

Electricity Authority
Level 7, AON Centre
1 Willis Street
Wellington 6011
New Zealand

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Manawa Energy submission: Updating regulatory settings for distribution networks

1. Introduction

Manawa Energy (**Manawa**) thanks the Electricity Authority (**Authority**) for the opportunity to submit on its December 2022 *Updating the Regulatory Settings for Distribution Networks* Issues paper (**Issues Paper**).

The Authority's vision for distribution networks is:¹

"to support innovation, promote competition and consumer choice in contestable markets such as flexibility services, and maintain reliability and security of supply".

To support that vision, the Issues Paper seeks feedback on the prioritisation of concerns about distributors' access to data, market settings, capability and capacity, operating agreements and standards.

The Issues Paper also presents some tentative reform options for the most pressing issues. A guiding principle in the development of these options has been a "least regret" intervention philosophy under which the Authority:²

"seeks to encourage the provision and implementation of flexibility services without precluding distributors from these activities at this stage, in case that stifles the development of the market"

Context for Manawa's views

Manawa operates a portfolio of 44 power stations across 25 hydro-electric power schemes, supplying around 5% of New Zealand's electricity needs. Manawa also supplies around 600 Commercial and Industrial customers with electricity.

Approximately 60% of this electricity is connected to ten different distribution networks across New Zealand, which makes this portfolio the largest owner of distributed generation (DG) in New Zealand with a strong interest in the effective regulation of distribution networks.

Our plant has significant within day generation flexibility, with some of our larger schemes (such as Waipori) including sufficient storage to also provide for inter-seasonal generation flexibility.

¹ Issues Paper page 4

² Issues Paper page 2

As we noted in our recent submission on the Authority's recent ACOT Code consultation our plant already provides non network solutions (**NNS**) to support network reliability.

Other work Manawa is engaged in which is relevant to this consultation

Manawa is a member of FlexForum and has played an active part in the development of its initial Flexibility Plan which sets out the initial, practical, scalable and least-regrets steps that will unlock the value of distributed energy resources (**DER**) and flexibility for households, businesses, communities and the power system³.

Manawa also took a lead role in convening a workshop between a group of DG investors and distributors in December last year for a free and frank discussion on the need to amend certain parts of Part 6 of the Electricity Industry Participation Code (**the Code**).

This reflects our commitment to creating a level playing field for emerging technologies on both supply and demand side and working collaboratively with stakeholders to seek the best outcomes for Aotearoa.

2. Summary of our views

Manawa supports unlocking consumer benefits by an enhanced digital culture.

Consumer interests will also be advanced if the Authority, in conjunction with the Commerce Commission⁴, addresses the market settings for NNS as a matter of priority. These settings are not working, and have not worked for some time. This is particularly important given the forecast distribution infrastructure spend. As part of addressing these settings the Authority should develop arrangements to reduce the burden associated with the negotiation of contracts for the supply of flexibility services.

Manawa considers that distributors should not be precluded from engaging in the provision of NNS but that they should be required to provide these contestable services on an arms -length basis to ensure a level playing field with other providers. This, to us, is the "least regret" approach which best aligns with the Authority's statutory objective.

Manawa is mindful of the burden of the energy transition on distributors and believes there are steps which can be taken to reduce the impact on their resources. We support a review of the connection processes in Part 6 and the Authority facilitating increased collaboration and joint activities amongst distributors in relation to the supply of NNS.

Manawa agrees that there are barriers to distributors and flexibility traders accessing the information they need which need to be addressed by a regulatory intervention. There are sound reasons for ICP data to be obtained directly from metering equipment providers (**MEPs**) rather than via retailer intermediaries.

The remainder of this submission provides our detailed response to the questions asked in the Issues Paper.

³ <https://www.araake.co.nz/assets/Uploads/FlexForum-Flexibility-Plan-1.0-31-August-2022.pdf>

⁴ We note there is overlap in this area between the jurisdiction of both the Authority and Commerce Commission and support the two regulators working closely together as they both evolve their regulatory arrangements to support Aotearoa' low emissions future.

3. Equal access to data and information

Manawa agrees with the Authority that open and transparent real time data will be needed to unlock the full potential of DER in New Zealand as both a source of energy and as a network investment deferral service. However, this will take time to achieve.

In the interim, a staged approach is required with improved visibility of congestion/headroom on the low-voltage network and improved access to smart meter data for distributors and flexibility traders the first priority.

We also continue to support further consideration of introducing a requirement for distributors be publish heat maps of congestion on their networks to encourage other players to enter the market at the right geographic location, and at the right time. Heat maps would give confidence to market entrants that entry is worthwhile by showing them the market size.

Digitalising the NZ electricity system

Manawa agrees an enhanced digital culture will be key for consumers to unlock the value of their actions and assets.

Q1	Do you see value in the Authority commissioning two separate reviews to look into the merit and practicalities of implementing the recommendations of the UK's Energy Data Taskforce around unlocking the value of customer actions and assets and setting up a "digital spine" in a New Zealand setting.	Yes, noting the Authority plans to consult on the findings and recommendations of the review as appropriate. It makes sense to assess if the UK solutions can be adapted for the NZ environment for the long term benefit of consumers.
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Data required by distributors

Manawa agrees that distributors should have sufficient information to make sound network investments, manage power quality, and design appropriate network pricing arrangements. Retailers will not necessarily collect the information that each distributor needs under their contracts with MEPs.

Q2	Does this capture the key data needs for distributors to make informed business decisions that will unlock the potential of DER for the long-term benefit of consumers? If not, what data is missing and what would it be used for?	We agree that historical non-aggregated (i.e. half hourly ICP level) consumption and power quality data will enable distributors to undertake more efficient network and power quality management and assist with more efficient tariff design.
Q3	Do you agree with the prioritisation of the key data needs for distributors? If not, why not and how would you suggest the priority is changed?	Yes. We agree that <ul style="list-style-type: none"> • historical non-aggregated ICP level consumption and power quality data is the first priority • enhanced visibility of the location, size and functionality of (non-exporting) DER installed on LV networks is the second priority, followed by • access to real time non-aggregated consumption and power quality data.

Data required by flexibility traders.

The provision of flexibility services is an integral part of NZ's low emissions future and one of its biggest challenges. It follows that flexibility traders should have the information they need to (a) provide the services customers need, and (b) compete on a level playing field with other service providers.

Q4	Does this capture the key data needs for flexibility traders to make informed business decisions that will unlock the potential of DER for the long-term benefit of consumers? If not, what data is missing and what would it be used for?	We agree that network congestion data on low voltage networks and a projection of likely future congestion is necessary to enable flexibility traders to offer flexibility services and understand the need for future offerings. We agree that if this was available at ICP level that would best enable services to be tailored to individual customers. However, it might be more efficient to start with a zonal system so that flexibility services can be offered to distributors at an efficient scale.
Q5	Do you agree with the prioritisation of the key data needs for flexibility traders? If not, why not and how would you suggest the priority is changed?	Yes. We agree that: <ul style="list-style-type: none"> network congestion data on low voltage networks and a projection of likely future congestion is the first priority the need for visibility of the location, size, and functionality of DER installed behind the customer's meter is a medium- term priority, and access to real time granular network congestion data can be addressed at a later date.

Issues hindering distributors obtaining data access

Issue 1: Workability of default data template

Manawa accepts there are live issues with the flow of consumption data to distributors. In the short term the issues between retailers and distributors can be addressed by amendments to the data template in schedule 12.A.1 Appendix C of the Code, but we think a different solution is required for the medium term (to remove the retailer intermediary role).

Q6	Do you agree that the Authority should amend the Data Template to address the above issues to improve its workability? If not, why not?	Yes as a short term solution.
Q7	Are there other changes to the Data Template that would improve it and assist it to be a useful mechanism for open access to data?	No suggestions at this stage.

Issue 2: Need for, and restrictions on, retailer permissions to access ICP level consumption data

Manawa considers that both commercial and privacy factors create issues for retailers in relation to their on-supply of data to distributors. Multiple trader relationships (as this evolves in the future) may

also potentially result in retailers offering very bespoke services and only collecting the data they need for those services.

For this reason and taking into account transaction costs of multiple distributor/retailer interfaces, it would be better if distributors were able to access the data they require directly from MEPs for a set of permitted purposes.

We note that enabling distributors to access data direct from MEPs will require a number of practical issues to be worked through including nature of permitted purposes, customer consent, privacy issues, contractual arrangements, and respective responsibilities for meter configuration and data cleansing. To ensure the best outcomes for consumers can be achieved via any revised arrangement, we recommend further detailed consultation on these matters is undertaken.

Q8	Do you agree that this is an issue? If not, why not?	Yes
Q9	Should the Authority amend the Code to clarify that MEPs must contract directly with distributors and flexibility traders to provide ICP data for permitted purposes? If not, why not?	Yes. It is more consistent with the efficient operation of the industry if the middleman is removed.

Issue 3: Access to power quality data

Similar issues arise in relation to distributor access to power quality data.

Q10	Should the DDA Data Template be updated to include Power Quality Data? If not, why not?	Using the DDA Data Template is a second choice. We prefer the option of amending the Code to clarify that MEPs can contract directly with and provide both consumption data and power quality data to distributors for a set of permitted purposes.
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Issues 4 and 5: Access agreements with MEPs

MEPs are monopoly providers of ICP data. This can lead to disadvantageous price and non-price terms. As a result we consider that an appropriate intervention is required.

Q11	Do you think that the transaction costs associated with negotiating the terms of access to ICP data held by MEPs is a problem that the Authority should prioritise? If no, why not? If yes, do you think there is merit in developing a default template to help reduce transaction costs?	We do not have any specific information about the size of this access issue, but consider the incentives of MEPs combined with the importance of this data justify some intervention
Q12	Do you agree that MEP pricing for ICP data (including Power Quality Data) and related data services is reasonable at this stage? If not, why not?	No specific information or views
Q13	Do you agree that MEP pricing for the provision of ICP data to distributors (and other parties) could be more transparent? If not, why not?	As a matter of principle, yes.

Q14	To support the transparency of pricing, standardisation, and equal access to data, do you think that the Authority should consider further implementing IPAG's Input Services recommendation that MEPs publish standard 'pay-as-you go' terms open to all parties? If yes, why, and what do you think this could cover? If not, why not?	Yes. Standard 'pay as you go terms' seem to be an appropriate intervention.
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Issue 6: Distributors need better visibility of (non-exporting DER)

Q15	Do you agree that distributors' visibility of the location, size and functionality of DER should be improved within the next 3–7 years to support network planning? If not, why not?	We think distributors should have visibility of all types of DER on their networks including electric vehicles, batteries etc.
Q16	Do you have any views on the type and size of DER that need more visibility?	We would be guided by distributor views as to what and when.

Issue 7: Access to real time consumption and power quality data for distributors

It is not yet clear who will have access to real time consumption and power quality data in the future so we need to see how the market evolves before regulating its access.

Q17	The Authority acknowledges that definitions of 'real-time' vary, please explain what real-time data means to you.	Real time for us means as close to instantaneous as possible.
Q18	Do you agree that access to 'real-time' consumption and Power Quality Data won't be needed for at least five years?	Yes.

Issues hindering data access for flexibility traders

The current arrangements whereby customers or their agents can require consumption data free of charge up to 4 times in a 12-month period and thereafter on payment of a reasonable fee seems somewhat clunky in the new environment.

Issue 8: Flexibility traders do not have equal access to ICP data

Q19	Do you agree that flexibility traders' access to ICP data must be improved so they have the same level of access as distributors (and retailers), with whom they might be competing to provide contestable services? If not, why not?	Yes, this is key to providing a level playing field.
Q20	Do you think the Authority should prioritise modifying the Data Template, so that flexibility traders can use it, or should the Authority prioritise amending the Code to clarify that MEPs must provide ICP data directly to flexibility traders and	We prefer the Code change option for reasons previously stated

	distributors for a set of permitted purposes without the need for retailer permission? If neither, please explain why.	
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Issue 9: Access to granular network congestion data for flexibility traders

Q21	Do you agree that flexibility traders need access to granular current and likely future congestion data on distribution networks within the next 1–3 years?	Yes. We think there should be a regulatory requirement on distributors to calculate and provide congestion data, although zonal data may be more readily achievable and yield most of the benefits. We are pleased the Authority is working with the Commission on this issue.
Q22	Are there any other issues preventing distributors from providing granular current and likely future congestion data?	No information to share

Issue 10: visibility of location, size and functionality of DER on LV networks

Q23	Do you agree that visibility of the location, size and functionality of larger DER needs to be improved within the next 3–7 years to help understand the drivers of network congestion, what DER is ‘controllable’, and what services could be offered to owners of DER? If not, why not?	Yes. The priority should be larger DER.
Q24	Do you have any views on the type and size of DER flexibility that needs to have improved visibility?	As noted earlier, we would be guided by distributors views on this matter.
Q25	Do you think that the Authority, instead of a DER registry, should consider amending the registry data fields and /or requirements to improve DER visibility?	This would be a useful interim step.
Q26	Do you agree that the Authority should prioritise work on addressing the other issues outlined in this chapter?	Yes

Issue 11: Access to real time granular congestion or ICP data for flexibility traders

Q27	Do you agree that access to ‘real-time’ consumption and Power Quality Data won’t be needed for at least five years?	Same response as Q 18 (access for distributors)
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Enhancing disclosure to consumers to enable data access

Issue 12: Privacy law transparency requirements

Q28	Do you agree that model privacy disclosure terms are appropriate? If not, why not?	Yes. This is a difficult issue for retailers.
Q29	Do you agree that model privacy disclosure terms would facilitate data access? If not, why not?	In theory yes but it may depend on individual retailers legal advice
Q30	Do you see any practical issues with this proposal?	See Q29 response
Q31A	Should the Authority create model terms for distributors and MEPs as well given the range of data being collected through smart meters? If not, why not?	Yes
Q32B	Would the industry find it helpful for the Authority to conduct workshops on privacy preserving/minimisation techniques?	Yes

4. Market settings for equal access

There is an urgent need to ensure that NNS can compete on a level playing field with network expenditure on poles and wires.

The Boston Consulting Group's "The Future is Electric" report *"recommends an electrification roadmap that involves \$22 billion in distribution infrastructure spend to enable electrification in the 2020s and prepare networks for rapid electrification and multi-directional flows of electricity in the 2030s."*

With this level of investment both the Authority and the Commerce Commission need to be confident, on behalf of consumers, that each infrastructure investment has been prudently made. This will require effective regulation to support NNS – and quickly.

We do not consider it is consistent with the efficient operation of the industry to expect potential providers of NNS to scour the pages of the AMPs of each distributor for investment opportunities. Instead the onus should be on distributors to publicise the available opportunities and procure services on an arms-length basis.

Issue 1: Distributors may prefer network to non-network solutions

Distributors should be required to choose NNS where those solutions are the most efficient option and use competitive procurement to obtain those solutions.

This applies to both new highly controllable DER and also existing technology such as hydro DG with "within day" flexibility. Both types of technology can relieve network congestion and thereby avoid reduce, or delay the need for distributors to invest in upgrading, augmenting or replacing parts of their networks. Hydro DG has been supporting reliability for decades so we are not persuaded by any distributor views that *"NNS might be perceived as unreliable or introducing problems into the system"*⁵

⁵ Issues paper, page 51

We accept that under Part 4 of the Commerce Act price-regulated distributors are required to consider whether NNS are a viable alternative to network solutions and present this in their AMPs. But our experience has been that this is not occurring as effectively as possible. This suggests the rules need to be buttressed and/or more actively enforced.

<p>Q31</p>	<p>What are your views on the three options presented above, to deal with Issue 1 (that distributors might prefer network investments to NNS)? What alternative option/s would you favour, if any?</p>	<p>As noted above this is not a new issue. Existing technologies have been able to provide NNS for some time but in our experience are not always comprehensively considered on an even basis to a network solution.</p> <p>It may be appropriate for MBIE to fund future trials of new technologies to address barriers for new technologies to participate in the supply of NNS, but the first barrier is widespread distributor inertia which we do not think will be overcome without further encouragement.</p> <p>To address this, we think that:</p> <ul style="list-style-type: none"> a) Directors of all distributors should be required to sign an annual declaration that the business investigated the use of NNS for all investments over a \$5m threshold, as was previously recommended by IPAG. (a) Distributors should be required to publish their assessment of flexibility options they considered for each such investment. This should be done on a standard basis that allows scrutiny by third parties (including the Authority). Expenditure that does not follow this process should not be included in the RAB. <p>These measures will provide extra reassurance of the prudence of the expenditure at time of record distribution capex.</p>
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Issue 2: Distributors may favour in-house NNS

Self-supply of NNS within the same organisation will provide no assurance that the most efficient solution has been obtained. This is not in the long term interests of consumers, particularly given the scale of investment likely to be made. We have no objection to distributors participating in contestable markets for the supply of NNS – provided this is done at arms-length from their regulated businesses.

<p>Q32</p>	<p>Do you agree with the tentatively preferred intervention to deal with Issue 2 (Option 3: encourage standing offers) and the collection and monitoring of information proposed</p>	<p>The options identified by the Authority are not mutually exclusive. The Authority could enable multiple trading relationships to support the uptake of DER⁶, encourage distributors to make</p>
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⁶ Albeit noting that while Manawa holds reservations as to whether enabling multiple trading relationships would provide a least cost option to consumers, we recognise the importance of consumer choice.

	under Option 4? If not, what alternative option/s would you favour, if any?	standing offers for DER and monitor distributors procurement practices. However, we think the most gains will be made if the Authority limited self-supply to entities which operate at an arm's length from distributors regulated businesses. This will provide confidence to new and existing suppliers of NNS that there is a level playing field for assessing solutions and that any intellectual property associated with a proposal put forward by an alternative flexibility supplier is appropriately protected.
Q33	Do you think there are circumstances in which the Authority should extend the Arm's-Length Rules? If not, why not?	We think the arm's-length rules should be extended now.

Issue 3: Distributors could use their monopoly position in distribution to secure an advantage in contestable markets

Q34	Do you agree with the Authority that Option 1 should be implemented, and that Option 2 should only be considered in the event of allegations of, or instances of anti-competitive harm in contestable markets (Issue 3)? If not, what alternative option/s would you favour, if any?	No. We have no objection to distributors conducting pilots or testing new technology but once a decision is made to enter a contestable market this should be done on an arms-length basis so there is no opportunity to prevent or hinder competition in downstream markets. An exemption process should be included in the arms-length rules to address the testing of new technology.
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5. Capability and Capacity

The issues presented by decentralisation and decarbonisation are complex and are likely to put considerable strain on the resources of all but the largest distribution companies.

It may not be realistic to expect every area of New Zealand to attract the specialist workforce capability required to transition distribution networks into the new, low-carbon era.

We support training, education and collaborative activities by the industry, its associations and the Authority to address this issue.

Q34	What do you think of the Authority's option of using the education option proposed elsewhere in this paper, to include some guidance on how distributors should collaborate in future?	We support the Authority assisting distributors with any capability and capacity gaps. As an aside we were surprised that some distributors were not concerned about this issue and wonder if that is further evidence of a reluctance to engage with NNS.
Q36	Do you think it would be helpful for the Authority to encourage the use of joint ventures between distributors to increase their integration of DER and their	Yes. We think there could be real value in joint ventures that aggregates the 'size of the prize' in terms of NNS.

	procurement of NNS projects? And should this be combined with the first option?	The engagement of the Authority to mitigate the risk of any regulatory/competition law transgressions makes sense.
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6. Operating agreements for flexibility services

We already know that one of the key challenges facing the sector is the need to obtain sufficient flexible demand and generation capacity to meet increasing peak demand. The sooner we move to more mature markets for flexibility services the better off consumers will be.

In Chapter 7 of the Issues Paper the Authority acknowledges that

- There are very few operating agreements for flexibility services currently being negotiated;
- The initial costs of negotiation could be high;
- There are a number of common provisions in all operating agreements;
- The transaction costs of negotiating with 29 different distributors are not trivial;
- Distributors are monopolies who may prefer to self-supply;
- Some of the issues faced by flexibility traders are identical to those which led to the DDA;
- The development of the DDA was a very lengthy process; and
- There is likely to be value in it providing guidance on best practice, templates and/or standardisation in relation to the operating agreements for flexibility services at some point (*emphasis added*)

However, the Authority appears to consider it can deprioritise this issue and simply allow one side of the market, Transpower and willing distributors, to develop standard offer terms for procuring NNS. It is unclear how this preference aligns with a least regrets policy of promoting the most efficient distribution spend and we encourage the Authority to reconsider its approach.

We think the only certain outcome with the proposed trajectory of development is that the NNS market will develop much more slowly than it would if the Authority took a guiding hand at the outset.

Q37	Do you agree with the proposed approach to monitor progress between Transpower and distributors in developing standard offer forms for procuring NNS, and monitor whether issues associated with operating agreements for flexibility services are developing, and prioritise resource to progressing the other chapters? If not, why not?	No. We already know that these agreements are needed and that the incentives on network companies to develop appropriate arrangements are not strong.
Q38	Do you have any views on the best way the Authority can monitor whether issues associated with operating agreements for flexibility services are developing?	We think the Authority should be actively involved in developing templates for standard technologies/terms and a dispute resolution process for more bespoke arrangements
Q39	Do you have any suggestions for how the Authority can support industry-led work on	The Authority should convene a working group of both network owners and potential suppliers of NNS and provide secretariat services and/or

	providing guidance on best practice and templates for operating agreements?	leverage off the existing work of the FlexForum in this area.
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7. DER standards

Part 6

We agree that Part 6 of the Code needs to apply to all forms of DER (and not just DG) and that the connection arrangements need to be reviewed to ensure the processes and requirements are fit for purpose – particularly for the connection of industrial and commercial scale solar DG but also for wind.

In particular, the connection process needs to enable distributors to better manage the processing of applications, for example by:

- Streamlining the approach for household and small/medium business applications.
- Introducing a staged approach to approval for those applications which have the potential to impact a distribution network at the chosen location with different hurdles to proceed to the next stage.

We consider these types of options would allow scarce distributor resources to be allocated to those applications most likely to proceed. Likewise, more transparency about the applications being processed will also enable existing queued applications to be factored into the plans of other applicants.

Q40	What are your thoughts on the proposed scope for the Part 6 review? What, if anything, would you include or exclude, and why?	We agree with the proposed scope.
Q42	In order, what are the three most important issues that should be addressed as part of a Part 6 review, and why?	We think the most important issue is to allow distributors to prioritise applications that are likely to impact their network based on those most likely to be built and those which will realise the greatest consumer benefits. We note that a 1MW application on a stringy part of the network could need as much technical support as an 80MW application close to a GXP.
Q42	What are your thoughts on amending Part 6 of the Code to explicitly include DER, and what do you think are the key issues to be considered?	We think Part 6 should include all types of DER- including technologies that shift generation and demand.
Q43	What are your thoughts on increasing the size threshold for Part 1 DG applications, including the benefits and drawbacks?	We think it makes sense to streamline the application process for houses and small businesses. It may also be appropriate to include medium businesses as well (subject to distributor feedback)
Q44	If the threshold were to change, what do you think the new threshold should be and why?	Potentially: 0- 25kW (houses and small businesses) 50kW-1MW (medium businesses) 1MW plus

Q45	What are your thoughts on adjusting the ten-business day timeframe in Part 1A?	No additional comment
Q46	What are your thoughts on maintaining the current approval timeframes in Part 1 (comprehensive) and Part 2?	No additional comment
Q47	If you seek a change to approval timeframes, what evidence can you give to support this?	No additional comment
Q48	What are your thoughts on adding a new DG application process for large-scale DG to Part 6? Please provide examples in support of why you think change is or is not necessary.	At a workshop we co-convened between DG investors and distributors in December 2022 this was the biggest issue. Distributors are bound by the existing processes and need to spend a great deal of time on connection applications that are unlikely to proceed.
Q49	If you think a new application process should be added, where should the threshold be and why? What are your thoughts on reviewing the priority of applications clause in Part 6 of the Code?	<p>We agree with the ideas of amending the Code to better enable distributors to prioritise connection applications/best allocate their scarce technical resources.</p> <p>As noted above a 1MW application on a stringy part of the network could take as much time as a much larger application.</p> <p>This suggests that impact on the network is as important threshold criteria as size.</p> <p>Distributors should also be able to add conditions to queuing rights such as having secured land, resource consents, bought equipment etc. We suggest the approach adopted recently by Transpower to improve its connection process might provide a starting point for further considering this issue.</p>
Q51	Should the AS/NZS 4777.2:2020 Standard be mandated for inverters in New Zealand? If so, how should this be accomplished?	We have no particular insight on this question other than to share our view that all DG connected to distribution networks (including roof top solar) should comply with good industry standards for how they connect.
Q52	What are your thoughts on the Authority reviewing the prescribed maximum fees in Part 6 of the Code?	The fees should cover distributors reasonable and efficient costs.

Smart products

Manawa agrees with the Authority that without intervention EVs and EV chargers will place a significant burden on the electricity system and are pleased the Authority is committed to work with EECA and other agencies to improve the performance of EV chargers. We think the case for early regulation is compelling.

8. Concluding remarks

Manawa agrees that DER has an important contribution to make to the NZ energy sector as we transition to a low or zero carbon economy. Amongst other things DER can delay or replace investment in traditional 'poles and wires' network investments. However, this is not new. Our DG has

been able to deliver, and in many cases delivering, this service for decades. What is new is that there are now a wide range of new technologies that can also provide these services with higher levels of controllability.

We welcome this development and the adjustment of regulatory settings to ensure that the suppliers of new technology can be accommodated in the sector. The Authority's focus should be on the removal of barriers to market development rather than the active stimulation of particular forms of DER. The goal of net zero emissions will require both new and established technologies.

We also support amendments to the regulatory settings for distribution networks to ensure the efficient operation of their core business. If distributors wish to participate in the provision of services in contestable markets, that should occur at arms-length from their regulated businesses.