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28 September 2021

Submissions
Electricity Authority
P O Box 10041
Wellington 6143

By email: distribution.feedback@ea.govt.nz

Dear team,

RE: Consultation Paper–Updating the Regulatory Settings for Distribution Networks

The Independent Electricity Generators Association Incorporated (IEGA) appreciates the opportunity to make this submission on the Electricity Authority's (Authority) discussion paper which identifies a range of potential issues on distribution networks that may impact New Zealand's transition to a low emissions economy.[1]

The IEGA totally agrees distribution networks have a critical role to play in supporting New Zealand's transition to a low emissions economy through their infrastructure that connects electricity users with electricity producers and in maintaining reliability of electricity supply.

The IEGA represents generation owners with plant connected only to distribution networks so we have been and continue to be totally reliant on the performance of distribution companies to connect and distribute our generation output. However, IEGA members own and operate commercial generation plant.

We note that the Authority's paper appears to seek to address the Climate Change Commission's Recommendation 20.3 in relation to distributed energy resources – referred to in paragraph 1.4 of the discussion paper. All of the papers; the Authority's discussion paper, Sapere's cost benefit analysis (CBA) and IPAG's analysis of distributed energy resources and Transpower's demand response programme[2]; analysis define distributed energy resources (DER) as being owned and located at an electricity consumer's premise (behind-the-meter).

Our submission therefore only focuses on topics in the discussion paper where there is potentially an overlap or implications from proposals aimed at consumers' DER for IEGA members' commercial distributed generation.

[1] The Committee has signed off this submission on behalf of members.

[2] https://www.ea.govt.nz/assets/dms-assets/28/Transpower-DR-programme-review-draft-memo.pdf and https://www.ea.govt.nz/assets/dms-assets/28/Transpower-DR-review-draft-slide-pack.pdf

Having said that, the IEGA supports enabling consumers to be empowered to take control of their electricity supply and use.

Sapere's CBA clearly demonstrates there is value in ensuring arrangements allow for co-ordination of consumer-connected DER. We note Australia's Energy Security Board recently published its 'Clean and Smart Power in the New Energy System – Unlocking benefits of change for consumers: integration of distributed energy resources and flexible demand' [3] outlines a pathway for a new market built on consumer choices. It also notes that the overall market benefits and efficiencies benefit all consumers, not just those that are engaged.

We note the Climate Change Commission also recommended (20.4)

4. Designing regulatory settings that meet the needs of diverse communities, ensuring that they enable independent and distributed generation, especially for remote, rural and Māori communities.

The IEGA assumes the Authority will turn its mind to this recommendation 20.4 at some time, or at least not implement any changes in this current process that would undermine or be contradictory to Recommendation 20.4.

Incentives to make efficient investment decisions

The IEGA agrees the regulatory environment should enable participants to have the ability, information and incentives to make efficient investments in both network and non-network solutions. We support the Authority's objective to have a competitive market for non-network solutions. The opportunity for non-network solutions has been a key focus in numerous submissions by the IEGA over a number of years across a range of regulatory interventions and systems.

In our March 2021 submission to the Climate Change Commission on its draft advice report the IEGA submitted:

> *"Our members connect to distribution networks and are subject to their connection and operational requirements.*
>
> *There are examples of distribution companies preferring distribution solutions without discussing if the distributed generation could make a lower cost investment that achieves the same outcome. Appendix A includes a case study on a dispute that took six years to resolve between an IEGA member and a distribution company that cost hundreds of thousands of dollars because the distribution company was acting as a monopoly provider. In early 2019 the Authority published a case study of their investigation into the dispute. This is a clear articulation of the issues, including evidence of poor behaviour, that can and does form a barrier for distributed generation.*
>
> *The mindset and expertise of distribution companies is focused on traditional distribution infrastructure assets. A wider perspective could result in distribution companies working with owners of distributed energy resources to manage capacity or power quality issues on the network.*

[3] https://esb-post2025-market-design.aemc.gov.au/32572/1629954551-esb-final-report-explainer-clean-and-smart-power-der-pathway.pdf July 2021

Distribution companies' also often view distributed generation as only a cost when distributed generation can and does provide services to distribution companies which they are not being paid for."

The IEGA engaged in the joint Commerce Commission and Authority project in 2019 'Spotlight on emerging contestable services'. Our feedback[4] on the terms of reference for this review suggested the following focus areas:

- contestability between new emerging technologies and network investments
- any impact on contestability in the energy market
- monopoly vs contestable services and the arms'-length rules.

It appears these focus areas remain relevant to the Authority's work on updating the regulatory settings for distributors.

The IEGA does not support any of the Authority's potential options to incentivise non-network solutions when they are more efficient that network solutions.[5] Our understanding is that Part 4 of the Commerce Act already requires distributors to:

- consider non-network solutions and describe this assessment in their Asset Management Plans
- operate non-monopoly businesses at arms' length for any activity undertaken on their own network.

IEGA members' existing distributed generation is currently providing services to their local network company without receiving any payment. Members have had the opportunity to be part of Transpower's Demand Response (DR) Programme – but the IPAG's paper[6] suggests this programme should be discontinued / reconstituted.

Acknowledgment of specific services provided by commercial-scale distributed generation and operating a mechanism to receive payment for these services is well overdue.

In our view IEGA members' distributed generation plant offers flexibility services. We welcome development of market settings that provide:

- visibility and transparency between buyers and sellers of flexibility to inform long and short-term investment and operational decision making
- flexible solutions need to be able to realise the true value of their flexibility
- market structures or signals are needed to make it simpler for providers to combine value streams" will benefit if market setting facilitate.[7]

[4] See https://www.ea.govt.nz/assets/dms-assets/25/25052IEGA-Submission-on-Authority-Commission-joint-project-Terms-of-Reference-Spotlight-on-Emerging-Contestable-Services-12-April-2019.pdf

[5] Paragraphs 6.25 to 6.32 of the Authority's discussion paper

[6] See Footnote 2

[7] Paragraph 2.10 of the Authority's discussion paper

In relation to increasing competition for flexibility services, the IEGA agrees there are advantages in:

- making available/publishing standing offer prices for flexibility services – this could be by distributor but we query why / if prices for some flexibility services would / should differ by region
- undertaking competitive tenders for flexibility services[8]
- using standard contracts for different types of flexibility services across all distributors (although voluntary development of these contracts should be prioritised)[9].
- using standard value for some of comparators of network vs non-network solutions eg the value of reliability
- including standard consideration of risk and how risk of non-performance is valued / contracted for.

The Authority is probably aware that competitive tenders and standard contracts for flexibility services are now well entrenched in the UK[10].

Our submission[11] following the workshop included the following:

Valuing reliability: Reliability is a key focus for distributors. This reflects the current price-quality regulatory regime as well as working to meet their understanding of customers' expectations. Distributors' views about reliability are based on their detailed knowledge of the performance of traditional network assets. Distributors require service guarantees from third party providers – which can be different in each network. We suggest:

- a standard methodology should be developed for any distributor to use to compare the reliability of traditional network assets with generation or other non-network alternatives.
- a standard methodology should also be developed to 'value' reliability on the distribution network. There is a value of lost load used in the transmission and security of supply parts of the regulatory system under the Electricity Authority's jurisdiction. It would be interesting to consider if this VOLL is comparable with the penalties imposed on distributors for breaches of Part 4 of the Commerce Act or the value of reliability is different for the distribution sector.

These methodologies would assist third party providers of non-network solutions as well as distributors (in dealing with third party providers or considering their own investment in emerging technologies).

Standard agreements for contracting non-network services: We suggest work be undertaken on designing standard agreements for contracting non-distribution services, thus reducing transaction costs for both distributors and service providers. This standard agreement should also incentivise and facilitate gaining the most value from the potential range of services from existing and new distributed energy resources.

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[8] Paragraphs 6.33 to 6.49 of the Authority's discussion paper

[9] Paragraphs 7.1 to 7.23 of the Authority's discussion paper

[10] For example: https://www.energynetworks.org/newsroom/britain-breaks-network-flexibility-record-with-45-percent-more-contracted-this-year-than-all-of-2020 and Page 5 https://www.energynetworks.org/industry-hub/resource-library/on21-ws1a-flexibility-consultation-2021-overview-(30-jul-2021).pdf

[11] See https://www.ea.govt.nz/assets/dms-assets/25/25346IEGA-Post-workshop-supplementary-information-Authority-Commission-Spotlight-on-Emerging-Contestable-Services-25-June-2019.pdf

We note during IPAG's review of Transpower's DR Programme Transpower indicated that the future of their programme would be awards of a (specific type of) Grid Support Contract which could accommodate establishment and/or availability payments. IPAG recommended Transpower work with "Aurora and the EDBs more generally to agree a standard offer for procuring flexibility as a "non-network" solution and enforce the use of this standard notionally for procuring non-network inputs through default agreements".[12]

In IPAG's draft memo to the Authority[13], IPAG write "Transpower has said that in the near-term, they would value the opportunity to work with the IPAG and the EA on the development of standard procurement methodologies for procuring flexibility across the industry."

The IEGA strongly suggests this work be undertaken by a wider stakeholder working group that includes more distributors and the expertise available from members of the IEGA.

Electricity supply standards

Part 2 of Part 6 of the Code includes detailed discussion and negotiation between the applicant and the distributor on connection and operating standards during the application process to connect distributed generation greater than 10kW. This bilateral process is well established and, while there can be agreed delays beyond the current timeframes, works well for IEGA members.

It is difficult to envisage how this process could be reworked to accommodate what the Authority considers might be issues when it suggests a new process for DG installations above 1MW. The Code already allows the distributor the ability to gain more time to undertake the required investigation and work required to approve an application to connect. Work undertaken for one application may be able to be reused when further applications are received and / or maybe distributors should already be at least partially thinking about these distributed generation opportunities when it is developing its Asset Management Plan and considering non-network solutions.

In our view there is a stronger case for introducing a new process for connections from 10kW to 1MW. The current Part 2 process applies if the distributed generation is 15kW or 15MW – it could be argued that the detailed process in Part 2 is too cumbersome for distributed generation of 15kW.

We note Dr Alan Miller has undertaken work on EV & Small-scale Solar Hosting Capacity – an assessment of the capacity of distribution networks to host electric vehicle chargers (EV hosting capacity), and small-scale photovoltaic solar power (PV hosting capacity), including co-inventing technology to undertake this assessment.[14] This work is available on request. We do not know how distributors are using this information but it could be possible to undertake studies relating to connection of commercial scale solar pv to distribution where potential issues are generic across all distribution networks. The aim of undertaking these studies would be to provide information to reduce the burden on individual distribution networks when they receive a specific application and eliminate duplication of effort.

Overall, any review of the connection rules in Part 6 of the Code is, in our view, a low priority compared with other topics raised in the Authority's paper as it relates to enabling consumers' DER. Over the last 12 months, there were 322 connections across NZ greater than 10kW with the average

[12] Page 77 https://www.ea.govt.nz/assets/dms-assets/28/Transpower-DR-review-draft-slide-pack.pdf
[13] Page 21 https://www.ea.govt.nz/assets/dms-assets/28/Transpower-DR-programme-review-draft-memo.pdf
[14] https://www.millercl.co.nz/projects

size of distributed generation installations at 80.6kW. The number of new ICPs with distributed generation connections greater than 10kW ranged from 17 to 33 per month over the whole of New Zealand (or up to just over one application per distributor).[15]

Part 6 remains fit for purpose for commercial scale distributed generation. However, the IEGA agrees there may be a case for reviewing the prescribed maximum fees regulated in Schedule 6.5 which appear to have been set in February 2015.

Distributor capability and capacity

The IEGA supports collaboration and co-ordination across the distribution sector (and other stakeholders) to maximise the understanding and use of distributed energy resources. There is the opportunity to share learnings by individual distributors for the benefit of all consumers (for example, Wellington Electricity Limited's 'EV Connect' project). The Electricity Networks Association is / can also be a vehicle for this information sharing between distributors and wider stakeholders.

The IEGA's submission to the Commerce Commission's open letter stated:

"The IEGA supports distributors being funded for innovations that are for the long-term benefit of consumers and where any investment by distributors in the competitive part of the electricity market is made at arms-length on third-party terms. However, it is questionable about whether the current innovation allowance is sufficient and flexible enough to maximise the potential benefits."

The IEGA would support distributors having access to a contestable fund for innovation projects. The results of these projects should be made public and the distributor should be able to retain a portion of the return when the project is successfully commercialised (as an incentive to be successful) and the results – positive and negative - are made public.

In conclusion, the IEGA supports:

- increasing focus on the opportunities for non-network infrastructure investments to support the technical requirements of distribution networks at a lower cost to consumers, including:
    - development of a flexibility market
    - establishment of an industry working group (including an IEGA representative) to develop standard contracts
- where possible, standardisation of the methodology and pricing of reliability and network value attributes for non-network solutions and related contract terms, to ensure consistency and lower entry cost barriers
- improved collaboration across the sector in investigating and implementing innovative solutions. We support a contestable fund for distributors to trial and share new innovations.

IEGA members have new small commercial scale distributed generation options available that are environmentally and economically sustainable. Construction of this capacity will contribute to NZ's renewable energy target as well as realising substantial benefits from generating electricity close to

[15] From EMI database

local load[16]. We look forward to engaging with the Authority's work when it looks to implement the Climate Change Commission's recommendation 20.4.

We would welcome the opportunity to discuss this submission with you.

Yours sincerely

Chris Fincham
IEGA Committee

[16] Including improving local resilience and security of supply especially with an increased dependence on electricity, reduced transmission and distribution losses