

Before the Independent Hearing
Commissioners

Under the Resource Management Act 1991

In the matter of A hearing on submissions on the proposed Te Tai o Poutini
Plan

Hearing Topic 8: Noise

Submitters: **WMS Group (HQ) Limited and WMS Land Co. Limited (S599 and FS231), West Coast Bulk logistics (FS152), TiGa Minerals and Metals Limited (S493 and FS104)**

Statement of Evidence of Rhys Leonard Hegley

6 August 2024

Qualifications and experience

- 1 My full name is Rhys Leonard Hegley. I am a partner at Hegley Acoustic Consultants.
- 2 I hold a Bachelor of Engineering from the University of Auckland (1993) and have attended specialist courses in acoustics in Australia and America. I am a member of the Institution of Professional Engineers New Zealand.
- 3 For the last 24 years, I have specialised in the measurement and assessment of noise. This work has included undertaking noise measurements and preparing assessments for resource consent applications and notices of requirement, and attendance at council hearings, the District and Environment Court hearings and Boards of Inquiry.
- 4 I have advised on a wide range of projects from the development of business activities such as childcare centres, service stations and workshops through to large scale industrial activities such as petrochemical plants, power stations, dairy factories and roading projects.
- 5 My technical skills and experience that are directly relevant to this evidence include working on the noise provisions of plan changes and involvement with hard and soft rock quarries as well as sand and coal pits. I have also been involved with a range of different types of activities proposed for rural areas.
- 6 This evidence is provided in support of the submission by WMS Group (HQ) Limited and WMS Land Co. Limited, and further submission by West Coast Bulk Logistics (**WMS Group**) and TiGa Minerals and Metals Limited (**TiGa**) (collectively **Submitters**) on Topic 8 of the Te Tai o Poutini Plan (**TTPP**) (**Submissions**). My role has been to provide advice in relation to the notified noise rules R6 (Rural Zone), R9 (Port Zone), R11 (Mineral Extraction Zone) and the replacement noise rule RX as recommended by the s42A report.
- 7 In preparing this statement of evidence I have considered the following documents:
 - (a) The submissions on the TTPP by the Submitters and Te Whatu Ora;
 - (b) The chapters of the TTPP relating to noise, the rural zones – particularly the general rural zone;
 - (c) The noise section of the Section 42A Report and its Appendix 1; and
 - (d) The statement of evidence on acoustics prepared on behalf of Council by Mr Stephen Peakall.

Code of Conduct for Expert Witnesses

- 8 While this is not a hearing before the Environment Court, I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and that I have complied with it when preparing my evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope of evidence

- 9 I have prepared evidence in relation to:
- (a) The general rural zone noise rule (R6);
 - (b) The port zone noise rule (R9);
 - (c) The mineral extraction zone noise rule (R11); and
 - (d) The new noise rule (RX) suggested in the s42A report.

Rural Zone Noise Rule (R6)

- 10 As recommended by Council's specialist reviewer, Mr Peakall, the s42A report proposes moving the rural zone noise limits from their own specific rule (R6) to a new rule RX, which incorporates the noise limits for a number of zones. Mr Peakall notes that doing so is consistent with the relief sought by Te Whatu Ora¹. My understanding of Te Whatu Ora's submission was that it requested that noise rules apply to a receiving zone. My view is that this was the case for the notified version of the noise rules but, in general, I have not objected to redrafting the rule. I do, however, have a specific concern that in its redrafting, RX complicates the structure of the TTPP, which I discuss further in paragraph 22 below and with respect to the port zone and the mineral extraction zone.
- 11 In addition, I have concerns over the proposed modification to the day time noise limits and the night-time L_{AFmax} limit of the general rural zone rule since notification. The following Table 1 summarises the noise limits of R6 as notified, the Submissions and the subsequent recommendation of the s42A report.

¹ Paragraph 81 of Mr Peakall's evidence.

Table 1. Summary of the Rural Zone Noise Rule (R6)

Period	As Notified	Submissions	As s42A Report
Day	7am - 10pm, 55dB LAeq Mon – Fri:	7am - 10pm, 55dB LAeq Mon – Fri:	7am - 10pm, 55dB LAeq Mon – Fri:
	8am - 8pm, Sat, Sun & public holidays: 55dB LAeq	7 - 10pm, Sat, Sun and public holidays: 55dB LAeq	7-10pm, Sat, Sun and public holidays: 50dB LAeq
Night	All other times: 45dB LAeq	10pm - 7am 45dB LAeq All days	10pm - 7am 45dB LAeq All days
	10pm - 7am 75dB LAFmax All days:	10pm - 7am 75dB LAFmax All days:	10pm - 7am 70dB LAFmax All days:



This line highlights the only differences between the versions of the rule.

- 12 The first change relates to the day time limits on Saturdays, Sundays and public holidays (the highlighted line on the Table). The notified version provided slightly reduced hours, the Submissions requested the same day time hours as the working week (and as the modified mineral extraction noise rule) and the s42A report, on the recommendation of Mr Peakall, reduced the limit from 55 to 50dB L_{Aeq} . The second change is a reduction to the L_{AFmax} limit at night time. The TTPP was notified at 75dB L_{AFmax} which the Submissions supported. The s42A report proposed that this level be reduced to 70dB L_{AFmax} . My concerns with the proposed changes are discussed below.

SATURDAYS, SUNDAYS AND PUBLIC HOLIDAYS

- 13 Considering first the changes proposed for weekends and public holidays, Mr Peakall explains his rationale for this suggestion² as consistency with NZS 6802³. To provide some context to this, I note that Section 8 of NZS 6802 provides advice on the setting of noise limits. To summarise the standard on this issue, section 8.1 states the intent is to set noise limits on the basis of compatibility with human activities, land use activities and the protection of health and/or amenity. The section goes on to discuss how the 24 hour period could be divided into different periods when considering noise and gives an example of how day, evening and night periods could be used or how Saturdays, Sundays and public holidays could be separated out. Importantly, the standard does not make a recommendation on which should be used, or what the specific levels should be but instead states that the exact form of a rule should be determined by local authority.
- 14 Based on the above, I agree that Mr Peakall's suggested general rural zone noise rule is consistent with NZS 6802 but consider that so too were the versions of the rule that were notified and sought by the Submission. As such, I do not consider NZS 6802 alone can be used as a reason to change the rule. I consider a more appropriate approach would be to adopt the guidance of NZS 6802 that noise rules be developed on the basis of compatibility with human activities, land use activities and the protection of health and/or amenity. This approach is reflected in the objectives of the noise chapter of the TTPP, which includes:

NOISE – 01: The benefits of noise generating activities are provided for in a way that is compatible with the role, function and character of each zone and does not unreasonably compromise community health, safety and wellbeing.

² Paragraph 85 of Mr Peakall's evidence.

³ NZS 6802:2008 Acoustics – Environmental noise, the standard proposed by R1 of the TTPP

- 15 My view is that the common theme of both NZS 6802 and NOISE-O1 is that a successful noise rule should address both the function and character of the general rural zone and set noise limits such that the community would not be unreasonably compromised. I address each of these two points below.
- 16 I have read the objectives of the general rural zone which describes the dual nature of the rural zone identifying that it must provide for both a living and a working component within the zone. My understanding of the objectives is that the TTPP intends to be supportive of the working activities within the zone (and specifically identifies the importance of mineral extraction⁴) to the point that effects would otherwise unreasonably compromise community health or rural amenity.
- 17 In considering appropriate noise limits for this zone, there is a general consensus between the notified, Submissions and s42A versions of the rule that 55dB L_{Aeq} is appropriate as the day time limit while 45dB L_{Aeq} is appropriate at night time. NZS 6802 identifies these levels as being the upper limit appropriate for residential amenity. The guidelines⁵ of the World Health Organization (WHO) provide the same recommendation. On this basis, I consider that they are consistent with the stated objectives of the TTPP as they are limited by residential amenity but are otherwise permissive. I therefore support them.
- 18 The point of difference is whether or not the day time criteria should be modified on weekends and public holidays. With respect to the notified version's proposal to shorten the day time hours on weekends and public holidays, I agree with Mr Peakall's response⁶ with respect to the general rural zone that 'the evening period is often a time when noise sensitivity is not necessarily heightened and, therefore, does not require greater protection than the general daytime period'. I provide my reasoning for this in the following paragraph.
- 19 In response to Mr Peakall's suggestion that lower limits be provided all day on weekends and public holidays, my view is that a decision on this matter should be a made based on Council's objectives for the zone. While the working nature of the general rural zone would benefit from higher permitted levels, residential amenity would benefit from lower. A balance is clearly required with my view being that balance should provide a level supportive of all working activities (not just those of the extractive industries) to the point permitted by residential amenity. Being the upper limit considered reasonable for residential amenity, I consider

⁴ TTPP RURZ-O5

⁵ WHO Guidelines for Community Noise, Berglund, Lindvall and Schwela,

⁶ Paragraph 89 of Mr Peakall's evidence

daytime a limit of 55dB L_{Aeq} describes the appropriate balance between the two functions of the zone on all days of the week, including public holidays.

- 20 To provide a lower day time limit would be to shift the balance from a mixed zone to a residential zone with a working component.
- 21 I note that the question of appropriate noise limits for extractive industries in the general rural zone is not new. Recent decisions⁷ have found that a daytime limit of 55dB L_{Aeq} to 10pm and 45dB L_{Aeq} and 75dB L_{AFmax} at night time are appropriate for all days.
- 22 To summarise the above, my general concern is that the criteria of the rural zone noise rules of the proposed RX are not well matched with the objectives of the TTPP. On this point, it appears to be that in trying to simplify the noise rules, RX has removed some of the detail provided by the notified version of the rural zone rules, thereby complicating the structure of the TTPP as signalled by the notified version. For example, based on the noise levels and the reasoning I provide above, the notified version of R6 was written in favour of the working component of the rural zone. However, it also provided for a higher level of amenity within the Settlement zone. By comparison, RX provides the same noise limits for both the General Rural and the Settlement zone and, to account for this, introduces a compromise to each zone (by way of lower limits on weekends and public holidays). Based on the TTPP objectives, I consider the approach taken by the notified version of the TTPP where the noise rules for each were tailored to that zone is preferable. Table 2 below provides a comparison between the zones:
- 23 Table 2 shows that:
- (a) The rules proposed by the s42A do not differentiate the noise levels between the general rural and the settlement zones. (The two rules are needed as the general rural zone measurement position is the notional boundary while the settlement zone uses the site boundary).
 - (b) The notified version of the TTPP differentiates between the general rural and the settlement zones by varying the length of day.
- 24 The noise rules show the intent of the notified TTPP to differentiate between the general rural and settlement zones, which I support. This, when considered with the views I express above, leads to the view that, for the general rural zone, 55dB L_{Aeq} is appropriate 7am – 10pm, each day and 45dB L_{Aeq} from 10pm – 7am.

⁷ Barrytown mine, Grey District Council LUC3154-23 (under appeal) and Westland Mineral Sands Decision RC130 (Env-2022-CHC-23).

Table 2. Evolution of the General Rual and the Settlement Zone Noise Rules

TTPP Version	Period	Settlement Zone		General Rual Zone	
Notified TTPP		R5		R6	
	Day	7am – 7pm Mon – Fri	55dB LAeq	7am – 10pm Mon – Fri	55dB LAeq
		8am – 5pm Sat, Sun & PH		8am – 8pm Sat, Sun & PH	
	Night	7pm – 7am Mon – Fri	45dB LAeq	10pm – 7am Mon – Fri	45dB LAeq
		5pm – 8am Sat, Sun & PH		8pm – 8am Sat, Sun & PH	
7pm – 7am all days		70dB LAFmax	10pm – 7am all days	75dB LAFmax	
S42A		RX1		RX2	
	Day	7am – 10pm Mon – Fri	55dB LAeq	7am – 10pm Mon – Fri	55dB LAeq
		7am – 10pm Sat, Sun & PH	50dB LAeq	7am – 10pm Sat, Sun & PH	50dB LAeq
	Night	10pm – 7am, all days	45dB LAeq	10pm – 7am, all days	45dB LAeq
			70dB LAFmax		70dB LAFmax

- 25 In the Settlement zone, I consider that there is some merit in offering periods of lower day time noise levels on weekends and public holidays. This could either be during an evening period (such as the notified TTPP) or over the entire day. My view of the evening period differs from that expressed for the general rural zone in paragraph 18 above on the basis that there is justification for differing levels of amenity in the settlement zone.
- 26 As a final comment on the rural zone, I note that as drafted, the RX2 noise limits apply at the notional boundary of a zone. The TTPP defines the notional boundary as 20m from the façade of a dwelling meaning it cannot apply to a zone. If RX remains, I believe better wording would be:

2. *The maximum noise from any activity shall not exceed the following noise limits at any point ~~at the~~ within a notional boundary within of any of the following zones:*

NIGHT TIME L_{AFmax} LEVEL

- 27 Mr Peakall's recommendation, which the s42A report adopted, was that the night time (10pm – 7am) L_{AFmax} noise limit be reduced by 5dB although neither discuss the L_{AFmax} specifically. My view on this reduction repeats what I have said above in that zone rules should be guided by the zone objectives, which is consistent with the approach taken by the notified TTPP. Table 2 above shows the higher 75dB L_{AFmax} was proposed for the general rural zone while, for the settlement zone, the lower 70dB L_{AFmax} was proposed. NZS 6802 recommends 75dB L_{AFmax} be the upper limit for residential amenity. My view is that adopting 75dB L_{AFmax} would provide the working activities within the general rural zone as much flexibility as possible within the limits of what is reasonable for residential amenity.

Port Noise Rule (R9)

- 28 In response to the Te Whatu Ora submission (S190), the s42A report has amended R9 to require that a Port Noise Management plan be implemented and reviewed annually. I support this as such management plans provide a practical method of controlling noise effects from an activity.
- 29 RX3 provides specific limits to control the noise received by activities within the Port zone. This is a new rule as, as notified, there were no such limits. The proposed rule groups the port zone with the likes of the sports and recreation, mixed use and light industrial zones. I am not aware of the activities undertaken at the port but based on experience at other ports, consider it quite possible that port activities will be more intensive than RX allows for. For example, I can see little reason to provide increased amenity to what would likely be a heavy working zone either on weekends and public holidays or the night time.

- 30 My view is that this rule complicates the structure of the TTPP and should be reviewed to ensure it is consistent with the intent of the TTPP.

Mineral Extraction Zone Noise Rule (R11)

- 31 As notified, the mineral extraction zone noise rule (R11) provided the relief sought in the Submissions. It essentially allowed activities within the zone the ability to generate noise levels of 55dB L_{Aeq} from 7am to 10pm and 45dB L_{Aeq} at night (seven days) when assessed at a residential dwelling. In the s42A version of the TTPP, the rule has been incorporated into the new RX and amended significantly. Rather than controlling effects from the mineral extraction zone activities to residential neighbours, the amended RX now provides for the control of noise to the zone, setting a limit of 65dB L_{Aeq} at all times to any point within the boundary of the mineral extraction zone. This fundamentally changes the purpose of the rule.
- 32 Reading Mr Peakall's evidence, there is no reason provided for the change. Footnote 68 of the s42A report notes the change is in response to the Te Whatu Ora submission point S190.540. My reading of this submission is that it requested that, in general, rules be written to protect the receiving environment. While the new rule achieves this, the environment it protects has been changed. Whereas R11 protected the residential/ rural environment, the new RX protects the mineral extraction zone.
- 33 This rewording appears to be another example of how the proposed RX has complicated the structure of the TTPP. The intent of the notified R11 was to be supportive of mineral extraction activities and is consistent with the approach I set out in my evidence. The new RX removes this intent entirely by replacing it with a rule to protect the amenity of those within the mineral extraction zone.
- 34 As with the port zone noise rule, my view with respect to the extractive industries rule in RX3 is that this rule should be reviewed to ensure it is consistent with the intent of the TTPP.

Conclusion

- 35 In conclusion, my view is that the limits of the rural zone noise rule should be set based on the intended use of the rural zone. This appears to have been the intent of the notified rules but has been toned down for the s42A version. I am of the view that, in general, the noise limits should be permissive to the working element of the zone to the point permitted by the need for an appropriate level of residential amenity. Literature, such as NZS 6802, describe such limits as 55dB L_{Aeq} (7am – 10pm) and 45dB L_{Aeq} and 75dB L_{AFmax} at night time, on all days.
- 36 I support the s42A's recommendation that the port noise rule (R9) should be expanded to include the requirement to provide a Port Noise Management Plan. I

consider that the port zone and the mineral extraction zone noise rules in RX should be reconsidered to confirm that they meet the intent of the TTPP.

Rhys Leonard Hegley

Dated this 6th day of August 2024