

Good afternoon, panel members and Mr. Chair,

1. Introduction

1.1 My name is Hein Pretorius, I'm employed by Transpower as a Senior Transmission Lines Engineer. I appreciate the opportunity to present my evidence today. I have a prepared statement highlighting some of the key points from my evidence.

Significance of the Transmission Network

2.1 The Taupō district's transmission assets are pivotal for New Zealand's electricity supply, forming part of the National Grid's "backbone" assets. Transpower is proactively enhancing these assets, anticipating future renewable electricity generation needs and increased electricity demand up to 2050.

Safety

4.2 Transpower operates its assets with safety as a priority. However, the high voltages on the network come with inherent risks, including lethal electric shocks and hazards from external interferences. Earthworks near the National Grid can undermine the stability of structures, leading to potential collapses. Transpower seeks to manage such activities to mitigate safety risks.

Maintenance & Access Needs

3.1 Transmission lines necessitate regular inspection and maintenance to combat aging, intentional damage, and environmental factors. Ensuring unhindered access to these lines for staff, vehicles, and equipment is crucial. A regulated transmission corridor guarantees this access, especially during system faults where swift restoration is vital. In emergencies, quick access is paramount to address faults promptly, given the heavy reliance of businesses and communities on electricity. Third-party infrastructure should be designed with the transmission line in consideration to protect the National Grid. Any 'under-build' can impede maintenance or project work.

National Grid Yard Specifications

5.1 The National Grid Yard and the subdivision corridor are designed to ensure that maintenance, repair, and upgrade activities remain uncompromised. These specific distances have been determined through extensive engineering analysis, considering a variety of factors. In short, the 12m distance for the National Grid Yard accounts for "everyday" wind conditions suitable for maintenance activities, whereas the 37m distance for the subdivision corridor is based on the swing of conductors during high wind conditions.

Understanding the National Grid Yard

6.1 There's a common misconception about permissible activities within the National Grid Yard. Many activities can coexist with transmission lines, provided they maintain safe separation distances. This includes urban activities like car parks, internal roads, and open spaces, and in rural settings, access roads, machinery, and certain farm buildings. Transpower's "Development Guidelines" on their website provide a detailed overview of this.

Restrictions and NZECP 34 Limitations

7.1 The New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP34:2001) serves an important purpose in prescribing minimum safe distances for the construction of buildings and structures, for the use of mobile plant, and for excavation near transmission line support structures and overhead lines. However, it does not consider the operational, maintenance (access) and upgrading requirements of the National Grid.

Conclusion

8.1 In essence, Transpower's guidelines are not merely about uninterrupted power supply; they aim for a safe, efficient, and sustainable electricity provision.

Thank you for your time and consideration. I am ready to answer any questions and provide further clarity on my evidence.