



TRANSPOWER

Keeping the energy flowing

Transpower House
96 The Terrace
PO Box 1021
Wellington 6140
New Zealand
P 64 4 495 7000
F 64 4 495 7100
www.transpower.co.nz

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Queenstown-Lakes District Council
c/- David Wallace
Lakes Environmental
Private Bag 50077
QUEENSTOWN 9348

Via email: david.wallace@lakesenv.co.nz

Dear David

COMMENTS ON DRAFT UTILITIES PROVISIONS

Thank you for the opportunity to comment on the draft Utility Provisions that are currently being reviewed in the Queenstown-Lakes District Plan. Transpower appreciates the opportunity to be involved at this stage of the process.

Transpower has one line within the Queenstown Lakes District this is the Cromwell – Frankton A (CML-FKN A) 110kV and the Frankton substation which is designated in the district plan. The National Policy Statement on Electricity Transmission (NPSET) recognised that the national grid is of national significance to the economic and social wellbeing of the nation and this should also be recognised within the district plan.

Transpower is generally supportive of the approach being taken in the proposed provisions for the establishment, operation and maintenance of the electricity transmission lines that form part of the National Grid. In reviewing the draft provisions and providing comments our approach has been to seek some amendments to ensure that the District Plan gives effect to all parts of the National Policy Statement on Electricity Transmission (NPSET) and the National Environmental Statement for Electricity Transmission Activities (NESETA). While some amendments are included in these comments, Transpower is happy to discuss with you and the Council how these issues and amendments are incorporated into the District Plan.

PROPOSED OBJECTIVES AND POLICIES

Transpower also supports objective 2 and policies 2.1, 2.2, 2.3 and 2.5. Transpower supports shared infrastructure corridors where there are no adverse effects on the transmission lines caused by other utility operators. It is important that policy 2.5 retains consideration of the operational and technical limitations.

Transpower appreciates the ways in which the benefits of utilities and therefore electricity infrastructure have been incorporated in the District Plan provisions. In particular Transpower would like to see Policy 2.6 retained in its current form. The second paragraph in the Explanation section below policies 2.1-2.9 includes the following sentence: *“It is appropriate to protect the operation of utilities from incompatible activities on adjacent sites.”* It should be recognised that due to the

nature of linear infrastructure there can be the potential for incompatible activities to establish on the same site that the infrastructure traverses. It is therefore suggested that the sentence is amended to *"It is appropriate to protect the operation of utilities from incompatible activities ~~on adjacent sites~~ establishing or occurring in close proximity to the utility."*

Transpower generally supports the balanced approach taken to manage the effects of utility infrastructure. However seek some amendments to Policies 3.7 and 3.9. Transpower would prefer it if the economic feasibility of undergrounding a high voltage transmission line was reflected in Policy 3.7 through the inclusion of the words "and economically" so that the policy reads:

To encourage the replacement of existing overhead services with underground reticulation or the upgrading of existing overhead services where technically and economically feasible.

It is recognised that the economic viability of undergrounding high voltage lines is included in the explanation and as a minimum the paragraph in the Explanation section that acknowledges the exemption for high voltage lines due to the costs of undergrounding needs to be retained.

The route and site selection process is often the best way to manage the environmental effects of a new line or substation. Transpower would like to see the route and site selection process recognised in the policies within the District Plan in accordance with Policy 4 of the NPSET. This can be achieved with the following addition to Policy 3.9 (addition underlined):

3.9 To take account of economic and operational needs and how the route and site selection process has minimised environmental effects when assessing the location and external appearance of utilities.

PROPOSED RULES

Transpower supports the fact that the Utilities provisions and rules are located in one separate section of the plan and that 17.2.2 provides for a consistent approach to utilities across the district.

Transpower requests that the NESETA is recognised in the District Plan. This can be achieved by adding another paragraph to section 17.2.2 along the lines of

Notwithstanding any other rules in the District Plan, the National Grid existing as at 14 January 2010 is covered by the Resource Management (National Environmental Standard for Electricity Transmission Activities) Regulations 2009 (NESETA) and must comply with the NESETA. No other rules in the District Plan shall apply.

This approach is option 2 in the Ministry for the Environment guidance on the NESETA and has the benefit of removing any inconsistencies that the District Plan may have with the provisions of the NESETA.

Transpower supports that the provisions make any new line a discretionary activity as set out in rules. We do note that there appears to be an overlap in the rules and are not sure if this is intentional. Rule 17.2.3.3.i(b) has identical wording to the beginning of rule 17.2.3.3.i(c). Rule (c) could simply start with *"Any overhead line including telecommunications in any part of the District which..."* and achieve the same result.

It is also noted that our transmission lines would also be caught by (e) as well as (b) if located in the Shotover Business Park; however this is not a concern for Transpower as the activity status is the same for both.

Transpower recognises the rationale to have any new lines in the Remarkable Park Zone a non-complying activity and does not oppose this approach.

It is noted that the notification statement is still referring to section 93. Is there the opportunity to update this through the review?

OTHER MATTERS

Management of Other Activities in close proximity to the Transmission Lines

Transpower also seeks provisions in the District Plan to give effect to Policies 10 and 11 of the NPSET to manage the adverse effects of other parties' activities under or adjacent to the transmission lines.

Transpower's approach corresponds with that in the NPSET. Policy 11 provides the clearest direction about plan provision it states:

Local authorities must consult with the operator of the national grid, to identify an appropriate buffer corridor within which it can be expected that sensitive activities will generally not be provided for in plans and/or given resource consent. To assist local authorities to identify these corridors, they may request the operator of the national grid to provide local authorities with its medium to long-term plans for the alteration or upgrading of each affected section of the national grid (so as to facilitate the long-term strategic planning of the grid).

Sensitive activities will only be "not generally provided for" when they have non complying activity status. A definition of sensitive activities is included in attachment 2.

Policy 10 is relevant to both sensitive and non-sensitive activities it states:

In achieving the purpose of the Act, decision-makers must to the extent reasonably possible manage activities to avoid reverse sensitivity effects on the electricity transmission network and to ensure that operation, maintenance, upgrading, and development of the electricity transmission network is not compromised.

Transpower seeks to ensure that only compatible non-sensitive activities occur under the lines. These will be activities that do not impact on maintenance, operation or development of the lines or result in reverse sensitivity effects.

Non sensitive activities could have a less restrictive activity classification dependant on their nature. As a local example Transpower considers that vineyard structures could be considered "non-sensitive" and could potentially establish under the line provided that they do not compromise the operation, maintenance and development of the line. In this regard, a permitted activity rules could be developed that allowed this activity provided that the structures:

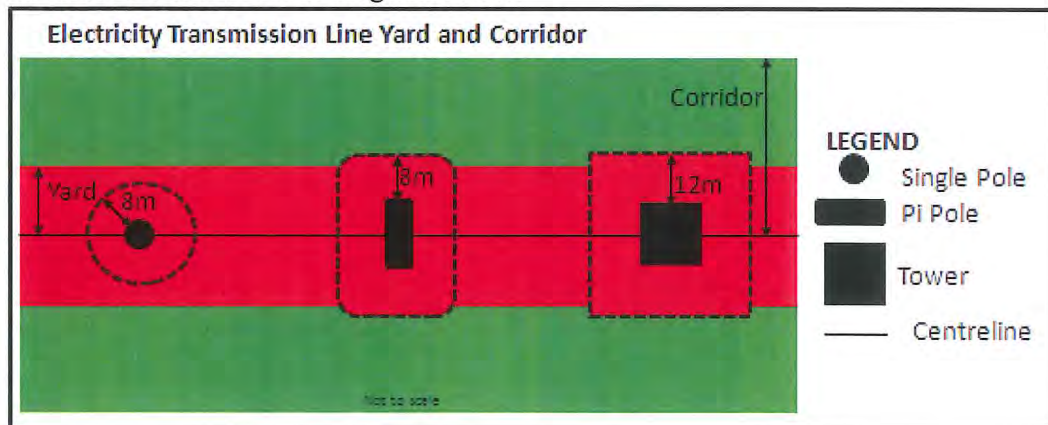
- were no greater than 2.5m in height;
- were located more than 12m from the outer edge of support structures
- provide for access to the towers for maintenance

It is noted that vineyard structures, due to their size, can impact on access to structures and often have to be removed during maintenance

It is also noted that the vineyard structures can also be conductive, if not properly constructed taking the existence of the transmission lines into account. Transpower's approach is not to take these risks into account when seeking rules in district plans, unless they also pose a risk to the lines. These risks can largely be avoided by landowners complying with NZECP34. Transpower also publishes guidance and can work with landowners to ensure that activities under the lines are safe. The Transpower working on your land document has been attached as an example.

The conductors (wires) on an electricity line are not in a static position; they swing and sag based on a number of variables including: the wind conditions span length, amount of energy flowing down the line, and climatic conditions. The approach is based on Transpower's minimum requirements following an analysis (undertaken earlier this year) of the swing characteristics of each asset type within the National Grid. The access requirements for maintenance purposes were also considered when determining the two corridors.

The inner corridor or 'transmission yard' is based on the 'everyday wind'¹ position of the conductors, safe separation distances from structures and the access that is required around the lines maintenance purposes. It is within this corridor that Transpower undertakes the maintenance activities on the lines; maintenance does not occur in high wind conditions. The outer corridor or 'transmission corridor' is based on the 95th percentile span of the maximum swing of the conductors for each asset type. This recognises that there are some exceptionally long spans where development is unlikely to occur; e.g. over valleys or braided rivers. The two corridors are shown in the diagram below:



Within the Queenstown – Lakes District, Transpower only has the one line which is the Cromwell – Frankton A 110kV line on tower support structures. A map showing this line is included as Attachment 1.

Transpower's approach to the transmission line yards is asset specific, for this type of asset Transpower seeks a setback 12m from the centreline and 12m from the outer edge of the tower support structures. Transpower seeks that sensitive activities be setback 12m for the centreline or outer edge of the support structures. Transpower

¹ Based on a 46km wind

also seeks that subdivision within a wider distance is managed by rules. While the area of focus is broader (identified by the green area above), the primary focus is ensuring that building platforms are located beyond the transmission yard setback. The total corridor width (green zone) is an additional 20m from the edge of the transmission yard (red zone) to 32m from the centreline of the transmission line. (As depicted in the diagram above the transmission yard is wider around the tower support structures than mid span but the corridor is a straight corridor with the outer width being 32m either side from the centreline of the transmission line).

Within the transmission yard Transpower seeks to manage any earthworks that could affect the structural stability of the lines or reduce the ground clearance levels below safe distances. Transpower does not seek to control grazing, land cultivation or other primary production activities that do not involve large buildings or structures within this area.

It is recognised that the subdivision layout can greatly influence how an area is developed and that the best time to manage issues and achieve integrated development with land uses adjacent to the transmission lines. Therefore Transpower seeks that the existing transmission lines are recognised at the time of subdivision. Transpower appreciates the way that the transmission lines have been recognised within the subdivisions that have occurred in the Lake Hayes area over recent years.

Transpower accepts that beyond the transmission yard safety and operational issues with development adjacent to the transmission lines can be managed through compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances 2001 (NZECP34). Compliance with NZECP34 is mandatory under the Electricity Act. NZECP34 only manages the specific electrical safe distances and does not manage all of the environmental effects associated with transmission lines. Transpower suggests that an advice note could be inserted into the plan to raise awareness of this mandatory requirement.

An example of the provisions that Transpower seeks within the District Plan are included as Attachment 2. Transpower would welcome any opportunity to work with the Council in developing provisions to be included in the District Plan.

Mapping of the Transmission Network

Policy 12 of the NPSET requires that the electricity transmission network is shown on the District Plan Maps. Transpower can supply GIS data layers to assist with this free of charge. Please contact the writer if the Council would like a new data set of the Transpower assets in the district.

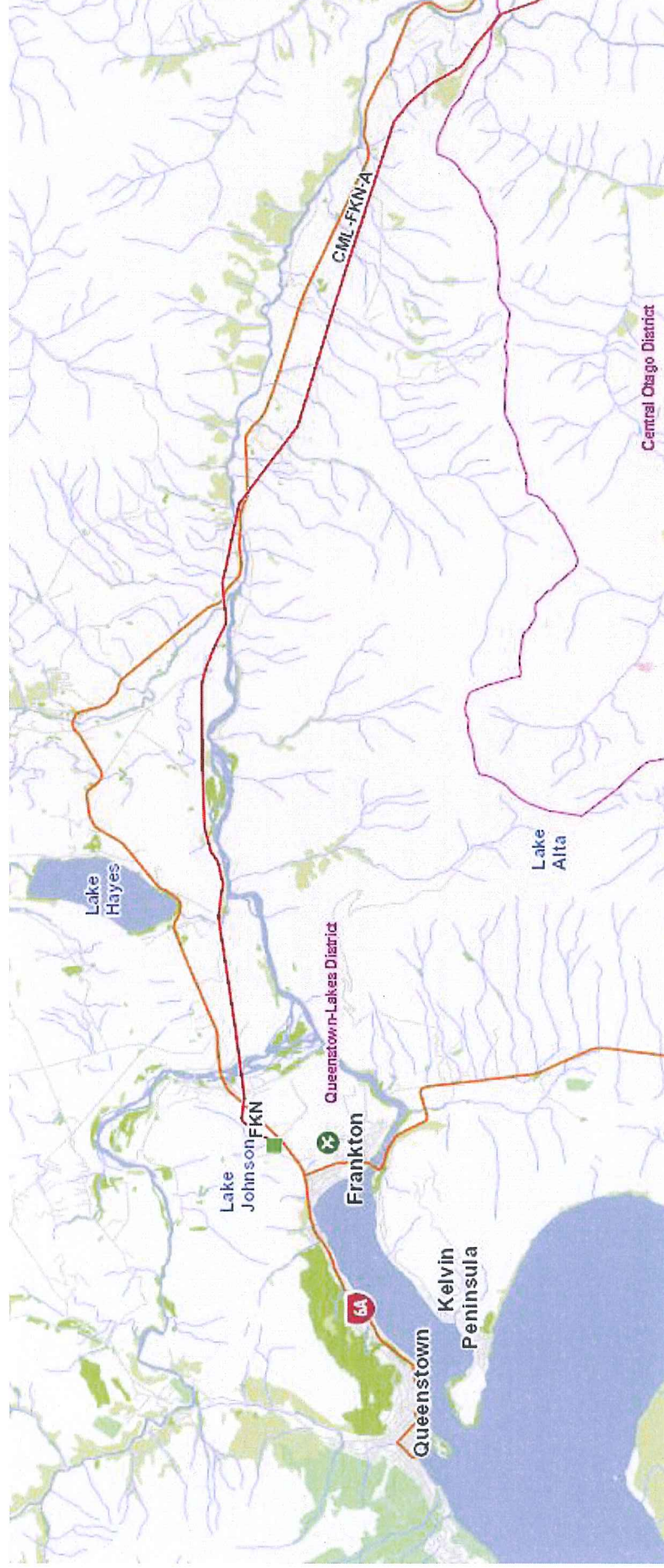
Please contact me on 590 7244 or mike.hurley@transpower.co.nz if you have any questions or require more information.

Yours sincerely



Mike Hurley
Environmental Advisor

Attachment 1
Map of Transpower Assets within Queenstown Lakes District



The Cromwell - Frankton A 110kV line is shown in red.

Attachment 2

Example Transmission Line Corridor provisions

On a without prejudice basis, the provisions below provide some examples that could be used to develop appropriate provisions to give effect to Policies 10 and 11 of the NPSET.

Objective

Link to Objective 2 in the Utilities Chapter of the District Plan

Policies

- i. *To ensure safe and efficient use and development of the Electricity Transmission Network, including within the Transmission Line Corridor, and to protect activities from the adverse effects of the Electricity Transmission Network, including by:*
 - a. *Avoiding incompatible land use and development within the transmission yard to ensure that the operation, maintenance, upgrading and development of the electricity transmission network is not compromised;*
 - b. *Avoiding sensitive activities within the electricity transmission yard to avoid reverse sensitivity effects on, and minimise risk and health and safety effects, amenity and nuisance effects of, the transmission network;*
 - c. *Managing subdivision within the electricity transmission corridors to achieve the outcomes in (a) and (b) and to facilitate good amenity and urban design outcomes; and*
 - d. *Not foreclosing operation or maintenance options or, to the extent practicable, the carrying out of routine and planned upgrade works.*

Rules for within Transmission Line Corridors

Permitted Activities

(PA1) *The following activities are permitted within the electricity transmission yard:*

- (a) *Buildings and structures less than 2.5m in height and 10m² in area;*
- (b) *Fences and horticultural structures up to 2.5m high;*
- (c) *Additions and extensions to existing buildings where the existing footprint and building envelope are not exceeded.*

(PA2) *Earthworks within the electricity transmission yard shall:*

- (a) *be no deeper than 300mm within 6 metres of the outer visible edge of a support structure; and*
- (b) *be no deeper than 3 metres between 6 to 12 metres from the outer visible edge of a support structure.*
- (c) *not create an unstable batter that will affect a transmission support structure; and/or*
- (d) *not result in a reduction of the conductor clearance distances below what is required by table 4 of NZECP34:2001.*

Provided that

- (a) *Earthworks undertaken by a Network Utility operator; or*
- (b) *Earthworks undertaken as part of agricultural or domestic cultivation, or repair, sealing or resealing of a road, footpath or driveway.*

are exempt from (a) and (b) above.

Restricted Discretionary Activity

(RD1) Any subdivision within the Transmission Line Corridor shall be a restricted discretionary activity providing that for each allotment created a building platform is identified outside of the transmission yard.

For subdivisions within a Transmission Line Corridor Council shall restrict its discretion as follows:

- i. The extent to which the design and construction of the subdivision allows for earthworks, buildings and structures to comply with the safe separation distance requirements of the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP34:2001);*
- ii. The extent to which the design and construction of the subdivision (including subdivision) allows for activities to be set back from electricity transmission lines to ensure adverse effects on and from the Electricity Transmission Network and on public safety are appropriately avoided, remedied or mitigated;*
- iii. The provision for the ongoing operation, maintenance, and planned upgrade of Electricity Transmission Lines;*
- iv. The risk to the structural integrity of the transmission asset*
- v. The extent to which the subdivision design and consequential development will minimise the risk or injury and/or property damage from such lines;*
- vi. The extent to which the subdivision design and consequential development will minimise the potential reverse sensitivity and nuisance effects of the transmission asset; and*
- vii. Outcomes of any consultation with the affected utility operator.*

Non Complying Activity

(NC1) Within the transmission yard the following activities are a non complying activity:

- (a) Any building or structure within the transmission yard not provided for by rule PA1 or within 12m of the outer edge of a support structure*
- (b) Any sensitive activity within the electricity transmission yard*
- (c) Any subdivision that identifies a building platform within the electricity transmission yard.*

Advice Notes

- (a) Works in close proximity to any electricity line can be dangerous. Compliance with the New Zealand Electrical Code of Practice 34:2001 is mandatory for all buildings, earthworks and mobile plant within close proximity to all electric lines. Compliance with the transmission line corridor rules will not necessarily ensure compliance with the NZECP34:2001. Additional requirements may apply.*
- (b) Vegetation to be planted within the transmission corridors should be selected and/or managed to ensure that it will not result in that vegetation breaching the Electricity (Hazards from Trees) Regulations 2003. To discuss works, including tree planting, near any electrical line, contact the line operator.*

Definition

A definition of sensitive activities should be added along the following lines:

Sensitive Activities means those activities within an Electricity Transmission Corridor that are particularly sensitive to the risks associated with electricity transmission lines because of either the potential for prolonged exposure to the risk or the vulnerability of the equipment or population that is exposed to the risk. Such activities include any residential activity, visitor accommodation, educational facility, healthcare facility and day care facility.

Transpower can also support notification statements for the Transmission Line Corridor rules that state that resource consents will not be publically notified and only Transpower (or the line operator) will be served notice.