

BEFORE THE BOARD OF INQUIRY

IN THE MATTER

of the Resource Management Act

AND

IN THE MATTER

of the application for resource consent and notices of requirement by Transpower New Zealand Limited for the North Island Grid Upgrade Project

STATEMENT OF EVIDENCE OF MARK ROBERT BALL FOR FRANKLIN DISTRICT COUNCIL
(THE MAYOR FRANKLIN DISTRICT COUNCIL)

Introduction

1. My name is Mark Ball. I am the Mayor of the Franklin District Council (Council) and make the following comments I respect of the submission of Council to the North Island Grid Upgrade Project.

2. I have been Mayor of Franklin District Council (FDC) since October 2004. I am familiar with Franklin District and the nature of this community, and including the environment and community through which the proposed grid lines and towers pass. I was born and live and work in the district. This work includes some 16 years with the NZ Police prior to starting my own business 8 years ago involved in legal processing. In addition my other work within Rural Fire, Road Safety and Civil Defence encompasses the entire Franklin District and Auckland Region. I am presently on a working group with the Department of Internal Affairs and Local Government NZ, preparing new legislation for the Emergency Services of New Zealand.

3. I am familiar with the many large scale infrastructure projects, such as this, that have impacted upon the community and Environment of the Franklin District in recent decades, such as major SH1 and SH2 roading upgrades and the Water-care pipeline.

4. I am familiar with the application and notice of requirement and the issues that have been raised in Council's submission, although I am not an expert in these fields. I have also attended a number of Community and public meetings concerning the project and I am also familiar with the matters of concerns raised by many members of the community.

5. My evidence canvasses the following matters:
 1. General comments – Nature of community and environment
 2. Environmental, aesthetic and landscape value
 3. Human health

4. Effects of easements
5. Under grounding
6. Uncertainty of effects
7. Efficiency and assessment
8. Co-operation and co-ordination
9. Conclusion

1 General Comments - Nature Of Franklin District Community and Environment

6. The North Island Grid Upgrade Project (Grid Upgrade) is described in the notice of requirement and in the evidence of various experts presented by Transpower New Zealand Limited (Transpower). In brief, I understand the proposal is for the construction of a 400kV capable line, which comprises a series of tower structures, varying between 25m and 70m in height and an average height (over the whole project line) of 60m. The towers comprise three cross-arms, which carry three 'double circuit' lines on each side. In order to accommodate the structures and lines, an easement with a minimum width of 65 metres is required.
7. The form and design of these structures is described in the evidence of Gavin Craig Lister (Transpower - Landscape/visual), page 4, paragraphs 8, 9 and 10 as being *taller, heavier in appearance, and more dominant than towers on existing lines in New Zealand*. Mr Lister goes on to draw comparisons with existing lines north of Runciman, which is located within the Franklin District. He notes that the line north of Runciman is the *nearest in appearance to the proposed line¹.... which has relatively heavy towers averaging 45m high with a maximum height tower of approximately 58.3 at Morewa Place adjacent to the Southern Motorway at Takanini*. In a footnote he comments: *in other words the*

¹ Evidence of Gavin Craig Lister (Transpower - Landscape/visual), page 4, paragraphs 9.

highest tower on this line is similar in height to the average tower on the proposed line. I note however that the highest tower will be in the order of 70m. The ground clearance of lines is to exceed 12.7 m in all circumstances.

8. I have observed the tower structures that Mr Lister refers to and note that a number of lines follow the motorway along the Runciman area which are considerably smaller in height and scale than those referred to by Mr Lister, nevertheless the comparison provides a useful basis for envisaging potential affects.
9. The Grid Upgrade route sections 4 and 5 are located within Franklin District.
10. The Grid Upgrade route enters into the Franklin District from the south, at a point east of Mangatangi and State Highway 2. It follows a north-south route, crossing the Lyons Road valley into the Hunua Foothills and into the Paparimu-Hunua Valley system. It crosses the Hunua Valley from south to north and follows a route west of Hunua Road and west of Paparimu School and village. South of the Hunua Village it crosses east of Hunua Road and then continues northward east of Hunua village and across the rising hills of this valley system to the Manukau City Boundary.
11. The activities in the rural area surrounding the Grid Upgrade route comprise a mixture of farming and lifestyle properties and operations. The area is also known for the extensive Hunua Park, located east of Hunua Road. This park complex includes the Hunua Falls and attracts visitors and tourists. Camp Adair is located on the edge of the park area and provides facilities for schools and other parties and also attracts visitors to the area. The community is therefore not only home to residents and occupiers of the rural properties and small rural settlement of Hunua (both farming and lifestyle) but also an area, which attracts numerous visitors to the park areas for recreation and enjoyment.
12. I note that the Hunua Valley is also crossed with an array of existing National Grid line systems that traverse the Hunua Valley generally in a north to south direction similar to the proposed Upgrade Project route I note the Franklin

District Plan (Rural Plan Change) identifies four lines crossing this area. One of which (The ARI Pak A Line) is to be removed.

13. The overriding issues for Franklin District are the potential impacts including cumulative adverse effects, in particular the visual impacts of the proposed large and high towers, upon this environment and its rural character, and upon the wellbeing of its residents. These matters are elaborated upon in the following paragraphs.

2 Environmental, Aesthetic and Landscape Value

14. As described above the area of Franklin District affected by the Grid Upgrade route is decidedly rural in nature. A significant portion of the route is within the topographically confined Hunua Valley system. The importance to the residents and community of Franklin District of maintaining the district's rural character and environmental quality is reflected in the Franklin District Growth Strategy (DGS), the District Plan and the proposed Plan Change 14 (Rural Plan Change).
15. I merely bring these documents to the attention of the board, accepting that I am not an expert in the planning field, to highlight the importance of the rural character and its environment to the community. I also note that the DGS is not a statutory document but rather it is a visionary strategic document serving to guide Council direction in managing growth. I have attached relevant passages from each of the documents, in appendix 1.0 to this evidence.
16. In the general sense I understand these documents emphasise a direction that focuses residential development into urban areas or villages, rather than the rural areas. The intent being to protect and maintain the rural character and quality of environment and promote its enhancement. It is noted the Rural Plan Change is subject to appeal.
17. I have also attached a copy of the Assessment Criteria, to against which resource consents for infrastructure projects are assessed. Again I do so to

highlight the emphasis on environmental quality and enhancement and rural character (Refer attached Appendix 1.0).

18. Therefore a significant matter of interest to the community is the adverse visual effect of the proposal on the environmental, aesthetic and landscape value of the Hunua Valley (and settlement) and surrounds and on the Lyons Rd area. In addition, it is a matter of concern whether 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.
19. I am aware that a considerable amount of landscape evidence and material is presented by Transpower as well as the landscape evidence of Ms Sally Peake (Landscape Architect – Auckland Regional Council) I understand there are proposal to provide various means of planting and landscaping in a range of positions which are in view lines to towers, in order to reduce the visual impact of the towers and lines. While noting these mitigation measures it is difficult to escape the fact that the proposed towers (and in particular the presence of a large number and row of large towers) are significant structures within the context of this rural environment, being over two and possibly three times the height of the existing line tower structures. The new towers will be readily seen from a wide area of the valley and by a large number of residents. In addition they add to the impacts of the existing structures already in the area.
20. In examining the landscape evidence of Mr. Lister and Dr Steven (Transpower) there seems an assumption that this area is not considered a significant landscape (or at least not sufficiently sensitive in the broader RMA sense), and is already degraded (my words) by the presence of the existing structures in the valley system and therefore structures such as the ones proposed are more acceptable. I also draw upon the comments of Ms Peake (Paragraph 8 and 15 of her evidence in this regard.
21. It appears to me that the fact that the area is not seen as sensitive or of high or significant landscape value at a regional level (noting the debate in regards the Gelling Road area as an area of outstanding Landscape and that there is an acceptance of the high to moderate visual and natural importance bush clad areas of the Hunua Ranges) appears to provide valid reasons for dismissing

lower visual impact options such as steel monopoles or smaller scale compact structure and lines.

22. A serious question to be asked is the cumulative impact of the addition of such structures, in particular, in the context of this confined and somewhat visually contained environment, which also serves as a backdrop to the bush clad Hunua Ranges along the eastern flanks of the Hunua Valley.
23. It appears to me that there are a number of options for less significant structures, for example pole forms, and reduction in the size of conductors, distances between cross-members (to name a few) that have not been fully considered because of the perception of the lack of environmental sensitivity created by the existing structures. It should be noted that the existing lines (four lines cross the Hunua Valley in varying shapes and forms) are likely to have been established without the benefits of the rigours of the RMA process and I suspect a different outcome may have occurred if this had been the case.
24. In any event the existing structures, while numerous and perhaps having an unwelcome impact the rural character of the environment, are considerably smaller and therefore one might consider less obtrusive than those now proposed.
25. It would appear then that there is a critical assumption in considering the relevance of cumulative effects. It seems that where there is already a lower quality of environment (noting this may be for historic reasons rather than any environmental assessment basis), the area should therefore be subject to a further lowering of environmental quality. It is accepted that given the district's location in respect to the urban area of greater Auckland it will be subject to a range of infrastructure passing through that serves or supplies Auckland from locations south. However this needs to be balanced against the effects of any particular proposal.
26. The case against aligning the proposed infrastructure through Hunua is not a case of 'Not-In-My-Back-Yard' thinking; on the contrary, the Hunua community already lives with the effects of four high-voltage power lines and their necessary pylon structures (as does other parts of the Franklin District).

Rather the choice of aligning the proposed infrastructure through Hunua or not, is one that needs to recognise the potential negative impacts of the cumulative effects of such infrastructure. This includes the potential cumulative adverse effects of the proposed infrastructure on the Hunua Park and Hunua Ranges.

27. There are numerous infrastructures that cross the Franklin district, including the many national grid power supply lines, the southern motorway, the Waikato water pipeline, and national gas lines. All are considered necessary to serve the greater Auckland urban area (as well as Franklin District) and some, such as the national grid lines and motorway have direct and readily perceivable effects.
28. No doubt the district will be subject to further pressure for such structures as Auckland's population and economy grows. While there are benefits to the district accruing from such services and supplies a serious question is the ever-increasing cumulative impact of such a combination of infrastructure, and therefore a greater need for an appropriate means to reduce such increasing adverse effects. I understand the Resource Management Act 1991 (RMA) requires that cumulative effects be addressed when development decisions are made.
29. It is the matter of cumulative effect that appears to have contributed to Transpower's choice of location through the Hunua Valley. However, the matter of cumulative effect on the Hunua Valley appears to be one that has not been as thoroughly canvassed to date, or has at least been viewed as the alternative with the least effects, partly because of the existing environment and cumulated effects.
30. It is this question, of the ever-growing increase of such cumulative effect that warrants further consideration of the options that are available other than the substantial structures as proposed. I understand these options have been mentioned in various background reports and evidence and include:
 - Less intrusive, compact designs such as mono-poles and compact transmission lines must be used where possible

- Improved technologies such as reduction in the size of conductors, distances between cross-members.
 - 220 kV line designs, as opposed to 400 kV capable lines.
 - The under grounding 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.
 - The FDC submission also alludes to technologies that could be considered to reduce the need for capacity increase and therefore reduce the need for a 400Kv line at this time.
31. It appears that the question of under grounding in the rural areas has been dismissed through the assessment process, due to excessive costs, issues of accessibility and maintenance and low populations affected. A concern is that if a prime determining factor is the effects on population then it follows that environmental quality is more likely to be compromised in rural areas, or at least more environmentally sensitive solutions dismissed. While accepting that relative to urban environments, affected rural populations are smaller, in the more openspace rural environment the potential effects of tall structures are likely to be more readily observed than in the developed urban environment.
32. I consider that it is in the interest of community that greater weight be given to the matter of the nature and quality of this rural environment and also cumulative effects, and as a consequence that further consideration be given to the alternatives, including under grounding as described above.

3 Human health

33. The Franklin District Council submission seeks clarification with respect to the impact of high-voltage electricity infrastructure on human health and in particular any potential effects on Hunua Village. I note there is a considerable volume of evidence from Transpower in relation to health issues.

34. I concur with the sentiment in the FDC submission that the location of the infrastructure (including any alternatives considered) should be such that it avoids any adverse effects on the health of people living nearby. In that case, given some varying opinions as to health effects, it is desirable that a precautionary approach be taken. The final route, position of towers and lines should be well outside any areas that may impact upon dwellings and residents.

4 Effects of Easement

As outlined in the Council's submission (attached Appendix 1.0) there are a number of aspects concerning the consequences and effects of the proposed easements required to provide for the establishment and ongoing protection of the Grid Upgrade infrastructure location and route that potentially impact upon the wellbeing of the Franklin Community and residents. These include uncertainties for owners and properties affected as to the clarity of purchasing and compensation, and how such matters are addressed for effects upon properties beyond such easements. In addition, questions arise as to whether the method used to determine the easement width (and hence project cost) is sufficient to take into account all the likely eventualities.

35. Although it is not an RMA matter I am aware of concerns expressed in the community of uncertainties in regard to the nature and extent of easements and the easement-purchasing process and the compensation process undertaken to date. Given the extensive nature of the project across the district (and indeed other areas) and the potential considerable impact upon the residents and community of the district, it is desirable that such a process is transparent and readily understood by all parties. This includes the need to recognise impacts of the proposal beyond the 65 metre easement itself, and in that sense it may be prudent to give weight to the concept that the size of the infrastructure should be reduced to avoid uncompensated loss upon affected property owners and their operations.
36. An important issue is also whether the 65 metre easement width (32.5 metres on each side of the easement centreline) is sufficient to provide for safe operation and maintenance of the electricity infrastructure.

37. For example, there is the question of whether the easement width is sufficient to cater for the eventuality of falling trees, which could strike the conductors. I understand 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. I am informed mature pine trees can grow to 60 metres in height and grow to an average of 45 metres. In this circumstance there may be the possibility that an average tree falling from its base on flat land could strike the conductors. It is therefore appropriate that any easement be of sufficient width to avoid such an eventuality.
38. In addition, given the scale of the project and the extent to which it can potentially disrupt a considerable number of properties and their operations, it is essential that the method for determining the easement width is sufficient to identify possible eventualities and effects such as:
- pylons toppling
 - activities, e.g. planting of trees, impacting on the operation of the line
 - the potential effects on human beings of various emissions from the line
39. I understand that the method for selection that enables the project to proceed in a Resource Management sense is referred to as the Grid Investment Test (GIT). A question I raise is whether this process included the modelling of a sufficient easement width to address the eventualities identified above, and as such whether this impacted upon outcomes in terms of assumptions in regard to choice of line capacities (400 kV lines in preference to 220 kV lines). This includes the question of whether the use of the 2005 Statement of Opportunities (SoO), as opposed to the draft 2007 SoO, would have resulted in different outcomes. The Council seeks that:
- The GIT be undertaken using wider easement dimensions.
 - A cost-benefit analysis be undertaken that enables a valid comparison between 400 kV lines and 220 kV lines on the above basis.

5 Under grounding

40. A significant option, in terms of mitigating and avoiding the potential visual and amenity effects, is that of under grounding the line through the Hunua Valley section of the route. This solution clearly would have considerable benefit to the community and environment if it were pursued. The dismissal of such an option appears to be largely the result of the cost-benefit formula. I note that it is proposed to underground the northern portion of the line through urban areas, (I understand based upon the cost-benefit which includes matters such a land purchase). It appears that such an option will not receive sufficient cost-benefit to warrant it in the rural setting.
41. A question I raise therefore is whether the economics of land purchase is the critical factor rather than any environmental factors in the determination of such an option. If that is the case it is therefore unlikely that any general rural area will be seriously considered and those factors, such as cumulative effects, as outlined in my previous discussion, will not be given any significant weight.
42. The question I ask is whether cost-benefit is sufficiently robust to fairly and appropriately account for the importance of elements such as the maintenance of rural character and amenity, and impacts upon the general rural and surrounding forest environment. The Council seeks that serious consideration be given to under grounding the lines from the area south of Hunua township, and northward to Franklin district boundary.

6 Uncertainty of effects

43. 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
44. 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.

45. It is desirable that there be a higher level of certainty with respect to these components and their effects, and:
- permissible distance of mature trees from the easement centreline
 - calculations used by Transpower to establish the risk to the line from falling trees
 - 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 inclusion of the economic and environmental effects beyond the proposed minimum 65 metre easement in all cost-benefit analyses and compensation processes.

or the size of the infrastructure must be reduced to less damaging proportions.

7 Efficiency and Assessment

46. The clear basis for seeking the proposal is to secure robust infrastructure to meet the ongoing supply to Auckland, and the method chosen appears to be based upon the nature of the existing supply system and infrastructure, rather than alternatives for gaining efficiencies in the existing infrastructure.
47. For instance, as I understand this includes methods such as the exporting of electricity exported from Taranaki (Stratford) being dispatched southwards to Bunnythorpe and then northwards via the central North Island high voltage grid network. It is therefore desirable that options such as source power closer to Auckland are investigated in order which minimise the potential negative impacts of electricity transmission on the New Zealand landscape and countryside and minimise the loss of electricity in the transmission process then such methods should be included within any assessment as an alternative to a 400Kv upgrade as proposed.

48. It is also desirable that any assessment includes analysis of improvements in technology, such as those alluded to in the FDC submission, as follows:
- existing under-capacity lines into the Auckland region must be re-conducted
 - 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.

8 Co-operation and co-ordination

49. The proposal is a significant project that involves considering options and determining solutions, which is influenced by a wide variety of parties and operations (and approaches to supply and distribution) as well as the communities involved. For instance the degree of co-ordination and partnerships (or lack of) between individual companies and their decisions regarding energy generation may be important factors in the choices that eventuate (such as the large scale 400Kv line proposed).
50. It is also likely that the question of supply of National Grid lines to Auckland will continue (Noting this in itself depends upon longer term uncertainties in regard to growth and population, as well as developing technologies), and no doubt additional lines in the future.
51. It is therefore desirable that decisions relating to electricity and infrastructure corridors should be made within that context of co-operation and co-ordination and that processes be considered now rather than later. This includes joint consideration by all levels of government before decisions are made about the alignment of the proposed infrastructure. In addition, in this case, it is desirable that the route and infrastructure alternatives must be subject to a consultation process that enables the Franklin community to make a meaningful contribution to decision-making.
52. I therefore suggest that consideration be given to:

- A forum being 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 by appropriately qualified persons independent of Transpower.
- Route and infrastructure alternatives be subject to an ongoing consultation process.

9 Conclusion

53. I consider that the North Island Grid Grid Upgrade is a significant proposal that can significantly adversely impact upon the wellbeing of the Franklin District Rural community in the Hunua area and its environmental quality and rural character.
54. I consider that any assessment and determination of the appropriateness of the proposal should examine not only the effects, but also the methods and inputs that determine the final choice of option. Such an approach should be robust and take account of all reasonable scenarios. I have raised a number of questions in my evidence that identify shortcomings of the process and analysis.
55. Given these questions it is my view that the proposal does not adequately avoid, remedy or mitigate adverse effects on the environment and I concur with the Franklin District Council submission that seeks that the designations and consents be declined in their entirety, unless they are sufficiently amended so as to take account of the matters raised in the submission as described in the above evidence.

DATED this 25 February 2005.

Appendix 1.0

