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Commerce Commission
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Dear Mr Ruxton

RESPONSE TO OPEN LETTER: INFORMATION RELATING TO EMERGING TECHNOLOGIES

Wellington Electricity Lines Limited (**WELL**) welcomes the opportunity to respond to the Commerce Commission's (**the Commission**) open letter on its intention to gather information relating to emerging technologies.

Our development plan for emerging technologies over the next 10 years is set out in our asset management plan (**AMP**), published in April 2018. Specifically, chapter nine describes how we will adapt to the potential impact and opportunities from new technology to maintain a safe, flexible and secure network at the lowest cost for our customers.

What emerging technologies are we investing in?

Emerging technologies will continually present opportunities and challenges that require our network to evolve. To ready our network and organisation for a future enabled by emerging technologies, including facilitating customer choice, we will implement strategies to keep abreast of emerging technology concepts and solutions and their practical applications.

For example, as set out in our 2018 AMP, we have established development plans and corresponding investments to support the following:

- a transformation to a distributor system operator;
- the electrification of transport in the Wellington area;
- the increased take-up of distributed generation and energy storage;
- an evolution to a smart network;
- the adoption of energy efficiency measures;
- network real-time technologies; and
- the continued digitalisation of network assets and data.

We also propose to undertake further research and trials to gain sufficient knowledge on the impact and potential of these technologies.

What effect are emerging technologies having on our sector?

Emerging technologies and other factors driving changes in the energy sector will have varying impacts on the electricity network, such as:

- increased demand due to electrification. A drive for de-carbonisation (reduction in greenhouse gas emissions) leads to electrification of some processes and consequent increases in electricity demand;

- reduced demand due to energy efficiency with the adoption of new energy efficient processes and replacement of older equipment with new energy efficient equipment reduces electricity demand;
- supply quality challenges causing issues such as voltage fluctuations, low power factors and high harmonic distortion levels predominately on LV circuits at customer connection points caused by emerging technology type load connections;
- new consumer behaviours seen by the adoption of new technologies with digital interfaces that allow a higher level of interaction and for customers to actively participate in the electricity market and take advantage of consumer level load management;
- improving economics of new technologies make it easier for customers to develop distributed energy resources;
- energy cost reduction as new technologies adopted by consumers and interfaced to the network will provide cost effective and reliable energy solutions to consumers and necessitate optimising asset utilisation and applying demand side management by networks, to avoid incurring significant costs to manage the impact of uncertainties; and
- regulatory change bringing new requirements, policies or asset management practices introduced by the regulators in relation to emerging technologies.

Such changes and their impacts bring a level of uncertainty which will need to be addressed at the distribution network level. This requires distribution companies to play an active role in co-ordination with consumers, equipment suppliers, retailers and the national grid operator.

Next steps

Our 2018 AMP provides further detail on the information presented above, and we would like to register our interest in continuing to engage with the Commission on these issues.

If the Commission has any queries regarding our submission, or our AMP, please do not hesitate to contact Ray Hardy, General Manager Asset Management on 04 915 6107 or by email at rhardy@welectricity.co.nz.

Yours sincerely



Greg Skelton
CHIEF EXECUTIVE OFFICER