

**IN THE MATTER** of the Resource Management Act 1991

**AND**

**IN THE MATTER** of a Notice of Requirement by KiwiRail Holdings Ltd to alter an existing designation at Tilley Road, Paekakariki

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**ACOUSTICS – JOINT WITNESS STATEMENT**

**11 DECEMBER 2017**

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## 1. INTRODUCTION

- 1.1 The minute and directions of the Hearing Commissioners dated 10 November 2017 directs that acoustics experts conference prior to preparing individual statements of evidence. Malcolm Hunt, engaged by the Kāpiti Coast District Council, and Stephen Chiles, engaged by KiwiRail Holdings Ltd (KiwiRail), have discussed this matter and prepared this joint witness statement prior to drafting our individual statements of evidence. We are not aware of any acoustics experts that have been engaged by other parties.
- 1.2 We have both separately visited the site and have each previously prepared a report on this matter:
- (a) Chiles Ltd, Paekakariki Rail Yard – noise assessment, dated 21 March 2017; and
  - (b) Malcolm Hunt Associates, Noise & vibration effects of amending KiwiRail designation – Paekakariki, dated 10 May 2017.
- 1.3 We have both reviewed submissions made by nearby residents and we both attended a pre-hearing meeting on 20 July 2017.
- 1.4 This joint statement has been prepared based on these previous reports and discussions, and we have also held further discussions by telephone.
- 1.5 We confirm that we have read and agree to comply with the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2014. This evidence is within our areas of expertise except where we state that we are relying on facts or information provided by another person. We have not omitted to consider material facts known to us that might alter or detract from the opinions that we express.
- 1.6 Mr Hunt is the Principal of Malcolm Hunt Associates; a consultancy firm specialising in environmental noise. He holds a Science Degree and a Master of Mechanical Engineering, with his dissertation on environmental noise. Mr Hunt has other qualifications with respect to

the Environmental Health Officer Qualification Regulations 1975, and holds a Royal Society of Health Diploma in Noise Control. Mr Hunt has over 30 years' experience in the measurement and assessment of noise in the environment, and is a member of various committees including International Standards Organisation technical working groups, the International Institute of Noise Control Engineering working group investigating noise in recreation areas, and various New Zealand Standards committees

- 1.7 Dr Chiles is an acoustics engineer, self-employed by his company Chiles Ltd. He has Doctor of Philosophy and Bachelor of Engineering degrees in acoustics and is a Chartered Professional Engineer and Fellow of the UK Institute of Acoustics. Dr Chiles has been employed in acoustics since 1996, and has previously held positions as a research officer at the University of Bath, as a principal environmental specialist at the NZ Transport Agency, and as a consultant for the international firms Arup, WSP, and URS, and for the specialist firms Marshall Day Acoustics and Fleming & Barron. He is Convener of the New Zealand Industry Reference Group for the committee responsible for approximately 200 published 'ISO' standards relating to acoustics, and has been actively involved in New Zealand Standards.

## 2. AGREED STATEMENT OF FACTS

- 2.1 The site is within a residential zone in the operative Kāpiti Coast District Plan. The operative district plan noise limits in this zone are:
- (a) Daytime (0700h-2200h) 50 dB  $L_{A10}$
  - (b) Night-time (2200h-0700h) 40 dB  $L_{A10}$ , 75 dB  $L_{AFmax}$
- 2.2 The proposed district plan maintains these noise limits at broadly equivalent levels, but: adds a transitional evening period; updates the parameters from  $L_{A10}$  to  $L_{Aeq(15\ min)}$ ; and references the current 2008 versions of NZS 6801<sup>1</sup> and NZS 6802<sup>2</sup>. There is not a direct correlation between  $L_{A10}$  and  $L_{Aeq(15\ min)}$  values as it varies depending on specific

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<sup>1</sup> NZS 6801:2008 Acoustics – Measurement of environmental sound

<sup>2</sup> NZS 6802:2008 Acoustics – Environmental noise

sound sources, although the  $L_{A10}$  is usually slightly higher. In terms of setting noise limits the difference is marginal.

2.3 NZS 6802 includes guidance for noise limits “*for the reasonable protection of health and amenity associated with use of land for residential purposes*”. These guideline limits set out below are generally 5 dB more lenient than the district plan noise limits:

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|-----|--------------------------|--|
| (a) | Daytime (0700h-1900h)    | 55 dB $L_{Aeq(15\text{ min})}$                     |
| (b) | Evening (1900h-2200h)    | 50 dB $L_{Aeq(15\text{ min})}$                     |
| (c) | Night-time (2200h-0700h) | 45 dB $L_{Aeq(15\text{ min})}$ , 75 dB $L_{AFmax}$ |

2.4 Adjacent and nearby sites at 24-32, 35-49 and 46 Tilley Road are in a residential zone and most sites contain dwellings that are considered noise sensitive activities. The District Plan emphasises that ‘amenity’ effects such as noise can adversely affect the quality of residentially zoned sites as a place to live.

2.5 The existing environment includes sound from: State Highway 1 (SH1), North Island Main Trunk (NIMT) railway line, commuter train stabling, vehicles and equipment in the rail yard (outside the area subject to this alteration), Steam Incorporated workshops, Paekakariki Station car park, occasional traffic on Tilley Road and other local roads, and at times sound from fauna, the wind and sea.

### 3. AREAS OF AGREEMENT

3.1 Activities in the rail yard should be subject to good practice noise management. This includes: conducting activity during the daytime where practical; locating noisier activities away from residential neighbours; seeking to use quieter equipment/processes where available; keeping building doors closed when conducting noisy works inside; communication with neighbours in advance of noisier activities; training staff to be aware of noise impacts and required behaviour; and investigation of and response to complaints.

- 3.2 Although slightly higher than the permitted activity noise standards of the Kāpiti Coast District Plan, sound from activities in the rail yard in compliance with the guideline noise limits from NZS 6802 should be acceptable in this environment. Occasional unavoidable exceedances of the noise limits might also be acceptable if there is appropriate management of noise effects.
- 3.3 Some uses of the rail yard, such as storage and vehicle parking should comply with the guideline noise limits with minimal site management required.
- 3.4 Potential future use of the rail yard may include more intensive activities, such as the previous use of the site as a base for projects such as electrification works. We agree that such activities should be subject to a management plan that sets out methods to maintain compliance with the noise limits as far as practicable and to manage adverse noise effects.

#### **4. AREAS OF DISAGREEMENT**

- 4.1 We disagree on the extent to which the above noise management practices need to be specified in designation conditions:
- (a) Mr Hunt considers that designation conditions should require a noise management plan, specify noise criteria, and require monitoring. He has set out his recommended wording for conditions in full in his report.
  - (b) Dr Chiles considers the designation conditions proposed by Mr Hunt are inappropriate for the current predominant use of the site for storage. He considers that appropriate site management for future activities can be effectively implemented without prescription by designation conditions.



**Malcolm Hunt**



**Stephen Chiles**