

BEFORE THE BOARD OF INQUIRY

IN THE MATTER of the Resource Management
Act 1991

AND

IN THE MATTER of applications for resource
consent and notices of
requirement by Transpower
New Zealand Limited for the
North Island Grid Upgrade
Project

**STATEMENT OF EVIDENCE OF GRAHAM WILLIAM FRANCIS WARREN IN
REBUTTAL FOR TRANSPOWER NEW ZEALAND LIMITED
(Noise evidence and conditions)**

SIMPSON GRIERSON
D J S LAING / J G A WINCHESTER
TELEPHONE: +64-4-499 4599
FACSIMILE: +64-4-472 6986
DX SX11174: PO BOX 2402
SOLICITORS
WELLINGTON

J S KÓS QC
STOUT STREET CHAMBERS
TELEPHONE: +64-4-472 9026
FACSIMILE: +64-4-472 9027
PO BOX 117
WELLINGTON

Introduction

1. **MY** name is Graham William Francis Warren. I wish to present rebuttal evidence to the statements of evidence of:
 - (a) Mr Nevil Hegley on behalf of Manukau City Council (**MCC**);
 - (b) Mr Randall McKenzie and Mr Mark Spring;
 - (c) Mr Nathan Baker on behalf of Housing New Zealand Corporation (**HNZC**);
 - (d) Mr Timothy Densem on behalf of Mighty River Power Limited (**MRP**);
 - (e) Mr Geoff Copstick and Ms Kate Brennan,
2. I address the evidence of each submitter below.

Mr Nevil Hegley (MCC) (Submission No. 0861)

3. I wish to address paragraphs 3.2, 6.1, 7.2, 7.3 and 8.1 of Mr Hegley's statement of evidence. These paragraphs relate to the noise conditions contained in Mr Nigel Lloyd's evidence in chief, that I supported in my evidence in chief.
4. **AT** paragraph 3.2 of his evidence, Mr Hegley states the following:

"Regardless of the findings in the original assessment of noise effects reports, the most important issues are the proposed conditions. I do not see anything in the original assessment that would suggest the proposed noise conditions as set out Mr Lloyd's evidence could not be met."

5. I am in agreement with this statement.

Otahuhu Substation

6. **IN** paragraph 6.1 of his evidence, Mr Hegley contends that the 55 dBA L₁₀ limit in conditions 8(a) of Mr Lloyd's evidence-in-chief is unnecessary in its proposed form

as it effectively includes a requirement for compliance on the adjacent SH1. I agree with this opinion and support Mr Hegley his view that it should apply only "*within the boundary of any Business Zone site or any Open Space Zone outside of the designation*".

Brownhill Substation

7. **IN** paragraphs 7.2 and 7.3 of Mr Hegley's evidence, reference is made to the use of standby generators. Mr Hegley states that he considers that there should be some limitation as to how long such generators should operate at elevated noise levels and considers that this should be limited to one full night at any time. He goes on to state that for the noise from standby generators, it would be realistic if this condition was applied to the notional boundary of any dwelling rather than the designation boundary as this is not necessarily the same location.
8. I am in agreement with Mr Hegley on this matter and consider that it is appropriate to amend condition 15 as it appears in Appendix 1 of the first statement of evidence of Mr Nigel Lloyd relating to Brownhill Substation, so as to require compliance with the limit of 55 dBA L₁₀ at the notional boundary of any dwelling, and further, that reliance on this limit should not exceed more than one successive night-time period (10.00 pm to 7.00 am).

Overhead transmission lines

9. **AT** paragraph 8.1 of his evidence, Mr Hegley expresses uncertainty as to why the condition (19 of Mr Lloyd's evidence) has been limited to specified wet weather conditions. He then recommends that the condition should relate to all wet weather conditions as this is what the residents would hear. He proposes an amendment to the condition which deletes the reference to the wet conductor conditions as defined in Chapter 6 of the "EPRI Transmission Line Reference Book", and includes a provision that measurements shall not be undertaken in heavy rain.
10. **THE** essential issue here is, in my opinion, that any compliance assessment should be required only during periods when this can be undertaken in a practical manner in accordance with relevant New Zealand Standards and also to ensure that the noise measured is that of corona noise and not rain noise. I suggest

Mr Hegley's proposed condition, which I believe addresses his concerns and the need for practical measurement conditions should be adopted. This is as follows:

"The operation of the transmission line shall not exceed a limit of 40 dBA L_{eq} beyond the boundaries of the transmission line designation. Measurements shall not be undertaken during heavy rain."

**Mr Randall McKenzie and Mr Mark Spring (Brownhill Road (Whitford) Residents)
(Submission No. 1008 and 0739)**

11. **AT** paragraph 25 of their evidence, these submitters, in relation to noise impacts, express concern that the noise was not effectively measured due to the low lying nature of this landscape, which results in the valley between Brownhill Road and Scenic Drive being covered in a blanket of fog most winter mornings. The submitters contend that this would increase the *"corona noise from the transformers"*.
12. **AS** referred to in paragraphs 21 and 22 of my evidence in chief, the matter of rainfall and foggy conditions in relation to the transmission lines has been examined and thus taken into consideration in the overall assessment of noise effects of corona discharge noise and the recommended limit applying to it. The issue of transformer noise has been comprehensively examined as referred to in my evidence in chief.

Mr Nathan Baker (HNZC) (Submission No. 1047)

13. **MR** Baker, in paragraph 26 of his evidence seeks that:

"a specific construction management plan is developed for the Otahuhu Substation and Otahuhu to Brownhill cable route."

14. **HE** also details a number of matters that he considers to be appropriate for inclusion in such a management plan.
15. **MR** Baker observes in his paragraph 27 that *"HNZC considers that a well-written Construction Management Plan can provide enough certainty to sufficiently*

manage and mitigate construction effects at this stage and also provide flexibility to allow future contractors to work within."

16. I agree with this statement and note that, in relation to construction noise effects, condition 3 of Mr Nigel Lloyd's evidence requires the formulation of a noise management plan prior to construction work taking place, that sets out management procedures in terms of section 8 and Annex E of NZS 6803:1999, which generally address the issues referred to in Mr Baker's evidence in relation to the management of construction noise.

Mr Timothy Densem (MRP) (Submission No. 1041)

17. **AT** paragraph 9.5 of his evidence, Mr Densem expresses concern that the cumulative effect of noise generation from MRP's existing operations together with emissions from the new Whakamaru North Substation could result in non-compliance with noise controls, so jeopardising Mighty River Power's currently legally compliant operations within the Whakamaru Core Site. To address this issue Mr Densem in his evidence seeks to have a condition imposed whereby the Whakamaru North Substation is not to exceed the limits applying to the Whakamaru Electricity Generation Core Site of 50 dBA L_{eq} daytime and 40 dBA L_{eq} and 70 dBA L_{max} night-time at any point within the Noise Control Boundary. The proposed designation boundary and the location of the Whakamaru Electricity Generation Core Site boundary are shown on the plan in **Appendix A** to my rebuttal evidence.
18. **THIS** issue is addressed in my evidence in chief in paragraphs 234 to 237. Further to those statements, I observe that I see no advantage for either Mighty River Power or Transpower in the imposition of such a condition, nor is it needed in my opinion to protect residents in the vicinity, as this is effectively controlled by the limits proposed applying at the designation boundary.
19. **ANY** limitation on Transpower relating to the generation of noise received at MRP's Noise Control Boundary where it traverses the Transpower designation would, in my opinion, be unreasonable because it has the potential to unduly restrict what could otherwise be legitimate Transpower activities and, as noted above, is unnecessary to protect noise sensitive receivers in the vicinity.