BEFORE THE INDEPENDENT HEARING PANEL FOR THE PROPOSED PORIRUA DISTRICT PLAN

UNDER	**the Resource Management Act 1991**
IN THE MATTER OF	**Proposed Porirua District Plan**
AND	
IN THE MATTER OF	**Submitter (84) and Further Submitter (63) by Firstgas Limited**

WRITTEN STATEMENT OF EVIDENCE OF NICOLA ELIZABETH HINE

Hearing Stream 4:

Strategic directions in relation to Functioning City Energy

Infrastructure and Transport: Infrastructure, Renewable Energy Generation, Three Waters, Transport

General District-Wide Matters: Amateur Radio, Earthworks, Light, Noise, Signs, Temporary Activities

Evidence date: 28 January 2022

Hearing Commencement date: 8 February – 15 February 2022

INTRODUCTION

Qualifications and Experience

1. My full name is Nicola Elizabeth Hine.

2. I am a Land and Planning Advisor at First Gas Limited (FGL). I am authorised to provide evidence on behalf of FGL.

3. I hold a Bachelor of Arts (English Studies) from Victoria University of Wellington, which I obtained in 2012.

4. I hold a Legal Executive Diploma from Toi-Ohomai Institute of Technology, which I obtained in 2018.

5. I have seven years combined experience working in Local Government at Wellington City Council, Auckland Transport, and South Taranaki District Council, where I worked on the various aspects of land in property-based roles. Fields of work include road stopping, leasing, licensing, and general property management and advice pursuant to various statues.

6. I have over three years combined experience working for private consultancy firms WSP (formerly Opus International) and DTZ New Zealand Limited (now Darroch Limited), working on central government property contracts, including for the Ministry of Education and Waka Kotahi, which included the disposal of land, acquisition of land, and general property advice.

7. I have previously held Nominated Person status for Public Works Act 1981 – Statutory Right of Repurchase with Land Information New Zealand Crown Property Regulatory.

8. I have been in my current role as FGL's Land and Planning Advisor for three years nine months.

9. I am familiar with the Porirua district and the Proposed District Plan.

Scope of Evidence

10. I provide this evidence in support of FGL's submission with respect to Infrastructure matters. Overall outcomes sought through FGL's submission are to:

i. Support provisions where they are adequate,

ii. Enable FGL to operate, maintain, upgrades and access the Gas Transmission Network, and

iii. Control activities within a certain proximity to the pipeline, being earthworks, buildings, vegetation, subdivision and subsequent development.

11. My evidence focuses on the practical nature of transmission pipeline ownership and operation, which includes manging external inferences which could cause harm to our network and therefore affect public safety and gas continuity, and the ability to safely operate and maintain our equipment without impractical impediment.

12. My statement of evidence addresses the following matters:

i. The use of explosives near the Gas Transmission Network,

ii. The operation of above ground sites with respect to the proposed cabinet setbacks, and

iii. Conclusion.

13. I rely on the evidence of Meghan Barrett to communicate FGL's requirements in planning rhetoric.

Explosives Near the Gas Transmission Network

14. FGL seek to be informed of, and have the opportunity to review and provide advice, the use of explosives within 100m from the Gas Transmission Network.

15. The use of explosives near to a pipeline may have a detrimental effect on the safety of the pipeline. Percussive shockwaves travel through the ground, and if the shockwaves received are of a high enough magnitude, either due to the source being too close, amount of explosive material used, the soil type, or a combination of these factors, there is risk that the ground holding the pipeline in place may move. There is potential that

this may cause physical damage to the pipeline or alter the support around the line. Both are major factors in the pipeline remaining safe and fit for purpose.

16. Physical damage to the pipeline may be such that the pipeline is immediately affected resulting in an unexpected gas release.

17. The ground surrounding the underground pipeline supports the pipeline and assists to keep the pipeline in its current alignment. Should this ground move, it may take the pipeline with it, which may cause damage to the pipeline coating which may led to degradation of the condition of the steel pipeline over time, or damage to the pipeline itself (i.e., buckle the pipeline), or cause strain which may lead pipeline rupture over time.

18. Explosives are often used for geotechnical investigations, quarrying, demolition works or military training. Geotechnical investigations are more commonly found in vicinity of pipelines. A typical charge size of up to 1kg of plastic explosive at 100 meters away, is not expected to cause significant ground acceleration causing damage in most soil types. At less than 60 meters however, there is cause for concern and the Pipeline Operator needs to understand the charge parameters, namely: size of charge, type of explosive, above or below grade, distance to the pipeline, and soil types. Quarrying activities usually take place in hard rock, and therefore the percussive shockwaves travel further. The risk to the pipeline associated with quarrying activities 100 meters away is higher than geotechnical blasting activities. The 100 meters distance sought therefore gives us the confidence to be able to assess the activity and advise if that activity has the potential of posing a risk to the pipeline.

Operation of Above Ground Sites in respect to Cabinet Setbacks

19. FGL above ground sites are locations which have various operational equipment including valves, waterbath heater, and pipework which has natural gas flowing through at high pressure. Natural gas is highly flammable. At each of these sites, hazardous areas have been identified which show areas within which a potential source of ignition shall be managed. The potential sources of gas release are typically the equipment and joints on the gas pipework. These areas are identified and documented as ‘Hazardous

Area Zones', and these areas need to be managed in line with the Electrical (Safety) Regulations:2010 and the compliance requirements contained in AS/NZS60079.10.1 (Explosive atmospheres - Classification of areas - Explosive gas atmospheres) and AS/NZS60079.14 (Explosive atmospheres - Part 14: Design selection, erection, and initial inspection).

20. Cabinets are often required to contain electrical equipment, which is a potential source of ignition, in that it could cause fire/explosion if exposed to a cloud of flammable gas. Such equipment is required to be located well away from the sources of release of flammable gas and may not be located within some of the Hazardous Area Zones or otherwise industry 'rated' for the zones it can be located within. We are therefore required by design codes (and the principles of design safety) to locate cabinets a safe distance, and preferably as far as practical, from our gas pipework. Even with the appropriate rating to locate electrical equipment in allowable Hazardous Areas, we are constrained in terms of layout.

21. In addition to the Hazardous Area Zones, we also need to consider the practical aspect of carrying out maintenance and pipeline work within the sites, as well as safety management. In essence, this means keeping as much clear space around the pipe work so that those persons carrying out the works can move easily (e.g., when replacing valve equipment and pipes) without 'knocking' other pipes, but also in the event of an unplanned gas release they can move quickly and freely to the exit.

22. Some maintenance activities also require the need for temporary vehicles, cranes, equipment, or weather-proofing. The pipework and any visible free space on site are usually designed in consideration of all these factors.

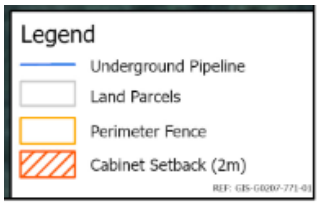
23. We also have underground pipelines within these sites, and cabinets may not be placed closer than two meters from the edge of those pipes. This is because these structures impede physical access to the underground pipeline (this is a standard offset throughout the pipeline network) and their footings may impinge on the underground lines.

24. These factors combined create space constraints, and this often means the cabinets have to be located close to the boundary fence.

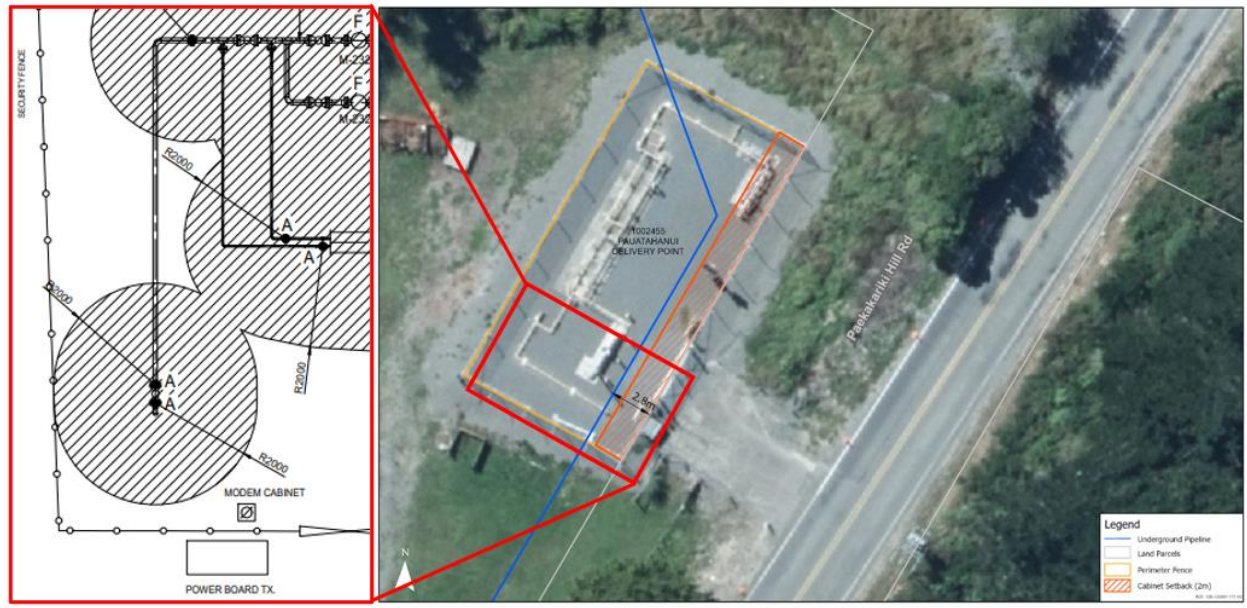
25. The following images show the three above ground sites located within Porirua City Council district. Within the aerial images you can see the above ground pipework, and the blue line indicating the location of the underground pipeline. The delineated red area shows the proposed two meter cabinet set back. The black and white images are examples of the Hazardous Area Zones for the respective site. This helps to depict the combined factors which would ultimately result in the impractical placement of cabinets if they cannot be located along the boundary fence and near an existing power source.

26. Key for shading used in Hazardous Area Zones:

27. Aerial map Legend:

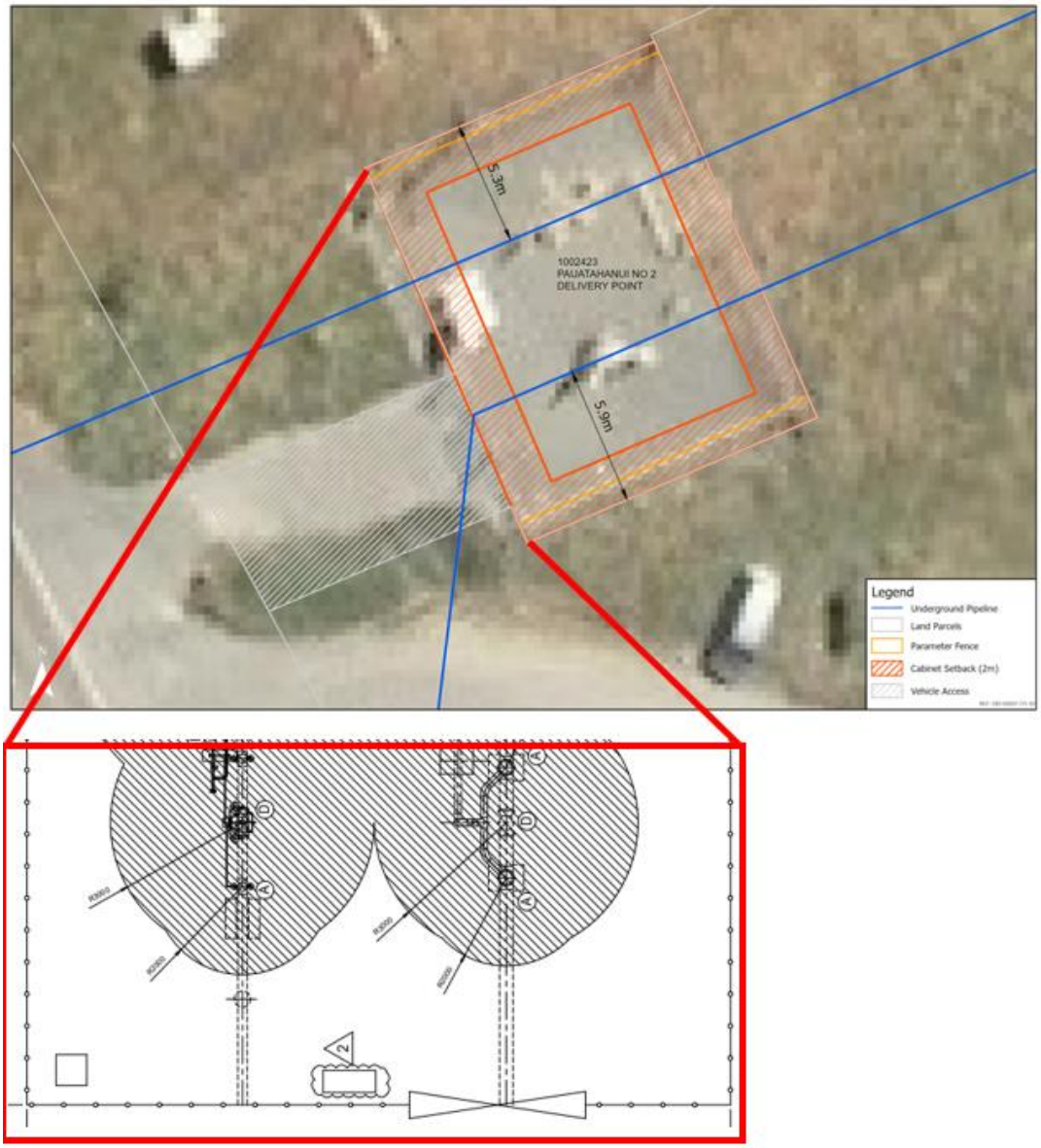


28. Pautahanui DP:



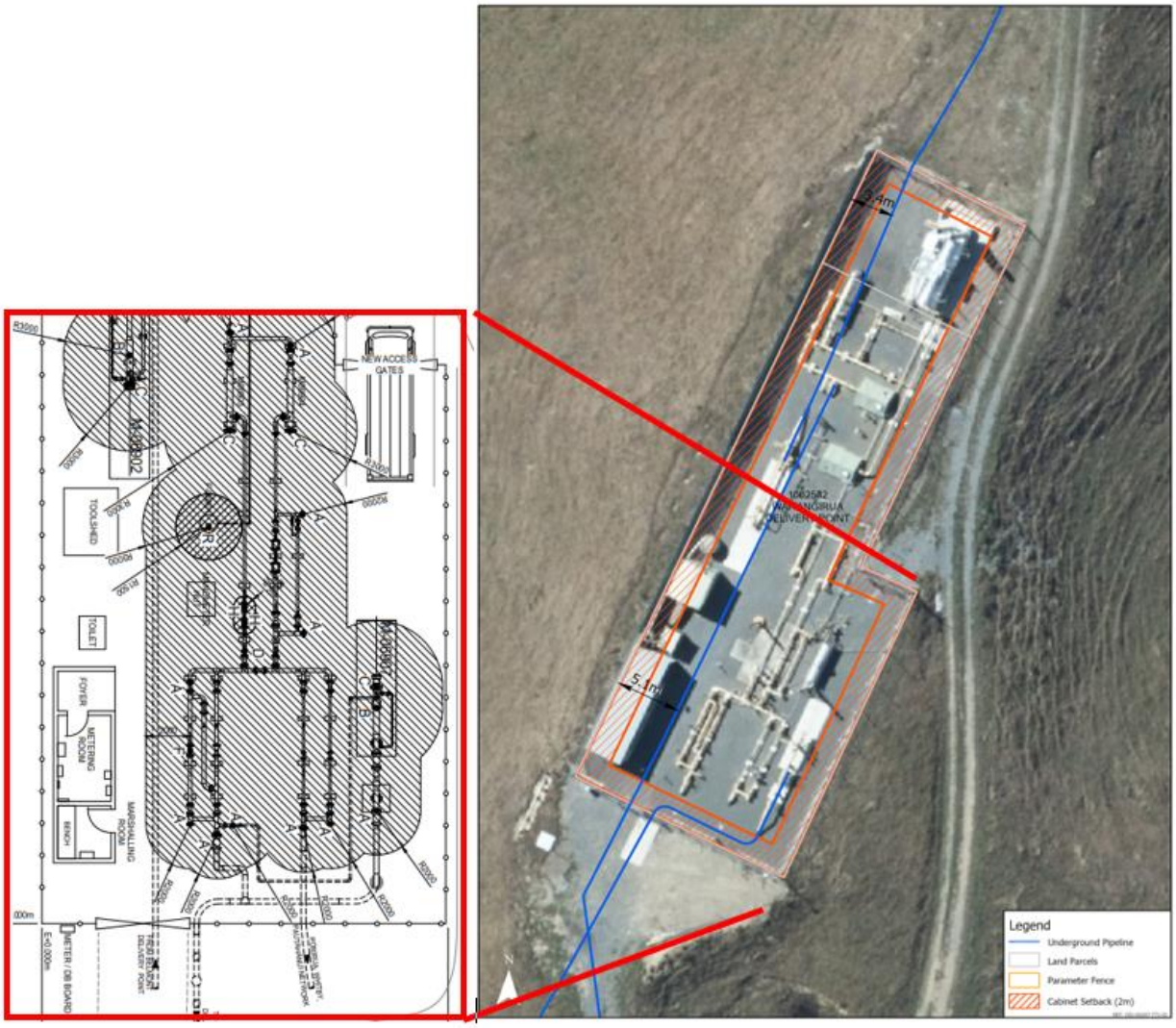
This Delivery Point is managed by rights via registered easement. The Site Boundary is therefore beyond the perimeter fence, excepting the road frontage.

29. Pautahanui No2 DP:



Note the red area shaded adjacent to the driveway is incorrect, however the remainder is correct.

30. Waitangirua DP:



Note that this is not the Site Boundary however Firstgas are interested to own the freehold title and the above depicts that scenario.

CONCLUSION

31. I consider that the relief sought by FGL with respect to the management of explosives within 100 metres of the Gas Transmission Network provides for the safe operation of this regionally significant infrastructure, as well as providing for the well-being of the community. Further, FGL expertise is critical in assessing whether activities sensitive to gas transmission proposed within proximity to the network may threaten the safety of the pipeline and result in the activity being exposed to potential risks.

32. I consider that the relief sought by FGL with respect to proposed cabinet setbacks enable FGL to operate and maintain the Gas Transmission Network in a safe and practical way.

Nicola Elizabeth Hine

28 January 2022