General Submission of Transpower on the Proposed National Policy Statement for Highly Productive Land

Transpower's role

Transpower is the state owned enterprise that plans, builds, maintains – and owns or operates. New Zealand's high voltage electricity transmission network (the **National Grid**). The National Grid includes some 12,000 km of transmission lines and cables (overhead and underground), and 178 substations across the country. The National Grid is controlled by a telecommunications network with 300 telecommunication sites, which help link together the components that make up the National Grid.

The National Grid extends from Kaikohe in the North Island to Tiwai Point in the South Island, and in doing so links generators to distribution companies and major industrial users throughout New Zealand.

The assets in the National Grid are an extensive, linear, and connected system of lines and substations. Thus, activities or changes on one part of the system can affect other parts. The National Grid operates at a regional or national scale in terms of the location of assets and the distances over which electricity is transmitted.

Of these assets, 14,912 transmission line support structures (towers or poles) are in LUC 1-3[1] - just over a third of Transpower's asset base. National Grid substations intersect with LUC 1-3 104 times[2]. Further, Transpower has 4 communications sites within LUC 2-3 (see attached Maps A and B). The vast majority of these assets would have been established well before the LUC system was developed.

Electrification of the economy (such as transport and process heat) is important to New Zealand meeting its climate change commitments[3]. The National Grid has a critical role in New Zealand meeting its climate change commitments – new Grid connections (lines and/or capacity upgrades to existing assets) will be required. Ultimately, the National Grid will be required for many years into the future (and is critical to enabling wider social and economic wellbeing).

Transpower needs to be able to operate, maintain, upgrade and develop the National Grid in the most sustainable way for that outcome to be achieved.

Exclusion of Nationally Significant Infrastructure

Transpower's key concern is that the Proposed National Policy Statement for Highly Productive Land (the **NPSHPL**) does not expressly address the relationship between highly productive land and infrastructure. The NPSHPL appears to be aimed at avoiding rural lifestyle development and urban expansion from occurring on highly productive land which does not apply to Transpower, and infrastructure has only been addressed once throughout the entire discussion document. Nevertheless some of the provisions in the NPSHPL have been drafted in a broad way such that they will apply to all subdivision, use and development.

Proposed Policy 3 of the NPSHPL sets out when urban expansion can occur on highly productive land. Yet no similar policy pathway has been provided for infrastructure. Transpower is concerned the NPSHPL may potentially place constraints on infrastructure, such as the National Grid, that will be inappropriate and unintended, and contrary to other national policy (specifically the National Policy Statement on Electricity Transmission 2008 (the **NPSET**) discussed further below).

The National Grid provides a number of critical and essential functions across New Zealand. Society could not function, nor could we maintain or improve our standards of living, without a secure electricity system of which the National Grid is an essential part. Electricity underpins the economic growth and

[1] 1059 structures are in LUC 1, 5577 are in LUC 2 and 8276 are in LUC 3.
[2] In total, less than 104 substations will be in LUC1-3 – some substations will be in more than one category.
[3] Transpower's "Te Mauri Hiko – Energy Futures" work explained why decarbonisation depends on expanding our renewable electricity base and our ability to electrify parts of the economy. We have predicted that electricity demand will grow significantly from 2020 and may double from 2050. The Interim Climate Change Committee's "Electricity Inquiry – Final Report" reinforced the importance of electrification to meeting New Zealand's climate change response.

the economic goals of New Zealand. It enables social and community development, contributing actively to the lives of people in New Zealand. Without the National Grid, electricity that is generated at power stations throughout New Zealand could not reach distribution companies and power our homes, businesses, schools, communities or major industrial and rural users. This has been recognised by the Court:

> *"Electricity is a vital resource for New Zealand. There can be no sustainable management of natural and physical resources without energy, of which electricity is a major component."*[4]

Transpower considers the NPSET effectively manages the effects of transmission on other activities. Transpower considers that any tension between primary production activities and the National Grid is best managed by way of the status quo i.e. implementation of the existing NPSET policies. For example, Policy 4 requires that decision-makers must have regard to the extent to which any adverse effects of new transmission infrastructure or major upgrades have been avoided, remedied, or mitigated by the route, site and method selection.

The National Grid has operational requirements and engineering constraints that both dictate and constrain the way it is managed, including due to its linear and interconnected nature. These requirements and constraints mean it will not always be feasible to avoid highly productive land. The operational requirements relating to the Grid are set out in various legislation, rules and regulations governing the National Grid, including the Electricity Act 1992, the Electricity Industry Participation Code, and the Electricity (Hazards from Trees) Regulations 2003. In light of the above, Transpower considers that nationally significant infrastructure should be excluded from the NPSHPL, and the exclusion be made explicit.

Relationship between the Proposed NPSHPL and the NPSET

It is not clear how the Proposed NPSHPL is to be reconciled with the NPSET.

The NPSET was developed under the Resource Management Act 1991 and recognises the importance of the National Grid, both as an asset in its own right and also in terms of the role that it plays in the functioning of the country. At a high level, the NPSET was needed for two reasons. Firstly, to protect the Grid from underbuild (buildings being constructed under the lines, compromising the Grid). Secondly, to recognise the difficulties in obtaining RMA approvals for National Grid – with its long linear infrastructure and operational and technical constraints on where it can be located.

The NPSET recognises the need to operate, maintain, develop and upgrade the National Grid as a matter of national significance. The NPSET, along with the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 (**NESETA**), formalise the national significance of Transpower's infrastructure – something that is not shared by other utilities or infrastructure operators. These documents also mandate particular provisions dealing with the protection and promotion of Transpower's current and future infrastructure (as well as imposing constraints or consent requirements that do not apply to other utilities and infrastructure operators).

The NPSET recognises that the efficient transmission of electricity on the National Grid has special characteristics, including:

a. technical, operational and security requirements which can limit the extent to which it is feasible to avoid or mitigate all adverse environmental effects, with some effects potentially being significant;

b. the fact the operation, maintenance, upgrade and development of the National Grid can be significantly constrained by the adverse environmental impacts of third party activities and development; and

c. the adverse environmental effects of the National Grid are often local – while the benefits extend beyond the local to the regional and national – making it important that those

[4] *Genesis Power Ltd v Franklin District Council* (2005) 12 ELRNZ 71; [2005] NZRMA 541 (ENC)

exercising powers under the Act balance local, regional and national environmental effects, including beneficial effects.

Transpower relies on the NPSET to ensure that regional policy statements and district and regional plans adequately provide for and protect the National Grid. Without the NPSET, and particularly the restrictions on development mandated by policies 10 and 11, large scale and intensive development has occurred under National Grid lines. This development has compromised Transpower's ability operate, maintain, develop and upgrade the lines.

It is crucial that the NPSHPL does not dilute the effectiveness of the NPSET and/or threaten the security of the National Grid. Sustainable management of natural and physical resources cannot occur without energy, of which the National Grid is a major component.

The NPSET provides the National Grid with 'special status' in planning and resource consent processes throughout New Zealand. This recognition is consistent with the Government's wider objective of both protecting and providing for the essential infrastructure (being the National Grid) to achieve and sustain economic outcomes.

The explicit exclusion of the National Grid from the NPSHPL would address Transpower's concerns and be the most efficient approach to address the National Grid and give effect to the NPSET. In the event that nationally significant infrastructure is not excluded from the NPSHPL then Transpower seeks the following to ensure that existing assets are appropriately ddressed and new assets seek to avoid highly productive land:

a. Defined terms that the National Grid and associated NPSET mandated corridors (and potentially other nationally significant infrastructure) is not: "fragmentation", an "incompatible activity", and an "inappropriate" form of subdivision, use, and development of highly productive land;
b. Policy clarification that the National Grid and associated NPSET mandated corridors (and potentially other nationally significant infrastructure) is not: "fragmentation", an "incompatible activity", and an "inappropriate" form of subdivision, use, and development of highly productive land. This could sit within Objective 3 and potentially Policy 2 and Policy 5;
c. Inclusion of a new policy or amendment to Objective 3 that new National Grid infrastructure (and potentially other new nationally significant infrastructure) should seek to avoid locating within highly productive land as far as practicable given the constraints imposed by the operational need[5] of the network;
d. Inclusion of a new policy that: "Planning and development of new substations should seek to avoid adverse effects on highly productive land."

Transpower would welcome the opportunity to meet with members of the Highly Productive Land Project Team to discuss the above options.

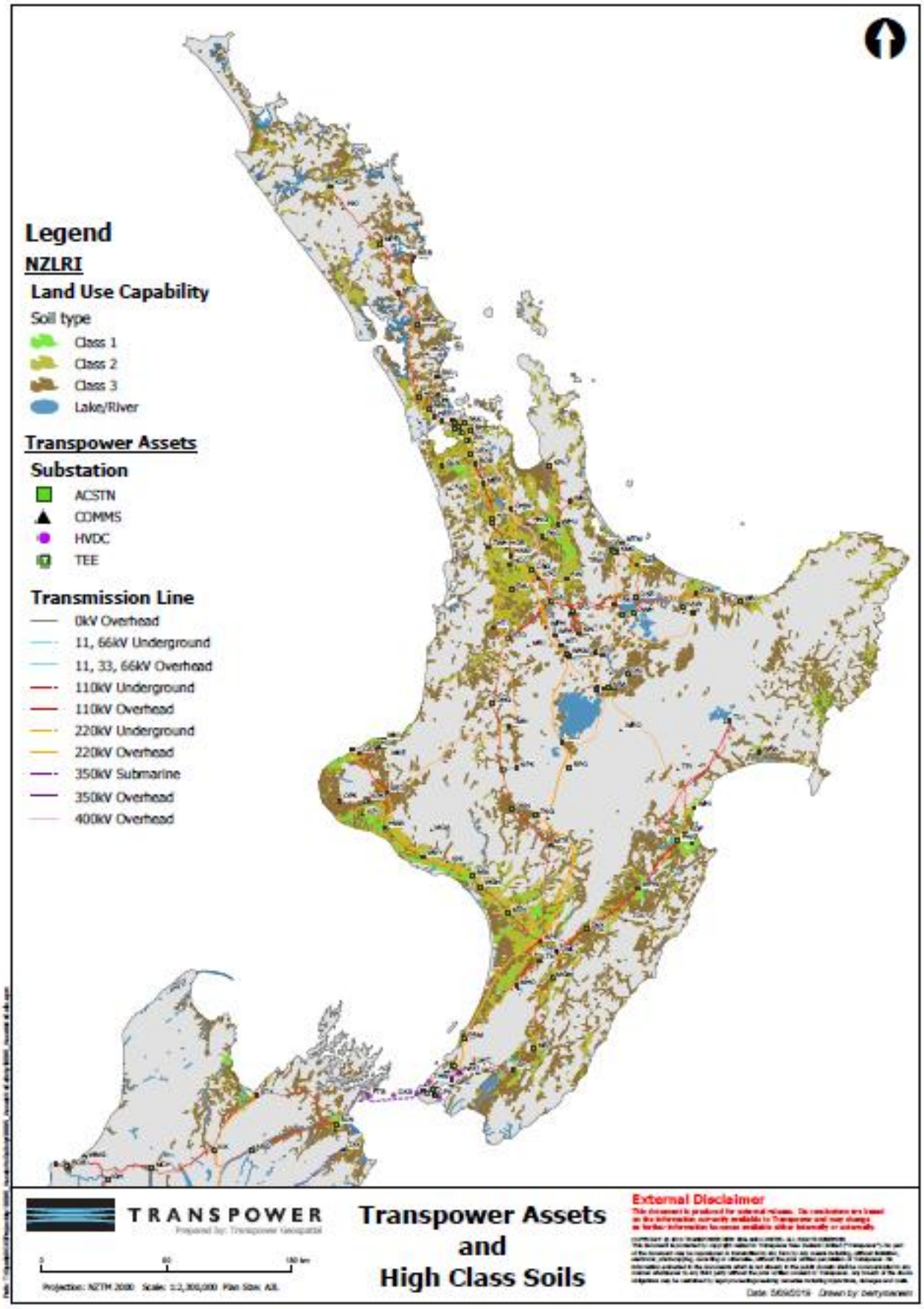
Transpower's submission

Transpower has provided answers to the questions in the discussion document on the basis that the questions and answers may be analysed and assessed by different members of the Highly Productive Land Project Team.

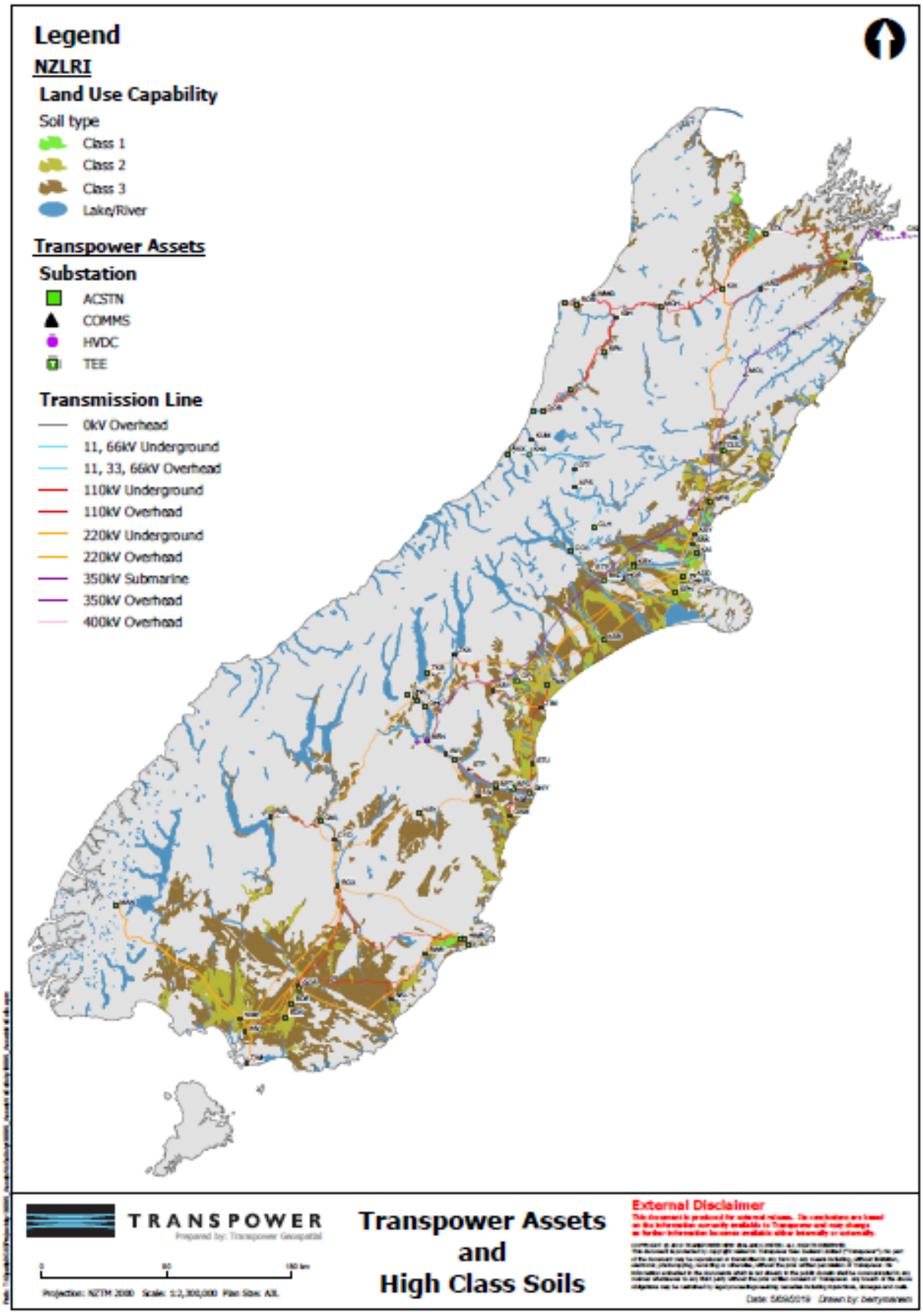
Therefore, Transpower has either cross-referenced to earlier questions or repeated a number of points throughout its submission so those reading and analysing the individual questions have a good understanding of Transpower's interests in the Proposed NPSHPL and the implications for the National Grid.

[5] Note, we have used "operational need" as defined in the National Planning Standards.

MAP A - MAP OF TRANSPOWER'S ASSETS IN THE NORTH ISLAND AND HIGH CLASS SOILS



MAP B - MAP OF TRANSPOWER'S ASSETS IN THE SOUTH ISLAND AND HIGH CLASS SOILS



MAP C - BOMBAY SUBSTATION