as solar, EV, customer batteries etc. Statement such as these are therefore unhelpful because they add to retailer confusion around whether only hot water load is covered by the DDA or all types of load (under clauses 5, schedules 4 and 8 and any related provisions). There is no reason why the DDA should only cover hot water load and yet due to current

	drafting including the definitions we note below, the DDA could incorrectly be read as relating to hot water control only. This is leading to confusion and Authority statements that inadvertently lend support to that view are unhelpful. We suggest new definitions in the next row.
New definition of *"Load"* needed and associated definitions need to be amended	Related to our point above, clause 5 needs to urgently clarify that <u>all</u> types of load/devices are covered, not just hot water load. Associated definitions of Load Control Equipment, Load Control System and Load Signalling Equipment also need updating as they appear largely to contemplate ripple hot water control. EV load is likely to be controlled via other mechanisms such as via EV chargers or via the vehicle API, both over the internet, and so these definitions need updating to ensure all demand management technologies are provided for in the DDA. This requires deeper consideration and industry input and is an example of why ad hoc and piece-meal amendments should not be made. The clauses and definitions relating to load management are all inter-related and should be considered as a whole.
"The intent of clause 5 of the DDA is to ensure the party that gains the right to control load can do so uninhibited <u>(subject to the priority order in Schedule 8)</u> and to allow for competition and innovation in the market.	As currently drafted, the priority rights in Schedule 8 are incorrect as they are inconsistent with clause 5.6. Therefore Schedule 8 should be updated to resolve the inconsistency with clause 5.6 which clearly extends to <u>System Emergency Events</u> (SEE) and not just Grid Emergencies. Clause 5.6 explicitly recognises the priority of emergency response activities during SEE, the definition of which covers both grid emergencies **and** emergency events on the Network. Both the definition of SEE and the requirement to ensure the LMP is consistent with the Distributor's System Emergency Event management policy (Schedule 4) lend support to this view. Yet, Schedule 8 refers only to Grid Emergencies, rather than SEEs, and does not

	cross-reference clause 5.6. Again, this error is proving unhelpful. Clause 5.6 provides that a Trader who obtains the right to control customer's load under clause 5.2, must agree an LMP with the Distributor that (paraphrasing): a) is consistent with the Distributor's system emergency event management policy (schedule 4) b) ensures Trader's activities are coordinated with Distributor's emergency response activities, which take priority over all other purposes, during a SEE c) assists the Distributor to comply with requests and instructions from the System Operator to manage grid issues d) assists the Distributor to manage network system security during a SEE - and generally, operate its controllable load in accordance with Good Electricity Industry Practice. The reference in S8.1 only to Grid Emergencies must surely be an oversight, is certainly inconsistent with clause 5.6 and Schedule 4, and cannot have been the Authority's intention. An obvious fix would be to amend this now via this CRP mechanism which is designed to resolve such inconsistencies. The simplest solution would be to replace reference to Grid Emergencies in S8.1 with SEE, which is used in the rest of the DDA. The better alternative would be to add another priority right between Grid Emergencies and market participation, or alongside Grid Emergencies, that expressly recognises the priority of Network Emergencies. Network Emergencies need its own separate definition in the DDA and in the Code in our view because (a) of the many different types of events that occur on the local network which can be vastly different

	from grid emergencies and (b) the Code is light on provisions relating to Network Emergencies and the rights of distributors during these incidents/events. There are multiple provisions in Parts 8 and 13 of the Code dealing with Grid security and Grid Emergencies, and these types of provisions must ultimately be replicated for the Network in the decentralised energy future we are heading towards.
"*…there is a risk consumers will opt out of the distributor's controlled load price option to take up the higher benefit from a trader/retailer's service. This means the load could be lost to the distributor during a grid emergency and could put the power system at risk if a material number of consumers opt out.*"	As noted above, consumers do not opt in (or out) of a distributor's-controlled tariff under clause 5.1(a). What drives the Distributors' ability to control is the tariff that is charged to the trader for the ICP. Clause 5.6 requires any Trader that acquires the right to control load under clause 5.2 to enter into an LMP with the Distributor, to ensure the coordination of their activities with the Distributor during SEEs. The Distributor's emergency management activities must take priority in these circumstances to protect the network and customers in ensuring the lights stay on. Where we are coordinating or 'orchestrating' retailers' load or activities, we are doing so during SEEs under clause 5.6 and an agreed-upon LMP. The only time a Distributor loses the right or ability to orchestrate retailer load during SEEs (grid or network related) is where the trader does not agree an LMP with us. This is what would put the power system at risk (both at the Network and potentially grid level). This could occur either because (a) the Trader does not give notice under 5.6(a) of the DDA that is has obtained load management rights to any specific devices and/or (b) the Trader does not conclude an LMP with the distributor but nevertheless manages DER on our network in an uncoordinated manner. With no rules or protocol in place, it is likely only a matter of time before something on the network breaks and customers experience

	inconvenience or physical damage to their assets – or worse, there is a risk to public safety. Distributors already face this risk with non-retailer aggregators who are not bound to agree any LMP or indeed any arrangement with Distributors. They are not even bound under the Code to inform distributors of their activities on our networks unless covered as distributed generation under Part 6 of the Code. The Authority needs to move with haste to close this glaring gap.
New definition of *"Network Emergency"* is needed and associated changes to the DDA. As we have previously pointed out, *"with more DER operating, distribution networks will increasingly need to be operated similarly to the transmission network"*[2]. Absent Code settings to protect the Network during emergencies, the load management protocol set out in clause 5.6 must be recognised as the only mechanism providing some protection and certainty to EDBs and the networks they manage. The Authority must pay heed to this requirement and move to quickly require non-retailer aggregators to similarly conclude load management protocols with their host networks.	As noted above, emergencies on the grid can be very different to emergencies on the Network. For instance, a car-versus-pole is something unique to distribution Networks. Equally the range of events that could arise under the definition of SEE (a) to (d) are wide-ranging. The definition of SEE explicitly extends to include *"an Unplanned Service Interruption affecting part, or all of the Network is imminent or has occurred".* This could cover impending issues such as the preparation for the onset of a storm or managing an area where the network is at risk of becoming overloaded due to a temporary network reconfiguration. Any time a retailer managing load fails to ensure that its managed load stays within the physical limits of the network, an emergency situation would be imminent. The lack of recognition of a separate category for Network Emergencies, creates unnecessary confusion about what the retailer is obligated to do when the distributor requests help under clause 5.6 (and its LMP) to manage network emergencies. Whilst the position re grid emergencies is clear and understood, network emergencies is a new conundrum that has arisen as a result of the increasing number of DER

[2] https://blob-static.vector.co.nz/blob/vector/media/vector-2023/vector-submission-issues-paper-updating-the-regulatory-settings-for-distribution-networks_1.pdf (page 8)

	devices and DER aggregators. The Authority has the opportunity now to get ahead of this risk before it becomes an unmanageable problem. A separate definition for Network Emergencies is needed at clause 33.2 to recognise the criticality of network security. We suggest the following definition based on the definition of System Emergency Event (which could then be amended to state a SEE is a "Grid Emergency"): *"'**Network Emergency Event**' excludes a Grid Emergency and means a situation where, in the opinion of the Distributor, one or more of the following events has occurred, or is expected to occur, in respect of the Network and urgent action is required to assist in avoiding or alleviating the situation:* *a) public safety is at risk;* *b) there is a risk of significant damage to any assets that form part of, or are connected to, the Network;* *c) the Distributor is unable to maintain voltage levels on any part of the Network within statutory requirements;* *d) a Trader or another participant on any part of the Network has been unable to maintain operation of one or more controllable resources within the Operating Limits provided by the Distributor; and/or* *e) an unplanned interruption to electricity supply to one or more ICPs on the Network is imminent or has occurred."* "Operating Limits" would also require definition and should include components like ramp rates and operating envelopes.

Question 5 – Do you have any comments on the drafting of the proposed amendment?

13. As noted in the table above, we consider there are a number of additional critical amendments that need to be made to clause 5 and other provisions of the DDA and have highlighted these in blue.

14. Otherwise, we maintain that piecemeal changes should not be made now to the load control provisions of the DDA under this CRP. Instead, a substantive review of the DDA should be

considered and consulted on soon. However, should the Authority consider it appropriate to make the changes noted in the CRP60002, then we comment on these as below:

Code Amendment	Vector comment
Clause 5.2 and clause 5.3(a):	We repeat our comments above in relation to the 'customer' election or agreement wording and how this is not practicable or achievable in an interposed arrangement. This wording should be addressed in a fulsome consultation on the load management provisions of the DDA. As currently drafted, dual control will be difficult to achieve under a clause 5.1(a) distributor price category or price option as that cannot be agreed to directly with a customer.
Clause 5.3: (b) if any part of that load (including all of that load) is already subject to the Incumbent's right to control, must control that part of the load in accordance with the protocol agreed under clause 5.6	We disagree with this wording. It would be better to make clear that regardless of who the Entrant is, and who the Incumbent is, both parties must comply with the LMP and clause 5.6. It is entirely possible that the Distributor will in fact not be the incumbent for EV load and other DERs but could become the entrant. The retailers will generally be the incumbent for this type of load and are already actively rolling out EV management offerings to customers. How does the Authority see incumbency changing if the customer switches retailers? Does their DER load also switch to the new retailer or does the DER load remain with the existing (potentially incumbent) retailer? What happens if the gaining retailer has not agreed an LMP with the host distributor? The retailer's price offering may be based on a fixed term e.g., 2-year fixed EV tariff. That load must now stay with the retailer even if the rest of the household load is switched to a new retailer. We are already seeing multiple parties active in managing multiple devices at a single house – for example one retailer (the Trader at the ICP) managing hot water and a separate entity managing the EV load – or vice versa. If the household offers a device to another retailer to manage, with that retailer acting as an aggregator rather than the retailer at the ICP, how will all of this be conveyed to the Distributor so that in an emergency (network or grid), this can all be coordinated to keep the power system stable? Is that retailer-

	aggregator bound by clause 5? If the Distributor is providing a dynamic operating envelope to the house's connection, how will the multiple retailers at that house divide up that envelope between themselves? There are clearly multiple layers to unpack with enabling multi-party control alone. Assuming dual control is achieved under a reworded clause 5.3, the priority of rights as between a distributor and retailer, when that load management activity is not responding to the emergencies contemplated by clause 5.6 and the agreed upon LMP, must also be considered. We would presume that prioritisation would be set out in a separate joint control style agreement and may be what the Authority has labelled 'market participation' in S8.1(b). However, clause 5.3 ought to make clear that any 'market participation' prioritisation is subject always to clause 5.6 and ought to be separately agreed between the parties. The DDA clearly does not do this and unless this is otherwise agreed between parties, could result in a negative customer experience with overzealous control, and/or onerous restrictions. The Authority needs to also consider how and/or if a third party could also manage load at an ICP, whether that third party could be another retailer or a non-retailer aggregator and how this would be achieved. What changes are needed in the Registry and elsewhere to reflect and accommodate this? What implications does this have on the coordination of flex activities under clause 5.6 and whose role is it to manage the customer experience if two or more aggregators are managing customer's DER? What are the consequences of non-compliance with the LMP by one party and how can the distributor work out which party has not complied with the LMP? What data must be made available and how will liability be worked out as between parties? These are just some of the complex and interconnected issues that need to be carefully considered as a whole rather than be made piece-meal.
Clauses 5.4 and 5.5	The changes seem straight forward enough but see our comments above in relation to the definition of Load Control Equipment, Load Control System and Load

	Signalling Equipment. These definitions need to be considered in light of the new technologies, devices and changing flexibility landscape that the DDA clearly did not contemplate at the time it was drafted. If the DDA is to remain relevant and be future proofed then clauses 5.4, 5.5, 5.7 and 5.8 and clause S8.3 of Schedule 8 also need to be carefully considered. Who bears the obligations to maintain, protect and repair such systems, as well as where does the burden of costs lies if such system is damaged. These are all issues to be carefully considered and consulted on.
Clauses 5.6(v) and (vi)	We agree with the wording proposed at clause 5.6(v), provided that Schedule 8 is amended to include Network Emergencies. This would help remove the inconsistency between the priority order in schedule 8 and clause 5.6 which contemplates SEEs, and not just grid emergencies. Given the inconsistency, we suggest schedule 8 be amended to also recognise network emergencies (or SEEs) as having higher priority than market participation. As to clause 5.6(vi) the Authority ought to consider how realistic it is to expect equivalent terms across multiple retailers and distributors to be developed and agreed. The Authority could assist by elevating the priority of network security and by defining network emergencies, as suggested above. It should also move with haste to bring non-retailer aggregators into the Code and require them to enter into agreements and protocols with their host networks. That would be a good first step to levelling the playing field.

We have summarised our recommended package of alterations to the Authority's proposed amendments in a table below. We have grouped these recommended alterations into three different options:

- Option 1: just the most essential changes to facilitate negotiation of LMPs, clarifying current inaccuracies in the DDA drafting where the drafting is not consistent with the policy intent, or other parts of the DDA. We do not believe any further consultation would be required to make these changes.

- Option 2: Similar to option 1, with no change to policy but making NEEs a defined term (and consequential changes). Again, we do not believe this would require further consultation.

- Option 3: Changes that could be seen by some as more than minor, but again are consistent with the existing policy intent. For example, the reference to 'imminent' network emergencies already exists in (d) in the definition of a SEE, and the reference to a GE in S8.1 (a) appears to have been made in error (it should be a SEE). The Authority may believe these changes would require a further round of consultation.

These changes would significantly expedite current negotiations of LMPs, however, as noted above, making these changes now should not preclude a more comprehensive review of clause 5.

Clause requiring amendment required	Option 1: Minimum viable changes (no further consultation required)	Option 2: More constructive changes (no further consultation required)	Option 3: Best practice changes (further consultation likely needed)
Clause 5 preamble highlighting application of clause 5 to all load	1.a. No explicit clarifying preamble, but Decision Paper explicitly clarifies that clause 5 covers all retailer management of all devices	2.a. Include clarifying preamble at start of clause 5 that clause 5 covers all retailer management of all devices or include a definition for Load clarifying this.	3.a. Include clarifying preamble that clause 5 covers all retailer management of all devices or include a definition for Load clarifying this.
33.2 – definition of NEE	1.b. No definition of NEE added – remains implicit in the latter part of the definition of SEE	2.b. Create new definition of NEE based simply on the wording in existing SEE (i.e. all words after the current 'and')	3.b. Create new definition of NEE that also clarifies NEE includes *avoiding* imminent emergencies
33.2 – definition of SEE	1.c. Replace 'and' with 'or'	2.c. Amend SEE definition to be GE or NEE	3.c. Amend SEE definition to be GE or NEE
S8.1 – hierarchy	1.d. Replace grid emergency at (a) with SEE	2.d. Add NEE at same level, or just below level of GE, but above Market participation	3.d. Add NEE at same level, or just below level of GE, but above Market participation. 3.e. Also clarify that actions taken to *avoid* grid emergencies or NEEs also take precedence

5.3 (a)	1.e. No change	2.e. No change	3.f. Remove requirement for distributor to have customer consent if it is the entrant

We would be happy to discuss these matters further with the Authority.

Yours sincerely
For and on behalf of Vector Limited,

James Tipping
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