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CC:
Distribution Feedback, Electricity Authority
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Kia ora Gary,

Feedback on draft flexibility guidance

Thank you very much for the opportunity to provide feedback on the draft *Guidance on distributor involvement in the flexibility services market* (draft guidance)[1]. We would welcome the opportunity to discuss this with you and the team at the Electricity Authority (Authority), and believe the industry would benefit from further dialogue before the draft guidance is finalised.

Due to the limited time available, we have restricted our feedback to high-level points, rather than focusing on the specific principles or drafting. Some of our feedback has been expressed as open-ended questions we think the Authority needs to answer before the guidance is finalised. We would appreciate further time to provide feedback on the drafting, if it were available – potentially following any refinements the Authority makes.

1. Significant intervention requires a more engaged development and review process

While we appreciate that this is draft guidance, and support the Authority's use of workshops, the guidance is a significant intervention in industry practices and processes, in a critical and complex area of the future. A large amount of experimentation and learning is required before some of these aspects can be finalised.

Even though the principles are framed as "guidance", thus are non-compulsory, the Authority's expectation is that EDBs will align their processes with them, and if that fails, Code amendments may be considered. This means they provide the first step towards future compulsory obligations on the sector.

[1] Available online at https://www.ea.govt.nz/projects/all/distributor-involvement-in-flexibility-services-market/

We were surprised to see the draft guidance published without any engagement with industry beforehand. As above, while we generally support the use of industry workshops as a form of engagement, the single workshop (online only) the Authority held was also insufficient to enable a meeting of the minds across the industry to occur. We contrast this with the extensive process the Authority ran in 2020-21 to develop the consumer care guidelines – a number of fortnightly open co-development sessions as the guidelines were developed, a formal written consultation on the draft guidelines and then a further round of technical consultations on the redrafted guidelines.

2. The problem definition justifying the imposition of process and cost seems unclear

The Authority accepts that this guidance will impose costs on EDBs in terms of increased processes and transactions, which will ultimately flow through to consumers via increased opex costs. We and other EDBs are, at this point, unable to see how these costs are justified. It appears this is driven by a belief that increased competition in the market for flexibility services will, over time, lower costs for consumers across the whole value chain.

However, we believe the Authority needs to develop a sharper problem definition, backed by evidence, to support this intervention. The link between this guidance, increased expenditure on processes by EDBs, and overall benefits to consumers, must be more explicit. To support this, there are a number of questions the sector would benefit from understanding the Authority's views on:

- How will this practically benefit consumers?
- What does the end state look like?
- What kinds of arrangements does the Authority imagine will be in place?
- What does a day in the life of an EDB look like in this future state?

As noted above, there is no data and no analysis to support this intervention. Why does this guidance need to be introduced now? The Commerce Commission (Commission) previously ruled out ring-fencing EDBs from load management, noting (with our emphasis added), "*The legislation requires us to ensure that our cost allocation rules* ***do not unduly deter investment by EDBs in unregulated markets****. We note that matters of industry structure raised by some stakeholders and the Electricity Authority may be more appropriately handled by policy makers than through adjustments to the IMs.*[2] Has anything changed that would require this position to be revisited?

3. Parallel expectations on load-managing parties are missing

This draft guidance is one-sided in nature. However, we have raised many times with the Authority that there is a gap in the regulatory framework requiring that the parties managing load on EDBs'

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[2] See https://comcom.govt.nz/__data/assets/pdf_file/0014/60530/Input-methodologies-review-decisions-Summary-paper-20-December-2016.pdf

networks, regardless of whether they are offering services to EDBs, follow 'good electricity industry practice'. At a minimum, expectations on these parties need to include that they enter into and comply with a load management protocol with their host EDB(s) (noted in point 12 below), and that they operate these distributed resources in ways aligned with the long-term benefit of consumers (noted in point 7 below). Both these things are absent from the Code, currently.

We are concerned that the Authority is effectively allowing parties to manage devices on EDBs' networks without appropriately ensuring that those parties do so responsibly and are aware of their liabilities should they take actions that impose costs (e.g. damage) on others. This appears to be a significant oversight, albeit one the Authority is well aware of.

This draft guidance is focussed largely on procurement of services by EDBs via contract (or, as Electricity Networks Aotearoa (ENA) is moving to define them, "contract-enabled" services). These contracts will come with specific enforceable operational requirements. However, there are currently no such requirements for "price-enabled" resources respondiing to TOU distribution and/or wholesale prices (including resources operating outside of the services they're contracted for). The draft guidance notes that distribution pricing is another key way to activate flexibility.

The Authority should introduce guidance for flexibility traders at the same time as it introduces guidance for EDBs, so the parties entering into contract negotiations with EDBs can do so with a common understanding of expected behaviours on both sides.

4. Guidance needs to recognise the industry is in a period of transition

We have previously informed the Authority of our experience in and learnings from running a tender for a non-wired alternative (NWA) in the Warkworth area[3]. One of our learnings from that experience was that the market is still very nascent. The Authority needs to be mindful of this as it develops this guidance.

The Authority needs to consider the journey towards the end state it articulates, and the transition periods on the journey while that competition is not there. For example, if the EDB's need to defer a traditional investment is 1 MW, how can that deferral work if there is only 100 kW of flexibility behind that constraint today, and once the traditional solution is built the opportunity to offer a network value to that flexibility is likely lost for the next decade or longer.

The Authority could also consider guidance for EDBs that clarifies how the decision-making process for EDBs works in practice. Does the EDB pursue the least-cost solution in all cases – a static efficiency perspective – or should it spend slightly more on a flexibility alternative to help support market development and promote dynamic efficiency? Does the EDB prioritise procuring a flexibility solution even if it means they need also to procure a backup solution, or pay more to expedite a

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[3] See from page 31 of https://blob-static.vector.co.nz/blob/vector/media/vector-2023/vector-submission-issues-paper-updating-the-regulatory-settings-for-distribution-networks_1.pdf

traditional solution in the event there is non-performance by the flexibility trader? If EDBs are required by the guidance to effectively develop the flexibility market, is this considered an electricity distribution service under the Commission's regime? Will the Commission allow EDBs to recover the increased costs of aligning with each of the principles? If not, how do EDBs recover those costs?

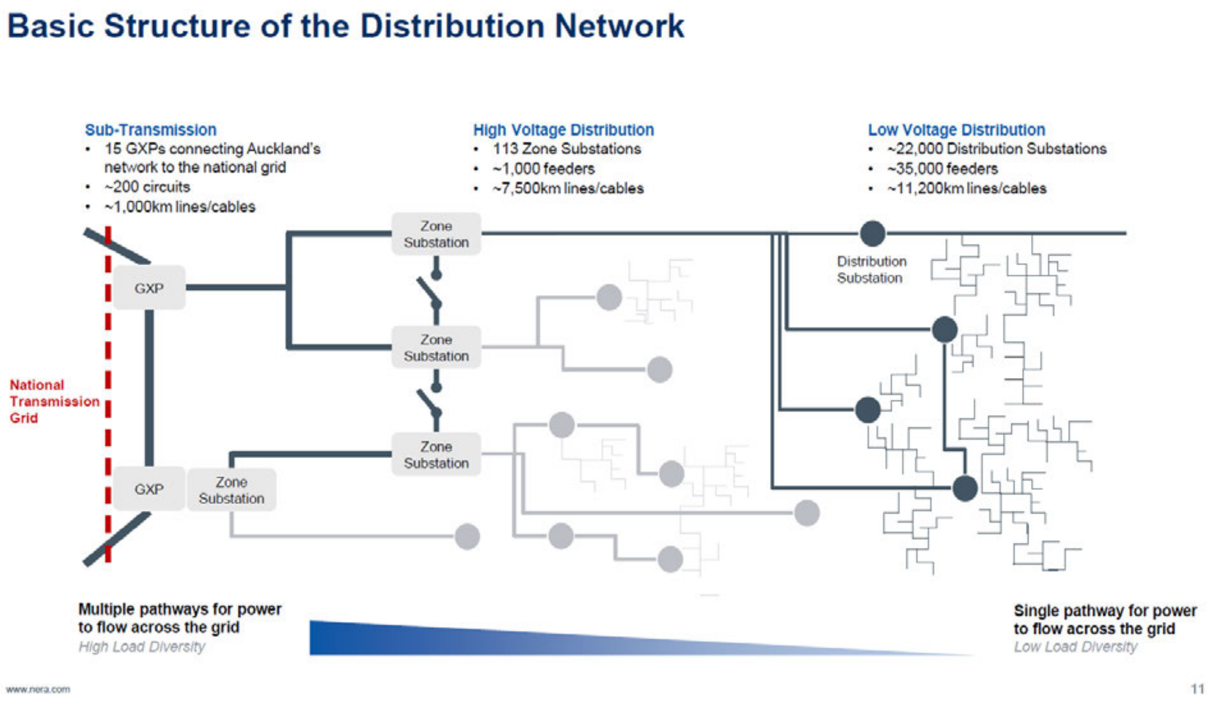
For our part, Vector has an impending load growth challenge to manage. We expect to build three new GXPs and capacity to enable approximately 500MW of growth due to data centres in the next 10 years. Demand flexibility is not widespread enough to solve these issues in the near term. As we have previously submitted to the Authority[4], consideration of NWAs is built into our planning process, but only a proportion of our system growth expenditure is suitable for a NWA. As noted above, following the principles in the draft guidance is likely to add time and cost to the process of scoping / planning / procuring network solutions and we won't always have time to 'fully' explore these options (there is a strong linkage to customer connection costs, timing expectations, and SLA expectations). What is the burden of proof on us for those situations? What do we prioritise?

5. "Market" liquidity is very limited at the local level

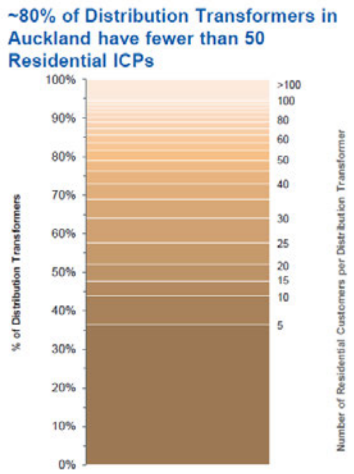
It has become clear to us over the past couple of years that there are a few misconceptions about how local flexibility "markets" will work in the future. We have been clear with the retailers cooperating with us to develop a load management protocol that location of resources really matters.

Two pictures from our recent collaboration with NERA help to demonstrate these concepts. Firstly, the diagram below highlights that the size and scope of the "market" from which supply of a NWA can be drawn, depends inherently on where in the distribution network the resource is located. For example, a resource behind one of Vector's 22,000 LV transformers cannot provide a NWA to the upgrade of a different LV transformer, but the two resources *could* be served by the same zone substation and both could support a NWA for that asset. Therefore the "market" for each potential NWA comprises only those resources that are served by the asset being considered for upgrade.

[4] See from page 33 of https://blob-static.vector.co.nz/blob/vector/media/vector-2023/vector-submission-issues-paper-updating-the-regulatory-settings-for-distribution-networks_1.pdf



Secondly, for many network assets, the pool of resources that could be orchestrated to provide a NWA is very shallow. About a third of Vector's LV transformers serve five or fewer residential ICPs, something we understand is consistent with other EDBs in New Zealand. This means the depth and liquidity of the "market" from which a NWA could be drawn is very limited. If the objective is to defer an upgrade at that level of the network, understanding whether and how each resource may respond to incentives at that point is critical. If those limited resources are managed across a number of different aggregators and retailers, the lack of clarity and expectation on what 'good electricity industry practice' looks like creates additional uncertainty.



Finally, another point NERA noted is that EDBs require certainty of consistent behaviour not just at specific locations, but also over sufficient durations in order to defer investments and confidently account for the performance of flexibility in network operation and designs. Both may be more challenging than is popularly realised.

6. It is positive to see precedence of emergency orchestration recognised

We were pleased to see recognition in the draft guidance of system emergency situations taking precedence, and requiring a solution outside of BAU. The draft guidance notes that "*The Authority does not, however, expect distributors to apply this principle where they are supplying below incremental cost flexibility services … in an emergency where that supply is necessary to maintain electricity distribution to end-customers*". As a case in point, in the recent grid emergency due to the pylon collapse in the upper North Island, we were able to use our network batteries to reduce peak load and mitigate the risk of outages on the Wellsford GXP. Other EDBs successfully used their own load control to manage the situation, and in future will need the ability to do so via third-party flex providers.

As we have discussed in submissions in relation to the Load Management Protocol, we would extend the guidance further to emphasise that EDBs will need the ability to manage Network Emergency Events on their networks, and that these must trump any other arrangements in place ("emergency mode", in ENA parlance) – in a similar vein to how grid emergency arrangements give Transpower the power to orchestrate response to emergencies when other mechanisms have failed, to avoid more widespread issues.

7. Increase of commercial flexibility services highlights gap in trading conduct rules

We are now seeing a number of retailers on our network develop capability and products for managing consumers' hot-water and electric vehicle-charging loads. All these are positive developments in the demand-response market, building depth in the market, creating choice for consumers and helping minimise whole-system costs.

However, we have an emerging concern with these new demand-response arrangements – how do we ensure these flexibility resources are used in ways that provide long-term benefits to consumers?

We are surprised that no questions have been asked about the wisdom (and risks to market outcomes) of having the same parties controlling both demand and supply in the price-formation process. More demand-response by non-generators must be a positive for competition in the wholesale market, as they're substitutable with generation. But how do we know the gentailers (or any other retailer who is well-hedged) will actually drop their customers' hot-water and EV-charging loads in periods of high spot prices, if they themselves are net long in the market and would actually benefit from the high prices? We have similar concerns relating to the on-call demand response of grid-connected resources. What assurance do we have that Meridian will call for Tiwai to reduce demand at the optimal time for the system, especially if Meridian's own reservoirs are relatively well-stocked?

These questions highlight to us that there are currently no provisions in the Code to ensure unoffered demand-response resources are used in ways that are ultimately in the long-term interests of consumers. Their use is neither transparent nor monitored, especially for those resources not separately metered. The Code provisions in Part 13.5A, requiring all market offers to be made consistent with no participant being able to exercise significant market power (i.e. offers must not be made in a way that has a net adverse impact on economic efficiency), appear only to cover use of resources officially offered to the market. There are no parallel provisions for unoffered resources, or activation of demand-response contracts.

There is no reason why the use of demand response (or virtual power plants) by market participants should not also be governed, revealed, monitored and reported in the same way as offered resources. The terms of any party's demand response agreements (and wider use of aggregated DER) could be considered analogous to a form of generation that is activated to reduce net demand on the system. Any *generation* of this scale, if activated, would be required under Part 13 to be offered, and would therefore be subject to the offering rules in Part 13.5A. We also assume that, at these scales, requirements for information disclosure should also apply.

We are happy to work with the Authority team to develop a Code amendment proposal to address these issues.

8. Contracts for flexibility services will need to mirror EDBs' compliance requirements

EDBs have to meet strict power quality and reliability targets, governed by the Commission. Penalties for non-compliance are significant.

In order for EDBs to have confidence that providers of NWAs can assist EDBs in meeting those targets, and indeed do not cause us to breach those targets, contracts for service must mirror those obligations and penalties for non-performance through to their counterparties. However, this raises concerns that, in doing so, EDBs would be seen to be stifling innovation and market participation. The guidance should highlight that contract terms should reflect the risks to the EDB of non-performance. In the extreme case of a NWA provider under-performing, the EDB may be forced to expedite investment in a traditional solution, at much more cost to consumers than if the traditional solution had been pursued in a more typical timeframe.

These contract terms (and performance requirements) are implicit in EDBs self-providing flex services – EDBs know their services must be reliable.

9. Linkage with established related party transaction rules unclear

The Commission has long-standing, existing regulations and disclosures for related party transactions (RPTs). These can be a significant impost on business processes, and impose costs which must be recovered from consumers.

Our disclosures on RPTs are audited. The auditor's work includes, where available, comparing the value of each transaction to at least one of the following:

- the standard price list or standard rates obtained directly from the related party; or
- the actual cost of providing the goods and service and observed margins applied for similar goods and services; or
- the observed market price for similar goods or services.

The guidance should note explicitly that self-supply of flexibility services by an EDB is not being banned. Can the Authority confirm an EDB will be allowed to self-supply flexibility services provided it follows the rules of the existing RPT regime, and/or there were no suitable respondents to a tender?

Further, how will we ensure there won't be two different compliance processes? Will we need to have those auditors doing more than they do currently? Is the Authority imposing a higher bar than the existing regime? We will not want to have to go back over past decisions to satisfy a second regulator.

The interrelationship between the Authority's guidance and the existing regime for RPTs must be made expressly clear, and confirmed in writing by the Commission.

10. Linkage to DDA-governed access rights and operational coordination unclear

Similarly, access rights to flexibility resources are already managed through the DDA as a distribution service, in clauses 5.1-5.3. Clause 5.1 sets out how an EDB may acquire the rights to manage a consumer's flexibility resources directly, which then gives them the ability to self-supply a flexibility resource. Clause 5.2 sets out how a retailer may acquire the rights to manage a consumer's flexibility resource, which they could then bundle with other resources to provide a service to EDBs themselves, and/or to value stack for other forms of revenue.

It is not clear how these principles are consistent with, and allow for, an EDB to acquire access rights under 5.1 and then self-supply itself a flexibility service. Must EDBs follow a process and clear a hurdle before they can sign consumers up (via the retailer) to a flexibility service under 5.1? That certainly is not provided for in, and is inconsistent with, the current DDA. If it is the expectation or the Authority's direction of travel, then such a change ought to be consulted on as it conflicts with existing DDA and Code obligations.

Relatedly, 5.6 of the DDA requires that a flex-trading retailer enters a load management protocol with its host EDB, including confirming how their actions will be coordinated with those of the EDB in system emergencies. As mentioned in 12 below, this is an avenue Vector is pursuing. Is there anything about that process that needs to be reconsidered in light of the draft guidance?

11. Trials need to be allowed for and carved out

The guidance should provide the ability for an EDB to suspend certain steps for the purposes of a time-limited trial, whether that trial includes self-supply of flexibility service, or a targeted (closed) procurement from one or two providers. Can time-limited trials be covered under the definition of 'de minimus' used under Principle 1?

12. Robust load-management protocols a fundamental part of distributed flexibility management

As noted above, parties operating DER on EDBs' networks must be compelled to enter load management protocols with their hosts, regardless of whether they are actually providing their hosts any flexibility services. This applies to both retailers and non-retailers.

We have submitted several times to the Authority that EDBs need to be empowered to direct the response to emergency situations by the DER Managers on their networks – from widespread grid emergencies to local, LV issues (e.g. car versus pole) and imminent interruptions that can be avoided. Ensuring the lights remain on, taking steps to avoid cascade or widespread failure and restoring services if they do are, at the very heart of the distribution services an EDB provides to customers (and retailers). These powers are akin to the System Operator's ability under the Code to manage grid emergencies.

In order to maintain quality and reliability while building more efficient networks, EDBs need the power to *avoid* emergencies (referencing DDA cl 5.6 and expressed as "imminent" interruptions in the definition of System Emergency Event) by ensuring distribution-level constraints (physical and power quality) are understood and adhered to by parties managing DER on distribution networks (DER Managers). This needs:

- A mandatory, 24/7 operating envelope at each ICP, that must be adhered to by DER Managers
- DER Managers to ensure offers into wholesale markets, and any other actions, stay within their operating envelopes

As we have previously submitted, enabling Code is the first-best solution for these things, and should be expedited. In its absence, we are attempting to formalise the points above in a 'load management protocol' with retailer DER Managers, as per DDA cl 5.6. Our engagement with leading retailers to date has been constructive and positive.

However, no such mechanism exists to enable safe operation by non-retailer DER Managers (not currently industry participants to whom the Code applies) on our networks (and there is no indication that this is expected 'good electricity industry practice').

Ensuring such protocols are in place will enhance the market, provide a level playing-field between all participants, build trust between participants, EDBs and consumers, and help develop industry capability. It will also enhance network security and reliability that could otherwise be caused by non-retailer DER Managers operating on our networks at will or entirely at their own discretion. They are foundational and a key enabler. Pursuing negotiated solutions first, as we are, is appropriate for a nascent market.

13. Unclear how guidance relates to EDBs using their ripple systems and network-connected batteries

Many EDBs have raised concerns around how the principles would apply to retailers using their existing ripple systems.

Under principle 1, it would appear that any EDB currently operating a ripple system to manage hot-water load on its network, and/or is transitioning to MEP-controlled hot-water management, would need to clearly specify, publish and price the service it is providing to itself. And the EDB (regulated business) would need to put that need/service out to tender before continuing to utilise its own ripple system.

The EDB would then effectively need to operate the ripple system (and/or its operations with the MEPs) in a part of the business at arm's length to the regulated network business (meeting principles 2, 3, 5, 6). How is that to be reconciled with the existing obligations under clause 5 of the DDA that contemplate such operation as part of the provision of distribution services provided under the DDA? These services were clearly provided by some EDBs on 9 August 2021, and again more recently in the upper North Island when the pylon fell over. The voluntary guidance is proposing a step-change to current mandatory processes that are not set out the DDA/Code. This conflict in requirements must first be reconciled.

EDB owners and operators of network-connected batteries (such as Vector) or backup generation are likely to also have the same uncertainty. The same goes for microgrid operation or remote-area power supplies. Are all of these to be operated at arm's length, under a different brand? Are they not part of the distribution services provided by an EDB under the DDA?

Thank you for considering this feedback. As noted above, we would appreciate further opportunities to engage with you and the team on the development of this guidance.

We look forward to hearing from you.

Ngā mihi

[redacted]

James Tipping
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