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Consultation Paper – Updating the Regulatory Settings for Distribution Networks

Thank you for the opportunity to submit on the above discussion paper.

MainPower New Zealand Limited (MainPower) owns and operates the distribution network for North Canterbury. MainPower is also the 100% shareholder (through another subsidiary) of Mt Cass Wind Farm Limited which is developing a 22 turbine 93 MW wind farm at Mt Cass, Waipara. Construction of the Mt Cass Wind Farm is scheduled to begin in 2022 and it will be the largest wind farm in the South Island when it is completed.

MainPower's vision for how it responds to the challenges of the future is expressed in its MPowered Future strategy framework. MPowered Future recognises that the electricity industry will no longer be a linear flow from generator to consumer rather it will be consumer centered with multiple energy and information flows. Through MPowered Future, MainPower acknowledges that different skills and capabilities will be required to achieve the Company's vision of creating a smarter future to deliver local value. Significant effort has gone into positioning the business for the future including supporting the transition to a low emissions economy. Specific examples are referred to in the submission.

In addition to our submission we would like to address the points raised in section 8 of the consultation paper regarding the performance and capability of trust owned, exempt EDBs.

MainPower is owned by the MainPower Trust on behalf of its qualifying customers who are the electricity consumers of North Canterbury. MainPower is one of two EDBs operating under a conveyance arrangement whereby we have a direct relationship with our lines services customers. The relationship with our customers, the electricity consumers of North Canterbury, is extremely important to MainPower and significant effort goes into customer engagement resulting in a high level of customer awareness and satisfaction.

As a trust owned EDB MainPower is exempt from price quality regulation, it is still however required to meet the same information disclosure requirement to the Commerce Commission. Additionally, the trust deed requires that MainPower's ownership structure is reviewed every 6 years to consider whether it is in the best interests of the Trust's beneficiaries (ie the qualifying customers) for the Trust to continue to hold 100% of MainPower or whether there should be a distribution of capital. This review assesses MainPower's performance against a peer group of 7 other EDBs. Of the 7 other EDBs only one is exempt, the others are all subject to the Commerce Commission's price quality regulation. The ownership review measures MainPower's performance on operating expenditure, capital expenditure, reliability, profitability, and prices relative to the other members of the benchmarking group. At the time of the last review in 2018, MainPower's

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performance was comparable to its peer group. The ownership review ensures that MainPower's ownership structure and hence its exempt status is regularly reviewed.

The Commerce Commission also undertakes its own review of EDB performance, the most recent being "Reporting of Asset Management Practices by EDBs – A Review of Target Areas for Potential Improvements" 26 July 2021. <https://comcom.govt.nz/regulated-industries/electricity-lines/electricity-distributor-performance-and-data/review-of-asset-management-practices/potential-improvements-in-reporting-of-asset-management-practices-by-edbs> This report includes examples of innovative asset management practices from across the distribution sector from both exempt and non-exempt EDBs. This report illustrates that ownership structure does not determine an EDB's capacity for innovation and sound practice.

Likewise the Commerce Commission's "Trends in Local Lines Company Performance" 17 December 2020 https://comcom.govt.nz/data/assets/pdf_file/0018/230517/Trends-in-local-lines-company-performance-17-December-2020.pdf analyses EDB performance across a range of areas drawn from information disclosures. As would be expected there is a variation in performance on each measure, however this variation is not at all attributable to the ownership structure of each EDB instead it depends on other factors.

We would be happy to discuss any aspect of this letter and our submission with Authority staff. We have appreciated the opportunities already provided to engage with the Authority about this consultation paper.

Nothing in this submission is considered to be confidential.

Yours faithfully



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Q.1 Have you experienced issues relating to a lack of information or uneven access to information?

From a Network development and operation perspective any negative impacts of not having access to smart meter data, have to date been mitigated by monitoring of HV assets and implementation of Advanced Distribution Managements System (ADMS). Access to LV data may assist in identifying and responding to faults however it is not expected that this would currently reduce unplanned quality of supply significantly.

The inability to access smart meter data significantly limits the options available to MainPower to continue to evolve cost reflective network pricing (refer to MainPower’s 2021 Pricing Methodology <https://mainpower.co.nz/about-us/disclosures/mainpower-disclosures/> and therefore provide efficient price signals.

In terms of MainPower providing information, MainPower publishes “congestion” information in its AMP at an HV network level and is required to disclose areas of congestion where connection of DG may be constrained.

MainPower has (historically at no cost to applicants) provided specific HV load profile data to third-party (consultants and investors) evaluating connection of DER within the network. Examples can be provided upon request but due to confidentiality considerations are not provided in this submission.

Q.2 What information do you need to make more informed investment and operation decisions?

As more consumers adopt low carbon technology, access to voltage information on LV Networks will be advantageous. It is likely that other sources of information will possibly also be available as technology changes i.e. access to DER resources that report operating voltage or the deployment of LV monitoring on the network at the point of common coupling.

As growth of EVs and associated charging continues, the inclusion of information about EVs and chargers in the Electricity Registry in the same way as distributed generation is recorded will be essential to enable EDBs to identify areas requiring reinforcement in the future. Recording of EV information will also enable aggregation and management of the load associated with EV charging.

Q.3 What options do you think should be considered to help improve access to information?

MainPower supports the EPR recommendations regarding access to data.

MainPower is of the view the decision not to regulate the operation of metering providers needs to be revisited. Meters are a necessary part of the market and are effectively monopoly assets as it is not efficient for multiple parties to install

meters at a consumer's installation. If metering providers were to be regulated, then access to data could be included as a service.

Within the construct of the options table presented in the Discussion Paper, MainPower rates this as a Medium to Significant issue and support the identified range of options being:

- Publish guidance for distributors to report on export congestion and network investment in Asset Management Plans (acknowledging that this is within Commerce Commission's jurisdiction);
- Assess options to implement shared data arrangements across the Industry, including principles for charging for access;
- Shared data access through API;
- Central meter data store.

Q.4 Have networks experienced issues from the connection or operation of DER?

MainPower has experienced issues with the connection of DER resources for generation less than 10kW including PV being installed without an application under Part 6, not receiving connection advice, and additional generation being installed without an application. However, MainPower has also implemented systems and processes to support network compliance for example checking Worksafe's Electricity and Gas High Risk database, direct contact with installers and checks of retailer reports for energy export.

We have also communicated hosted capacity constraints where applicable on the network as required by the Electricity Industry Participation Code.

We are also aware that there is potential issue for larger scale DER inverters to impact existing ripple control systems which may result in additional significant investment for either the Network or the Generator in order to mitigate effects on other users.

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?

MainPower agrees with the ENA submission on this point and also defers to the EEA's experience on this issue.

More effort and coordination is required from the various industry regulators to ensure that the regulations fit together, significant time and effort can be spent trying to reconcile the requirements of different regulators for example the interaction of the Electricity Safety Regulations and part 6 of the Code or Schedule 3.1 of DPP3 and the Authority's EIEP5A.

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?

It is MainPower's view that Part 6 needs amendment both to improve current processes but also to manage DER into the future when networks are more active.

The current dual process under schedule 6.1 and 6.1A for connection of DG of less than 10kW is cumbersome and the different requirements can cause confusion for staff implementing the process. It should be possible to have a single application process for small scale distributed generation.

Distributors also need a mechanism to enforce their requirements and the Code provisions. The answer to question 4 describes some of the issues raised by the connection of generation and at present there is no mechanism to address non-compliance short of disconnecting a customer for reasons of safety.

At the other end of the scale part 6 is not fit for purpose in dealing with large scale generation, particularly embedded generation which for the purposes of part 6 is treated as distributed generation. The current requirements do not accommodate the requirements for embedded generation, particularly where that generation is to be dispatched by the System Operator.

Longer term part 6 needs to address the effects of the full gamut of DER solutions and be able to accommodate distribution systems balancing both load and generation.

An updated part 6 would need to address the following:

- Large scale embedded generation dispatched by the System Operator;
- Smaller scale distributed generation which may need to be dispatched by an EDB as an active participant
- Smaller scale DG
- Part 6 also needs to have an adequate mechanism to manage other types of DER for example the use of batteries and other storage.

MainPower also supports the submission of the ENA and the EEA on this point.

Q.7 Is there a case to be made for minimum mandatory equipment standards for DER equipment, specifically inverter connected DER?

If there is potential for inverter connected DER to affect either network operations or other consumers' supply of electricity or property, then minimum standards should be introduced.

MainPower supports the submission of the ENA on the need for any standards to keep pace with technology.

Q.8 What standards should be considered to help address reliability and connectivity issues?

MainPower supports the submission of the ENA on this point.

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?

MainPower supports the submission of the ENA on this point with regard to the connection of distributed generation.

However, we consider that mandating aspects of the EV voluntary standards referred to paragraphs 5.13-5.16 of the paper could be one way of mitigating distributors' concerns about managing load associated with EV chargers on distribution networks.

Likewise, a DER registry would assist networks in identifying where all DER was located on its network in the same way that distributed generation is recorded on the Electricity Registry.

Q.10 What flexibility services are you pursuing?

MainPower is ensuring its Network and related stability services enable an open architecture for future aggregators. MainPower is investigating the development of (Demand Site Management) DSM services and different delivery models to provide stability services to the sector.

MainPower is part of eight Upper South Island electricity distribution businesses working together to effectively manage the peak loads on Transpower's grid to reduce RCPD linked transmission charges and respond to emergency events.

Changes to Transpower's Transmission Pricing Methodology (TPM) are likely to remove the incentive to manage RCPD, the Upper South Island Load Management (USILM) is now available to provide flexibility services to the market as the incentive to use hot water control to manage RCPD is removed.

Q.11 Are flexibility services being pursued through a competitive process?

MainPower's Network is committed to transparency, market efficiency through open architecture and contracted Demand Side Management (DSM) services.

The AMP and related ID requirements require EDBs to disclose non network initiatives. MainPower is committed to this in its current AMP – for instance seeking a market response for Non-Networks solution in the Amuri Area to alleviate a security of supply constraint at Mouse Point, deferring capital upgrade.

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

Within the construct of the options table presented in the Discussion Paper, MainPower would rate this as a Minor to Medium issue and support the following from the identified range of options:

- Education on flexibility services
- Fund trials

MainPower is of the view that any regulation of distributor's involvement in flexibility services or non network solutions must recognise that some networks (particularly those with a large rural base) will have areas where supply is traditionally "non economic". In those situations it may well be that the distributor is best placed to implement a non network initiative as a competitive tender may not be feasible or successful.

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

MainPower sees itself as a facilitator of network services that promotes competition in, reliable supply by, and the efficient operation of, the New Zealand electricity industry for the long-term benefit of consumers. MainPower is increasingly asked to support non-network solutions by external parties at early stages, which we do. To date generally the projects have yet to materialise.

Within the construct of options table presented in the Discussion Paper, MainPower would rate this as a Minor to Medium issue and support the following from the identified range of options:

- Enable multiple trading relationships

It is noted that strong anti-competitive behaviour and related party transaction rules are already in place, acknowledging that these are within the jurisdiction of the Commerce Commission.

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

MainPower has requested support from DER owner /operators for voltage support during outages which to date has been beneficial to both parties. MainPower understands the maturity level of the contracts used to underpin these arrangements needs to improve this is something we are continuing to work on acknowledging that there are difficulties monetising the service i.e. VOLL (Value Of Lost Load).

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

MainPower is not aware of any circumstances or evidence that the cost of contract development is a barrier to entering the market for flexibility services, however our experience has been limited to flexibility services provided in the context of a customer with a connection agreement for distributed generation.

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

MainPower supports the submission of the ENA on this point.

Q.17 What kind of operating agreement would address the issues described in this chapter?

MainPower supports the submission of the ENA on this point.

MainPower already has operating and connection agreements with DER asset owners connected to its Network. MainPower's approach to the connection and operation of DER will continue to mature and evolve as it comes to better understand consumers' DER requirements and the mutual benefits and disbenefits, including how those benefits and disbenefits will be monetised. A standard operating agreement is unlikely, given the different security of supply risks across the network and the varying requirements of different DER asset owners.

Q.18 What are distributors doing to ensure their network can efficiently and effectively manage the transformation of networks?

MainPower is a party to a joint submission on behalf of Buller Electricity, Electra Limited, MainPower, Network Waitaki Limited and Westpower Limited which addresses the questions raised in section 8 of the discussion document in more detail.

Customers have told us in engagement sessions that MainPower should be taking a leading role in facilitating the use and adoption of new technologies – to date, among other things, we have invested in an Advanced Distribution Management System which has the systems and automation to support DER in the future. MainPower is committed to open architecture so some form of system operation may still be required into the future, however it is likely that technology will assist in providing this service across all EDBs.

MainPower has also been involved in a pilot to trial large scale solar and battery installation on dairy farms and is currently developing a smart campus trial to give us an insight into what the future of demand side management may look like, and the layers of infrastructure required. This will enable us to examine how demand side flexibility and other services can be offered to customers.

MainPower's network transformation, much like other EDBs, is disclosed in our AMPs. MainPower is committed to the AMP and ID requirements process, which requires discussion of future services and service levels with our consumers and ensuring we meet their requirements.

Q.19 How are distributors currently working together to achieve better outcomes for consumers?

MainPower supports the submission of the ENA on this point.

EDBs regularly share information and support each other both through formal channels such as the ENA and informally. EDBs are not in competition which enables the free flow of information and ideas.

The USILM is an example of cooperation by EDBs for the benefit of both their own consumers and the wider electricity system. MainPower has been an active participant in the USILM and is a key player in the current consideration of establishing a South Island DSO. MainPower is of the view that any consideration of adoption of system operation at a distributor level needs to be done in the context of that country's electricity system. The regulator and the industry need to engage with each other about the role of system operator at the distribution level and the need for that role. Any development needs to be industry lead.

Other examples of collaboration are the North Island Network Operators and Collective Network Operations Groups, South Island Safety Communications team, EEA and ENA working groups, ENA's Common Competency Framework. MainPower, in common with other EDBs, has adopted the Powerco network standards which ensures safety and consistency for consumers and network users.

Within the South Island EDBs cooperate in respect of procurement resulting in savings to the business and ultimately to consumers. More recently discussion have been held about sharing access to spares to mitigate delays caused by changes in transportation following the covid 19 pandemic.

EDBs also support each other by providing resources during significant weather events. Most recent examples are during the windstorms of 9 and 12 September 2021 MainPower was assisted by field crews for Buller Electricity, Marlborough Lines, Electronet (Westpower) and Delta. Likewise MainPower provided staff to assist Buller Electricity during the July flood event. This cooperation means that EDBs are able to more quickly restore supply to customers and manage staffing issues such as fatigue than they would if working alone.

The current sector structure enables EDBs to share information and learnings and capitalise on the benefits of collaboration while still responding to the priorities of their consumers and stakeholders.

Q.20 Could more coordination between distributors improve the efficiency of distribution?

MainPower supports the submission of the ENA on this point.

EDBs are already cooperating and coordinating for the benefit of their consumers and the wider system. The sharing of information and knowledge around the growth in DER and technological innovation helps EDB's capitalise and leverage off the experience of other companies.

The South Island DSO proposal and discussions around the future of USILM shows that EDBs are able to respond to changed circumstances and use coordination to address the challenges of a new energy future.

