

SUBMISSION ON TRANSPOWER'S NOTICE OF REQUIRMENT AND APPLICATIONS FOR RESOURCE CONSENTS

RECEIVED ON

Section 145 of the Resource Management Act 1991

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The reasons for my submission are as follows :

1. General opposition under the over-arching provisions of the RMA

The Proposal as notified and in the absence of any amendments that may be made to it to meet the concerns raised in this submission:

- (a) Will not promote the sustainable management of natural and physical resources and will otherwise be contrary to the purpose and principles of the Act.
- (b) Will not promote or enable the social, economic and cultural well being of those communities in the Auckland and Waikato regions that will be directly and adversely affected by the proposed works.
- (c) Provides for an increase in the capacity of the relevant part of the national grid that:
 - Is not necessary or desirable to meet the reasonably foreseeable needs of future generations.
 - Is unnecessary and unjustifiable in terms of current and anticipated future power demands;
 - Will result in the Proposal generating significant and unnecessary additional adverse effects on the environment.
- (d) Does not adequately avoid, remedy or mitigate adverse effects on the environment (section 5(2)(c) of the Act).
- (e) Does not amount to or promote the efficient use and development of resources (section 7(b) of the Act).
- (f) Does not maintain and enhance amenity values or the quality of the environment (sections 7(c) and (f) of the Act).
- (g) Will generate significant adverse effects on the environment.
- (h) Is inconsistent and contrary to relevant regional and district policy statements and plans (section 171(a) of the Act).

- (i) Fails to give adequate consideration to alternative sites, routes, or methods of undertaking the work (section 171(b) of the Act).
- (j) Is not reasonably necessary for achieving Transpower's objectives for which the designation is sought (section 171 (c) of the Act).

2. Landowner liability for transmission corridor maintenance and "outage"

Transpower asserts that a liability on the part of landowners for "outage" may arise in the event that maintenance to its satisfaction by or at the cost of the land owner is not undertaken. Disruption to significant pieces of the electricity network could arguably result in liabilities of millions of dollars per day. Compensation for an uncapped liability in perpetuity of potentially millions of dollars exceeds the full freehold value of land.

The Electricity Act 1992 presumes that new electricity infrastructure and upgrade to existing electricity infrastructure will occur only after negotiation with and agreement of the affected land owner. Transpower have refused to finalise any standard form of easement on terms acceptable to landowners and have expressly rejected any suggestion that Transpower accept liability for route maintenance and "outage", variously asserting that there is no risk of liability accruing to land owners and that a liability of the magnitude of a major outage in perpetuity is an unreasonable impost on a line owner.

An uncapped perpetual liability imposed on landowners is inconsistent with the statutory purpose of enabling them to provide for their well-being and also with the expectation that they would be fully compensated for any taking of their property.

Transpower has proposed an easement width of a total of 64 metres. Pine forests at or near maturity have an average height of 40 metres, suggesting it is inevitable that a tree will disrupt a line if inexpertly felled or blown over in a storm. Trees seed uncontrollably into adjoining property including easement corridors, with such seedlings presumably growing over time to endanger electricity conductors. Trees grow towards light with the consequence that trees on either edge of a transmission corridor will be devalued by heavy branching and develop a characteristic lean towards the centre of a transmission corridor. Transpower advise that smoke columns and other sources of particulate can result in arcing and similar disruption to electricity transmission if occurring within 500 metres of a transmission corridor. On this basis the zone of adverse impact of a transmission corridor on pre-existing land use is upwards of one kilometre in width rather than the nominated 64 metres.

Relief sought on this issue:

- (i) Formal easements and contractual undertakings by Transpower limiting landowner's liability for disruption to physical infrastructure and consequential "outage" to situations of deliberate and wilful action by the land owner.
- (ii) Alternatively, purchase by Transpower of the full freehold title of any property within 500 metres of the transmission line corridor.

2. Economic effects

Transpower appears to be unwilling to contemplate constraints on alternative land use in determining the economic impact of the proposed development, so that discussion with respect to compensation is limited to calculation of the impact of a line on current activities and does not include any alternative future use of that land for life style subdivision, horticulture, carbon credit tree farming and so on. Notwithstanding this, Transpower seeks rights to submit in opposition to future applications for alternative uses to protect their interests in an electricity transmission route.

The Electricity Commission's cost benefit analysis expressly excluded RMA and environmental costs of the proposal on the grounds that they were outside the terms of reference of the Commission. Transpower's cost benefit analysis was inadequate because the costs attributed to impacts on landowners assumed a corridor width of only 64 metres and ignored or overlooked costs such as appropriate allocation of liability for route maintenance costs, outage liability, visual impact, compensation for constraints on surrounding land use and so on.

Relief sought on this issue:

- (i) More accurate cost benefit evaluation of Transpower's 400 KVA proposal taking into account the true costs of the development which include the potential conflict with alternative commercial use of the land impinged upon by the transmission corridor; and
- (ii) Purchase of sufficient width of transmission corridor that the constraints on development arising from the activity of electricity transmission are negligible and negate the need for automatic rights of objection to proposed changes in land use.
- (iii) Alternatively, compensation for less than the full freehold value of the transmission corridor by a reviewable annual rental, so that there is an ability to adjust the rental to more accurately reflect the loss in land use opportunity as those losses arise and are identifiable over time.

3. Visual impact

There is an undeniable visual impact from installation of above ground electricity transmission services. The severity of that impact will vary depending upon individual circumstances, for example where the line intersects with existing valued vistas. Environment Waikato have notified all individual property owners and occupiers of this proposal on the basis of expert assessment that 2.5 kilometres either side of the centre line is the zone of potentially significant adverse visual impact.

The scale of the proposed lattice towers (having regard to the various dimensions of the towers including a maximum height of 70m) is significantly greater than that of existing pylons and lines. That scale, in conjunction with the decision to implement a design with capacity for 400kV lines, will generate significantly greater adverse visual effects over a significantly larger area than would otherwise be the case. The adverse visual and amenity related impacts associated with the overhead line sections of the Proposal are significant and unnecessary

The subjective nature of visual impact assessment and the number of affected properties makes it extremely difficult for individual landowners to obtain or present expert evidence about their individual situation. A cost effective approach to this aspect of the project would be an independent critique of the expert assessments commissioned by Transpower.

Relief sought on this issue:

- (i) That the Board of Inquiry commission an independent assessment of the visual impact assessment prepared for Transpower on which affected landowners may rely.
- (ii) That Transpower adopt a maximum design capacity based upon 220kV lines rather than 400 kV lines;
- (iii) That Transpower Replace the proposed lattice towers with shorter and less visually intrusive monopole and / or compact design structures with a maximum capacity of 220kV lines;

4. Adverse health effects from electro-magnetic radiation

Scientific and epidemiological evidence does not discount the possibility that prolonged exposure to elevated electro-magnetic fields ("EMF") represent a long term risk to health.

Transpower as the proponent of a project with uncertain and/or cumulative adverse effects should be required to prove its proposal is safe on a precautionary basis, including the extent to which the additional involuntary exposure arising from Transpower's proposals adds to any EMF voluntarily incurred by individuals. Specifically, if EMF represents a long term health risk an individual may choose to incur that risk where there is a direct benefit, for example, in operating an electric blanket, VDU etc. Imposition of an additional or additive risk through compulsory installation of lines in proximity to dwelling houses represents an additional risk for which the individual derives no benefit. Landowners contend that the onus of responsibility on the proponent of an imposed risk to demonstrate safety is greater than where an individual derives a direct benefit.

There is a direct cost to a landowner which accrues where a perception of risk exists. The fact that property buyers perceive EMF as a risk will diminish the capital value of a property affected upon by Transpower's proposal.

Relief sought on this issue:

That Transpower purchase the full freehold title of all land along the route of the line, with the width of that route reflective of the full range of demonstrable adverse effects associated with a 400 KVA line.

5. Noise

Transpower's determination of a transmission corridor width of 64 metres is based on the assumption that there will be noise levels of 45 decibels at 32 metres from the centreline of the transmission corridor. This appears to be considered less than minor by Transpower. Transpower appear to assume that the effects of its proposed activity are consistent along the full length of the line.

Landowners reasonably expect a case by case determination of noise impact based upon measurement of ambient night time noise levels, recognising that the line passes through predominantly rural areas currently enjoying ambient night time noise lower than 45

decibels. Properties, topography, and land uses change along the length of the line with the result that a noise or other impact deemed acceptable in one location is unacceptable in another. Transpower appears to accept this given their undertaking to incur the substantial costs of undergrounding and other mitigation in some areas.

Relief sought on this issue:

Transpower should be required to assess the adverse noise effects on a property by property basis after measuring the ambient background noise on a still winter night and adjust the corridor width accordingly.

6. Reverse sensitivity

A generic approach to the determination of adverse effects of Transpower's proposal constrains a more detailed and site specific consideration of the proposal at the local and regional level. The impact of reverse sensitivity on landowners and occupiers is acknowledged by Transpower through its assessment of noise effects and its expectation that the presence of a line necessitates its direct involvement in resource consent applications associated with land use and land use change.

The expectation that the line, if established, will continue in existence in perpetuity and could be utilised for expanded electricity transmission and/or alternative network utilities requires the imposition of a condition or conditions requiring that current and future adverse effects be avoided, remedied or mitigated at Transpower's cost.

For example, Transpower appears to consider that aerial application of fertiliser in the vicinity of its infrastructure represents an unacceptable corrosion hazard. Whether this is in fact the case is unknown. However, the fact that such a risk may exist suggests any decision in favour of Transpower's proposal should provide for changes in technology, epidemiology or other circumstances.

The provision of a transmission corridor of sufficient width is necessary to eliminate any future request or requirement for Transpower to be involved in resource consenting processes associated with adjoining landowners' properties.

At this stage, the nominal full width of easement is at least one kilometre (particulate discharge causing short) and could be as much as five kilometres (adverse visual effects). Landowners are uncertain what distance from the centre of a transmission corridor would be required to reduce the measurable EMF effect to zero but we suggest EMF effects may represent an alternative or additional means of determining a reasonable width of corridor.

Relief sought on this issue:

(a) Limiting the duration of the consent granted to Transpower to a fixed term and in any event no more than 35 years; and/or

(b) Requiring Transpower to adopt a precautionary approach in the determination of the width of easement required to safely accommodate their 400 KVA line by securing either the land owners agreement to easement terms and conditions allowing for constraints on current and future land use activities; and/or

(c) Acquisition of the full freehold title of a corridor of sufficient width as to eliminate all reasonable probability that as yet undefined or unknown adverse effects could constitute a reasonable risk.

7. Climate change

A developing market in carbon offset credits could motivate landowners to plant trees as a carbon offset for agricultural and other emissions. Imposition of a transmission line across farmland which is in pasture or other low growing plants would preclude that opportunity.

Any obligation to fell and not replant existing trees may incur a carbon emission liability if the tree in question was established before 1990.

Climate change policy is likely to lead to an increase in electricity pricing and a consequential reduction in demand and thus the average annual expansion of electricity distribution infrastructure. This may reduce the need for additional transmission infrastructure in the timeframes contemplated by Transpower as part of this proposal.

Climate change could motivate or even subsidise localised generation in an effort to improve national energy efficiency through reduced transmission losses.

8. Soil and water effects

The assumption in the proposal as notified is that physical works associated with installation of Transpower's line will comply with relevant water and soil protection measures. It is unclear whether Transpower can comply in full with requirements for the retention of vegetation on steep slopes while at the same time maintaining an optimally straight transmission corridor.

Transpower appears to expect that the installation of transmission lines through forests will result in a change in land use under or surrounding the lines to something that may be more compatible with electricity transmission infrastructure, such as pasture. The expansion in pastoral activity within the Waikato river catchment may have adverse effects as a result of non-point source discharges of nitrate and other nutrients, which have not been taken into account in the assessment of effects.

General Relief sought

The submitter seeks the following relief:

- (b) That the Proposal be declined.
- (c) That, in the event the Proposal is not declined, the Proposal be approved only if it is amended to or is made subject to conditions that require Transpower to:
 - (i) Adopt a maximum design capacity based upon 220kV lines rather than 400 kV lines;

- (ii) Replace the proposed lattice towers with shorter and less visually intrusive monopole and / or compact design structures with a maximum capacity of 220kV lines;
- (iii) Purchase by Transpower of the full freehold title of any property within 500 metres of the transmission line corridor.
- (d) Such further or other relief as is appropriate or desirable in order to take account of the concerns expressed in this submission.

I do not wish to be heard in respect of this submission