Submissions
Electricity Authority
Via email
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26 October 2021

Updating the Regulatory Settings for Distribution Networks – Improving competition and supporting a low emissions economy

Thank you for the opportunity to provide feedback on the discussion paper "Updating the Regulatory Settings for Distribution Networks – Improving competition and supporting a low emissions economy" (Paper). We appreciate the extensive engagement the Authority has had with the sector in relation to this Paper and it has been useful for us to see clear themes emerging from the various discussions we have had. Our response to the Authority's questions is attached as Appendix A and we have set out a summary of the key themes from Mercury's perspective below.

Information and transparency are key

Based on our various engagements with the Authority, distributors, and other retailers, it is clear that there is an information gap that could act as a blocker to the development of distributed energy resources (DER) and the support that such flexibility services could provide to help New Zealand's transition to a low emissions economy. Better data, better access to that data and generally greater transparency of network requirements will play a significant role in encouraging the uptake of DER and building a competitive market for flexibility services. This is particularly important in the following areas:

1. **Data access for all parties**
    a. Distributors need access to consumption data from retailers. Mercury supports the industry agreed amendment to the Default Data Template to streamline this process.
    b. Distributors also require access to data that is not currently accessible from Metering Equipment Providers (MEPs) and the capex focused regulatory regime hinders the purchase of such data. We recommend the Authority refer this feedback to the Commerce Commission and MBIE to speed up work in this regard.
    c. Potential flexibility service providers (including retailers) require up to date and actionable information on network capacity, congestion/constraints, network investment needs, hosting capacity, etc. in order to make informed investment and operation decisions. Some standardisation of how this information is described across all networks would be beneficial.
2. **Net benefit test**

    Mercury submits that sufficiently large network investments should be subject to net benefit test requirements akin to Transpower's $20m "major CAPEX" threshold and as seen in other jurisdictions such as Australia. This would provide confidence and transparency that network investment decisions are taken

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in a consistent manner that deliver the highest expected net electricity market benefits under credible scenarios and sensitivities, whether DER is involved or otherwise.

3. **Competitive tenders**

   To create a competitive market for flexibility services distributors must not be able to take inefficient advantage of their natural monopoly position. A few simple measures can be taken as a first step to test the appetite for these services. Mercury recommends:

   a. Better access to information including "standing offer" price data would encourage market participation and lower the likelihood of in-house investment and ensure the highest value allocation of DER; and

   b. Requirements for:

      i. arm's length procurement;

      ii. competitive tenders (akin to Transpower's processes for procuring non-transmission solutions to address grid investment needs and the System Operator's annual procurement plan for ancillary services); and

      iii. ringfencing (if a distributor proceeds with in-house investment).

Improved information sharing and greater transparency over network investments may provide the impetus for developments in the flexibility services market, reducing the need for deep regulatory intervention. This would be a desirable outcome both in terms of cost and efficiency.

Regulation must evolve with technology

Mercury recommends the Authority exercise caution before using regulation as a tool to either incentivise or standardise DERs and flexibility services generally. This is a technology that is in its infancy and any regulation should evolve alongside developments in DER. Until there is evidence that regulatory intervention is the best option, Mercury strongly supports the adoption of practical and educational alternatives as identified in the Paper in the first instance.

We do acknowledge and support some prioritised standardisation to ensure that DERs connected to the grid can be remotely monitored and/or controlled (e.g., EV chargers.) However, these standards must be developed in a way that doesn't inefficiently inhibit innovation (e.g., through "lock-in" to standards, technologies, ecosystems) and/or uptake of low carbon technologies (e.g., through cost barriers imposed.)

Mercury would also stress the importance of industry involvement in determining the best outcomes for flexibility services in the near term. For example, we would support the establishment of a cross industry working group to determine the respective capabilities desired of network and consumer assets. The input from this group would provide a starting point for determining the shape and form any operating agreement that could be adopted to address access to networks and the ongoing management of flexibility services. At present there is very little precedent for such agreements, and it would be specious for the Authority to invest time in trying to produce a standard agreement when, so little is understood about what is practically involved. We would not support establishing mandatory terms at this early stage.

Distribution Pricing essential to send right signals

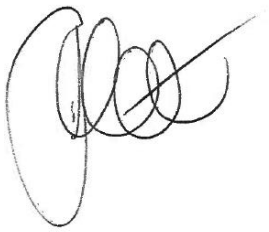
We appreciate that the Authority is addressing distribution pricing under a separate consultation however for completeness we would like to note that network pricing reform is essential to incentivise efficient DER uptake and innovation from the demand side.

More coordination between distributors is required

Mercury supports more coordination between distributors to improve the efficiency of distribution. In the first instance we support clarifying the responsibilities of Distribution Network Operators (DNO) and Distribution System Operators (DSO) and making a clear distinction between owners and operators. This would help separate functions and encourage competition. We would then support an evaluation of whether the DSO role could span different networks. This could deliver significant efficiencies for the sector.

If you have any questions in relation to Mercury's submission, please contact me at jo.christie@mercury.co.nz or Buddhika Rajapakse at buddhika.rajapakse@mercury.co.nz.

Yours sincerely



Jo Christie
Regulatory Strategist

Appendix A: Mercury Submission

Q.1 Have you experienced issues relating to a lack of information or uneven access to information?
Access to information is key to maintaining a competitive electricity market. This applies equally to distributors requiring data from retailers and vice versa, consumers requiring data from retailers, third parties such as flexibility traders requiring information from retailers and distributors etc. Mercury agrees that distributors need greater visibility of the performance of their low voltage networks and has been at the forefront of industry discussions to enable distributors access to consumption data on terms that are commercially acceptable to both distributors and Mercury as a retailer. Last year we participated in mediated discussions around amendments sought by distributors to the Default Data Template after it had been introduced into Code in July 2020. The parties to the mediation successfully agreed a proposed amendment to the Data Template that was subsequently declined by the Authority. Mercury would continue to support the same proposed amendment if distributor access to consumption data still emerges as a continuing issue under this consultation. In addition to the consumption data provided by retailers, distributors require network operational data that is recorded below zone substation and feeder level and is at present only held by Metering Equipment Providers (MEPs). Whilst work is ongoing with MEPs to grow their capability to provide this type of data, distributors are further hindered by the risk that purchasing data will expose them to penalties for overspending on OPEX under a regulatory construct that is too heavily focused on CAPEX. We appreciate that this may be out of the scope of this consultation however we note from our previous engagement with the Authority that feedback will be referred to the Commerce Commission and MBIE, as relevant. For retailers such as Mercury looking to innovate around DER that could provide flexibility services, clarity on network congestion and network capacity data is essential for making decisions about how to prioritise the development of DER capabilities (see below at question 2). In other words, we need to understand to what extent distributors might benefit from DERs as we consider developing capabilities to provide flexibility services. With circa 30 distributors across the country, some standardisation in how network congestion and capacity information is described will likely be beneficial too.
Q.2 What information do you need to make more informed investment and operation decisions?
Potential flexibility service providers require up to date and actionable information on network capacity, congestion/constraints, network investment needs, hosting capacity, etc. in order to make informed investment and operation decisions.
Q.3 What options do you think should be considered to help improve access to information?
Mercury considers this to be a “medium” issue that could be addressed by shared data arrangements and published guidance for distributors to report on congestion and network investment needs. If the Authority were to consider this a “significant” issue we would stress the importance of having standardised data that can be shared via API over creating a central meter data store which would be costly and inefficient.
Q.4 Have networks experienced issues from the connection or operation of DER?
No comment.
Q.5 Do the Electrical (Safety) Regulations require review? If so, what changes do you think are needed (a) in the near term and (b) in the longer term?
Yes, in some cases a review may be appropriate. As an example, we refer to the Electric Vehicle charging safety guidelines which are created by Worksafe to ensure electric vehicle supply equipment is safely installed and in line with regulations. WorkSafe guideline 1.4(c) requires EV chargers to have additional points of failure as safety features over and above current international standard IEC 61851. If the goal is to help grow DER and allow more flexibility, the current regulations make smart EV charger installations less economic for EV owners.

Q.6 Does Part 6 remain fit for purpose? If not, what changes do you think are needed (a) in the near term and (b) in the longer term?
Part 6 may require changes in the near term to ensure that it is fit for an increase in DER connections, however we believe these can be kept to a minimum. We would support improved clarity for the installation and connection of batteries and solar PV individually and in an aggregated form and consistent connection and operation standards across networks. In so far as possible, Part 6 should also broadly address the minimum system safety requirements for DER such as the fault ride-through mechanisms required for battery energy storage systems and inverter set up requirements. These changes would ensure system frequency and power quality and provide greater certainty and efficiencies for parties connecting DER to the grid. We would also support consideration of a DER registry as this would give distributors the essential visibility they require over where DER is located on their network. We encourage to Authority to err on the side of caution however before making more significant changes. For example, the adoption of mandatory minimum standards for any connection to the grid would involve predicting a technology that is in its infancy and may unintentionally inhibit innovation. The Authority must ensure that regulation evolves alongside technology - mandatory standards should therefore be a longer-term option once the technologies around flexibility services are better established.
Q.7 Is there a case to be made for minimum mandatory equipment standards for DER equipment, specifically inverter connected DER?
Whilst there is a strong case for minimum mandatory equipment standards for safety and power system operation reasons, for the reasons we have set out in answer to question 6, in the near term we would prefer voluntary guidelines and incentives for compliance with standards that go beyond the minimum. Guidelines and incentives should be accompanied by an education and awareness campaign. Mandatory standards may be appropriate as a longer-term option once any DER market is more developed. One of the priorities for standardisation should be the ability to remotely monitor and/or control DER assets (e.g., EV chargers.) However, these standards must be developed in a way that doesn't inefficiently inhibit innovation (e.g., through "lock-in" to standards, technologies, ecosystems) and/or uptake of low carbon technologies (e.g., through cost barriers imposed.)
Q.8 What standards should be considered to help address reliability and connectivity issues?
Please see above at questions 6 and 7.
Q.9 Is there a case to look at connection and operation standards under Part 6 with a view to mandating aspects of these standards?
Yes, but the costs and benefits should be weighed in each case. For example, standards can deliver benefits in terms of reliability, efficiency and confidence to invest in DERs but also create the risk of stymying innovation and applying inefficient compliance costs to deter uptake. Please see above at questions 6 and 7. The Authority and regulators in general must also ensure that New Zealand regulations are not inefficiently more onerous than international best practice (see question 5 above) or that standards that do not evolve with international best practice.
Q.10 What flexibility services are you pursuing?
Mercury would in principle like to innovate around providing flexibility services to distribution, transmission and wholesale markets but we do not always have enough clarity around network capacity, network congestion, hosting capacity, etc. to support distribution and make it part of the value stack.
Q.11 Are flexibility services being pursued through a competitive process?
It is difficult to have full visibility over this. We appreciate however the work done by some networks who have held open RFI processes for non-network support and would encourage other distributors to follow suit. As discussed in our cover letter, information and transparency are key and we would support a requirement for the

competitive tendering for flexibility services. We agree with Sapere and the Paper that DER must be allocated to its highest value use in order to realise its full potential.

Q.12 What options should be considered to incentivise non-network solutions?

Mercury considers this a significant issue and one that requires a holistic approach with input from all parts of the electricity sector, particularly distributors and the Commerce Commission alongside the Authority. These agencies should consider:

- Network pricing reform to incentivise efficient DER uptake and innovation from the demand side;
- Regulation incentivising distributors to evaluate both flexibility and non-flexibility solutions thereby reducing incentives to favour CAPEX over OPEX or network solutions over non-network solutions;
- Net benefit test requirements for large network investments akin to Transpower's $20m "major CAPEX" threshold and as seen in other jurisdictions such as Australia (The key goal here being to provide confidence and transparency that network investment decisions are taken – regardless of whether DER is ultimately deployed or not – in a consistent manner that delivers the highest expected net electricity market benefits under credible scenarios and sensitivities);
- Better access to information on all sides (see Q1, Q2 and Q3);
- The role one or more Distribution System Operator/s might play in procuring and co-ordinating DERs to manage network constraints.

Q.13 What options would encourage competitive procurement processes for flexibility services?

Mercury supports:

1. Better access to information (see Q1, Q2 and Q3), including "standing offer" price data, to encourage market participation thereby lowering the likelihood of in-house investment and ensuring highest value allocation of DER;
2. Arm's length procurement, competitive tenders (akin to Transpower's processes for procuring non-transmission solutions to address grid investment needs and the System Operator's annual procurement plan for ancillary services) and ringfencing (if a distributor proceeds with in-house investment);
3. We would support restricting distributors from owning DERs on their own network (in the same way that the Electricity Act limits generation and retail, subject to de minimis thresholds) however this restriction may be less critical if the provision of information and competitive procurement processes at options 1 and 2 above have the desired impact.

Q.14 Have you experienced difficulties with negotiating operating agreements for flexibility services?

No comment.

Q.15 Are the transaction costs of developing contracts a barrier to entering the market for flexibility services?

Mercury has very little experience in contracts for flexibility services however costs would be significant for a flexibility service provider who had to negotiate with 29 distributors across New Zealand to achieve nationwide coverage.

Q.16 Would an operating agreement help lower transaction costs and level negotiating positions?

A standard operating agreement would undoubtedly help lower transaction costs and level negotiating positions between distributors and flexibility service providers. The form and shape of any such agreement however should be determined by the industry over time. At present there is very little precedent for such agreements, and it would be specious for the Authority to invest time in trying to produce a standard agreement when, so little is understood about what is practically involved. We would be keen to participate in an industry led solution that first agreed the core attributes of flexibility services and then worked through what a standard industry template might look like. We would not support establishing mandatory terms at this early stage.

Q.17 What kind of operating agreement would address the issues described in this chapter?
See above at question 16.
Q.18 What are distributors doing to ensure their network can efficiently and effectively manage the transformation of networks?
No comment.
Q.19 How are distributors currently working together to achieve better outcomes for consumers?
No comment.
Q.20 Could more coordination between distributors improve the efficiency of distribution?
Mercury would support more coordination between distributors to improve the efficiency of distribution. We consider this to be a medium to significant issue however we would not necessarily support regulatory intervention and would prefer to see distributors incentivised to operate more efficiently. As a first step we support clarifying the responsibilities of Distribution Network Operators (DNO) and Distribution System Operators (DSO) and then making a clear distinction between owners and operators. This would help separate functions and encourage competition. We would then support an evaluation of whether the DSO role could span different networks. This could deliver significant efficiencies for the sector.