12 April 2019

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Dear Kimberley

Spotlight on emerging contestable services – terms of reference

Wellington Electricity Lines Limited (WELL) welcomes the opportunity to make a submission to the joint Commerce Commission (Commission) and Electricity Authority (Authority) terms of reference titled 'Spotlight on emerging contestable services'.

Industry wide – not restricted to just Electricity Distribution Businesses

WELL supports the need to clarify the electricity industry's role, including that of Electricity Distribution Businesses (EDBs), in providing emerging contestable services. WELL believes that the study should not be limited to just EDBs participation – the scope of the study should include all industry participants who might be providing emerging constable services. By including all participants, the study will be able to assess any cost/benefit trade-offs across the supply chain and the overall impact this will have on consumers.

Market contestability is only one consideration - operational supply limits must also be considered

Historically, EDBs have used simple ripple control systems to shift consumer interruptible load or hot water storage away from network congestion periods. Ripple control systems have lowered the cost of distribution services by avoiding or delaying network reinforcement and customers are provided with a lower tariff in recognition of providing controllable load. This system still operates today on the Wellington network.

As customers energy choices increase with new products like solar (with or without storage) and the electrification of their transportation with the purchase of electric vehicles, then the EDBs involvement in managing the distribution network also increases. New products will mean EDBs will need to manage the more complex quality of supply requirements, increasing network capacity, while maintaining security and reliability expectations.

Therefore, there are two issues for regulators to consider, the market competition element of contestable services and the physical reality of the network remaining within operational supply limits. Both of these need to be considered independently and also collectively.

WELL predicts that a future secondary market will be established across the Low Voltage (LV) network, where customers, retailers and load aggregators will trade customer Distributed Energy Resources

(DERs). A trading platform would show the availability of customer DERs, allowing an EDB to call for services to alleviate congestion when a network is approaching the security limits of its network. This will help ensure the LV network standards are maintained while enabling DER to dispatch, consume and store energy. Likewise, a transmission constraint could be managed by engaging the EDB to call on retailer/aggregator services.

It is important to have clarity over operating limitations of the LV network to forecast future investment requirements or to schedule retailers to provide support that defers network investment. Clear operating limits are also needed to manage demand on the network, curtailing usage to maintain security, reliability and supply quality.

While EDBs will be responsible for operating their LV networks to defined and published standards, there will be the need to coordinate DER to support network security during peak demand periods. For example, EDBs could co-ordinate the distribution of stored energy to offset peak demand periods. Likewise, the curtailment of EV load if network operating standards are exceeded would provide additional supply security should cost reflective price signals not provide a strong enough incentive to smooth congestion.

From WELL's EV trials with early adopters of EVs, it appears that customers are comfortable with EDBs directly managing when EVs are charged. Appendix A illustrates that 70% of trial participants would be comfortable with direct management of EV charging and half of those trailed would allow direct management of rate of charging for a $20 per month or less saving on their bill.

In addition to the quality of supply benefits of smoothing congestion with the help of DERs, smoothing congestion will also reduce long term customer prices by allowing EDBs to delay or avoid investing in new capacity. Care must be taken to ensure regulation does not stop EDBs using distributed energy resources to help smooth congestion. If congestion cannot be smoothed, long term prices will be higher as EDBs build traditional network capacity to meet increases in energy demand from electric vehicles.

Regulation must be flexible so it doesn't restrict unforeseen future services

During planned outages WELL uses portable generation to provide customers with a secure supply when it is deemed inappropriate to work live on the High Voltage (HV) network. While WELL uses diesel generation, we see a time when battery inverter sets will replace the fossil fuel systems. Access to DER within the network will deliver multiple new benefits like this. It can also provide capacity firming for substations at peak demand periods and EV mobile response for when drivers fall short of battery range.

DER will provide new opportunities and services, many of which haven't been thought of yet. WELL encourages both regulators to keep an open mind and to be flexible in setting regulation because of the uncertainty of what future DER services may occur. Applying flexibility in regulation will ensure the industry doesn't pick winners before we even understand what new opportunities could develop. Flexibility in regulation will also help participants to be agile when negotiating the uncertain future in order to ensure customers continue to receive both a reliable supply, and the long term benefits that flow from DER solving challenges and opportunities we currently have not foreseen.

The effectiveness of flexible regulation has been illustrated recently in the United Kingdom by one of WELL's sister companies, UK Power Networks. UK Power Networks has teamed up with eight other businesses to offer "renewable first" as a new connection opportunity. This allows DER providers to supply new network connections ahead of asset investment. This has only been able to occur because there is a flexible market which does not restrict new constructs which can work for customers and participants alike.

Consider the practical application of DER

It is also essential that both the Commission and the Authority's focus are not just on when restrictions on Distributors activities should apply. It is just as important to also consider what practical tools and frameworks are needed to facilitate the efficient and effective installation and operation of distributed energy resources (DER). Either the terms of reference should be expanded to include the following practical aspects, or a separate work stream should be added to include:

1. **New technology standards**: Introduce new installation standards for new technology that require integration with networks and self-management features;
2. **Mandatory notification of EV installation**: Require customers who want to install EV chargers to apply to their lines company. This will ensure that the installation of EV chargers complies with the standards of the network for two way power flows and they be can offered as a managed service;
3. **Congestion standards:** Introduce standards on how congestion is managed and the part customers DER can play in assisting to manage network congestion;
4. **Low voltage monitoring**: DERs can introduce LV monitoring opportunities where current Smart Meter monitoring is inadequate and where visibility of changes in network performance are most likely to be felt;
5. **Smart meter data**: Require LV data to be made available to the supply chain. This will provide EDBs visibility of the LV network, allowing them to model and forecast demand to calculate where more efficient pricing for services could occur;
6. **Support with efficient prices:** Cost reflective prices need to be passed onto customers either through retailers or by direct advertising of retail offerings to customers in areas of the network which require network congestion reduction;
7. **Available funding and flexible regulation:** Ensure that funding is available to develop and implement a network which can seamlessly accept new technology. Given the DPP3 process is underway and there is still uncertainty about what DER services might look like, the DPP3 will need the ability to re-open and adjust allowances. Flexibility in regulation will be required to manage uncertainty;
8. **Incentivising EDBs to invest**: EDBs will also need to be incentivized to invest in the tools needed to use distributed energy resources to smooth congestion. Risk or uncertainty will be barriers to efficient investment.

In addition to expanding the terms of reference to include the above practical aspects (or to include them in a separate work stream), WELL would like the ability to review the findings of the study and to provide feedback.

WELL appreciates the opportunity to provide a submission on the terms of reference for the 'Spotlight on emerging contestable services' work programme. WELL encourages both the Commission and the

Authority to tread lightly when considering any additional regulation that limits participation in providing new DER services. There is a danger that regulation applied now, could have unintended consequences on future services.

If you have any questions or there are aspects you would like to discuss, please don't hesitate to contact Scott Scrimgeour, Commercial and Regulatory Manger, at sscrimgeour@welectricity.co.nz .

Yours sincerely

Greg Skelton

Chief Executive Officer

Appendix A: Are customers comfortable with EDBs controlling EV changing

The following graphs are from WELL's EV charging trial. The full report can be found at: file:///C:/Users/sscrimgeour/Downloads/WE-EV-Charging-Trial-Report-.pdf

Figure 6.0

How comfortable participants are with the idea of letting their EV charging be controlled by a centralised service

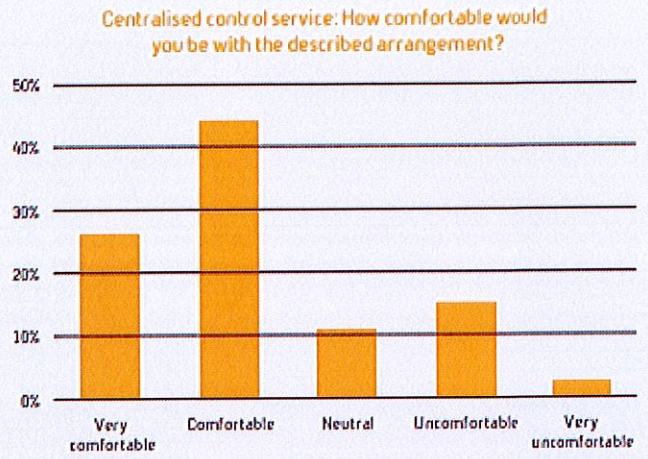

Figure 7.0

Level of saving participants would expect for letting their EV charging be controlled by a centralised service