

**BEFORE THE COMMISSIONERS APPOINTED BY THE
DUNEDIN CITY COUNCIL**

IN THE MATTER

Of a submission pursuant to
clause 5, Schedule 1 of the
Resource Management Act
1991 (the **Act**)

AND

Variation 2 to the Dunedin
City Council Second
Generation District Plan
(**Variation 2**)

BETWEEN

Aurora Energy Limited

Original Submission 217

Further Submission 28

**BRIEF OF EVIDENCE OF JOANNE DOWD ON BEHALF OF AURORA
ENERGY LIMITED**

DATED 3 SEPTEMBER 2021

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BRIEF OF EVIDENCE OF JOANNE DOWD ON BEHALF OF AURORA ENERGY LIMITED

May it please the Commissioners:

Introduction

1. My name is Joanne Dowd, I am the Resource Planning, Property and Environment Manager employed by Aurora Energy Limited (**Aurora**).
2. I hold a master's degree in Town and Country Planning from The Queens University of Belfast, obtained in 1993. I have been a full member of the UK Royal Town Planning Institute since 1997. I am also a member of the Resource Management Law Association since 2006. I sit on the Electricity Networks Association's (**ENA**) Resource and Environmental Planning Forum, and I am an ENA representative on the MfE's National Planning Template for Network Utilities Working Group. I am also a member of the Women's Infrastructure Network – WIN Otago/Southland.
3. I am employed as Resource Planning, Property and Environment Manager at Aurora. Before that I was employed as the Network Policy Manager with Delta Utility Services Limited. I have been employed in my present position since July 2017 and I have 27 years international planning experience in both the private and public sector.
4. At Aurora, I am responsible for all Resource Management Act 1991 processes associated with development of its electricity distribution network. Recent projects I have been involved with include the designation and associated regional council consenting of the proposed Clyde Dam, Riverbank Road and Camphill Substations in Clyde and Wanaka, and the Carisbrook substation in Dunedin. I have also been involved in the consenting of our 33kV asset upgrades including the consenting of the installation of new high voltage cables across the Otago Harbour; and consenting for the installation of our upgraded SCADA communications network which links our various substations within the district. In recent years, I have focused on providing consultancy advice with respect to regional and district plans,

utility developments, resource consents and environmental management and environmental effects assessments.

5. In my role at Aurora I have drafted submissions and presented expert evidence in support of various District Plan reviews subject to the Schedule 1 of the Act. My involvement has been in relation to Aurora's original submission on the Dunedin City Council Proposed District Plan Review (**2GP**) as well as in the Queenstown Lakes District Proposed District Plan Review (Stage 1 to 3) (**QLDC PDP**). Additionally, I have been involved with Aurora's various interests as an appellant and section 274 party on appeals to the Environment Court pursuant to Clause 16, Schedule 1 of the RMA, including being involved in several Environment Court-assisted mediations.
6. As I am an employee of Aurora, I am unable to comply with the Code of Conduct for expert witnesses contained in the Environment Court Practice Note. However, I have prepared this evidence with reference to it. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions I express. Unless I state otherwise, this evidence is within the scope of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Scope of Evidence

7. This evidence is prepared in support of a submission by Aurora on Variation 2. Given that this is a variation to a substantive district plan review, the extent of Aurora's submission and interests is discrete and in response to key issues that may arise because of provisions and zoning which seek to increase the density of Dunedin's housing stock.
8. Specifically, this evidence addresses Aurora's further submission in support of the original submission by Spark New Zealand Trading Limited and Vodafone New Zealand Limited¹ which seeks a new assessment matter with respect to infringement of maximum height limits to assess the extent to which that breach results in reverse

¹ Further Submission 28.2 in support of Original Submission OS224.005.

sensitivity effects on adjacent infrastructure networks and how this can be mitigated.

Minimum safe distances to electrical conductors

9. The height, scale and physical location of a building is a key risk associated with the operation, maintenance, and potential future development of Aurora's network as well as its ability to avoid or reduce to the extent possible health and safety risks associated with its network. This is an ongoing issue which has driven Aurora's involvement in the 2GP and QLDC PDP primarily with respect to Aurora's 11kV, 33kV and 66kV overhead lines.
10. The factual scenario that Aurora seeks to avoid is where a building is erected near a section of Aurora's existing overhead network. By erecting the building in this way, the landowner has inadvertently increased the health and safety risks to the occupants of that building. Aurora as the owner of the network cannot ignore that risk.
11. It is for that reason that Aurora has sought amendments to the 2GP, through its appeal to the Environment Court, that seeks corridor protection from identified land-use activities across various zones in the District provided that those activities complied with the provisions of the New Zealand Code of Practice for Electrical Safe Distances 2001 (**NZEC:34**).
12. NZEC:34 is a code established pursuant to the Electricity (Safety) Amendment Regulations 2013 which sets mandatory minimum distances allowed between any new buildings/structures and overhead lines. It seeks to protect persons, property, vehicles and mobile plant from harm or damage from electrical hazards. In my view, there is a need to consider nearby overhead conductors at the time of making an application for resource consent to construct a building, particularly where the building exceeds the height limits set out in the 2GP.
13. Locating buildings and structures near overhead conductors can raise potential electrical hazards due to direct contact with lines or electricity arcing to adjacent structures which can cause serious injury or death.

Aurora, together with any persons undertaking work near an electric asset is required to maintain safe distances in line with NZECP:34. Failure to maintain safe distances is an offence under the Electricity (Safety) Regulations 2013 and the Electricity Act 1992.

14. As I have noted above, compliance with NZECP:34 is mandatory. However, in my experience, many developers (and the public) are either completely unaware of the requirements of NZECP:34 or choose to ignore it because it is not considered relevant to their development and may inhibit their development aspirations. The latter has been facilitated by a lack of awareness by local authorities of NZECP:34 and led to it not being considered when an application for resource consent or building consent is lodged with the relevant local authority.
15. Aurora has been proactively working with the Dunedin City Council to develop informational guidance to be included with Property Information Memorandum's and to be included on the Dunedin City Council's Building Control website, to advise developers about the health and safety risks of developing property near Aurora's existing overhead network.
16. Where a developer has failed to consider the minimum safe distances under NZECP:34 and constructed a building or structure, such a breach cannot be ignored and must be addressed due to the safety concerns it raises. In some instances, there are acceptable engineering solutions that reduce the risk to persons from a nearby electric line but in many instances there are not. In that circumstance, the only solution is to either remove the structure or the electric line. The application of retrospective engineering solutions typically leads to a less than ideal outcome for both a developer and Aurora and in my view is not an efficient process for managing risk to people.
17. Although there will always be a risk that a compliant building height will breach the minimum safe distances set out in NZECP:34, the risk is exacerbated when there has been an exceedance of that height limit, which I consider is appropriate to address through the inclusion of an assessment matter to have regard to adjacent infrastructure networks.

In my view, the risk is further exacerbated by the focus in Variation 2 on infill development, such that the density of housing will create pressure to develop vacant land to a much greater degree, forcing built form higher and closer to the boundaries of properties.

18. Examples of breaches of the minimum safe distances that have not considered adjacent overhead conductors or infrastructure are set out at **Appendix 1** to this evidence.
19. An alternative to the drafting suggested by the Submitter may be to include specific reference to the extent to which the exceedance of the height limit encroaches on the minimum safe distances set out by NZECP:34. Reference to NZECP:34 has been threaded throughout the 2GP through consent memorandums lodged with the Court (or to be lodged) and is a helpful mechanism for ensuring that people are aware of their obligations under that code. Suggested drafting is outlined below:

General assessment guidance:

Council will generally refuse consent if the extent to which the height limit is breached does not comply with Section 3 of the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001).

Dated 3 September 2021

Joanne Dowd

Aurora Energy Limited

Appendix 1





Stedman Rd
Mosgiel, Otago
Street View - Nov 2012





