SUBMISSION TO TRANSPOWER'S NEW ZEALAND NORTH ISLAND GRID UPGRADE PROJECT

SUBMITTED BY

FRANKLIN DISTRICT COUNCIL

This submission relates to the North Island Grid Upgrade Project ("the Proposal") in its entirety.

Franklin District Council ("Council") wishes to be heard in support of its submission.

The reasons for making this submission, and the associated decisions sought, are set out under the following headings:

1. Environmental, aesthetic and landscape value
2. Human health
3. Purchase of easements and compensation
4. Grid Investment Test
5. Undergrounding
6. Uncertainty of effects
7. Efficiency
8. Co-operation and co-ordination
9. Conclusion

1. Environmental, aesthetic and landscape value

1.1 Reasons for the submission

The Franklin District Growth Strategy and Rural Plan Change 14 identify Hunua as having sustained and on-going potential for rural living. Hunua provides opportunities for people to live in a high quality, picturesque rural environment. The environmental, aesthetic and landscape value of the Hunua settlement and its surrounds will be significantly reduced by the barren 65 metre (minimum) corridor and the above-ground infrastructure that is proposed.

In addition, the proposed infrastructure will significantly detract from the visual quality of the landscape as experienced by visitors to the Hunua Regional Park and Hunua Ranges.

The Resource Management Act 1991 (RMA) requires that cumulative effects be addressed when development decisions are made. The case against aligning the proposed infrastructure through Hunua is not a case of 'Not-In-My-Back-Yard'; on the contrary, the Hunua community already lives with the effects of four high-voltage power lines and pylons.

The case against aligning the proposed infrastructure through Hunua is one that recognises the potential negative impacts of the cumulative effects of such infrastructure. The potential cumulative adverse effects of the proposed infrastructure on the Hunua Park and Hunua ranges are so severe that they render the Proposal unacceptable.

Alternative technical options have not been adequately explored. For example, pylons accompanying 220 kV lines are at least 14 metres shorter than the pylons proposed for the 400 kV lines and consequently have less adverse environmental impact. This option needs to be explored more thoroughly.

Transpower proposed an AAAC conductor for its 400 kV design but failed to consider it for its 220 kV design. The design capacity of the 220 kV option is greater than Transpower's original (2004/5) Proposal for the 400 kV line. This option needs to be explored more thoroughly.

The upgraded infrastructure will not deliver additional power to Auckland until new generation is available from south of Whakamaru. Thus, the upgraded infrastructure is considered to be too large to justify with current information. Infrastructure with far fewer adverse environmental effects will provide sufficient electrical capacity until thorough evaluation of more modern, relatively benign technologies has been undertaken. If the Proposal is approved, the infrastructure will remain in place for generations. Therefore a more considered approach to increasing transmission capacity is fully warranted.

1.2 Decisions sought

Investigate, analyse, assess and publicise alternatives that would bring the required electricity to Auckland.

Alternatives must be subject to a consultation process that enables the Franklin community to make a meaningful contribution to decision-making.

While evaluation of modern, relatively benign technologies is undertaken, the following must occur:

- existing under-capacity lines into the Auckland region must be re-conductored
- lightweight aluminium conductors must be used
- the capacity of existing simplex (single conductor per phase) lines must be increased by using the new conductor in duplex configuration

Best-practice must be adhered to; Transpower must plan for undergrounding and must not pursue the installation of larger-scale overhead infrastructure.

If new lines are required through the RMA process, then:

- the undergrounding of 220 kV cable, proposed for the northernmost section of the line, must be extended to south of Hunua township, preferably to State Highway 2
- 220 kV line designs, not 400 kV capable lines, must be installed for all overhead sections of the Proposal
- less intrusive, compact designs such as mono-poles and compact transmission lines must be used where possible
- the AAAC conductor that Transpower proposed for its 400 kV design but failed to consider for an alternative 220kV line must be used

2. Human health

2.1 Reasons for the submission

Franklin District Council seeks clarification with respect to the impact of high-voltage electricity infrastructure on human health; high voltage electricity infrastructure might be incompatible with Hunua's role as an area of human settlement.

2.2 Decisions sought

High-voltage electricity infrastructure must not be installed if there are associated potential adverse effects on the health of people living nearby.

3. Purchase of easements and compensation

3.1 Reasons for the submission

Franklin District Council seeks clarification with respect to the easement-purchasing process and the compensation process undertaken to date.

3.2 Decisions sought

The economic and environmental effects beyond the proposed minimum 65 metre easement must be considered in all compensation processes.

Transpower must fully compensate for restrictions on the use of land that result from the Proposal.

Easements must meet all the practical requirements of the proposed infrastructure and Transpower must offer compensation accordingly OR the size of the infrastructure must be reduced to less damaging proportions so that such uncompensated loss does not occur.

4. Grid Investment Test

4.1 Reasons for the submission

The Grid Investment Test (GIT) which allowed the Proposal to enter the RMA process is flawed because the easement width (and hence project cost) modelled in the GIT is insufficient to cater for the following eventualities:

- pylons toppling
- activities, e.g. planting of trees, impacting on the operation of the line
- the potential effects of various emissions from the line on people

Furthermore, misleading assumptions have resulted in a very marginal economic case for 400 kV lines in preference to 220 kV lines.

Transpower used the 2005 Statement of Opportunities (SoO), in spite of the draft 2007 SoO being available. If the 2007 SoO had been used, the 400kV project would have failed the GIT.

4.2 Decisions sought

The GIT needs to be undertaken using wider easement dimensions.

A robust cost-benefit analysis must be undertaken to enable a valid comparison between 400 kV lines and 220 kV lines.

The 2007 SoO must be utilised.

5. Undergrounding

5.1 Reasons for the submission

Local suppliers place their electricity lines underground in urban areas; national suppliers should do the same. Internationally, undergrounding is considered to be best-practice, for example in China and Japan installations of up to 500 kV have been undergrounded successfully.

5.2 Decisions sought

Decisions must be based on a robust cost-benefit analysis.

The lines should be undergrounded from south of Hunua township, northward to their termination.

6. Uncertainty of effects

6.1 Reasons for the submission

The Proposal provides for:

- towers to be up to 70 metres tall
- the location of the towers to be altered by up to 40 metres from the location depicted in current plans
- the easement to be a minimum of 65 metres wide with no reference to any maximum

This uncertainty with respect to the Proposal means that, in the first instance, potentially affected parties cannot be certain about the extent of effects they are likely to experience and, secondly, compensation cannot be assessed accurately.

The 65 metre easement width (32.5 metres on each side of the easement centreline) was originally proposed to manage noise effects; it is not based on considerations of safe operation and maintenance of the electricity infrastructure and is inadequate for structures of the scale sought in the Proposal.

For example, the easement width is insufficient to cater for the eventuality of falling trees, which could strike the conductors. The conductors will extend at least 7.35 metres on both sides of the centre of the easement, leaving 25 metres clearance from the ends of the conductors to the easement boundary. Mature pine trees can grow to 60 metres in height and grow to an average of 45 metres. An average tree falling from its base on flat land could strike the conductors. To avert this situation, an easement of 129 metres on flat terrain, and more than 129 metres on sloping terrain, is required.

6.2 Decisions sought

Transpower must provide certainty with respect to the various components of the Proposal and their effects.

Transpower must clarify its position with respect to the permissible distance of mature trees from the easement centreline. For example, the following must be addressed:

- calculations used by Transpower to establish the risk to the line from falling trees
- easement width required
- whether Transpower has any intention of requiring that landowners be restricted from growing trees on land outside the 65 metre easement, anywhere along the proposed overhead section of the line

The economic and environmental effects beyond the proposed minimum 65 metre easement must be considered in all cost-benefit analyses and compensation processes.

Transpower must fully compensate for restrictions on the use of land that result from the Proposal.

The easement must meet all the practical requirements of the proposed infrastructure and Transpower must offer compensation accordingly OR the size of the infrastructure must be reduced to less damaging proportions so that such uncompensated loss does not occur.

Route and infrastructure alternatives must be assessed independently of Transpower.

Route and infrastructure alternatives must be subject to a consultation process that enables the Franklin community to make a meaningful contribution to decision-making.

While evaluation of modern, relatively benign technologies is undertaken, the following must occur:

- existing under-capacity lines into the Auckland region must be re-conductored
- lightweight aluminium conductors must be used
- the capacity of existing simplex (single conductor per phase) lines must be increased by using the new conductor in duplex configuration

Best-practice must be adhered to; Transpower must plan for undergrounding and must not pursue the installation of larger overhead infrastructure.

If new lines are required through the RMA process, then:

- the undergrounding of 220 kV cable, proposed for the northernmost section of the line, must be extended to south of Hunua township, preferably to State Highway 2
- 220 kV line designs, not 400 kV capable lines, must be installed for all overhead sections of the Proposal
- less intrusive, compact designs such as mono-poles and compact transmission lines must be used where possible
- the AAAC conductor that Transpower proposed for its 400 kV design but failed to consider for an alternative 220 kV line must be used

7. Efficiency

7.1 Reasons for the submission

The demand for power is in Auckland; as far as possible the source of power should be close to Auckland in order to:

- minimise the potential negative impacts of electricity transmission on the New Zealand landscape and countryside
- minimise the loss of electricity in the transmission process

Approximately 80% of electricity exported from Taranaki (Stratford) is dispatched southwards to Bunnythorpe and then northwards via the central North Island high voltage grid network; this is an inefficient method which in effect has resulted in the transmission capacity constraints for which Transpower seeks relief in the form of the Proposal.

7.2 Decisions sought

Investigate sources of power closer to Auckland.

The approximately 500 MW of power dispatched southwards from Taranaki (Stratford) but intended to supply Auckland and the North Isthmus should be dispatched northwards (not southwards to Bunnythorpe) on the existing line (or an improved capacity modification thereof) and in the years that follow, proper consideration should be given to realistic growth in demand and the use of alternative, more benign electrical transmission technologies.

8. Co-operation and co-ordination

8.1 Reasons for the submission

The issue of infrastructure and infrastructure corridors needs to be addressed jointly by all levels of government before decisions are made about the alignment of the proposed infrastructure.

The activities and decisions of the energy generation companies are uncoordinated; the companies need to co-operate and consult with each other. Decisions relating to electricity infrastructure and infrastructure corridors should be made within that context of co-operation and co-ordination.

These issues must be addressed before any further plans are developed.

8.2 Decisions sought

A forum should be established for infrastructure and infrastructure corridors to be addressed jointly by all levels of government and energy generation companies.

Route and infrastructure alternatives must be assessed independently of Transpower.

Route and infrastructure alternatives must be subject to a consultation process that enables the Franklin community to make a meaningful contribution to decision-making.

All further plans to provide electricity must be developed in the context of the above.

9. Conclusion

9.1 Reasons for the submission

In its advocacy role, Franklin District Council maintains that the potential adverse effects on farmers and other members of the Franklin community are so severe that the Proposal is unacceptable. In

particular, the Proposal does not adequately avoid, remedy or mitigate adverse effects on the environment.

9.2 Decisions sought

Franklin District Council seeks that the designations and consents be declined in their entirety, unless they are sufficiently amended so as to take account of Council's concerns.

DATED this 5th day of October 2007.