

BEFORE THE BOARD OF ENQUIRY

IN THE MATTER of the Resource Management  
Act 1991

AND

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

Statement of Evidence of Nevil Ian Hegley

**1 INTRODUCTION**

- 1.1 My name is NEVIL IAN HEGLEY. I am the Principal of Hegley Acoustic Consultants. I have more than 35 years experience in civil engineering and for the last 30 years I have specialised in acoustics. I have an MSc from Southampton University (1975) where I undertook research in acoustics. I am a Chartered Professional Engineer, a Member of the Institution of Professional Engineers New Zealand, the Institution of Civil Engineers London and the Acoustical Society of America. I have been on the majority of the Standards sub-committees since 1978 and I was the Chairman of one of these committees.
- 1.2 I agree to comply with the Code of Conduct for Expert Witnesses in the Environment Court Consolidated Practice Note (2006). I have approached the preparation of his evidence in the same way that I would for the Environment Court.
- 1.3 I have been retained by the Manukau City Council to review the noise aspects of the proposal by Transpower New Zealand Limited (Transpower)

for the North Island Upgrade Project.

## **2 BACKGROUND INFORMATION**

2.1 I have read the noise assessment for the Otahuhu, Pakuranga and Brownhill Road substations and the overhead transmission lines. I have also read the evidence prepared by Mr Graham Warren and Mr Nigel Lloyd for the applicant.

2.2 I have not made any special visits to the above sites although I am familiar with the three substation sites and the general environment that the transmission line passes through when within the Manukau City Council area.

2.3 I have been involved with a number of substation designs and transmission lines throughout the country. At some of these sites I measured the existing noise levels, designed for additional equipment to be installed at some substations and have been involved with the acoustic design of new substations.

## **3 The Proposal**

3.1 Having read the noise assessment and in particular the review undertaken of the original assessment I generally agree with the findings.

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

## **4 Proposed Construction Noise Conditions**

4.1 It is agreed that NZS 6803:1999 Acoustics – Construction Noise is the appropriate Standard to adopt for any construction noise.

4.2 It is further agreed that it is appropriate to prepare a Noise Management Plan setting out how the work will be managed to ensure compliance with NZS6803: 1999 and Section 16 of the Resource Management Act to adopt

the best practical option to minimise noise for the neighbours.

4.3 I also agree that specific noise limits should not apply to any emergency work. However, clear guidance has not been provided on what is considered emergency work and the potential duration of any such work.

4.4 As an example, should it be considered some work was categorised as emergency and this state continued for, say, two nights at a high level, this noise could be unreasonable for neighbours. In such a case I believe it would be reasonable for the neighbours concerned to be offered to be relocated should high noise levels continue for more than 1 full night. By high noise levels I mean more than about 45dBA  $L_{eq}$ .

## 5 Pakuranga Substation

5.1 I agree with the proposed operating noise conditions.

## 6 Otahuhu Substation

6.1 Propose condition 8(a) of Mr Lloyd's evidence sets 55dBA  $L_{10}$  for any land outside of the designation. This condition includes compliance on the adjacent southern motorway (State Highway 1) land. This would seem to be unreasonable and unnecessary. I believe this condition should be reworded to read:

*Within the boundary of any Business Zone site or any Open Space Zone outside of the designation.*  
At all times                      55dBA  $L_{10}$

## 7 Brownhill Substation

7.1 It has been suggested that standby generators should be allowed to operate at 55dBA at the site boundary at all times.

7.2 I agree that it is reasonable to expect limited use of standby generators at an elevated noise level for a limited period. However, there is no indication how long the generators could operate for. Again, I believe it would be reasonable to offer any resident alternative accommodation if this noise is experienced for more than 1 full night at any time.

- 7.3 In the case of noise from the standby generators, it would be more realistic if this condition applied to the notional boundary of any house rather than the designation boundary. This is not necessarily the same location.

## **8 Overhead Transmission Lines**

- 8.1 I agree with the proposed conditions although I am not sure why the condition has been limited to certain wet weather. It is recommended this condition be for all wet conductor conditions, as that is what the residents would hear. Thus, condition 19 becomes:

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

## **9 Discussions with Applicant**

- 9.1 I have discussed the above with Mr Lloyd (acoustic consultant for the applicant) and understand he is in generally agreement with the above recommendations.

## **10 Conclusions**

- 10.1 The proposed changes will not generate any unreasonable criteria for Transpower New Zealand Limited.
- 10.2 The proposed changes will offer more certain acoustic protection for the residents.
- 10.3 When considering the above I believe the noise control will be reasonable for all existing and future residents from the proposed work.

Nevil Hegley  
February 2008