

Before an Independent Hearings Panel
appointed by Christchurch City Council

under: the Resource Management Act 1991

in the matter of: the hearing of submissions on Plan Change 14 (Housing
and Business Choice) to the Christchurch District Plan

and: **Orion New Zealand Limited**
Submitter 854

Summary Statement of Anthony John O'Donnell

Dated: 18 April 2024

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SUMMARY STATEMENT OF ANTHONY O'DONNELL

INTRODUCTION

- 1 My name is Anthony O'Donnell and I am the Head of Network Delivery at Orion New Zealand Limited (*Orion*). In this role, I oversee the management, installation, maintenance and replacement of the Orion electricity distribution network.
- 2 I prepared a brief of evidence addressing Orion's submission on the proposed Plan Change 14 to the Christchurch District Plan (*PC14*). My qualifications and employment history are set out in my brief of evidence.

SUMMARY OF EVIDENCE

Overview

- 3 Orion is New Zealand's third largest electricity distribution business and owns and operates the electricity distribution network that provides power to central Canterbury. Through this network, Orion delivers electricity to more than 220,000 homes and businesses through Christchurch City and the Selwyn District.
- 4 Orion has obligations under a number of statutory and non-statutory documents that it must comply with, in this context the following are important:
 - 4.1 New Zealand Electrical Code of Practice for Electrical Safe Distances (ECP:34). ECP:34 sets out minimum setbacks from electrical equipment to ensure public safety.
 - 4.2 Health and Safety at Work Act 2015. Health and safety of the general public and Orion's workers is a fundamental concern and is one of the key reasons that Orion is actively involved in planning processes such as Plan change 14.
 - 4.3 Electricity Industry Act 2010 coupled with Orion's financial obligations, mean we essentially must supply electricity to all who apply and who are able to pay the capital contribution.
- 5 The changes Orion seeks to Plan change 14 will allow Orion to meet those statutory obligations and represent an absolutely necessary baseline in respect of public safety and electricity provision. The amendments Orion is seeking relate to:
 - 5.1 Ensuring setbacks from ECP:34 for significant electricity lines continue to be included in the district plan;

- 5.2 Further including the ECP:34 setbacks for lower voltage lines are in the district plan in light of the medium density changes proposed; and
- 5.3 Including a requirement for additional space to be provided where an increase in density results in the need for an upgrade to infrastructure.
- 6 The amendments sought represent the minimum requirements to allow Orion to adequately protect the electricity distribution network and to enable the installation, maintenance, repair and upgrade of infrastructure that will be required to service new development as a result of intensification.
- 7 As explained in my brief of evidence, Orion is continually assessing what will be required to be able to service our customers in the short, medium and long term. It is important we invest in the operation and development of the electricity distribution network to cater for growth and to enhance the resilience of the network.
- 8 Current modelling, and this aligns with the modelling of all other EDBs and international expectations, is that the demand for electricity will increase over the next decades to a huge degree. I understand the briefing given to the new Energy Minister forecast a 70 percent rise in electricity demand by 2050. This increase in demand is the result of a number of factors, including meeting climate goals, an increase in vehicles being charged at home, an increase in electrification generally and more people working from home.
- 9 Against a background of demand like this, intensification has the potential to add significant strain to existing infrastructure. What Orion is seeking is that the plan provisions enable us to continue to provide our lifeline services in what will be unprecedented times.

Impact of housing intensification provisions on Significant Electricity Distribution Lines (SEDs)

- 10 As explained in my evidence, I support protection of significant lines through suitable corridor protection rules. Without these rules, there is an unacceptable risk of inappropriate development and / or activities in close proximity to these lines and that can pose a serious health and safety risk to people, stock and property. It can also significantly impact and constrain Orion's ability to operate, maintain and upgrade these critical network assets and thereby to distribute electricity.
- 11 My evidence contains some examples of where underbuild or encroachment has occurred and explains the issues associated with reduced clearances.

- 12 I understand that, in relation to SEDLs, the existing provisions in the operative Christchurch District Plan are proposed to be carried through in PC14 by way of a “qualifying matter”. In my experience, the existing corridor protection provisions have improved clarity and certainty about setbacks and clearances, leading to greater safety around our network. This benefits all involved – particularly developers, landowners and Council staff as well as Orion itself.
- 13 I understand that the qualifying matter and associated provisions to protect significant lines are agreed between Orion and Council.

Impact of housing intensification provisions on lower voltage lines

- 14 I understand that the provisions sought by Orion in relation to its lower voltage lines are not agreed. It is important to reiterate that the same issues that arise for significant lines can also occur for lower voltage lines. The scale and density of intensification associated with Plan change 14 will see the existing challenges increase significantly in prevalence and severity.
- 15 I understand that the Council and Kāinga Ora have questioned the need for planning provisions for lower voltage lines given the clearance requirements already established under ECP:34
- 16 While ECP:34 does set minimum safe electrical clearance requirements for structures and certain activities (including lower voltage lines), it does not always prevent underbuild or encroachment in practice. I consider that, by highlighting and specifically incorporating the requirements of ECP:34 in the planning rules, Orion is able to improve safety to the public, remove cost and promote good electricity network outcomes.
- 17 ECP:34 is a very specific piece of legislation, it works well where those undertaking works are experienced with it and know to check it. Where there are difficulties is where people do not know it exists or even that there are rules they need to comply with. There is no requirement for the Council to highlight the rules at any stage and I understand that it is standard for architects and planners to exclude advice on ECP:34 in their standard terms. That leaves a gap that could have dangerous consequences.
- 18 I understand that the medium density residential standards implemented by Plan change 14 would enable residential development up to six stories high with setbacks of as little as 1.5m from the front boundary (and closer to internal or side boundaries in certain circumstances). This has the potential to be highly problematic in terms of overhead lines. The potential issues are explained in detail in my evidence, including generated images to demonstrate what intensified development might look like in the Christchurch context.

- 19 Conflicts between development and overhead electricity line clearances are not new. But as townhouses and infill development have become more popular in recent years, we have seen an increase in potential clearance violations on the network. I have included some additional images attached to this summary of a recent incursion. I understand that in Auckland they have experienced significant issues as intensification has occurred. These can result in huge costs for developers to reinstate compliance, in some instances new buildings have been demolished or developers have been required to pay for undergrounding or side arming of the line. We would like to avoid the same level of noncompliance occurring in Christchurch.
- 20 Safety is non-negotiable for Orion. Where clearances are compromised, they must be remediated one way or another, and the costs of reinstatement can be significant.
- 21 Under the Natural and Built Environments Act that has now been repealed, a draft national planning framework was being developed. The most recent draft of the infrastructure provisions for that national planning framework included a rule requiring compliance with ECP:34 for all lines and support structures across New Zealand. Orion is hopeful that the Government's Electrify New Zealand program will result in new national guidance that addresses this issue again and has been working with other EDBs, MBIE and the Ministry for the Environment in this respect.
- 22 Recognition of clearances for Orion's lower voltage lines through PC14 would significantly reduce the likelihood of clearances being overlooked and ultimately compromised by intensified residential development. Orion's relief would allow us to work with applicants – we do not wish to restrict development, but it is essential that we ensure the safety and reliability of electricity supply. It is far more efficient for these matters to be considered at the outset of projects.

Servicing standard

- 23 An increase in intensification in already established areas will always affect Orion's network, as electrical load increases, it triggers a need for network reinforcement. The example we are most concerned about is that a kiosk generally services approximately 50 households; where you get sites that previously held one household, increasing to 3+ households it doesn't take long before a new kiosk is required.
- 24 Even in the current context it is critical that the electricity distribution network is considered and sufficient land is reserved for electricity distribution infrastructure. When the likely steep increase in demand for electricity is factored into this, enabling upgrades as intensification occurs becomes even more important.

- 25 Developers generally do not approach Orion to discuss servicing matters until after plans for a development are fixed, and often after resource consent has been granted. They also often fail to set aside sufficient space for the infrastructure that will be required to service the increase in demand.
- 26 As explained in my brief of evidence, there is often very little opportunity to compromise on the location and land area required for infrastructure.
- 27 When we cannot locate infrastructure on development sites there are few other options. Often we need to locate infrastructure within nearby local parks and reserves. This can result in significant delays while we negotiate with the council around easement terms and locations. We have some easement discussions that are currently 22/23 months and ongoing. It is difficult to see that this is less administration for the council than a resource consent application.
- 28 The electricity distribution network can be upgraded to service new dwellings and greater intensification, but that cannot be done adequately without enablement. Orion does not wish to hinder intensification or development but wishes to ensure the plan enables solutions to be found at an early stage.

CONCLUSION

- 29 Medium density development is likely to exacerbate the existing issues and challenges that Orion is facing with maintaining, upgrading and installing new electricity distribution infrastructure. Ultimately, it will enable more intense development while making it more difficult for Orion to supply that development with electricity.
- 30 Orion is seeking that plan change 14 protect its significant electricity distribution lines and lower voltage lines, as well as provide for a new servicing standard to fit the intensification context and enable the ability of Orion to continue to meet the needs of our customers in the future as demand grows.

Anthony O'Donnell

18 April 2024



