

8 December 2016

The Registrar
Environment Court
District Court Building
Level 1
282 Durham Street
Christchurch 8013

Dear Registrar

The Minister of Defence v Invercargill City Council
Our Ref: DFO037/359

We **enclose** for filing an original notice of appeal and a copy of the notice of appeal, together with the filing fee. Please provide a tax invoice for this amount.

The respondent council has been served with a copy of this notice by email today. All other parties listed for service will be served in the next five days.

Yours faithfully
Crown Law



Nicholai Anderson
Crown Counsel
Direct Phone: 04-494-5584
Email: nicholai.anderson@crownlaw.govt.nz

Encl

Copy by way of service to:

Invercargill City Council
101 Esk Street
Invercargill 9840
New Zealand

Email: service@icc.govt.nz

**BEFORE THE ENVIRONMENT COURT
HELD AT CHRISTCHURCH**

ENV-2016-CHC

IN THE MATTER OF **Resource Management Act 1991**

AND IN THE MATTER OF **An appeal pursuant to clause 14 of the First
Schedule of the Resource Management Act
1991 against the decision of Invercargill City
Council in respect of the District Plan
Review**

BETWEEN **THE MINISTER OF DEFENCE**

Appellant

AND **INVERCARGILL CITY COUNCIL**

Respondent

NOTICE OF APPEAL

8 December 2016

CROWN LAW
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To The Registrar
Environment Court
CHRISTCHURCH

1. The Minister of Defence (**Minister**) appeals against parts of a decision of the Invercargill City Council (**Council**) on the Proposed Invercargill City District Plan (**Proposed Plan**).
2. The Minister through the New Zealand Defence Force (**NZDF**) made a submission on the Proposed Plan and a submission on Variation 2 (Noise) to the Proposed Plan. The NZDF appeared at the hearing to consider submissions on the Proposed Plan.
3. The Minister is not a trade competitor for the purposes of section 308D of the Resource Management Act 1991.
4. The Minister received notice of the decision on the Proposed Plan on 31 October 2016.
5. The decision was made by the Invercargill City Council.

The Appeal

6. The parts of the decision the Minister is appealing are:
 - 6.1 The decision not to include a District Wide Rule for Temporary Military Training Activities (**TMTAs**);
 - 6.2 Rule 3.13.14, Temporary Military Training; and
 - 6.3 Rural Zone, Permitted Activities Rule 3.38.1(j).
7. More specifically, the Minister appeals the Council's decisions:
 - 7.1 To limit weapons firing and the use of explosives in the Rural Zone to between 0700 and 1900 hours;
 - 7.2 To require compliance with both a setback and a maximum noise level;
 - 7.3 Not to provide for TMTAs at all in other zones in the district.

Summary of the Appeal

8. In its submission, NZDF sought the inclusion of:
 - 8.1 a separate permitted activity rule for TMTAs subject to specifically tailored setbacks or noise limits in all zones; and
 - 8.2 a restricted discretionary activity rule for TMTAs that do not comply with the specified setbacks or noise limits, with noise being the only assessment criteria the Council retained discretion over in assessing a resource consent application.
9. The Council accepted the NZDF submission in part.
10. The Council accepted that TMTAs should be a permitted activity in the Rural Zone, but the permitted activity rule for this zone limits weapons firing and the use of explosives to between 0700 to 1900 hours. To qualify as a permitted activity, the Council required weapons firing and/or the use of explosives to comply with both a setback and a maximum noise level. Weapons firing and the use of explosives at any other time would require resource consent as a non-complying activity.
11. The Council failed to provide for TMTAs at all in other zones across the district.
12. The Minister seeks the inclusion of the rules described at paragraph 8 above.

Reasons for the Appeal

13. Undertaking TMTAs is essential and implicit in the Governor-General's power to raise and maintain armed forces under section 5 of the Defence Act 1990.
14. Being able to conduct training activities in varied, real-life locations is important as NZDF personnel may be deployed to a wide range of locations nationally or globally. Accordingly, NZDF needs the ability to undertake these activities across the district and outside of the Rural Zone. As field based exercises, such activities may involve the firing of live or blank ammunition and explosive events.
15. It is important that TMTAs are able to be conducted at different times of the day or night to replicate the range of scenarios that may occur.

16. In many respects TMTAs are identical to training activities carried out by other emergency services and commercial organisations. TMTAs might include activities such as search and rescue, driver training, medical and dental services, camp setup, small construction tasks, signals and radio communications exercises, medivac simulation, civil defence support, IEDD (Improvised Explosive Device Disposal) search exercises (in commercial or industrial buildings as well as outdoors), as well as what might more conventionally be understood by the term “military training”.
17. Such training therefore provides personnel training in search and rescue, infrastructure support, flood and civil defence response, all of which directly benefit New Zealand as demonstrated in the recent Kaikoura/Waiiau earthquake response.
18. Not providing appropriately for TMTAs across the district is a failure to provide for the needs of present and future generations, for their social well-being and health and safety.
19. Noise resulting from discharge of ammunition or explosives is the only effect of TMTAs that warrants specific management through the Plan.
20. It is inefficient and unnecessary to require NZDF to obtain discretionary activity consents for an activity that is temporary and where the effects may be managed by appropriate activity standards (as proposed by NZDF).
21. The Minister considers that a setback is an efficient and effective permitted activity standard, easy for a person not trained in noise assessment to understand, thereby improving the accessibility and user-friendly nature of a Plan. However, failure to meet a setback should not automatically mean that an activity defaults to requiring a resource consent. The purpose of a setback is to provide one measure of noise control to protect amenity. It ensures compliance is easily assessed. But if the noise standard is achieved despite not meeting setbacks the activity should not lose its permitted activity status.¹

¹ For example, topography may mean that the setback distance is not achieved but the same topography may mean the noise experienced by the receiver is within the standard.

22. The Minister further considers that non-complying status for TMTAs that do not meet noise levels is unnecessary.
23. Undertaking training is necessary in order that NZDF can fulfil its statutory obligations under the Defence Act. NZDF therefore requires certainty that such activities can take place when required. A restricted discretionary activity rule for TMTAs provides certainty to NZDF that an activity can proceed (where permitted activity standards may not be met) and allows the Council the control to ensure noise is effectively managed.
24. The provision the Minister seeks are consistent with those sought for TMTAs across district plans nation-wide and there is no justification for differentiation.

Relief Sought

25. The Minister seeks the following relief (or drafting having the same or similar effect):²
 - 25.1 Insert a new District Wide Rule, Temporary Military Training Activities, to provide that:
 - 25.1.1 TMTAs are permitted activities in all zones within the district provided they comply with the noise controls in Rule 3.13.14, Temporary Military Training; and
 - 25.1.2 TMTAs that do not comply with the noise controls in Rule 3.13.14, Temporary Military Training, are restricted discretionary activities (with noise being the only assessment criteria the Council retains discretion over in assessing a resource consent application).
 - 25.2 Replace Rule 3.13.14, Temporary Military Training, with the noise controls in the table attached as **Annexure A** to this Notice of Appeal.
 - 25.3 Delete Rule 3.38.1(j).

² The numbering of the rules referred to follows the Decisions Version of the proposed Plan.

- 25.4 Any further consequential amendments to the District Plan that are required to give effect to the relief sought in this appeal.
26. The following documents are **attached** to this Notice of Appeal:
- 26.1 Permitted Activity Noise Standards for Temporary Military Training Activities (**Annexure A**).
- 26.2 A copy of the Minister/NZDF's submission on the Proposed Plan (**Annexure B**).
- 26.3 A copy of the Minister/NZDF's submission on Variation 2 (Noise) to the Proposed Plan (**Annexure C**).
- 26.4 A copy of the relevant parts of the Council's decisions (**Annexure D**).
- 26.5 A list of names and address of persons to be served with a copy of this Notice of Appeal (**Annexure E**).

8 December 2016



Nicholai Anderson
Counsel for the Appellant

This notice of appeal is filed by Nicholai Anderson, Crown Counsel, solicitor for the appellant, of Crown Law.

The address for service of the appellant is Crown Law, Level 3, Justice Centre, 19 Aitken Street, Wellington 6011. Documents for service on the appellant may be left at this address for service or may be:

- (a) posted to the solicitor at PO Box 2858, Wellington 6140; or
- (b) left for the solicitor at a document exchange for direction to DX SP20208, Wellington Central; or
- (c) transmitted to the solicitor by facsimile to 04 473 3482; or
- (d) emailed to the solicitor at nicholai.anderson@crownlaw.govt.nz

Advice to recipients of copy of notice of appeal

How to become party to proceedings

You may be a party to the appeal if you made a submission on the matter of this appeal.

To become a party to the appeal, you must,—

- (a) within 15 working days after the period for lodging a notice of appeal ends, lodge a notice of your wish to be a party to the proceedings (in form 33) with the Environment Court and serve copies of your notice on the relevant local authority and the appellant; and
- (b) within 20 working days after the period for lodging a notice of appeal ends, serve copies of your notice on all other parties.

If you are a trade competitor of a party to the proceedings, your right to be a party to the proceedings in the court may be limited (*see* section 274(1) and Part 11A of the Resource Management Act 1991).

You may apply to the Environment Court under section 281 of the Resource Management Act 1991 for a waiver of the above timing requirements (*see* form 38).

The copy of this notice served on you may not attach a copy of the appellant's submission and the part of the decision appealed. These documents may be obtained, on request, from the appellant.

If you have any questions about this notice, contact the Environment Court in Auckland, Wellington, or Christchurch.

ANNEXURE A

Permitted Activity Noise Standards for Temporary Military Training Activities

Permitted Activity Noise Standards for Temporary Military Training Activities

Rule X: Temporary Military Training Activities are permitted activities provided they comply with the following noise standards:

1. Weapons firing and/or the use of explosives

- a. Notice is provided to the Council at least 5 working days prior to the commencement of the activity.
- b. The activity complies with the following minimum separation distances to the notional boundary of any building housing a noise sensitive activity:
0700 to 1900 hours: 500m
1900 to 0700 hours: 1,250m
- c. Where the minimum separation distances specified above cannot be met, then the activity shall comply with the following peak sound pressure level when measured at the notional boundary of any building housing a noise sensitive activity:
0700 to 1900 hours: 95 dBC
1900 to 0700 hours: 85 dBC

2. Mobile noise sources

Shall comply with the noise limits set out in Tables 2 and 3 of *NZS6803:1999 Acoustics – Construction Noise*, with reference to 'construction noise' taken to refer to mobile noise sources*.

Note: Mobile noise sources (other than firing of weapons and explosives) include personnel, light and heavy vehicles, self-propelled equipment, earthmoving equipment.

3. Fixed (stationary) noise sources

Shall comply with the noise limits set out in the table below when measured at the notional boundary of any building housing a noise sensitive activity*.

Time (Monday to Sunday)	L _{Aeq} (15 min)	L _{AFmax}
0700 to 1900 hours	55 dB	n.a.
1900 to 2200 hours	50 dB	
2200 to 0700 hours the next day	45 dB	75 dB

Note: Fixed (stationary) noise sources (other than firing of weapons and explosives) include power generation, heating, ventilation or air conditioning systems, or water or wastewater pumping/treatment systems.

4. Helicopter landing areas

Shall comply with NZS6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas*.

* Noise levels shall be measured in accordance with NZS6801:2008 Acoustics – Measurement of Sound.

ANNEXURE B

The Minister/NZDF's submission on the Proposed Plan



Defence Shared Services
National Service Centre
Alexander Road
Private Bag 902
Trentham
Upper Hutt 5140, New Zealand

Submission on Proposed Invercargill City District Plan 2013
Clause 6 of First Schedule, Resource Management Act 1991

To: Environmental and Planning Services
Address: Invercargill City Council
101 Esk Street
Private Bag 90104
Invercargill
Email: districtplan@icc.govt.nz

Submitter: New Zealand Defence Force
Contact Person: Emily Grace, Tonkin & Taylor Ltd

Address for Service: New Zealand Defence Force
C/- Tonkin & Taylor Ltd
PO Box 2083
Wellington 6140
Attention: Emily Grace

Phone: 04 381 8587
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1 Preliminary Matters:

- 1.1 This is a submission on the Proposed Invercargill City District Plan 2013 ('the Proposed Plan').
- 1.2 New Zealand Defence Force (NZDF) could not gain an advantage in trade competition through this submission.
- 1.3 This submission relates to provisions in the Proposed Plan affecting a property owned by NZDF at 1C Fox Street, Invercargill (Lot 50 DP 397399), provisions relating to Temporary Military Training activities undertaken by NZDF, and consistency of the Proposed Plan with NZDF's submission on the Proposed Southland Regional Policy Statement.

In particular, this includes (but is not limited to) Sections 2, 3 and 4 of the Proposed Plan.

2 NZDF Submission

- 2.1 NZDF's submission and support of or opposition to each matter addressed is detailed on the attached sheet.

3 Decisions Sought from Council

- 3.1 The decisions sought from Council on each of the matters raised in the submission are detailed on the attached sheet.

4 Hearing

- 4.1 NZDF wishes **to be heard** in support of this submission.
- 4.2 If others make a similar submission, **NZDF will consider** presenting a joint case with them at the hearing.



on behalf of New Zealand Defence Force



October 2013

New Zealand Defence Force Submission on Proposed Invercargill City District Plan

Submission Point 1

Plan Provision: Section 3.29, Industrial 1 (Light) Zone

NZDF opposes this section in part.

Relief Sought: Specifically recognise the existing use of the site owned by NZDF at 1C Fox Street (Lot 50 DP 397399) by including defence activities in the list of permitted activities in the Industrial 1 Zone:

Reasons:

The Industrial 1 (Light) zone provides for light industry (as defined in the Proposed District Plan) to locate near or adjacent to, but not scattered throughout, residential areas. The zone is prescriptive in that only the listed activities can be permitted. The list does not include defence activities and therefore does not appropriately capture NZDF's operations at 1C Fox Street (which is used as an Army Regional Office). The effects of NZDF's activities are not incompatible with the effects of those activities specifically listed as permitted. NZDF therefore considers it appropriate that its activities are included in the list of permitted activities.

Submission Point 2

Plan Provision: Section 3, Permitted activity rules for all zones.

NZDF opposes these provisions in part.

Relief Sought:

- a) Include a separate permitted activity rule for Temporary Military Training Activities subject to specified noise limits (based on the criteria detailed in Submission Point 3 below) in all zones.
- b) Include a restricted discretionary activity rule for Temporary Military Training Activities that do not comply with specified noise limits, with noise being the only assessment criteria that the Council has restricted discretion over in assessing a resource consent application.

Reasons:

- (a) Temporary Military Training Activities are not specifically provided for as permitted activities in any of the zones. Although these activities are recognised in the District Wide rules relating to noise (Rule 3.13.10), the rules in the Proposed Plan do not appear to actually permit the activity itself. NZDF supports Temporary Military Training Activities being given permitted status in all zones, subject to appropriate noise standards (see Submission Point 3 below). NZDF considers that noise is the only effect with the potential to be more than minor, and therefore is the only effect that needs to be controlled by performance standards.
- (b) Restricted discretionary activity status is appropriate for Temporary Military Training Activities that do not comply with the permitted noise standards. Noise is the only effect with the potential to be more than minor, and this can be appropriately assessed through listing this as a matter over which discretion is retained in a restricted discretionary rule.

Submission Point 3

Plan Provision: Section 3.13.10, Noise standards for Temporary Military Training Activities.

NZDF opposes this provision in part.

Relief Sought: That the noise standards attached to this submission be included for Temporary Military Training Activities in all zones (see Attachment 1).

Reasons: NZDF acknowledges that noise effects from temporary military training activities need to be appropriately controlled within the District Plan.

NZDF wishes to make sure that the noise standards included in the Proposed Plan are up-to-date, appropriate for the type of noise generated and relatively simple to understand and assess compliance with. To this end, NZDF has commissioned professional acoustic advice on appropriate standards to control noise effects from Temporary Military Training Activities. This advice is contained in Attachment 2 to this submission. Based on this advice, NZDF has developed revised noise control standards that it will seek to have included in proposed district plans nation-wide (see Attachment 1).

The replacement noise standards proposed by NZDF focus on compliance at dwellings, residentially zoned sites, and buildings used for residential, educational or healthcare purposes.

In summary, the NZDF's proposed standards divide noise sources from Temporary Military Training Activities into three categories: weapons firing and explosions; other mobile sources such as vehicles and earthmoving equipment; and fixed noise sources such as power generators and water pumping. Each of these noise sources has different noise characteristics, and therefore a different set of standards for controlling noise. NZDF considers that this division allows a more comprehensive and appropriate method for controlling noise from Temporary Military Training Activities.

For weapons firing and explosives, the noise control standard used is separation distances between the activity and any sensitive receiver (dwelling, residentially zoned site, or building used for residential, educational or healthcare purposes). Four separation distances are specified – a nighttime and daytime distance for firing of live ammunition and explosives, and a nighttime and daytime distance for firing of blank ammunition, which is less noisy than live firing. The distances have been arrived at after review and analysis of data measured from real military activities, to ensure that the sound levels received at the specified distances will be reasonable (generally less than 55 dBA for daytime and less than 45 dBA for nighttime). Using separation distance as a standard has the advantage of being an easy to comply with and easy to monitor standard.

For mobile noise sources (other than weapons firing and explosives), compliance with the construction noise standards is recommended, as this standard most appropriately addresses this type of noise.

For fixed noise sources, which can be located to ensure compliance with standards, dB L_{Aeq} levels are specified, in line with *NZS6802:2008 Acoustics – Environmental Noise*. This is considered the most appropriate way to control noise levels from these sources.

Submission Point 4

Plan Provision: Section 4, Definition of 'Temporary Military Training Activities'.

NZDF supports this provision.

Relief Sought: Retain the definition of 'Temporary Military Training Activities'.

Reasons: NZDF supports the definition of 'Temporary Military Training Activities' included in the Proposed District Plan, as it clearly provides for such activities in a manner consistent with the Defence Act 1990, as a separate activity to 'temporary activities'.

Submission Point 5

Plan Provision: Sections 2 and 4, Essential Infrastructure Services.

NZDF opposes this provision in part.

Relief Sought: That defence facilities are recognised as essential infrastructure services which are of strategic regional and national importance, through:

- a) The addition of 'defence facilities' to the list of essential infrastructure services listed under Policy 1, Section 2.9.3 of the Proposed District Plan;
- b) Reference to 'strategic infrastructure' alongside all objectives and policies in Section Two that reference local, regional and national infrastructure;
- c) The inclusion of a definition of 'strategic infrastructure' in the Proposed District Plan, with 'defence facilities' included as a point within this definition. The suggested wording is:

"Strategic infrastructure: means those necessary facilities, services and installations which are of greater than local importance, and can include infrastructure that is nationally significant. Strategic infrastructure includes:

1. Defence facilities..."

- d) The inclusion of 'strategic infrastructure' in the definition of 'infrastructure'.

Reasons: The policies and rules in the Proposed Plan strongly support existing and future local, regional and national infrastructure, providing for maintenance and upgrades and protecting infrastructure from new incompatible land uses which may cause reverse sensitivity issues. However, defence facilities are not included in the list of essential infrastructure services listed under Policy 1, Section 2.9.3 of the Proposed Plan or in the definition of infrastructure.

The NZDF has military interests throughout New Zealand, including the Army Regional Office in Invercargill. NZDF supports the recognition of defence facilities as national and regional infrastructure, and has submitted on this matter on the Proposed Southland Regional Policy Statement.

The definition of 'infrastructure' and the list of 'essential infrastructure services' as incorporated in the Proposed Plan do not provide sufficient scope to encompass the national and regional infrastructural values of defence facilities. NZDF therefore considers that a definition of 'strategic infrastructure' should be included in the Proposed Plan. 'Strategic infrastructure' should also be included alongside all objectives and policies in Section Two that reference local, regional and national infrastructure.

NZDF supports the inclusion of strong provisions within the Proposed Plan for infrastructure, particularly protection measures relating to infrastructure and incompatible land uses to avoid reverse sensitivity effects. However, as the Proposed Plan is currently written it does not provide any protection for the current or any future potential defence facilities as they are

excluded from the definitions of infrastructure. Defence facilities are key strategic infrastructure of national and regional importance, playing a significant role in both military training and civil and/or national defence operations. They also provide a range of economic and social benefits to the region. It is necessary that these are recognised and accommodated within the provisions of the Proposed Plan.

**Attachment 1: Replacement standards for controlling noise effects
from Temporary Military Training Activities**

Permitted Activity Noise Standards for Temporary Military Training Activities

Rule x.x: Temporary Military Training Activities are permitted activities, provided they comply with the noise standards specified in Table x below.

Table x

Noise Controls				
Type of military noise source	Standards			
1. Weapons firing and/or the use of explosives	1. Notice is provided to the Council at least 48 hours prior to the commencement of the activity, specifying whether the activity involves live firing and/or the use of explosives, or firing of blank ammunition; the location of the activity and the boundaries within which the activity will take place, and distances to buildings housing noise sensitive activities; and the timing and duration of the activity.			
	2. Compliance with the noise standards below:			
		Time (Monday to Sunday)	Separation distance required between the boundary of the activity and the notional boundary to any building housing a noise sensitive activity	
	i. Live firing of weapons and single or multiple explosive events	0700 to 1900 hours	At least 1500m	Less than 1500m if conditions (a) and (c) below are complied with
		1900 to 0700 hours	At least 4500m	Less than 4500m if conditions (b) and (c) below are complied with
	ii. Firing of blank ammunition	0700 to 1900 hours	At least 750m	Less than 750m if conditions (a) and (c) below are complied with
		1900 to 0700 hours	At least 2250m	Less than 2250m if conditions (b) and (c) below are complied with
	Conditions to be complied with if minimum separation distances for sources 1(i) and 1(ii) cannot be met:			
	Condition	Time (Monday to Sunday)	Noise level at the notional boundary to any building housing a noise sensitive activity	
	(a)	0700-1900hrs	Peak sound pressure level of 120 dBC	
	(b)	1900-0700hrs	Peak sound pressure level of 90 dBC	

	(c)	The activity is undertaken in accordance with a Noise Management Plan prepared by a suitably qualified expert and approved by Council at least 15 working days prior to the activity taking place. The Noise Management Plan shall, as a minimum, contain: <ul style="list-style-type: none">• A description of the site and activity including times, dates, and nature and location of the proposed training activities.• Methods to minimise the noise disturbance at noise sensitive receiver sites such as selection of location, orientation, timing of noisy activities to limit noise received at sensitive receiver sites.• A map showing potentially affected noise sensitive sites and predicted peak sound pressure levels for each of these locations.• A programme for notification and communication with the occupiers of affected noise sensitive sites prior to the activities commencing, including updates during the event.• A method for following up any complaints received during or after the event, and any proposed de-briefing meetings with Council.	
2. Mobile noise sources, excluding sources 1(i) and 1(ii)		Compliance with the noise limits set out in Tables 2 and 3 of <i>NZS6803:1999 Acoustics – Construction Noise</i> , with reference to ‘construction noise’ taken to refer to other, mobile noise sources*	
Note: mobile noise sources (other than firing of weapons) include sources such as personnel, light and heavy vehicles, self-propelled equipment, earthmoving equipment			
3. Fixed (stationary) noise sources, excluding sources 1(i) and 1(ii)	Time (Monday to Sunday)	Noise level at the notional boundary to any building housing a noise sensitive activity *	
	0700 to 1900 hours	55 dB LAeq (15 min)	n.a.
	1900 to 2200 hours	50 dB LAeq (15 min)	
	2200 to 0700 hours the next day	45 dB LAeq (15 min)	75 dB LAFmax
Note: fixed (stationary) noise sources (other than firing of weapons and explosives) include noise sources such as power generation, heating, ventilation or air conditioning systems, or water or wastewater pumping/treatment systems.			
4. Helicopter landing areas		Compliance with noise limits set out in <i>NZS6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas</i> *	

* Noise levels shall be measured in accordance with *NZS6801:2008 Acoustics – Measurement of Sound*

Attachment 2: Acoustic Report

New Zealand Defence Force

Re-Assessing Noise from Temporary Military Training in New Zealand *District Plan Recommendations*

MHA Reference: 932-0F3
January 2013

Prepared by:

MalcolmHuntAssociates

noise and environmental consultants

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Prepared For:



New Zealand Defence Force

New Zealand Defence Force

Re-Assessing Noise from Temporary Military Training in New Zealand *District Plan Recommendations*

MalcolmHuntAssociates

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New Zealand Defence Force

Re-Assessing Noise from Temporary Military Training in New Zealand District Plan Recommendations

MalcolmHuntAssociates



Executive Summary

This report reviews noise and vibration controls applying to Temporary Military Training (TMT) activities specified within District Plans for the control of potential noise disturbance caused by these activities. These District Plan noise rules apply to activities undertaken on behalf of, and organised by, NZDF which may take place in any area according to training needs at the time. Specialised rules and requirements are necessary in District Plans to ensure normally applied District Plan noise limits are not applied to TMT activities which have always been considered a special case due to the need for such TMT exercises to take place in any part of a district, at any time, with noise effects themselves being temporary in nature and highly intermittent.

This review highlights potential noise and vibration effects of typical TMT activities by quantifying expected decibel levels in a generic sense in order to evaluate the nature and scale of TMT noise emissions and to test possible noise limits or rules. As a minimum, calculated noise emission levels set out in this report enable testing to check the reasonable needs of NZDF are adequately provided for, considering the appropriate scale and magnitude of potential noise levels.

The approach previously recommended by NZDF for managing noise from TMT activities is recommended to be upgraded and replaced with a more targeted approach that includes technical improvements recommended within recent New Zealand acoustic Standards.

Noise controls have been developed that cover three categories of TMT activities as follows:

- A. TMT activities involving weapons firing, detonations and pyrotechnics;*
- B. Mobile TMT noise sources, not including A (above);*
- C. Fixed or stationary TMT noise sources not including A (above).*

The methods recommended for adoption do not rely solely on specifying decibel limits applicable to each category of noise source. Achieving a minimum threshold separation distance from sites where potentially noisy weapons firing or loud explosive sounds take place to the nearest noise sensitive receiver site is a key element of the approach recommended for this noise source category which has the highest potential to create adverse noise effects over wide areas. TMT activities involving firing and explosive sounds are proposed to be permitted to occur within the minimum separation distances outlined below, however in those cases the activities would be required to be undertaken in accordance with a certified Noise Management Plan to ensure the heightened risk of adverse noise effects is adequately managed. Limits applying to peak sound pressure levels from TMT activities involving weapons firing or explosive sounds applying at the closest sensitive receiver site ensures an adequate baseline protection from the potential health and amenity effects of loud noise received from these sources.

Considered as a whole, the recommended approach provides an effective and flexible approach which acknowledges the overarching duty to adopt the "best practicable option" to avoid the emission of unreasonable noise.

Adapting the recommended approach within new generation District Plans will ensure the rules are technically up to date, whilst ensuring the control measures fit the type of sound source and a degree of flexibility is provided given the temporary nature of the potential noise and vibration.

New Zealand Defence Force

Re-Assessing Noise from Temporary Military Training in New Zealand *District Plan Recommendations*

MalcolmHuntAssociates

noise and environmental consultants

1 Introduction

Malcolm Hunt Associates, at the request of New Zealand Defence Force [NZDF] have undertaken a technical review of temporary military training activities noise and vibration provisions, as found in many existing District Plans in New Zealand. These established noise limits and requirements have been evaluated from an effectiveness and efficiency perspective, also considering new techniques now available through the adoption more recent NZS acoustic standards released since most current District Plans came into effect.

Potential noise and vibration effects of NZDF "temporary military training" (TMT) activities have been quantified in a general sense to evaluate the nature and scale of TMT noise emissions and to test possible new noise limits or rules. As a minimum, the noise emission calculations provided enable the reasonable needs of NZDF to be established to ensure any new recommendations adequately provide for infrequent noise from TMT activities.

An example of the wording of measures currently adopted into "first generation" district plans in New Zealand to control noise effects associated with TMT activities is set out in **Section 3.0** below. Traditionally, such noise provisions do not apply to any site designated under the RMA for military training purposes¹ but are instead intended to apply to temporary or one-off exercises undertaken from time to time in accordance with training needs assessed at the time.

This assessment has specifically considered changes to the existing District Plan TMT noise provisions to make the rules more targeted and to ensure consistency with recommendations of the more recent NZ acoustic standards. Existing district plan provisions such as those set out in **Section 3.0** are technically challenging to assess compliance with, especially as key components are missing, and due to complexities when multiple noise limits are specified using various noise metrics (two of which are out-of-date), with a different decibel limit applying to each metric. Critically, no night time L_{max} limit is proposed to protect noise sensitive sites from noise due to night time single events. Overall, the existing wording appears inadequate and inefficient with questionable technical merit.

The preferred approach to controlling noise from TMT activities has been developed to simplify applicable noise limits and ensure they are well matched to the various categories of TMT activities. The recommended limits discussed below are based on:

- Mobile TMT noise sources - NZS6803:1999 *Acoustics – Construction Noise* has been examined as a better alternative.
- Fixed TMT noise sources – These sources are fixed plant such as pumps and motors and are amenable to being positioned at locations remote from noise sensitive sites, or are capable of being screened, enclosed or otherwise reduced via physical means. Thus, limits for fixed sources are based on the more stringent guidance for noise sensitive sites provided within NZS6802:2008 *Acoustics – Environmental Noise*

¹ It is inappropriate to apply the term "temporary" to military training activities taking place on sites specifically designated in a District Plan for that purpose.

- Weapons firing, detonations and pyrotechnics – this is based on a minimum setback to noise sensitive sites rather than a noise limit per se. An additional large buffer is recommended to apply for any TMT site where these activities are proposed to be undertaken during night time. A smaller setback has been recommended where these TMT sounds are limited to light weapons firing blank ammunition.

In addition to specifying maximum noise levels, measures to mitigate noise emissions associated with TMT activities including minimum setback distances and the preparation of a Noise Management Plan also form part of the recommended approach. These measures particularly target TMT activities involving weapons firing and explosive sounds as these type of sounds have significant potential for inducing annoyance at noise sensitive receiver sites.

The recommended approach provides flexibility in avoiding unreasonable or excessive noise as the limits and requirements target specific sources which, when considered as a whole, provide a more effective approach to controlling noise from TMT, recognising the overarching duty for the noisemaker (including the Crown) to adopt the "best practicable option" to avoid the emission of unreasonable noise.

2 Effects Of Noise

Research to date into the effects of environmental noise have been mainly based on measuring the annoyance reaction, or the extent to which noise disturbs various activities undertaken by people. Annoyance the most commonly expressed reaction by those exposed to intrusive sound in the environment.

At a biological level, noise is considered a nonspecific stressor that may cause adverse health effects on humans in the long term. Epidemiological studies suggest a higher risk of cardiovascular diseases, including high blood pressure and myocardial infarction [heart attacks], in people chronically exposed to high levels of road or air traffic noise². In many cases noise occurring in the environment is simply intrusive, interfering with listening to television or radio or affecting the enjoyment of quiet outdoor areas around in the home or in parks or reserves.

The effects of environmental noise are usually expressed in terms of:

- Annoyance;
- Speech interference - high levels of noise can make normal speech difficult to hear
- Performance - some noises can make concentration difficult and interfere with tasks such as learning, checking fine details [such as any job with a large mathematical component or where the meaning of words is critical] or work where small, precise, movements or intense concentration is required;
- Mental health [including noise-induced stress-related effects];
- sleep disturbance - in addition to fatigue and mental health effects, disrupted sleep patterns can leave people irritable, change their behaviour, and reduce their ability to work or perform tasks.

There is scientific evidence to show that prolonged exposure to environmental noise can induce hypertension and ischemic heart disease, annoyance, sleep disturbance, and decreased learning performance in the classroom. However for effects such as changes in the immune system and birth defects, the evidence is very limited [WHO 1999].

Most public health impacts of environmental noise were identified as far back as the 1960's with research in more recent times concentrating on the elucidation of the mechanisms underlying the known effects, such as noise induced cardiovascular disorders and the relationship of noise with

² WHO Burden Of Disease From Environmental Noise - Quantification Of Healthy Life Years Lost In Europe. World Health Organisation, Geneva, 2011.

annoyance and non- acoustical factors modifying health outcomes³. The Ministry of Health monitors protection of public health from environmental noise through reporting by National Environmental Noise Service [NENS] which it funds. NENS has been closely involved in developing and revising various New Zealand acoustic standards, including NZS 6802, a key Standard guiding on the assessment of noise referred to within District Plans, and within the discussion below.

Thus to reasonably provide for the protection of health and amenity, recommendations for managing environmental noise should adhere to the guidance set out within NZS6802, in this case the 2008 version which supersedes the 1991 version referred to within most District Plans. A discussion of other relevant New Zealand acoustic Standards is set below in **Section 6.0**.

3 Existing TMT Noise Rules

The wording of many existing District Plan provisions applying to noise from TMT activities in various zones of a District Plan (possibly all zones) is typified by the wording set out below which in this case is taken from the Operative Horowhenua District Plan;

All noise emitted in the course of any temporary military training activities measured from a line 20 metres from and parallel to the facade of any dwelling or the legal boundary, where this is closer to the dwelling, shall not exceed the following levels:

Time	Limits (dBA)		
(Any day)	L10	L95	L _{max}
0630-0730	60	45	70
0730-1800	75	60	90
1800-2000	70	55	85
2000-0630	55		

Impulse Noise resulting from the use of explosives small arms is not to exceed 122 dBC.

Temporary Military Training Activity means a temporary military training activity which may include an activity on the surface of any waterbody, undertaken for Defence purposes. Defence purposes are those in accordance with the Defence Act 1990. The Defence Act also enables access to Defence areas which include areas utilised for temporary military training activities, to be restricted.

Such existing rules used to control noise from temporary military training activities within the District Plans use FOUR different noise metrics as follows;

- L_{max} [dBA]
- L₁₀ [dBA]
- L₉₅ [dBA]
- L_{Peak} [dBC]

L_{max} is considered necessary as a measure to quantify and control single noise events, however such methods are not sensitive enough to adequately measure the peak sound pressure from weapons firing, explosives and pyrotechnics. In the case of those sounds, the C frequency weighted peak sound pressure level (L_{peak} dBC) is the most appropriate measurement unit. The use of both the L₁₀ and L₉₅ units with noise is not considered necessary, see discussion below.

³ Noise Exposure and Public Health Willy Passchier-Vermeer and Wim F. Passchier, Environmental Health Perspectives, Vol 108, Supplement I, March 2000.

A technical review has taken place of the existing approach to controlling noise from TMT, as typically set out above, adopted into many District Plans in New Zealand. The review has found the following deficiencies exist with the current typical approach;

1. No acoustic Standards are referred to. It may be assumed the 1991 versions of NZS6801 and NZS6802 would apply, or at least the versions of these Standards referred to within the District Plan in question.
2. In the example quoted above, there are no L_{max} limits applying at night. Sound from single noise events occurring at night time are usually controlled by specifying an L_{max} night time limit, which is the recommended approach of NZS6802:2008.
3. There is questionable utility of setting numerical decibel limits in terms of 4 separate noise units which can lead to potential complications and unnecessary complexity when establishing compliance. As described below, the new Leq unit replaces essentially both the L10 and L95 unit for which numerical decibel limits are currently specified.
4. There is a focus on control via setting decibel limits only. This requires technical expertise in terms of assessing compliance and in the planning of activities to avoid non-compliance. An alternative approach proposed below is based on specifying a setback or separation distance to identify a threshold beyond which noise effects associated with impulse sounds are adequately controlled to low levels. Such thresholds can be simple to implement and require less technical input which is an appropriate response where it can be demonstrated only minor or *de minimus* noise effects would be experienced at noise sensitive locations found at or beyond this threshold separation distance. This approach is adopted below for managing loud impulsive sounds associated with weapons firing, pyrotechnics and detonations. Where certain minimum setback distances to noise sensitive sites cannot be achieved the recommended approach is to require a technical site-specific assessment and with enhanced noise management responsibilities applying.
5. Currently, numerical noise limits apply equally to all categories of TMT activities when in fact noise emissions associated with some aspects of TMT activities are easier to control in accordance with the RMA "best practicable option" compared to other aspects (eg. sound from fixed (stationary) sources is easier to control than sounds associated with live firing for example).
6. The TMT noise limits are fixed independent of the duration of the TMT activities on any particular site. Current recommendations for controlling TMT noise do not reflect the fact that receiver's of noise can tolerate higher levels for shorter periods, but noise lowered limits are usually when sound sources are constantly present within the environment for extended periods (for example, sound sources present in the environment for periods of several weeks or months). An example of an approach that neatly deals with increased sensitivity to elevated noise exceeding certain specified duration period is the approach of the NZ construction noise Standard NZS6803:1999 which recommends different Leq and L_{max} limits depending upon the construction activity duration. The time periods specified are;
 - "short term" period (less than 2 weeks)
 - "typical" period of 2 weeks to 20 weeks
 - "long term" period of more than 20 weeks.

The limits for "short term" construction activities are set 5 dB higher than limits for "typical duration" activities, with the limits applying to "long term" construction activities set 5 dB lower again. Measures such as these adapted to the control of noise from TMT activities would be an efficient method to reflect the increased sensitivity to noise sources that are present within noise sensitive environments over extended periods.

4 TMT Noise Levels

NZDF direct considerable resources into training activities, including Temporary Military Training (TMT) conducted from time to time on sites remote from established NZDF bases designated for this purpose, such as Waiouru, Tekapo, West Melton and Burnham Military Camp.

By agreement with land owners, TMT is conducted on sites owned by others at various locations across New Zealand. Sites suitable for TMT are generally remote from sensitive sites such as residential areas, schools and hospitals. In addition, the recommended approach imposes an obligation to undertake TMT activities in accordance with a certified Noise Management Plan where minimum separation distances to noise sensitive sites are not able to be achieved.

For the purposes of assessing and controlling this noise impact, this investigation has divided TMT activities into TWO groups as follows;

4.1 Category 1 - Non-Weapons & Pyrotechnic TMT

This category encompasses the range of noise emissions expected to arise from the temporary occupation of a site for TMT activities involving any of the following but not including any pyrotechnics explosions, detonations or live firing of weapons:

- a) **Mobile sources** - Operation of motorised equipment including vehicles such as light and heavy vehicles, troop carriers, earth moving equipment, construction equipment, etc. including helicopter activity on the TMT site. This category includes people sounds from personnel during both the training exercises and at other times whilst the site is occupied for TMT purposes.

In terms of possible limits on noise from mobile sources, these types of sources may be permitted at higher levels at noise sensitive sites than fixed noise sources (as below) as effects of mobile sources tend to be infrequent and intermittent due to the source(s) being mobile. Due to the high degree of infrequency of sounds from TMT activities, not represent anything other than a temporary effect on the environment, the usually allowable limits for residential and noise sensitive sites may be relaxed without resulting in unacceptable effects. This is the basis of the elevated noise limits recommended for temporary construction noise assessed under NZS6803:1999. At clause 8.6.11 of NZS6802:2008 this Standard allows some specific activities to exceed the normally applied District Plan noise limits "where it is desired to allow for certain activities within a district". Recommended noise limits for below for Category 1 (Mobile) sources are based on noise limits set out within NZS6803:1999 for sensitive receiver sites.

Fixed Sources - Operation of fixed plant and equipment involved in infrastructure support such as pumps, motors and generators associated with providing electricity, canteen services, waste disposal, etc. Fixed sources are able to be located, oriented (and if necessary screened or enclosed) such that noise levels experienced at noise sensitive sites should be controlled to a level commensurate with protecting health and amenity at these sites. Recommended noise limits for Category 1 (Fixed) sources are the limits set out within NZS6802:2008.

4.2 Category 2 - TMT Involving Weapons Firing & Pyrotechnics

This category of TMT includes all of the above sources (Non-weapons & Pyrotechnic TMT sources) as well as any sounds associated with:

- Weapons Firing:
 - Small Arms: Styer rifle
9mm Pistol
 - Machine Gun; Minimi C9 Light Machine Gun
MAGTM58 7.62mm Machine Gun
L7A2 7.62mm Machine Gun
Browning .50 Calibre Machine Gun
[NB. Includes firing blanks or firing of live rounds]

- Artillery:
105mm Light Gun L119
Javelin medium range anti-armour weapon [MRAAW]
- Mortar:
81mm Mortar L16A2
- Demolitions
Controlled explosion of up to 5 kg CNE
- Battle Simulation:
Combat Simulation Systems - Pyrotechnics for live fire training and combat simulation.

In order to complete training requirements these potentially noisy firing activities are occasionally conducted on private land associated with TMT. NZDF advise the planning for such exercises involving live firing (or firing blanks and / or simulation pyrotechnics) is planned well in advance and entails the primary consideration of safety for NZDF personnel on site, and members of the public in the area. We understand each class of weapon / ammunition must operate within a specific safety template that would need to be satisfied by the available buffer areas and separation distances to sensitive sites and areas before the use of that class of weapon can be approved for use on the subject site.

4.3 Noise Assessment Factors

In assessing the most effective and most efficient methods for characterising, quantifying and controlling noise from TMT activities, the following factors have been taken into account;

Duration of TMT activities - The duration of TMT activities on sites not owned by NZDF could be as short as few hours to a few days, up to 90 days or more. Concerning the duration of actual noise-making activities, the noise assessment method needs to take account of amount of noise emitted over a given time period. This is achieved by adopting the Leq unit which considers sound exposure averaged over specified time periods, and operates on the equal energy principle (meaning a loud, few short duration noise events would have a similar affect as sound at a lower level than was present for longer periods).

Scale of TMT Effects - The minimum scale of TMT activities could, at one end, simply involve noise from one NZDF person entering onto a site for example to drive a light vehicle to practice field driving for a few hours during daytime, through to a major encampment on private land involving upwards of 500 personnel, including a hundred or more vehicles, portable plant items, with the training itself involving live firing, pyrotechnics, etc. including possible night manoeuvres involving live firing of weapons at night. The recommendations of this report are intended to cater for this wide range in possible noise and vibration effects.

As described below, noise impact of the larger scale events are appropriately controlled in planning decisions to locate TMT activities on sites with a sufficiently large buffer distance available to reduce noise effects to acceptable levels when received at any noise sensitive locations in the area.

Definition of "Noise Sensitive Site" – Receiver sites to be protected from unreasonable noise are usually defined as including residential, educational or health care facilities including aged care facilities. Although variations in definitions of such sites exist, the thrust is to protect locations where people sleep, relax or within buildings where a controlled sound environment is critical and is the approach recommended below. The recommendations of this report centre on protecting noise effects experienced at or within the 20 metre notional boundary to any dwelling, or buildings used for residential, educational or health care purposes, or within any residentially zoned site, in accordance with NZS6801:2008 *Acoustics – Measurement of Sound* (except for noise from "mobile noise sources" which adopts the methodology of NZS6803:1999 *Acoustics – Construction Noise* and are therefore assessed at 1 metre from the building).

Also it is noted Table 3 of NZS6803:1999 refers to less stringent guideline limits as adequate to protect commercial and industrial sites which is a useful added guideline.

Due to the temporary and highly intermittent nature of noise effects of TMT activities experienced within any park, reserve or recreational area, these do not warrant any specific control limit, suffice to mention the duty under RMA s.16 for NZDF to avoid unreasonable noise effects on civilians occurring in such areas during training exercises.

Night time noise – Typical TMT activities take place during daytime with less activity during the night time period. However on isolated occasions noise will arise due to night time manoeuvres due to personnel, vehicles or combat simulation. These night time activities are usually planned well in advance. Measures currently used to properly plan such events and inform the community are discussed below. NZDF procedures ensure any events involving firing or pyrotechnics at night are located further from noise sensitive sites compared to TMT involving daytime exercises only, reflecting the NZDF's awareness of sensitivity of the community to noise during night time.

Concerning methods to minimise night time noise disturbance, NZDF are advised that to avoid sleep disturbance from TMT activities involving night time firing and detonations / pyrotechnics, it will be necessary to conduct these exercises on sites with a significantly greater setback than adopted below for managing daytime noise (unless specific approvals have been received from noise sensitive sites within this recommended setback). The setback recommended below for night time TMT activities involving night time firing and detonations / pyrotechnics is based on around 8 to 10 dB lower sound levels and are designed to ensure indoor sleep is protected with windows open. This does not ensure sounds of such activities will be inaudible within dwellings located beyond the recommended setback distance.

Vibration – According to the RMA, the term "noise" includes vibration. Vibration associated with TMT activities can be classified as either "ground borne" or "airborne". In the case of ground borne vibration, this can be caused by the use of heavy vehicles, tracked vehicles, earthmoving equipment, or detonations or demolition explosives. The degree of vibration effect will vary according to the source however vibration effects would only be able to be detected locally, within 100 to 200 metres from source, at most. Airborne sound from explosions, artillery, or detonations can result in a "blast over-pressure" effect similar to vibration however these too are only experienced locally with no vibration effects likely to be detectable beyond 1,500 metres. A minimum threshold distance of 1,500 metres offers sufficient protection for vibration effects both on humans or damage risk criteria for building damage. Where these activities take place within the 1,500 metre minimum setback, compliance with the recommended limit on peak sound pressure levels of 120 dBC would ensure airborne and ground borne vibration effects are adequately controlled to acceptable levels.

Helicopter Noise - Noise effects from TMT events or manoeuvres occasionally involve the use of helicopters. The RMA restricts the ability of District Plans to control helicopter noise when in flight, and only allows local authorities to control noise in relation to the use of landing sites only. These noise effects are assessed below, taking into account the rare use of any particular site for helicopter landing in support of TMT activities. Effects are disregarded where the number of landings falls below 10 flights per month (or any event exceeds L_{max} 70 dBA between 10pm to 7 am, or L_{max} 90 dBA at any other time) which is the threshold for applying the recommendations of the relevant NZ Standard used to assess helicopter noise (NZS6807:1984, see below).

5 Predicted Noise Levels

Expected noise levels received at various distances have been predicted based on generic measured noise levels at source, based on measured noise levels associated with NZDF training activities held at Waiouru Military Training Area, Ardmore Military Training Area, and the West Melton Military Training Area.

Predictions of sound levels has been conducted using computer-based prediction programs based the algorithms set out within ISO 9613-2:1996⁴. The prediction method involves specifying input variables such as sound power levels at source, air absorption values based on temperature and humidity. The resultant noise levels at various distances for the various noise source categories are set out below in Table 1.

Expected Lmax and Leq noise levels versus distance from Table 1 are reproduced diagrammatically in Figure 1 and Figure 2 below.

		10 METRES			100 metres			1,000 metres			1,500 Metres			4,500 Metres		
Category 1 Sources		Leq	Lmax	Peak	Leq	Lmax	Peak	Leq	Lmax	Peak	Leq	Lmax	Peak	Leq	Lmax	Peak
MOBILE:	Heavy Vehicles	88	92	94	69	73	75	51	55	57	48	52	54	39	43	45
	Armed personnel / LAV	89	93	98	70	74	79	52	56	61	49	53	58	40	44	49
	Unimog	82	85	89	63	66	70	45	48	52	42	45	49	33	36	40
	Excavator	85	94	98	66	75	79	48	57	61	45	54	58	36	45	49
FIXED:	Loader	86	96	103	67	77	84	49	59	66	46	56	63	37	47	54
	100 kVA generator	71	73	75	52	54	56	34	36	38	31	33	35	22	24	26
	water pumps	62	65	66	43	46	47	25	28	29	22	25	26	13	16	17
	Kitchen plan	59	62	63	40	43	44	22	25	26	19	22	23	10	13	14

Category	Howitzer	118	131	143	99	112	124	81	94	106	78	91	103	69	82	94
	81mm Mortar	81	94	101	62	75	82	44	57	64	41	54	61	32	45	52
	40mm Mortar	93	106	110	74	87	91	56	69	73	53	66	70	44	57	61
	Grenade	87	99	102	68	80	83	50	62	65	47	59	62	38	50	53
	Battle Sim	80	97	102	61	78	83	43	60	65	40	57	62	31	48	53

Table 1 Predicted A-weighted Leq, Lmax levels (together with Z weighted peak sound levels), at various distances from source.

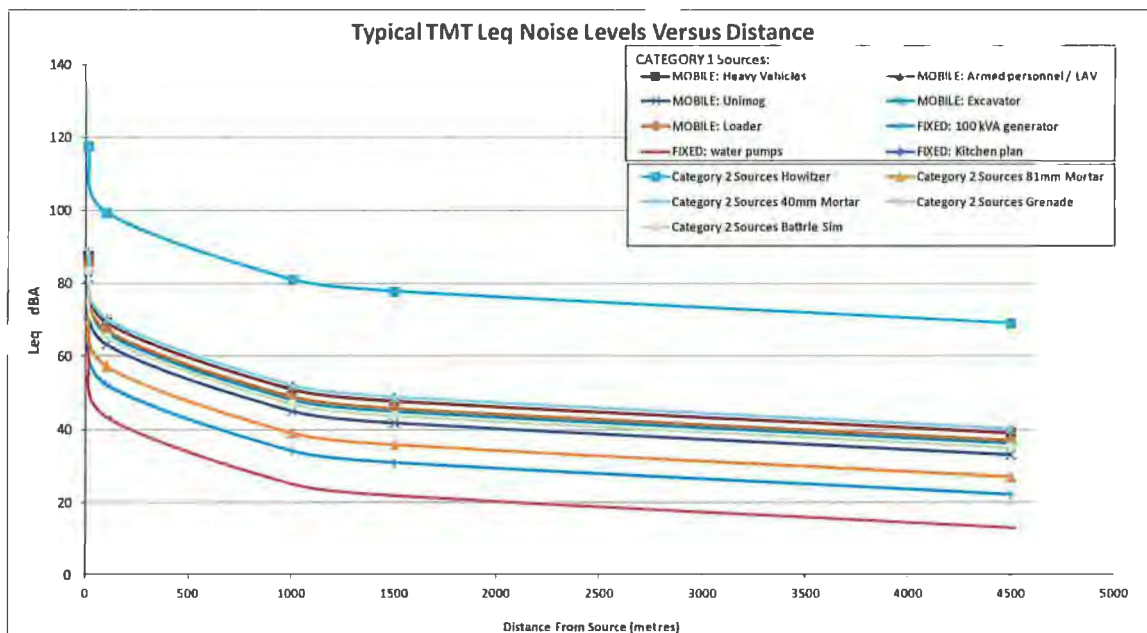


Figure 1 Predicted A-weighted Leq noise levels from a range of TMT activities, including fixed and mobile sources and sounds from live firing, grenades and detonations, estimated for various distances from source.

⁴ ISO 9613-2:1996 Acoustics - Attenuation of sound during propagation outdoors -- Part 2: General method of calculation. International Organisation for Standardisation 1996, Geneva.

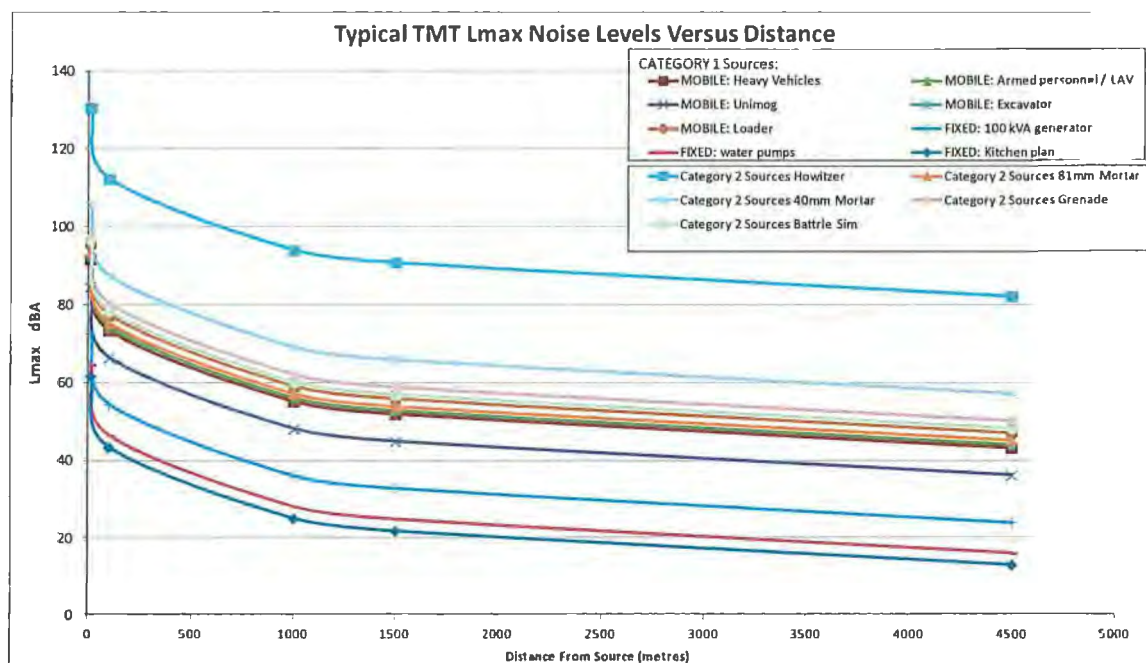


Figure 2 Predicted A-weighted Lmax noise levels from a range of TMT activities, including fixed and mobile sources and sounds from live firing, grenades and detonations, estimated for various distances from source.

Table 1 and **Figures 1** and **2** confirm noise emissions associated with TMT appear to be received at levels that may be adjudged significant when experienced at distances of less than 1,500 metres due to the levels of noise emission at source.

6 Assessment Criteria

6.1 New Zealand Standards

Standards New Zealand has published a number of New Zealand Standards guiding on the measurement and assessment of environmental noise from various sound sources. The review of noise controls applying to TMT activities has taken into account the recommendations of recent versions of the relevant acoustic Standards, particularly involving changes in noise units and guideline limits.

6.2 Current New Zealand Standards

NZ Standards relevant to the measurement and assessment of environmental sound in the current circumstances are set out in Table 1 as follows

1. NZS6801:2008 *Acoustics – Measurement of Environmental Sound*;
2. NZS 6802:2008 *Acoustics –Environmental Noise*;
3. NZS 6803:1999 *Acoustics – Construction Noise*;
4. NZS 6807:1994 *Noise Management and Land Use Planning for Helicopter Landing Areas*

6.3 Current Best Practice Within NZ Standards

The most important acoustic standards referenced within all District Plans are NZS 6801 and NZS 6802 which set out technical guidance on the measurement (NZS6801) and assessment of noise (NZS6802) from most types of land use activities. It is accepted that reference to such technical Standards is necessary to ensure a noise is accurately and reliably measured and assessed, ensuring compliance with the rule is able to be reliably determined.

NZS 6801:2008 *Acoustics - Measurements of Environmental Sound* and NZS6802:2008 *Acoustics - Environmental Noise* are the most appropriate and applicable Standards, at least as a starting point.

Adopting the "best practice" 2008 versions of NZS6801 and NZS6802 means switching to the more modern sound measurement unit from L_{10} to L_{eq} . The L_{10} descriptor was originally adopted as it was demonstrated to have a reasonably good correlation with the degree of annoyance experienced by a person. L_{10} noise levels could be determined from analogue sound level meters by manual means available at the time.

More recent international research has shown that the L_{eq} descriptor has a greater degree of correlation to noise annoyance than L_{10} , and for this reason is widely accepted as being the preferred noise descriptor for use in environmental noise standards and noise limits. The L_{eq} level, being unrelated to the statistical variation in sound levels is more readily predicted which is a considerable advantage over L_{10} .

The L_{eq} level has the advantage that it quantifies all sound energy during the measurement period, whereas L_{10} , effectively measures only that sound which occurs for 10% of the measurement period meaning uneven treatment of intermittent sources.

The regulatory effect of changing the noise limit from say 50 dB L_{A10} to 50 dB $L_{Aeq [15 min]}$ will vary for different sound sources however the effect is not likely to be greater than about 3 dB. For sounds that vary from higher to lower levels in a regular, uniform manner the measured decibel level will measure slightly higher (no more than 3 dB) for L_{10} as opposed to L_{eq} . Thus, for these types of sound retaining the same numerical decibel limit but changing the units from L_{10} to L_{eq} will have the effect of allowing slightly more noise, depending upon the type of sound under consideration. If the sound source is constant (e.g. a constantly running fan or motor) the measured decibel level remains unchanged whether measured using L_{eq} or L_{10} . Unless the variability or intermittency of the sound source is known, it is not possible to make an exact comparison of the effect of changing from the L_{10} unit to the L_{eq} unit.

The recommendation original L_{10} TMT noise limit should retain the same decibel limit with the unit changed from L_{10} to L_{eq} . It is generally accepted by experienced acoustic engineers that there are no realistic situations known where the change from L_{eq} from L_{10} change would lead to significant degradation in amenity. However, the change will allow far more robust monitoring and enforcement which would provide benefit.

6.4 Background Sound Level L95

The recent NZ Standards no longer consider the background sound level (L95) should be controlled in addition to the L_{10} or L_{eq} level. A switch to L_{eq} unit with its "equal energy" principle will ensure the constant type sound sources are adequately controlled in proportion to the maximum sound, so controls based on L95 are now considered redundant.

In addition, the approach of this report is to include a recommended lowered noise limit for fixed sources. These are the types of sources which operate more or less all the time and which will govern

the levels of L95 emitted from TMT activity sites. Thus, constant sound sources will be adequately controlled with specifying a limit on L95 noise emissions from TMT activities.

For these reasons it is not considered necessary to continue the practice of limiting TMT activity background sound emission levels measured using the L95 sound level.

6.5 Assessment Of Impulse Noise

Clause 1.2 of NZS6802:2008 *Acoustics – Environmental Noise* sets out how that Standard was not designed to assess impulse type sounds such as gunfire and explosions, which means there are this standard provides no guidance relevant to the impulsive sounds associated with Category 2 noise sources discussed above associated with weapons firing, artillery or detonations / pyrotechnics.

In this respect, NZS6803:1999 sets out a guideline maximum "peak" sound levels due to explosions. NZS6803:1999 states at clause 8.1.4;

8.1.4
Noise from use of explosives is also a special case. The adoption of good blasting practices will reduce the inherent and associated impulsive noise and vibration. Practices should conform with the provisions of documents such as AS 2187:Part 2, provided that the airblast noise limit shall be a peak sound level of 120 dBC measured at a suitable location as specified in 6.2.

The use of the 120 dBC unit is slightly more onerous (although similar in effect to) the 122 dBC limit commonly adopted in TMT noise limits currently included within district plans.

The use of "peak sound level" is a technical necessity in order to ensure the highest sound pressure is adequately captured. The use of the units dBC means the limit is particularly sensitive to impulse noise events with pronounced low frequency content, such as a boom.

Table 1 provides guidance on received peak sound pressure levels from various TMT firing and detonations/ pyrotechnics. Peak sound levels received at 1,500 metres from source are less than 70 dBC (except for Howitzer operations⁵) which are within acceptable levels for daytime. This is confirmed by the Leq values not exceeding 55 dBA and the Lmax values not generally exceeding 70 dBA. These are within the general recommendations for maximum noise exposure at residential sites set out within NZS6802:2008.

In terms of cumulative effects of live weapons firing and detonation/pyrotechnics, Leq sound levels assume these explosive sounds occur more or less continuously over 5 hours worst case noise duration. We are informed this would be representative of a large training event only held infrequently.

Figure A1 set out within the attached **Appendix A** sets out cumulative sound level contour lines relevant to the sound levels experienced in the area surrounding the West Melton Training Area during busy periods of target shooting with live ammunition at the Wooster range shown. The cumulative sound over a whole day is calculated using the "Level Day / Night" (Ldn) unit which is the widely accepted method for assessing whole day exposure to noise in the environment. In this case the Ldn values have been calculated based on the C-weighted single event level in order to account for the impulsive nature of the sound from firing and detonations/ explosive sounds associated with TMT activities (normally, for non-impulsive sounds the lower A weighted single event sound level is used as a basis for calculating Ldn).

The Ldn 55 dBA contour shown in **Figure A1** encompasses the Ldn 55 dBA contour due to busy periods of live firing. Ldn 55 dBA is widely accepted as a threshold above which adverse effects may commence, with Ldn 65 dBA being a limit above is generally unacceptable for noise sensitive

⁵ Howitzer sound level predictions include the sounds of explosive shells – this is an over-estimate typical TMT Howitzer training.

residential land uses (ref. NZS6805, NZS6807, and NZS6809). Thus, taking into account the impulsive nature of the sound, cumulative noise effects experienced beyond 1,500 metres are likely to be acceptable to the affected persons, at least for a person of typical noise sensitivity. A minimum setback distance of 1,500 metres is therefore considered an acceptable approach for controlling worst case daytime live firing and detonation sounds from TMT activities.

In some cases a safety template for some classes of live firing may exceed 1,500 metres and it will be necessary to comply with those requirements irrespective of the noise situation. Although the safety template will assist in ensuring sites selected for TMT involving weapons firing, detonations or pyrotechnics are reasonably set back from sensitive sites, we note the typical templates are not effective at ensuring adequate setbacks to the rear of the firing position where only minimum setbacks are required in order to meet the safety template requirements.

Thus, recommended setback distances for daytime TMT activities emitting impulsive type sounds has been based on measured sound levels in the vicinity of active firing ranges such as West Melton and Tekapo. In order to provide a reasonable standard of protection, including taking into account the impulsive nature of the sound, is 1,500 metres (or greater if this is required for safety reasons).

The following two variations on this scenario are;

Weapons Firing Using Blank Ammunition – In this case we are aware the impulsive sound of a weapon firing blank ammunition measures lower peak sound levels than the same weapon firing live ammunition. Our research reveals measured differences range from 10 dB⁶ to 4 dB⁷. In this case a slightly conservative approach has been taken by reducing the setback distance by 50% to 750 metres (based on blanks peak sound levels being 6 dB lower than the same weapon firing live ammunition). Note, this recommendation applies only to TMT involving weapons firing blanks only and that no other explosive or impulsive sound sources.

Night Time Impulsive Noise – owing to the added sensitivity to noise received at dwellings and sensitive sites during night time, we recommend a wider setback be adopted where any explosions or arms firing, grenade throws, etc. are proposed to take place on any site between 7pm and 7 am.

Scaling up the noise sensitivity by 8 to 10 dB to account for increased night time sensitivity results in an increased recommended minimum setback of 4,500 metres. At this distance, although sound events will be noticeable (including indoors), the effects would not be unreasonable when conducted within a pre-planned programme which has been communicated to the affected parties.

In summary, the recommended approach is to manage the location of any weapons firing, explosions, grenade throws, pyrotechnics, etc. as follows

For impulsive sound activities taking place during daytime (7am and 7 pm):

- Activities firing live ammunition to be sited a minimum of 1,500 metres from any noise sensitive site such as at or within the 20 metre notional boundary to any dwelling, or buildings used for residential, educational or health care purposes, or within any residentially zoned site
- A *site-specific noise management plan* is to be implemented where noise sensitive sites are located within 1,500 metres.
- Activities to be sited a minimum of 750 metres from any noise sensitive site where the TMT activity involves only weapons firing of "blank" ammunition (and no other impulsive sounds occur such as weapons firing of live ammunition, explosions, grenade throws, pyrotechnics, etc.).

⁶ See <ftp://ftp.rta.nato.int/PubFulltext/RTO/TR/RTO-TR-HFM-147/TR-HFM-147-03.pdf> page 3.15 states "...peak pressure levels measured for the firing of blank ammunition is almost 10 dB lower than real ammunition."

⁷ U.S. Navy Silver Strand E.I.S See http://www.silverstrandtrainingcomplexeis.com/Documents/10_SSTC_Final_EIS_Vol1_Chapter3-6_Acoustic.pdf. Section 3.6, page 20 "Most blank ammunition for small arms has a smaller propellant charge than that used for live ammunition. As a result, noise from small arms blank ammunition generates noise levels about four decibels below those of live ammunition..."

For impulsive sound activities taking place during night time (7pm and 7am):

- Activities firing live ammunition to be sited a minimum of 4,500 metres from any noise sensitive site such as at or within the 20 metre notional boundary to any dwelling, or buildings used for residential, educational or health care purposes, or within any residentially zoned site
- A *site-specific noise management plan* is to be implemented where noise sensitive sites are located within 4,500 metres.
- Activities to be sited a minimum of 2,250 metres from any noise sensitive site where the TMT activity involves only weapons firing of "blank" ammunition (and no other impulsive sounds occur such as weapons firing of live ammunition, explosions, grenade throws, pyrotechnics, etc.).

6.6 NZS 6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas

NZS6807:1994 is currently referenced in many District Plans as the standard for assessing helicopter noise. Section 9 the RMA indicates it is within the powers of consent authorities to control the movement of aircraft in the air for the purposes of managing the effects of aircraft noise in the vicinity of landing areas.

The RMA does not empower Councils to control noise from overflying aircraft when aircraft are en route to a destination and not in the vicinity of the landing area. In these situations Section 29A of the Civil Aviation Act 1990 can be used by Civil Aviation Authority [CAA] to control noise from overflying aircraft. As above, due to the highly intermittent nature of any sensitive receiver site receiving helicopter noise associated with TMT activities some allowance can be made for one-off events. This is a recommendation of NZS6802:2008.

Effects are disregarded where the number of landings falls below 10 flights per month (or any event exceeds L_{max} 70 dBA between 10pm to 7 am, or L_{max} 90 dBA at any other time) these limits representing thresholds for applying the recommendations of NZS6807:1994 (re. Clause 1.1, NZS6807:1994). This approach is recommended to apply to helicopter landing area noise associated TMT activities. A level of helicopter landing activity above this minimum level would be subject to limits on L_{dn} and L_{max} noise levels recommended within NZS6807:1994.

As the pilot in command has ultimate control over whether any noise sensitive locations are affected by helicopter activity associated with TMT activities, the guidance of Appendix A of NZS6807:1994 *Noise Management and Land Use Planning for Helicopter Landing Areas* is proposed to be applied to ensure helicopter noise is minimised as far as practicable. A copy of this appendix is attached as **Appendix B** to this report.

The recommendations to limit helicopter noise associated with the use of any TMT site for helicopter landing or take-off is based on NZS6807:1994. This Standard is considered to limit helicopter noise to reasonable levels. Noise from airborne helicopter activity not associated with landing areas (such as flyover noise) cannot be controlled by district plans but is instead is a matter for the CAA to control.

6.7 Vibration

The RMA defines "noise" as including vibration. While humans are very sensitive to vibration and can detect this effect at low levels, it is difficult to precisely define levels which will adequately protect people from adverse effects (eg. annoyance) as a person's perception and response will vary according to the nature of vibration (duration, amplitude, frequency, and frequency of occurrence), health, state of mind, temperament, and physical attitude of individuals.

Taking into account available guidelines and standards, and the nature and scale of potential vibration effects associated with TMT activities, a minimum threshold distance of 1,500 metres for live firing (& 750 metres where blanks are used) has been recommended as setback(s) offering sufficient protection for vibration effects both on humans or damage risk criteria for building damage. Where these activities take place within the nominated minimum setback, compliance with the recommended limit on peak sound pressure levels of 120 dBC would ensure airborne and ground borne vibration effects are adequately controlled to acceptable levels.

7 Recommended Noise Limits

As a starting point, for sound sources that are within scope of NZS6802:2008, that standard provides appropriate guidance on noise limits. However special consideration needs to be given to the need to conduct TMT activities throughout the district and at any time. This does not absolve the NZDF from adequate noise management however. Mobile sources generate intermittent effects for any particular receiver site and mostly during daytime. Stringent noise limits such as the upper limits recommended within NZS6802:2008 are not considered necessary for this type of sound when elevated noise levels are only experienced for short periods during daytime. NZS6803:1999 contains recommended L_{eq} and L_{max} limits for noise sensitive sites during daytime and night time intended to apply to construction activities, however in this case these limits are recommended to apply to noise emitted by mobile TMT activities.

TMT activities involving weapons firing, detonations and pyrotechnics require specialised noise management owing to the impulsive nature of these sounds which can be particularly annoying in some cases. Below it is recommended TMT activities involving weapons firing and any other activities creating single or multiple explosive event sounds audible off the site should only be undertake on sites where there are no noise sensitive sites located within a radius of:

- 1,500 metres for any such activities occurring 7am to 7pm unless the only impulsive sound from TMT activities is from firing of "blank" ammunition, in which case the minimum setback distance maybe reduced to 750 metres.
- 4,500 metres for any such activities occurring 7pm to 7am

In special cases (and only when undertaken in accordance with a Noise Management Plan certified by the Council) would TMT activities involving weapons firing, detonations and pyrotechnics be permitted to occur within these specified setback distances, however no sensitive receiver site should receive a peak sound pressure level of 120 dBC when in accordance with NZS6801:2008 *Acoustics – Measurement of Sound*.

In summary the recommended approach is based on;

1. Impulsive sound – this type of sound is not within the scope of NZS6802:2008. In this case minimum setback distances are proposed to be applied (separately for daytime and night time), with the absolute limit of 120 dBC (from NZS6803:1999) applying to impulsive sound sources. Where certain recommended setback distances cannot be reasonably complied with, the training activities are recommended to be undertaken in accordance with a site specific noise management plan approved for this purpose. No sensitive receiver site is recommended to receive impulsive sound at levels exceeding 120 dBC;
2. Mobile sources, although technically within scope of NZS6802:2008, are considered more appropriately controlled to the noise limits set out within NZS6803:1999 owing to the intermittent noise effects and temporary nature of noise associated with TMT activities. While NZS6803:1999 provides for elevated noise during daytime, L_{eq} and L_{max} night time limits recommended within this Standard are appropriate for the adequate protection of sleep at sensitive receiver sites during night time and on Sundays and public holidays.

3. Fixed or stationary TMT Noise sources that are able to be mitigated due to the equipment selection, its location, and treatment are considered fully capable of meeting the following stringent limits at noise sensitive receiver sites, as set out within NZS6802:2008 as follows:

<i>Monday to Sunday 7am to 7pm.....</i>	<i>55 dB L_{Aeq} (15 min)</i>
<i>Monday to Sunday 7pm to 10pm.....</i>	<i>50 dB L_{Aeq} (15 min)</i>
<i>Monday to Sunday 10pm to 7am the next day</i>	<i>45 dB L_{Aeq} (15 min)</i>
<i>Monday to Sunday 10pm to 7am the next day</i>	<i>75 dB L_{AFmax}</i>

These limits are considered appropriate for controlling noise from fixed (stationary) plant to reasonable levels. The limits incorporate an intermediate noise limit applying within a transition "evening" daytime period between 7pm and 10pm. The rationale is that the daytime limit is often too high for the evening leaving compliant noise sources becoming quite prominent within an environment which is experiencing lowering of ambient sound levels towards the end of the day.

8 Summary

This report reviews noise and vibration controls applying to Temporary Military Training (TMT) activities specified within District Plans for the control of potential noise disturbance caused by these activities. These established noise limits and requirements have been evaluated from an effectiveness and efficiency perspective, also considering new techniques now available through the adoption more recent NZS acoustic standards released since most District Plans came into effect.

The recommended amended controls do not rely solely on specifying decibel limits applicable to each category of noise source. Achieving a minimum threshold separation distance from sites where potentially noisy weapons firing or loud explosive sounds take place to the nearest noise sensitive receiver site is a key element of the approach recommended for this noise source category which has the highest potential to create adverse noise effects over wide areas. TMT activities involving firing and explosive sounds are proposed to be permitted to occur within the minimum separation distances outlined below, however in those cases the activities would be required to be undertaken in accordance with a certified Noise Management Plan to ensure the heightened risk of adverse noise effects is adequately managed. Limits applying to peak sound pressure levels from TMT activities involving weapons firing or explosive sounds applying at the closest sensitive receiver site ensures an adequate baseline protection from the potential health and amenity effects of loud noise received from these sources.

Measures to mitigate noise emissions associated with TMT activities are included within the recommended wording. Overall, the recommended approach provides flexibility in avoiding unreasonable or excessive noise effects as the limits and requirements target specific sources according to the scale of the potential effects and the ability to control such sources.

Considered as a whole, the recommended approach provides an effective and flexible approach which recognises the over arching duty to adopt the "best practicable option" to avoid the emission of unreasonable noise. Adopting the amended approach within new generation District Plans will ensure the rules are technically up to date, whilst ensuring the control measures fit the type of sound source and a degree of flexibility is provided given the temporary nature of the potential noise and vibration.

Appendix A

Extract From:

West Melton Military Training Area - 2003 Preliminary Noise Assessment Report, NZ Army. Malcolm Hunt Associates 2003.

Activity on firing range:

Activity	Estimated Future Firing
Single shot 5.56mm	4 days/week
Group shoot 5.56mm	4 days/week
GPMG (7.62mm machine gun) single bursts	2 days/week
GPMG (7.62 mm machine gun) rapid fire	2 days/week
M72 Sub Cal	2100 /year

Predicted Ldn contours (numbered white lines), and radius of 1.5 kilometres from firing location (yellow dashed line).



Figure A1. Predicted West Melton Ldn noise contours for use of firing ranges only, also showing Ldn 55 Contour (—) lies within the (dotted) is a 1.5 kilometre radius from the closest firing locations.

Appendix B

NZS 6807:1994 - Appendix A

Noise Management**A1**

The sections below contain matters that should be considered in the management of noise from helicopter landing areas so as to comply with the noise limits in this Standard. The matters below apply to helicopter landing areas in general, and may not all be applicable in any particular case.

A2 Management considerations**A2.1**

All helicopter movements should be flown in accordance with noise abatement techniques.

A2.2

A log record should be kept of all movements. A copy should be available at the request of the appropriate local authority.

CA2.2

Compliance with noise controls may be determined from the number and time of movements and the type of helicopter if noise emission is known.

A2.3

Helicopters using a helicopter landing area may be restricted to those with a certified noise emission not exceeding a specified limit. In this case no helicopter generating noise that exceeds the limit should use the helicopter landing area.

A2.4

Flight sectors should be restricted to avoid residential areas, as far as it is practicable to do so. Helicopters should minimize overflights of dwellings while at less than 500 feet above ground level.

A2.5

Movements should be restricted to avoid noise-sensitive times of day, as far as it is practicable to do so.

A2.6

Flight operations may be registered to normal arrival and departures. Flight training (including hover training), extended ground idling or engine testing may be prohibited.

A2.7

Movements may be restricted to a daily maximum.

ANNEXURE C

The Minister/NZDF's submission on Variation 2 (Noise) to the Proposed Plan



Property Group
National Service Centre
Alexander Road
Private Bag 902
Trentham
Upper Hutt 5140, New Zealand

Submission on Variation 2 (Noise) to the Proposed Invercargill City District Plan

Clause 6 of First Schedule, Resource Management Act 1991

To: Environmental and Planning Services
Address: Invercargill City Council
Private Bag 90104
Invercargill
Email: districtplan@icc.govt.nz
Submitter: New Zealand Defence Force
Contact Person: Rob Owen, Environmental Manager
Address for Service: New Zealand Defence Force
C/- Tonkin & Taylor Limited
P O Box 2083
Wellington 6140
Attention: Sara McMillan
Phone: 04 806 4977 / 021 826 706
Email: sara.mcmillan@nzdf.mil.nz

INTRODUCTION

The New Zealand Defence Force (NZDF) has military interests throughout New Zealand. Defence facilities are key strategic infrastructure of national and regional importance, playing a significant role in both military training and civil and/or national defence operations. They also play an important role in supporting search and rescue operations and infrastructure support capabilities (for example deployment of water purification and supply facilities as used in the aftermath of the Christchurch earthquakes).

NZDF wishes to ensure that the capability to conduct military training as required, throughout the district, is maintained. Training assists in maintaining operational capability and in fulfilling its obligations under the Defence Act 1990. TMTAs can include a range of activities, from office/classroom based activities to large scale military exercise, and might involve Search and Rescue, infrastructure support, bomb deactivation training, weapons firing, personnel etc. They may be undertaken over a period of days or weeks on an intermittent or continuous basis, during both day and night.

NZDF prepared a submission in regards to the Proposed Invercargill District Plan, and appeared at the Hearing on the 28th of April in support of this submission. This submission is consistent with the matters raised previously, with a minor amendment to its suggested noise provisions which is detailed further in Submission Point 2 below.

PRELIMINARY MATTERS

NZDF's submission on Variation 2 (Noise) to the Proposed Invercargill City District Plan, including decisions sought from Council, is set out below.

New Zealand Defence Force (NZDF) **could not** gain an advantage in trade competition through this submission.

NZDF wishes **to be heard** in support of this submission.

If others make a similar submission, NZDF **will consider** presenting a joint case with them at the hearing.



Person authorised to sign
on behalf of New Zealand Defence Force

Date 27/11/15

Submission Point 1

Provision: Rural 1 Zone, Policy 8 and Rural 2 Zone, Policy 7

Position: Support

Relief Sought: Retain amendments proposed by Variation 2.

Reasons: The amended wording of the policies reflects the nature of the rural environment, where higher noise levels can be expected in certain parts of the zone, resulting from activities expected in the Rural zones.

NZDF considers the amendments to the policies provides greater direction when assessing the potential amenity effects on sensitive receivers from activities, and is less prescriptive than the previous wording.

Submission Point 2

Provision: Noise limits in Rural 1 & 2 Zones and the Industrial 1 and 1A Zones

Position: Oppose

Relief Sought: That the noise standards attached to this submission be included for Temporary Military Training Activities (TMTA) in all zones (see Attachment 1).

Reasons: NZDF acknowledges that noise effects from TMTA need to be appropriately controlled within the District Plan.

The noise provisions subject to this variation do not appear to reflect NZDF's requested noise provisions for TMTA.

NZDF wishes to make sure that the noise standards included in the Proposed Plan are up-to-date, appropriate for the type of noise generated and relatively simple to understand and assess compliance with. To this end, NZDF commissioned professional acoustic advice on appropriate standards to control noise effects from TMTA. Based on this advice, NZDF has developed revised noise control standards that it is seeking to have included in proposed district plans nation-wide (see Attachment 1). Following discussion with the Panel at the Proposed Invercargill City District Plan Hearing, NZDF has undertaken to make a minor change to Attachment 1. Clause (c) of the table as follows (change shown in bold/strikeout):

(c) The activity is undertaken in accordance with a Noise Management Plan prepared by a suitably qualified expert and **provided to approved by** Council at least 15 works days....."

The replacement noise standards proposed by NZDF focus on compliance at dwellings, residentially zoned sites, and buildings used for residential, educational or healthcare purposes, and can be applied across all zones.

In summary, the NZDF's proposed standards divide noise sources from TMTA into three categories: weapons firing and explosions; other mobile sources such as vehicles and earthmoving equipment; and fixed noise sources such as power generators and water pumping. Each of these noise sources has different noise characteristics, and therefore a different set of standards for controlling noise. NZDF considers that this division allows a more comprehensive and appropriate method for controlling noise from TMTA.

For weapons firing and explosives, the noise control standard used is separation distances between the activity and any sensitive receiver (dwelling, residentially zoned site, or building used for residential, educational or healthcare purposes). Four separation distances are specified – a night time and daytime distance for firing of live ammunition and explosives, and a night time and daytime distance for firing of blank ammunition, which is less noisy than live firing. The distances have been arrived at after review and analysis of data measured from real military activities, to ensure that the sound levels received at the specified distances will be reasonable (generally less than 55 dBA for daytime and less than 45 dBA for night time). Using separation distance as a standard has the advantage of being an easy to comply with and easy to monitor standard.

For mobile noise sources (other than weapons firing and explosives), compliance with the construction noise standards is recommended, as this standard most appropriately addresses this type of noise.

For fixed noise sources, which can be located to ensure compliance with standards, dB LAeq levels are specified, in line with NZS6802:2008 Acoustics – Environmental Noise. This is considered the most appropriate way to control noise levels from these sources.

**Attachment 1: Replacement standards for controlling noise effects
from Temporary Military Training Activities**

Permitted Activity Noise Standards for Temporary Military Training Activities

Rule x.x: Temporary Military Training Activities are permitted activities, provided they comply with the noise standards specified in Table x below.

Table x

Noise Controls				
Type of military noise source	Standards			
1. Weapons firing and/or the use of explosives	1. Notice is provided to the Council at least 48 hours prior to the commencement of the activity, specifying whether the activity involves live firing and/or the use of explosives, or firing of blank ammunition; the location of the activity and the boundaries within which the activity will take place, and distances to buildings housing noise sensitive activities; and the timing and duration of the activity.			
	2. Compliance with the noise standards below:			
		Time (Monday to Sunday)	Separation distance required between the boundary of the activity and the notional boundary to any building housing a noise sensitive activity	
	i. Live firing of weapons and single or multiple explosive events	0700 to 1900 hours	At least 1500m	Less than 1500m if conditions (a) and (c) below are complied with
		1900 to 0700 hours	At least 4500m	Less than 4500m if conditions (b) and (c) below are complied with
	ii. Firing of blank ammunition	0700 to 1900 hours	At least 750m	Less than 750m if conditions (a) and (c) below are complied with
		1900 to 0700 hours	At least 2250m	Less than 2250m if conditions (b) and (c) below are complied with
	Conditions to be complied with if minimum separation distances for sources 1(i) and 1(ii) cannot be met:			
	Condition	Time (Monday to Sunday)	Noise level at the notional boundary to any building housing a noise sensitive activity	
	(a)	0700-1900hrs	Peak sound pressure level of 120 dBC	

	(b)	1900-0700hrs	Peak sound pressure level of 90 dBC
	(c)	<p>The activity is undertaken in accordance with a Noise Management Plan prepared by a suitably qualified expert and provided to Council at least 15 working days prior to the activity taking place. The Noise Management Plan shall, as a minimum, contain:</p> <ul style="list-style-type: none">• A description of the site and activity including times, dates, and nature and location of the proposed training activities.• Methods to minimise the noise disturbance at noise sensitive receiver sites such as selection of location, orientation, timing of noisy activities to limit noise received at sensitive receiver sites.• A map showing potentially affected noise sensitive sites and predicted peak sound pressure levels for each of these locations.• A programme for notification and communication with the occupiers of affected noise sensitive sites prior to the activities commencing, including updates during the event.• A method for following up any complaints received during or after the event, and any proposed de-briefing meetings with Council.	
2. Mobile noise sources, excluding sources 1(i) and 1(ii)			
		Compliance with the noise limits set out in Tables 2 and 3 of <i>NZS6803:1999 Acoustics – Construction Noise</i> , with reference to ‘construction noise’ taken to refer to other, mobile noise sources*	
Note: mobile noise sources (other than firing of weapons) include sources such as personnel, light and heavy vehicles, self-propelled equipment, earthmoving equipment			
3. Fixed (stationary) noise sources, excluding sources 1(i) and 1(ii)			
	Time (Monday to Sunday)	Noise level at the notional boundary to any building housing a noise sensitive activity *	
	0700 to 1900 hours	55 dB L _{Aeq} (15 min)	n.a.
	1900 to 2200 hours	50 dB L _{Aeq} (15 min)	
	2200 to 0700 hours the next day	45 dB L _{Aeq} (15 min)	75 dB L _{AFmax}
Note: fixed (stationary) noise sources (other than firing of weapons and explosives) include noise sources such as power generation, heating, ventilation or air conditioning systems, or water or wastewater pumping/treatment systems.			
4. Helicopter landing areas			
		Compliance with noise limits set out in <i>NZS6807:1994 Noise Management and Land Use Planning for Helicopter Landing Areas</i> *	

* Noise levels shall be measured in accordance with NZS6801:2008 Acoustics – Measurement of Sound

ANNEXURE D

Relevant parts of the Council's decision



PROPOSED INVERCARGILL CITY DISTRICT PLAN

Decision No. 29

General Issues

Hearings Committee

Councillor Darren Ludlow (Chair)

Councillor Neil Boniface

Councillor Graham Sycamore

Keith Hovell

11 October 2016

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INTRODUCTION

We have been appointed by the Invercargill City Council to consider and issue decisions on the submissions lodged to the Proposed Invercargill City District Plan. In this decision we consider general submissions lodged to the Proposed District Plan, not allocated to specific topics.

The Resource Management Act 1991 sets out various matters that impact on our considerations and deliberations. The key provisions are Sections 5 - 8, 32, 75 and 76 of the Act, and the Second Part of the First Schedule to the Act. The Section 42A Report prepared for the Committee considered these matters in detail and we have had regard to those matters. Where the statutory provisions are of particular significance we have referred to them within this Decision.

In this Decision, the following meanings apply:

"The Council" means the Invercargill City Council.

"Further Submitter" means a person or organisation supporting or opposing a submission to the Proposed Plan.

"FS" means Further Submission.

"Hearings Committee" means the District Plan Hearings Committee established by the Council under the Local Government Act.

"NZDF" means New Zealand Defence Force.

"Operative Plan" or "Operative District Plan" means the Invercargill City District Plan 2005.

"Proposed Plan" or "Proposed District Plan" means the Proposed Invercargill City District Plan 2013.

"RMA" means the Resource Management Act 1991.

"Submitter" means a person or body lodging a submission to the Proposed Plan.

"TMTAs" means Temporary Military Training Activities.

At the commencement of the hearings, Crs Boniface and Ludlow declared an interest as Directors of PowerNet Limited, Cr Sycamore declared an interest as a Director of Invercargill City Holdings Limited and Commissioner Hovell declared a conflict of interest in relation to submissions lodged by Cunningham Properties Limited. The Councillors and Commissioner took no part in deliberations in relation to the submissions of the submitters referred to.

THE HEARING TO CONSIDER SUBMISSIONS TO THE PROPOSED DISTRICT PLAN

The hearing to consider the submissions lodged to the matters set out in this decision was held in the Council Chambers of the Invercargill City Council on 28 April 2015.

Section 42A Report

The Hearings Committee received a report from Joanna Shirley, Policy Planner with the Invercargill City Council. In her report, Mrs Shirley recommended changes to the activity status of the Height Rule and Temporary Military Training Activities and deletion of the definition of Recreational Activities from the Plan. She also recommended several changes to the Plan provisions which were of a minor nature and neutral in effect.

With regard to TMTAs Mrs Shirley advised the Committee that these are recognised in the noise rule but are not permitted in the zone rules. It was her view that these activities have

the potential to give rise to noise effects, as well as effects on amenity and nuisance effects from transportation and the height of structures. She noted that under the Operative District Plan (Rule 4.45) Temporary Military Activities are permitted in the Rural Sub-Area, subject to performance criteria. In all other Sub-Areas it is a non-complying activity. Mrs Shirley considered that a similar approach should be brought across to the Proposed District Plan. Outside of the Rural 1 Zone she considered some control is needed to ensure that adverse effects are avoided, remedied, or mitigated and that the site is appropriately rehabilitated. In particular, consideration needs to be given to the erection of buildings and structures, and earthwork activities. She therefore recommended amending the Rural 1 Zone Rules to provide a controlled activity status for Temporary Military Training Activity, subject to certain criteria being met. In all other zones she believed that the default activity status for Temporary Military Training Activity should be retained as proposed.

Submitters Attending the Hearing

New Zealand Defence Force

Rob Owen, Environmental Manager within the Defence Property Group, provided written evidence in which he stated that temporary military training activities are essential and in many respects are identical to training activities carried out by other emergency services such as NZ Police, NZ Fire Service, the various ambulance services and Search and Rescue. In his view, noise resulting from the discharge of ammunition or explosives is the only effect of temporary military training activities that warrants specific management through the Plan. Mr Owen then outlined the various activities undertaken, which included driver training, medical and dental services, camp setup including field kitchens and ablutions, Improvised Explosive Device Disposal (IEDD) exercises, dog training and what might be more conventionally understood by the term military training. He added that TMTAs may be undertaken over a period of days or weeks on an intermittent or continuous basis, during both day and night.

Mr Owen also explained that TMTAs are typically planned well in advance, and that for activities undertaken on land not owned by NZDF, time is required to secure landowner agreement. He added that in the case of training involving weapons firing and the use of explosives, safety templates and potential effects on neighbouring land need to be determined in advance and these standards have been incorporated into the submission, and accepted noise effects from TMTAs needs to be appropriately controlled within District Plans.

Manea Sweeney, Principal Planner at Tonkin & Taylor Limited Wellington, also provided written evidence in which she proffered that requiring the NZDF to seek controlled activity consent in the Rural Zone, and a discretionary or non-complying activity consent in any of the other zones, every time it sought to undertake a TMTA would not only result in unnecessary costs and inefficiencies in regards to consent processing, implementation and enforcement, but it would also potentially restrict NZDF from fulfilling its obligations under the Defence Act 1990. Instead, she considers that a specific Permitted Activity rule for TMTAs relating to all zones, with standards specifically relating to the effect that has the potential to have more than minor effects, being noise, is an effective planning mechanism that will enable NZDF to undertake these activities across different zones in the District, with the appropriate controls in place to manage and minimise adverse effects. She then undertook an assessment of the rule sought to be included in the Proposed Plan having regard to the matters set out in Section 32 of the RMA.

Material Tabled at the Hearing

Progressive Enterprises Ltd

M J Foster of Zomac Planning Solutions Ltd advised the Committee on behalf of Progressive Enterprises Ltd that his client was pleased with the recommendation to revise the activity status for any height exceedance to restricted discretionary. He also stated that while Progressive still considers that the same status should apply to signage, noise and transportation rules, it will not pursue a change in status any further.

MATTERS REQUIRING PARTICULAR CONSIDERATION

Temporary Military Training Activities

The NZDF in Submission 26.2 sought a separate permitted activity rule for Temporary Military Training Activities in all zones subject to specified noise limits included in the submission. Where such activities do not comply with the standards then a restricted discretionary activity rule was sought. Mrs Shirley in her Section 42A Report rejected this approach, and having regard to what she perceived were the effects of TMTAs recommended that resource consent be required to carry out TMTAs as a controlled activity in the Rural 1 Zone and as the default activity status in other zones.

At the hearing, witnesses for the NZDF gave an explanation of the activities undertaken so that the Committee could better appreciate the generated effects. The Committee found that particularly helpful and was accepting that there was merit in the approach being promoted, based on the distance between TMTAs and noise sensitive activities. However, within the setting of Invercargill with a dominance of low lying and relatively level topography, the Committee held concerns as to the full effect of firing activities at night. For activities between the hours of 0700 and 1900, the Committee accepted that the noise effects could be managed through noise limits, separation distances and the requirement for relevant information to be submitted to the Council. However, it did not agree that noise generating activities were appropriate at other times.

The Committee was also of the view that the various activities comprising TMTAs described by Mr Owen in his evidence were permitted to varying degrees in other zones, removing the need for TMTAs to be listed in those zones.

The Committee therefore resolved to provide for TMTAs within the Rural Zone, noting that as a consequence of Decision 35/20 the Rural 1 and 2 Zones were amalgamated, enabling explosive events and the firing of blank ammunition only between 0700 and 1900 hours on any given day.

This issue is discussed further in Decision 33 Noise.

SECTION 32 MATTERS

Requirements

The Committee was advised by Mrs Shirley that Section 32 of the RMA establishes the framework for assessing objectives, policies and rules proposed in a Plan, and that a Report was released at the time of notification of the Proposed Plan in compliance with those provisions. The Committee was also advised that Section 32AA of the RMA requires a further evaluation to be released with decisions outlining the costs and benefits of any amendments made after the Proposed Plan was notified, with the detail of the assessment corresponding with to the scale and significance of the environmental, economic, social, and

cultural effects that are anticipated from the implementation of the changes made to the Proposed Plan.

As the Committee understands its obligations, it is required to:

- (i) Assess any changes made to objectives to determine whether they are the most appropriate way to achieve the purpose of the RMA.
- (ii) Examine any changes made to the policies and rules to determine whether they are the most appropriate way to achieve the objectives of the Proposed Plan. This includes:
 - Identifying the costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the provisions (including effects on employment and economic growth)
 - Identifying other reasonably practicable options for achieving the objectives; and
 - Assessing the efficiency and effectiveness of the provisions in achieving the objectives.

The Committee however, is not required to assess in accordance with Section 32 of the RMA any changes to the issues and or explanatory text of provisions.

Assessment

Mrs Shirley In her Section 42A Report recommended a number of changes to the provisions of the Proposed Plan and assessed these against the provisions of Section 32AA of the RMA. Ms Sweeney also provided an assessment of the Section 32 matters in her evidence in relation to Temporary Military Training Activities. To the extent of changes contained in Appendix 1, the Committee agrees with these assessments and adopts them.

This decision makes a number of amendments to Objectives and Rules that differ from the recommendations in Mrs Shirley's Section 42A Report. These amendments are as follows:

- Amend Rule 3.13.3 by adding a new exception to the Noise rules.
- Replace Rule 3.13.10 with new provisions relating Temporary Military Training Activity.
- Adding Temporary Military Training Activities to the list of permitted activities under Rule 3.38.1.

The amendments to the Noise Rule 3.13 have been evaluated in Decision 33 Noise.

The Committee considers it is appropriate to provide for Temporary Military Training Activities in the Rural Zone. The reporting officer's recommendation was that these activities be considered controlled where any building erected is removed within 30 days and no earthworks are carried out, otherwise these activities would be considered to be discretionary. The Committee accepted the direction of the evidence received from the New Zealand Defence Force, however it considered that the relief sought should not be accepted in whole. Some aspects of TMTAs will be appropriate in different zones throughout the District and these will be considered as they arise. For example, medical and dental health services provided as a Military Training exercise fit within the definition of Health Care activities, and the activity status of these activities will be determined by the proposed location for that activity. There are urban environments where these activities are considered more appropriate than others. However, the Committee considers that the full range of TMTAs are appropriate as permitted activities only in the Rural Zone. This change

is not considered a significant departure from the advice of Mrs Shirley and as such it is not considered necessary or practical to evaluate in detail or quantify the economic, social, cultural, environmental and employment effects of the changes.

There is no Objective or Policy that relates specifically to TMTAs. The amenity values of the Rural Zone that are to be maintained and enhanced (2.40.2 Objective 2) are detailed further in the policies. Policy 3 seeks to avoid activities that do not have a need to locate in the Rural Zone that will result in adverse effects inconsistent with the function, character and amenity provided for by the Rural Zone.

The key difference between a permitted activity status, as set out in this decision, and controlled activity status, as promoted by Mrs Shirley, is the requirement for a resource consent. Controlled activities provide the opportunity for decision makers to view a proposal and assess the environmental effects of the matters specified as being subject to control in the rules, and also to impose conditions in relation to the specified matters. Permitted activity status will reduce the administration requirements for the New Zealand Defence Force when preparing to carry out TMTAs within the rural environment of Invercargill.

The adverse effect of most concern to the community in relation to TMTAs is noise. This will be managed through the noise provisions which control the hours of the day of explosive events and the firing of blank ammunition from TMTAs. The activities will also be subject to the other zone provisions.

In terms of risk, the Committee notes that these activities by their nature are temporary. They are mandated through the Defence Act 1990. The Committee recognises that TMTAs are vital exercises for the New Zealand Defence Force and that they are not carried out regularly in the Invercargill City District. The risks in permitting these activities in the rural environment are managed through environmental standards and noise controls. In this situation, the benefits of this approach outweigh the costs.

Dated at Invercargill this 11th day of October 2016



Councillor Darren Ludlow (Chair)



Councillor Neil Boniface



Councillor Graham Sycamore



Keith Hovell

APPENDIX 1 - DECISIONS BY SUBMISSION

Submission	Decision
<p>26.2 NZ Defence Force</p> <p>The submitter notes that although Temporary Military Training Activities are recognised in the District Wide noise rules (Rule 3.13.10), the Proposed Plan does not appear to actually permit the activity itself. The submitter supports Temporary Military Training Activities being given permitted status in all zones, subject to appropriate noise standards. The submitters considers that noise is the only effect with the potential to be more than minor, and therefore is the only effect that needs to be controlled by performance standards. The submitter considers that restricted discretionary activity status is appropriate for Temporary Military Training Activities that do not comply with the permitted noise standards. Noise is the only effect with the potential to be more than minor, and this can be appropriately assessed through listing this as a matter over which discretion is retained in a restricted discretionary.</p> <p><u>Decision Sought:</u> Include a separate permitted activity rule for Temporary Military Training Activities subject to specified noise limits (based on the criteria detailed in Submission 26.3) in all zones AND include a restricted discretionary activity rule for Temporary Military Training Activities that do not comply with specified noise limits, with noise being the only assessment criteria that the Council has restricted discretion over in assessing a resource consent application.</p>	<p>Decision 29/6</p> <p>This submission is accepted in part.</p> <p>Amendments to District Plan</p> <p>(i) In the Rural Zone add to the list of Permitted Activities in Rule 3.38.1:</p> <p style="padding-left: 20px;">(J) <u>Temporary Military Training Activities</u></p> <p>(ii) Replace Rule 3.13.10 Temporary Military Training with the following:</p> <p><u>Temporary Military Training</u></p> <p>(A) <u>Weapons firing and/or the use of explosives</u></p> <p style="padding-left: 20px;">(a) <u>Notice is provided to the Council at least 48 hours prior to the commencement of the activity, specifying whether the activity involves live firing and/or the use of explosives, or firing of blank ammunition; the location of the activity and the boundaries within which the activity will take place, and distances to buildings housing noise sensitive activities; and the timing and duration of the activity.</u></p> <p style="padding-left: 20px;">(b) <u>Weapons firing and the use of explosives is limited to between 0700 to 1900 hours.</u></p> <p style="padding-left: 20px;">(c) <u>The separation distance required between the boundary of the activity and the notional boundary to any building housing a noise sensitive activity shall be at least:</u></p> <p style="padding-left: 40px;">(i) <u>1,500 metres for the live firing of weapons and single or multiple explosive events</u></p> <p style="padding-left: 40px;">(ii) <u>750 metres for the firing of blank ammunition</u></p> <p style="padding-left: 20px;">(d) <u>Sound levels at any point within the notional boundary to any building housing a noise sensitive activity shall not exceed a peak sound pressure level of 120 dB L_{Cpeak}</u></p>

APPENDIX 1 - DECISIONS BY SUBMISSION

Submission	Decision								
	<p><u>(B) Noise from Mobile Sources</u></p> <p>Noise from mobile sources, including but not limited to personnel, light and heavy vehicles, self-propelled equipment and earthmoving equipment, shall comply with the noise limits set out in Tables 2 and 3 of NZS6803:1999 Acoustics - Construction Noise, with reference to "construction noise" referring to noise from mobile sources.</p> <p><u>(C) Noise from Fixed (Stationary) Sources</u></p> <p>Noise from fixed (stationary) noise sources, other than provided for in (A) above, including but not limited to power generation, heating, ventilation or air conditioning systems, or water or wastewater pumping/treatment systems shall not exceed the following when measured in accordance with NZS6801:2008 Acoustics - Measurement of Sound:</p> <p>(a) at any point within the notional boundary of any building housing a noise sensitive activity;</p> <p>(b) at any point within any land zoned Residential 1, 1A, 2 or 3 or Otatara.</p> <table border="1" data-bbox="1330 836 1856 983"> <thead> <tr> <th>Time</th><th>Noise Level</th></tr> </thead> <tbody> <tr> <td>0700 - 1900 hours</td><td>55 dB L_{eq}</td></tr> <tr> <td>1900 - 2200 hours</td><td>55 dB L_{eq}</td></tr> <tr> <td>2200 - 0700 hours the following day</td><td>40 dB L_{eq} 75 dB L_{Amax}</td></tr> </tbody> </table> <p><u>(D) Helicopter Landing Areas</u></p> <p>The operation of helicopter landing areas shall comply with the noise limits set out in NZ6807 Noise Management and Land Use Planning for Helicopter Landing Areas.</p> <p><u>Reasons:</u></p> <p>1. As set out on pages 2 - 3 of this Decision it is appropriate to provide for temporary military training activities in the Rural 1 Zone with adoption of the default rules in other Zones.</p>	Time	Noise Level	0700 - 1900 hours	55 dB L_{eq}	1900 - 2200 hours	55 dB L_{eq}	2200 - 0700 hours the following day	40 dB L_{eq} 75 dB L_{Amax}
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APPENDIX 1 - DECISIONS BY SUBMISSION

Submission	Decision
	<p>2. The distribution and character of activities within the Invercargill setting, and the geography of the land make it unsuitable to undertake explosive events outside of the hours 0700 - 1900.</p> <p>3. Decision 33/23 amends 3.13.3(B)(e) to exempt noise sources specifically listed in Rules 3.13.4 – 3.13.17 from the noise limits set out in 3.13.2. This exemption will cover noise from the noise sources covered in Rule 3.13.10 Temporary Military Training Activities.</p>
<p>31.1 R T Chapman</p> <p>The submitter states that "Recreational Activity" is defined in Section Four but is neither a permitted or discretionary activity in any zone and is therefore a non-complying activity. The submitter considers that Recreational Activity should be a permitted activity in every zone.</p> <p><u>Decision Sought:</u> Amend Section Three to provide for Recreational Activity to be a permitted activity in every zone.</p>	<p>Decision 29/7</p> <p>This submission is accepted in part.</p> <p>Amendments to District Plan</p> <p>(i) Delete the definition of "Recreational Activity".</p> <p>(ii) Amend definition of Communal Activity as follows:</p> <p>Means any activity carried out on land or in buildings where people gather for meetings, social, cultural or religious ceremonies and socialising including, but not limited to, <u>sport clubs</u>, movie theatres, night clubs, <u>video-arcades</u> <u>gaming centres</u>¹ and churches etc. This also means activities carried out on land or within buildings where people pay to watch sports, displays or other such activities. Communal activity includes, but is not limited to, ancillary sales of food, beverages and other retail items associated with the activity or event, but excludes such activities on reserve land and school sites, and² <u>Communal activity excludes</u> any such use associated with any residential activity, education activity, day care activity, commercial activity, recreation activity and commercial recreation activity.</p> <p>(iii) Amend the use of the term recreational activities on:</p> <ul style="list-style-type: none"> – Coastal Environment, Policy 5 Explanation (renumbered

¹ Minor amendment made under Clause 16(2) of the RMA First Schedule

² Decision 32/9



PROPOSED INVERCARGILL CITY DISTRICT PLAN

Decision No. 33

Noise

Hearings Committee

Councillor Darren Ludlow (Chair)

Councillor Neil Boniface

Councillor Graham Sycamore

Keith Hovell

11 October 2016

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INTRODUCTION

We have been appointed by the Invercargill City Council to consider and issue decisions on the submissions lodged to the Proposed Invercargill City District Plan. In this decision we consider the submissions lodged in relation to the Noise provisions in the District Plan.

The Resource Management Act 1991 sets out various matters that impact on our considerations and deliberations. The key provisions are Sections 5 - 8, 32, 75 and 76 of the Act, and the Second Part of the First Schedule to the Act. The Section 42A Report prepared for the Committee considered these matters in detail and we have had regard to those matters. Where the statutory provisions are of particular significance we have referred to them within this Decision.

In this Decision, the following meanings apply:

"The Council" means the Invercargill City Council.

"dB" means dB L_{Aeq} .

"Further Submitter" means a person or organisation supporting or opposing a submission to the Proposed Plan.

"FS" means Further Submission.

"Hearings Committee" means the District Plan Hearings Committee established by the Council under the Local Government Act.

"IAL" means Invercargill Airport Limited.

"Niagara" means Niagara Sawmilling Company Limited on behalf of Niagara Properties Ltd or Niagara Sawmilling Company Ltd.

"NZAS" means New Zealand Aluminium Smelters Limited.

"OCB" means the Outer Control Boundary.

"Oil Companies" means Z Energy Limited, BP Oil NZ Limited and Mobil Oil NZ Limited.

"Operative Plan" or "Operative District Plan" means the Invercargill City District Plan 2005.

"Proposed Plan" or "Proposed District Plan" means the Proposed Invercargill City District Plan 2013.

"RMA" means the Resource Management Act 1991.

"SESEB" means the Single Event Sound Exposure Boundary.

"Submitter" means a person or body lodging a submission to the Proposed Plan.

"VFS" means a Further Submission to a Variation.

At the commencement of the hearings, Crs Boniface and Ludlow declared an interest as Directors of PowerNet Limited, Cr Sycamore declared an interest as a Director of Invercargill City Holdings Limited and Commissioner Hovell declared a conflict of interest in relation to submissions lodged by Cunningham Properties Limited. The Councillors and Commissioner took no part in deliberations in relation to the submissions of the submitters referred to.

THE HEARING

The hearing to consider the submissions lodged to the matters set out in this decision was held in the Council Chambers of the Invercargill City Council on 28 April 2015.

At the commencement of the hearing Cr Sycamore declared a conflict of interest with regard to submissions lodged by Invercargill Airport Limited.

Section 42A Report

The Hearings Panel received a report from Liz Devery, Senior Policy Planner with the Invercargill City Council. In her report, Mrs Devery explained that the approach to noise issues is similar in the Proposed District Plan to that taken in the Operative District Plan. Both include a District wide standard, with related policies in the different Zones as part of the anticipated amenity values. Noise has also informed decisions on zoning. However, there are a number of changes in the Proposed District Plan which update the provisions and respond to noise issues that have arisen since the Operative District Plan became operative.

Mrs Devery referred to submissions relating to the terminology used within the Proposed Plan, and having regard to advice from Stuart Camp of Marshall Day Acoustics, which was appended to her report, she recommended changes to ensure that the provisions are enforceable, accurate and compatible with the relevant noise standards.

Mrs Devery set out that within the rural areas, rules aim to provide appropriate residential amenity around noise sensitive activities, rather than the farmland as a whole, with two separate noise limits – a reasonably lenient one at the zone boundary and one consistent with the residential rules at the notional boundary of any noise sensitive activity. She highlighted this seeks to ensure a reasonable degree of protection for rural sites adjoining noise producing areas, such as areas in the vicinity of the Smelter Zone or the Industrial 3 or 4 Zones.

Mrs Devery referred to the provisions within the Proposed Plan that recognise transportation infrastructure is important for the functioning of the District but also acknowledged that adverse environmental effects, such as noise, can result. For this reason, she said that provisions have been included within the Proposed Plan to protect the infrastructure from reverse sensitivity complaints and the rules require noise sensitive activities that locate near transportation corridors to be designed, located and constructed to prevent issues of reverse sensitivity arising. She added that submissions are supportive of the principles behind these provisions but raise a number of concerns about the detail. Arising from these submissions she has recommended a number of changes. This included recognising the vibration caused by rail operations but not to the extent sought by KiwiRail.

Mrs Devery noted that while the Proposed District Plan requires acoustic insulation for new and altered noise sensitive activities within the Single Event Sound Exposure Boundary (SESEB) and the Outer Control Boundary (OCB) of Invercargill Airport, Invercargill Airport Limited (submission 103.64) has sought an even more stringent rule framework. She accepted that within the SESEB the noise generated by airport activities has the potential to be significant and not conducive to a healthy living environment, but was of the view that within this area it was appropriate for noise sensitive activities that do not meet required acoustic insulation standards to be classed as a non-complying, rather than prohibited as requested by IAL. She also noted IAL owned most of the land within the SESEB. Within the OCB, she also considered it appropriate for noise sensitive activities that were new, or existing and being extended without meeting required acoustic insulation standards, to also be non-complying.

Mrs Devery described the proposed Business 1 Zone Entertainment Precinct, noting the Proposed Plan seeks to encourage mixed use development including restaurants, bars and nightclubs, together with residential activities which could be affected by noise from these other sources. She therefore supported the approach of allowing noise sensitive activities subject to ensuring that they were designed and developed to ensure that the living environment inside protected occupants from disruptive noise generated elsewhere. She

also noted that the technical drafting of the rules resulted in minor errors that required amending.

Mrs Devery also described ongoing issues arising from industrial activities at Kennington impacting on nearby residences. She referred to monitoring of the noise in Kennington that has established the noise limits in the Operative District Plan are not being met at the Industrial/Rural interface, and noted enforcement action has been taken against Niagara Sawmilling Ltd. Mrs Devery opposed changes sought by Niagara on the basis that the noise provisions seek to maintain a reasonable and healthy living environment for those residing in the rural area, but allow for a higher level of noise at the Zone boundary.

Stuart Camp of Marshall Day Acoustics, in his written report, provided comment on the changes required to correct the minor technical errors. In the context of the submission from KiwiRail Holdings Limited he expressed concern at the complex task required to predict ground-borne vibration as it is highly dependent on both the rail and surrounding ground conditions. This required on-site measurement and he did not consider the cost of this was warranted, noting that many detached houses are located close to rail lines and the rail vibration appears to be tolerated. Mr Camp felt however for multi-storey buildings design controls were warranted to mitigate the effects of vibration.

Mr Camp considered the submissions from the Kennington area, expressing the view that Niagara was in error in describing as new the need for noise from a site in the Industrial 3 Zone to comply with the relevant limits of all surrounding sites. He noted this rule is in the Operative Plan and is not changing. He said what has changed however is the permitted noise level at the notional boundary of any noise sensitive activity in an adjoining zone, being reduced from 45 dB to 40 dB. Mr Camp strongly opposed any deletion of such a rule stating the approach adopted is important to retain the amenity at rural dwellings.

In response to questions from the Committee, Mr Camp stated that the framework for rules applying to temporary military training activities as promoted by the NZ Defence Force was overly complex, given that there were no NZDF bases in Southland. He noted that such activities are undertaken infrequently in the area and given their short term nature he was not aware of any complaints having been received. He agreed a specific rule was required where firing of guns was taking place, but for other activities he considered the approach of the Proposed District Plan requiring compliance with the general rules to be appropriate. Mr Camp also advised the Committee that shooting ranges had been listed as a discretionary activity because there was no one set of standards or rules that could apply to that activity and any proposal would need to be assessed having regard to what was proposed and its location.

Submitters Attending the Hearing

Federated Farmers

Ms Tanith Robb appeared on behalf of Federated Farmers of New Zealand, reading a statement prepared by David Cooper, Senior Policy Adviser for Federated Farmers.

Mr Cooper supported the recommendations in the Report and the amending of Rule 3.13.3 to exempt noise from livestock kept as part of agricultural activities from the noise limits. He also supported other changes recommended which referred to livestock noise, noting that certain farming activities such as weaning can temporarily exacerbate noise from livestock and this needed to be recognised and provided for.

Niagara Sawmilling Company Limited

Rex Chapman of Crulckshank Pryde appeared on behalf Niagara Sawmilling Company

Limited, together with Ross Richardson, Managing Director of Niagara, and David Blue, Property Manager. Mr Chapman noted reference should be made to "Niagara Sawmilling Company Limited" rather than "Niagara Properties Limited" which appears in the Section 42A Report¹. He then presented a written synopsis of his submissions which were based on advice the company had received from Dr Jeremy Trevathan of Acoustic Engineering Services in relation to the noise provisions in the Proposed Plan.

Mr Chapman read the report from Dr Trevathan in which he concluded that the proposed rules are significantly more restrictive on Niagara than what is in the Operative Plan. In his view the day-time limit measured at the zone boundary will not be more lenient than at present as stated by Mr Camp, rather it would remain at 65 dB, while the night-time limit will not remain unchanged, rather it will be reduced from 65 dB to 45 dB. Dr Trevathan considered that the new standards are likely to be unachievable. He also noted that measurement is also required at the notional boundary of dwellings and while this is an appropriate method of protecting rural amenity a 5 dB reduction was also occurring during both day and night to 50 dB and 40dB respectively. As houses are closer to the Niagara site and the noise characteristics different to those assumed by Mr Camp compliance with this rule is also problematic.

Dr Trevathan referred to the ongoing noise mitigation measures being undertaken on the site and indicated that further constraints would be difficult to achieve and may not be practical. He then referred to NZS 6802:2008 *Acoustics - Environmental Noise and Guidelines for Community Noise* which promotes a noise limit of 55 dB during day-time and 45 dB at night-time for "the reasonable protection of health and amenity associated with the use of land for residential purposes". This document also indicates that a night-time noise limit of 40 dB is more stringent than is required to protect sleep disturbance.

Dr Trevathan ended his report with the following statement:

Generally we consider a limit of 45 dB L_{Aeq} during the night time period to be adequate to protect sleep disturbance (rather than 40 dB L_{Aeq}). In the case of the Niagara site, it is worth considering whether the new noise limits will aspire to a level of amenity which is inconsistent with the current environment.

Mr Chapman added that the mitigation works undertaken by Niagara had resulted in compliance with the current night-time limit of 45 dB for those properties to the east of the plant, but a further reduction to 40 dB would not be achievable. For those properties to the south of the mill the company is confident it can achieve the existing 45 dB standard with initiatives currently in place, but a requirement to reduce noise further would be a step too far.

Mr Chapman then referred to Policy 8 for the Rural Zones noting the explanation recognises that the Rural 1 Zone is a working environment and is also affected by major transport infrastructure including the railway. It was his submission that the proposed rules were not seeking to protect existing amenity values but significantly enhance them. He went on to submit that the intent should not be to enhance the amenity in rural areas but maintain it. He considered the Section 42A Report prepared by Mr Watt on amenity values supported this approach and he had recommended changes to Objective 4 of the Industrial 3 Zone to reflect that.

¹ The submission (94) and further submission (FS49) received were both officially lodged by "Niagara Properties Ltd". A search of the Companies Register identified that this company does exist. Council staff advised Mr Chapman by email following the Hearing that the change of title should be formally corrected. At the date of this report, no further response on this issue has been received.

In reply to questions from the Committee, Mr Chapman explained that existing use rights would be difficult to argue because the plant does not operate 24/7 at all times. Any change in hours or installation of new machinery would likely go beyond existing use rights. Mr Blue added that the issue for nearby residents was to ensure compliance with the limits of the Operative Plan and there was no talk about reducing the limits further.

Rex Chapman requested a further report be sought from the Council's advisers to clarify and respond to the Acoustic Engineering Services Report, with an opportunity for the submitter to make further comment to the Council.

Quenton Stephens

Quenton Stephens made a verbal presentation to the Committee, explaining that he has lived at Kennington since 2008. After several years living there he noted that Niagara started increasing the days of production, including Saturdays and Sundays, and also the hours each day. He considers that creates a nuisance and causes health issues for him and his family. He explained that he allowed his boundary hedge to thicken and double glazed his house in an attempt to reduce the noise impact. Mr Stephens wanted clarity on the rules and their enforcement so that the company and the public had certainty as to the impacts of this industrial activity.

In reply to questions from the Committee, Mr Stephens advised that since the company commenced mitigation works on average there has been a reduction in noise but that is an average and there was no consistency in the hours of operation and noise levels, and on occasion no compliance with the noise rules after 10:00 pm.

Invercargill Airport Limited

Claire Hunter, Senior Resource Management Consultant of Mitchell Partnerships Limited appeared together with Chloe Surridge, IAL General Manager; Joe O'Connell IAL Board Chair and Stephen Peakall, acoustician with Marshall Day Acoustics.

Mr Peakall provided written evidence describing the provisions of NZS 6805:1992 *Airport Noise Management and Land Use Planning*, including recommendations in the Standard that:

- New noise sensitive activities within the Outer Control Boundary (OCB) be prohibited where practical, "unless a district plan permits such uses, subject to a requirement to incorporate appropriate acoustic insulation to ensure a satisfactory internal noise environment.
- All noise sensitive activities should be prohibited within the Airnoise Boundary (ANB).

Mr Peakall noted that the OCB covers different land use zones and that there would be an expectation that dwellings are permitted within the proposed Residential 1 and Otatara Zones. He did not see this as desirable and it should be avoided because it could give rise to reverse sensitivity issues, but if it did occur it should only be allowed if appropriate acoustic installation is installed both for new noise sensitive activities and expansion of existing ones.

Within the ANB Mr Peakall believed that the current approach of prohibiting all noise sensitive activities (as stated in the Airnoise Boundary designation) should be continued. The noise levels experienced within this area are unacceptably high and sound insulation will not fully mitigate the effect. For the same reason he is also of the view that all noise sensitive activities should be prohibited within the Single Event Sound Exposure Boundary (SESEB).

Mr Peakall also discussed comments made in the Section 42A Report with regard to definitions, expressing the view that workplace education schemes are part of normal office or workshop activities and therefore not strictly a noise sensitive activity and need not be provided for. Similarly some tertiary education facilities can also potentially be accommodated provided all activities were confined to acoustically insulated buildings, although in Invercargill there is probably no need for these within the SESEB.

Ms Hunter provided written evidence reiterating the main points made by Mr Peakall and supporting the submissions of IAL which were seeking to avoid reverse sensitivity issues. She referred to a "discussion document" prepared by IAL referenced in the Section 42A Report, noting that this had no statutory status and should not be had regard to by the Committee.

Ms Hunter explained that the intent of the IAL submission with the Rural, Industrial and Business zones is to prohibit any new noise sensitive activities within the airport noise contours so as to avoid any reverse sensitivity effects. She stated that given the purpose of these zones there was no need for these uses in those zones. She opposed the non-complying status recommended in the Section 42A Report.

Ms Hunter referred to the growing number of complaints and queries from residents in Otatara that have occurred as further residential development has occurred in that area, particularly when circuit training takes place at night from the flight training school. It was her view that in Otatara and residential areas, dwellings that were not acoustically insulated to the required standard should be prohibited. She considered that providing non-complying activity status gave a false sense that an application may be granted, when in her view it never should. Ms Hunter in reply to questions expressed concern that if the activity was not prohibited and an application was lodged the Council may process it without regard to IAL. She also indicated that affected persons had the opportunity of opposing the approach by way of a further submission, and none had been lodged.

Ms Hunter acknowledged that the changes recommended to 2.24.3 Policy 5 went some way to recognising reverse sensitivity effects, but she preferred the wording in the IAL submission. She also considered that Rule 3.13.13(B) should be deleted as it duplicated a condition of the IAL designations which had the status of a rule.

The differences between the submissions lodged to the OCB and SESEB and what was recommended in the Section 42A Report was attached in table form in an appendix to the evidence of Ms Hunter.

In reply to questions from the Committee Ms Hunter described that it was the main sleeping and living areas which were the most sensitive to airport noise. Service areas, kitchen areas separate from lounges, bathrooms, sheds and garages did not require such a quiet environment and acoustic insulation of these was not critical. She went on to suggest that the key was in the wording of the rules, with acoustic insulation being vital within "critical noise environments" with the trigger point being at the building consent stage. Ms Surridge added that while no specific issues had arisen in the past, IAL considered it vital to include provisions in the Proposed Plan to avoid future problems, particularly given the pressures for growth within Otatara and the surrounding rural area.

New Zealand Defence Force

Rob Owen, Environmental Manager within the Defence Property Group, provided written evidence in which he stated that temporary military training activities are essential and in many respects are identical to training activities carried out by other emergency services such as NZ Police, NZ Fire Service, the various ambulance services and Search and Rescue. In his view, noise resulting from the discharge of ammunition or explosives is the only effect of temporary military training activities that warrants specific management through the District Plan.

Mr Owen outlined the various activities undertaken by NZDF, which included driver training, medical and dental services, camp setup, including field kitchens and ablutions, Improvised Explosive Device Disposal (IEDD) exercises, dog training and what might be more conventionally understood by the term military training. He added that TMTAs may be undertaken over a period of days or weeks on an intermittent or continuous basis, during both day and night.

Mr Owen also explained that TMTAs are typically planned well in advance and, that for activities undertaken on land not owned by NZDF, time is required to secure landowner agreement. He added that in the case of training involving weapons firing and the use of explosives, safety templates and potential effects on neighbouring land need to be determined in advance. He indicated that appropriate standards have been incorporated into the NZDF submission to provide adequate protection to neighbours, particularly from explosive noise.

Manea Sweeney, Principal Planner at Tonkin & Taylor Limited Wellington also provided written evidence in which she proffered that requiring NZDF to seek controlled activity consent in the Rural Zone, and a discretionary or non-complying activity consent in any of the other zones every time it sought to undertake a TMTA would not only result in unnecessary costs and inefficiencies in regards to consent processing, implementation and enforcement, but it would also potentially restrict NZDF from fulfilling its obligations under the Defence Act 1990. Instead, she considers that a specific Permitted Activity rule for TMTAs relating to all zones, with standards specifically relating to noise, which could have more than minor effects, is an effective planning mechanism that will enable NZDF to undertake these activities across different zones in the District, with the appropriate controls in place to manage and minimise adverse effects. She then undertook an assessment of the rule she sought to be included in the Proposed Plan having regard to the matters set out in Section 32 of the RMA.

Material Tabled at the Hearing

H W Richardson Group

Megan Justice of Mitchell Partnerships Limited in a written statement of evidence stated that H W Richardson Group supported the recommendation in relation to their submission.

South Port NZ Ltd

Claire Hunter of Mitchell Partnerships Limited advised that South Port is satisfied with the recommendations in the Council Officer's report.

New Zealand Fire Service Commission

Alex Strawbridge of Beca advised that the Fire Service supported the content of the Section 42A Report, in particular the provision of an exemption of "warning devices" used by emergency services from the standard noise limits.

New Zealand Aluminium Smelters Limited

Ben Williams of Chapman Tripp advised that NZAS supports the recommendations in the Officer's report, in particular the recommendation for Rule 3.13.2 that the notional boundary rule alone is applied to NZAS in respect of the Rural Zone.

Harvey Norman

Laura Swan at Haines Planning Consultants Limited advised that Harvey Norman was satisfied with the recommendation in relation to their submission point 28.7.

THE HEARING FOR VARIATION 2

The hearing to consider the submissions lodged to Variation 2 was held in the Council Chambers of the Invercargill City Council on 14 March 2016.

At the commencement of the hearing Cr Sycamore declared a conflict of interest with regard to submissions lodged by Invercargill Airport Limited.

Section 42A Report

The Hearings Committee received a report from Liz Devery, Senior Policy Planner at the Invercargill City Council with respect to Variation 2. In that report Mrs Devery outlined the intent of Variation 2 was to:

- (i) Consult on a proposal to remove the hours of operation applying to the Industrial 1 and 1A Zones. While this had been recommended in response to submissions on the Proposed District Plan having regard to the issues raised in the submissions, the Council considered it appropriate to provide a further opportunity for input by way of a variation.
- (ii) The Proposed Plan required in the Rural 1 and 2 Zones a night time noise limit at the notional boundary of 40dB L_{Aeq} , while the Operative District Plan adopted 45dB L_{Aeq} . The Variation sought to revert back to the standard in the Operative District Plan, and also review the policies for the Rural 1 and 2 Zones to provide consistency with the rules.

Mrs Devery advised the Committee there is a misconception that the Variation will increase the noise limits adjacent to Industrial areas from those that are currently in force. However, she explained that under the Operative District Plan industrial areas are zoned Enterprise where the noise limits permitted up to 65dB both day and night and while the night time noise limits proposed by the Variation are higher than what was originally notified in the Proposed Plan, they are significantly lower than the current situation. She added the Variation will enable activities to generate up to 50dB L_{Aeq} at the property boundaries but retains the 40dB L_{Aeq} limit at the Residential Zone boundary.

She also stated the Variation seeks to balance enabling light industries to continue to operate 24 hours a day while protecting the residential communities that reside in the neighbouring areas. It is her opinion that the 40dB L_{Aeq} limit would have precluded many activities in the Light Industrial Zones from operating during the night time.

Submitters Attending the Variation Hearing

Niagara Sawmilling Company Limited

Christine McMillan of Bonisch Consultants, together with David Blue of Niagara, in an oral presentation advised the Committee that Niagara supported Variation 2 and the change to the night time standards. She also noted that the area surrounding the company's site was a working environment zoned rural, rather than a traditional residential zone.

Quenton Stephens and Regina and Barry Stephenson

Quenton Stephens in a written statement expressed disappointment that the Council was doing a U-turn from its previous position of protecting residents at Kennington from undue noise. He was of the view that the Council was bowing to industrial pressure by changing the rule. He requested that the 40dBA level be retained.

In reply to questions from the Committee, Mr Stephens Indicated that operations occur between 6.00 am through to 10.00 pm, but on some occasions later. He added that now there is a baby residing at the house loss of sleep is a greater issue than before. It is of particular concern to him that there is a set of rules that should be followed but they are not.

Graeme Todd, legal counsel for the submitters, forwarded written submissions referring to the severe impact of the Niagara activities on the adjoining residential amenity and expressing the frustration of the residents at the Council's failure to take appropriate enforcement action. He also noted that the NZ Standard suggests a night-time level of between 30dBA and 45dBA and what is proposed is at the highest point of this. Mr Todd also referred to Objective 2 of the Rural 1 Zone that sought to maintain and enhance amenity values and as a consequence the changes proposed to the policy framework is inappropriate.

Clair Hikawai

Clair Hikawai in a written statement outlined that she is opposed to any increase in noise levels and hours of operation, particularly at night. She outlined that she had installed soundproof batts in the walls of her bedroom in her property in Etrick Street, given that double glazing had been insufficient to reduce noise to an acceptable level from the Blue River Dairy factory.

Ms Hikawai also expressed concern at lack of progress over more than a year in reducing noise levels from the factory which was located on the opposite side of the road to her house. She also expressed concern for all people that live in a similar situation and comments in the Section 42A Report that suggested "theoretically" her property should not be affected by noise.

Paul Ellis and Jayson Payne

Paul Ellis make a verbal presentation to the Committee expressing anger at the noise problems from the Blue River Dairy factory over the past ten years. It has resulted in him buying and shifting to a new property, but he has been unable to sell his existing house because of noise. He was also frustrated by the lack of progress by the Council in managing noise from the site, and was of the view that Council favoured business ahead of residents. As a result, he opposed the revised rules which provided for an increase in allowable noise levels and considered the Blue River Dairy factory to be a heavy industry that was unsuited to its current location, with the major problems arising once milk powder drying was allowed on the site.

Jason Payne added that he held similar concerns with regard to the operation and the expansion that had taken place in recent years.

In reply to a question from the Committee, Mrs Devery explained that the current operation was able to establish and expand on the site by virtue of the Enterprise zoning in the Operative District Plan. Existing use rights provided for a continuation of the use, notwithstanding that under the Proposed Plan it would require resource consent approval.

Amy Iverson

Amy Iverson in a written statement described that as a resident of Fox Street she was concerned with the noise from the former showgrounds development, particularly from forklifts loading trucks and general traffic. She considers this will only get worse as more development occurs there and as a result she is opposed to any increase in the noise limits and hours of operation. In her view the status quo should remain.

Material Tabled at the Variation Hearing

Environment Southland

Gavin Gilder, Resource Planner at Environment Southland, advised by email that Environment Southland agreed with the content of the Section 42A Report.

Oil Companies

Karen Blair of Burton Consultants Limited advised in a written statement of the support of the Oil Companies for the Variation and the Section 42A Report. However, she stated, the Oil Companies had sought in their original submission a night time noise limit of 65dBA measured at any other site within the Industrial 1 and 1A Zones, while applying 50dBA at the residential interface.

Ms Blair also referred to the comment on page 37 of the Section 42A Report that changes had previously been recommended to the definition of "light industry". That change was also supported.

New Zealand Defence Force

By way of letter the NZ Defence Force advised of its support for the Variation and referred to the matters contained in its original submission.

MATTERS REQUIRING PARTICULAR CONSIDERATION

Airport Issues

IAL has sought provisions in the Proposed Plan relating specifically to the management of noise sensitive activities affected by the airport noise contours. Within areas affected by the airport noise contours IAL seeks to prohibit new noise sensitive activities and require existing buildings containing noise sensitive activities to be appropriately designed to mitigate the effects of aircraft noise. IAL also seeks prohibited activity status where the appropriate design standards are not met.

Mrs Devery in her Section 42A Report stated that following consultation with IAL provision was made in the Proposed Plan requiring acoustic insulation for new and altered noise sensitive activities within the SESEB and the OCB. She noted that this requirement applied only to the SESEB in the Operative District Plan. She also stated that the general framework of the rules in the Proposed Plan was derived from a discussion document prepared by IAL.

Mrs Devery acknowledged that within the SESEB the noise generated by airport activities has the potential to be significant and not conducive to a healthy living environment, including disruption to sleep. The SESEB overlays areas zoned Rural 1, Otatara, Industrial 1, Industrial 2, Business 3 and Residential 1. It also includes land designated for the Invercargill Prison. In the Proposed Plan as notified, noise sensitive activities that do not meet the acoustic insulation requirements are a non-complying activity. In addition, noise sensitive activities are also non-complying in the Industrial 1 and 2 and the Business 3 Zones.

Mrs Devery noted that for areas within the SESEB the Rural 1 Zoned land is largely owned by IAL, apart from a portion of land for three properties, none of which have noise sensitive activities within the SESEB. Mrs Devery accepts that where residential uses are sought within the Rural 1 land within the SESEB they should be considered as a non-complying activity. However, residential development and other noise sensitive activities are permitted within the Residential 1 and Otatara Zones and Mrs Devery agrees with IAL that the establishment of new noise sensitive activities, or alteration to any existing noise sensitive activity, should be a permitted activity only if subject to noise insulation requirements. However, she does not agree that where the noise insulation requirements are not met that prohibited activity status should apply. Rather she prefers non-complying status.

Mrs Devery outlined that within those parts of the OCB outside of the SESEB IAL seeks to prohibit noise sensitive activities in Zones where these activities are not otherwise permitted. They have also sought to prohibit noise sensitive activities within the Rural 1 Zone and there are at least ten properties within this area that are owned by parties other than IAL. It is the view of Mrs Devery that prohibiting noise sensitive activities within the OCB in the Rural 1 Zone is not appropriate, but that requiring them to be insulated is.

Within the Business 3, Industrial 1 and Industrial 2 Zones, noise sensitive activities are not otherwise permitted. These types of activities are non-complying in the Proposed Plan and Mrs Devery believes this is appropriate. Within the Residential 1 and Otatara Zones noise sensitive activities are permitted. Mrs Devery agrees that within the OCB requiring these types of activities to include noise attenuation should be required, but, again considers that non-complying activity status is appropriate where this attenuation is not provided.

At the hearing, Mr Peakall referred to NZS 6805:1992 *Airport Noise Management and Land Use Planning*, and the recommendation that new noise sensitive activities within the OCB be prohibited where practical, "unless a district plan permits such uses, subject to a requirement to incorporate appropriate acoustic insulation to ensure a satisfactory internal noise environment".

The Committee noted too the comments from Ms Hunter referring to the growing number of complaints and queries from residents in Otatara and that providing non-complying activity status gave a false sense that an application may be granted, when in her view it never should.

In considering the status of dwellings and other noise sensitive activities within the areas identified in the Proposed Plan as being affected by airport operations, the Committee accepted that the content of the discussion document referred to in the Section 42A Report was not a relevant matter and has given no weight to it. It did however consider the reference to it as relevant in so far as it helped explain the development of the provisions in the Proposed Plan.

The Committee also noted that there was no dispute as to the status of new noise sensitive activities within the Airnoise Boundary. This was subject to a designation of IAL and such

activities are prohibited within that area as part of the restrictions applying to the designation. The Committee also noted that Decisions 21/21 and 21/37 provided for Noise Sensitive Activities to be prohibited within the Airport Operations and Airport Protection Zone due to the excessive noise levels present in those areas.

The Committee had regard to the request of IAL to list all noise sensitive activities as prohibited within zones where they were not permitted. It is the view of the Committee that such an approach is not appropriate. The various rules in the Proposed Plan provide for different noise sensitive activities in varying ways. For example, in the Rural Zone, Residential and Home Stay activities are permitted, along with small-scale Residential Care activities and existing Educational activities. Visitor accommodation, Healthcare, Hospital and Marae activities are discretionary activities, alongside certain Educational and Residential Care activities. A blanket prohibition on all noise sensitive activities is not practical.

It is the view of the Committee that regard must be given to the effect that is sought to be managed. In the case of noise, amenity and health can be retained by the adoption of appropriate acoustic installation. In that regard the Committee concluded that the status of noise sensitive activities that did not provide the required acoustic insulation, should remain non-complying.

The Committee saw no merit in the arguments of IAL that it may be excluded from the resource consent process if Council staff concluded that IAL was not an affected person, and that IAL was reluctant to participate as a party in the consenting process. It is clear that a consent arising from a rule that refers to activities at Invercargill Airport will require consultation with IAL. To reinforce that, an addition is being made to the information to be submitted with a resulting resource consent requiring details to be provided of consultation with IAL and any response received. It is the view of the Committee that this will adequately address the concerns of IAL.

Ms Hunter also proffered that persons affected by the IAL submissions could have lodged a further submission in opposition, and as they had not then there was no legal impediment in the Council adopting the approach sought by IAL. The Committee accepts that the correct legal procedure had been followed, but also considered there was an issue of fairness in that it is highly likely that none of the affected parties were actually aware of the IAL submissions or its implications. The Committee was aware that good practice adopted elsewhere by submitters was to serve a copy of submissions on affected persons so that they can then make an informed decision on whether they wish to formally respond.

Kennington and Night-Time Noise Limits

The Committee is aware of the history of ongoing issues associated with noise from the Niagara Sawmilling Company Limited operations at Kennington. Notwithstanding action taken by Niagara to mitigate the effects of noise generated from the site, residents living nearby advise they still have problems and are also concerned that the provisions in the Proposed District Plan will reduce the standards that must be complied with. Niagara on the other hand has lodged submissions on the basis that the Proposed Plan introduces a more restrictive regime than what has applied in the past.

Mrs Devery, with input from Mr Camp, advised the Committee the noise provisions in the Proposed Plan are consistent with those in other plans around the country and with the relevant New Zealand Standards. The amenity values of the Rural 1 Zone² were, in their

² It is noted that the Rural 1 Zone will now be encompassed into the Rural Zone in line with Decision 35.

opinion, such that low levels of ambient noise are anticipated, although some other noise is anticipated in relation to agricultural and transportation activities. It was stated that it is not anticipated that the rural area will be subject to industrial noise.

Mrs Devery referred to Section 2.40.2 Objective 2 that seeks to maintain and enhance the amenity values of the Rural 1 Zone. In her view, this is appropriate in terms of the Part II of the RMA. She went on to say the noise policy in the Industrial 3 Zone gives effect to the Objectives, by recognising that the adjacent zone may have lower ambient noise expectations. She believes the rules are an effective and efficient means of meeting the Objectives and Policies and in addressing the resource management issues. The provisions provide for moderate levels of noise in the rural areas up to the notional boundary of dwellings, and in this way the amenity of residential use is protected.

Dr Trevathan in a written statement presented to the Committee in his absence, and in support of the submission of Niagara, referred to the ongoing noise mitigation measures being undertaken on the site and indicated that further constraints would be difficult to achieve and may not be practical. He then referred to NZS 6802:2008 *Acoustics - Environmental Noise and Guidelines for Community Noise* which promotes a noise limit of 55dB during day-time and 45dB at night-time for "the reasonable protection of health and amenity associated with the use of land for residential purposes". This document also indicates that a night-time noise limit of 40dB is more stringent than is required to protect sleep disturbance. Mr Chapman on behalf of Niagara then submitted that the proposed rules were not seeking to protect existing amenity values but significantly enhance them.

At the outset the Committee wishes to record that it is the role of the Proposed Plan through the objectives, policies and rules to set out the noise provisions that are appropriate within the various parts of the City District. The noise limits in the Plan take into account the potential for conflict between residential activities in the Rural Zone and noise generating activities in other zones by adopting rules applying to zone boundaries and notional boundaries of noise sensitive activities. If activities are not complying with the rules provided, then consideration is required as to whether enforcement action should be taken. Any concerns with regard to industrial activities that are not complying with either the District plan provisions, or conditions of a resource consent, are more appropriately considered in that context. Resolution of noise issues at Kennington and other areas cannot be resolved through the District Plan review process.

The Committee also notes that there was disagreement between the noise experts for the Council and Niagara but considered the issue before it was to determine the appropriate provisions that should be included in the Proposed Plan, and in that regard it concluded the structure of the proposed rules providing for a dualistic approach measuring sound at the zone boundary and the notional boundary of dwellings to be sound and appropriate for the Invercargill setting.

The Committee did however reach the view that the noise levels experienced within the rural environment, particularly at night were not pristine, and that it was not appropriate to achieve a night time noise level of a higher standard than that recommended by NZS 6802:2008 *Acoustics - Environmental Noise and Guidelines for Community Noise*, which promotes a noise limit of 55dB during day-time and up to 45dB at night-time for "the reasonable protection of health and amenity associated with the use of land for residential purposes". In that regard the Committee agreed with Niagara that the night-time noise limit of 40dB within the Rural Zone was inappropriate, but not just in the Kennington area, but throughout the District. For this reason, Variation 2 was notified amending the night-time noise limit when measured at the notional boundary of any noise sensitive activity in the Rural Zone from 40dB to 45dB. The Committee however did not accept that the noise limits within the rural areas surrounding the Niagara plant should be the same as within the Industrial 3 Zone. It

agreed with the assessment of Mrs Devery that 65dB is in excess of the World Health Organisation recommendation for healthy living environments and that it is not appropriate to permit such noise levels in living environments within the Proposed District Plan. The notional boundary provisions are designed to allow for a greater level of noise from adjoining activities, but to also protect those living and working within the Rural Areas. In other respects, the Committee considered the noise provisions should stay as notified.

Temporary Military Training Activities (TMTAs)

The NZDF sought a separate permitted activity rule for TMTAs in all zones subject to specified noise limits included in the submission. Where such activities do not comply with the standards then a restricted discretionary activity rule was sought.

Mrs Devery in her Section 42A Report rejected this approach, stating that in her view the District Plan should include provisions that control the potentially adverse effects arising from TMTAs, in particular the noise created by firing of weapons and the use of equipment. The provisions need to balance this control while acknowledging the role of these types of activities. She added that in her view the noise standards should be relatively simple, with the notified rule being more user friendly than the relief sought by the submitter. Advice received from Mr Camp referred to there being a number of flaws in the relief sought by the submitter that will make enforcement of the provision difficult.

Rob Owen and Manea Sweeney on behalf of the NZDF provided an explanation of the activities associated with temporary military training, including an assessment of relevant matters under Section 32 of the RMA, which the Committee considered very helpful. This reinforced the view of the Committee reached in considering the submissions in Decision 29/6 where it accepted that there was merit in the approach being promoted, based on the distance between TMTAs and noise sensitive activities. However, within the setting of Invercargill with a dominance of low lying and relatively level topography, the Committee held concerns as to the full effect of firing activities at night. While the Committee accepted that the submission of relevant information to the Council, as set out in the relief sought, together with the separation distances and noise limit promoted, was adequately managing the noise issues between 0700 and 1900 hours within the Rural Zone, it did not agree that noise generating activities were appropriate at other times. The Committee therefore resolved to provide for TMTAs within the Rural Zone, enabling explosive events and the firing of blank ammunition only between 0700 and 1900 hours on any given day.

The Committee was also of the view that the various activities comprising TMTAs described by Mr Owen in his evidence were permitted to varying degrees in other zones, removing the need for TMTAs to be listed in those zones.

SECTION 32 MATTERS

Requirements

The Committee was advised by Mrs Devery that Section 32 of the RMA establishes the framework for assessing objectives, policies and rules proposed in a Plan, and that a Report was released at the time of notification of the Proposed Plan in compliance with those provisions. The Committee was also advised that Section 32AA of the RMA requires a further evaluation to be released with decisions outlining the costs and benefits of any amendments made after the Proposed Plan was notified, with the detail of the assessment corresponding with to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the changes made to the Proposed Plan.

As the Committee understands its obligations, it is required to:

- (i) Assess any changes made to objectives to determine whether they are the most appropriate way to achieve the purpose of the RMA.
- (ii) Examine any changes made to the policies and rules to determine whether they are the most appropriate way to achieve the objectives of the Proposed Plan. This includes:
 - Identifying the costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the provisions (including effects on employment and economic growth)
 - Identifying other reasonably practicable options for achieving the objectives; and
 - Assessing the efficiency and effectiveness of the provisions in achieving the objectives.

The Committee however, is not required to assess in accordance with Section 32 of the RMA any changes to the issues and or explanatory text of provisions.

Assessment

Mrs Devery in her Section 42A Report recommended a number of changes to the rules in the Proposed Plan. She assessed each of these having regard to the provisions of Section 32 of the RMA, concluding that all were desirable and would achieve the relevant objectives and policies of the Proposed Plan. The Committee agrees with that assessment and adopts it.

This Decision also makes changes to Business 3 Zone Policy 5 and to Rules 3.13.11, 3.13.13, 3.13.16 and 3.13.17. These amendments are as follows:

- Business 3 Zone Policy 5 Noise – Deletion of (C).
- Rule 3.13.11B(b) Activities Near Transport Corridors – Redrafting of the rule.
- Rule 3.13.13 Temporary Military Training – An amendment to include rules on firing of weapons, noise from mobile sources, noise from fixed sources and helicopter landing areas.
- Rule 3.13.16 Invercargill Airport Operations – Deletion of (B) specifying restrictions on aircraft noise within the Air Noise Boundary.
- Rule 3.13.16 Invercargill Airport Operations– Deletion of (C)(a) specifying permitted activity status for activities which comply with Appendix VI.
- Rule 3.13.17 Activity Status and Matters of Consideration – A new matter has been added when considering activities breaching the vibration limits along the railway.
- Rule 3.13.7 Activity Status and Matters of Consideration - Redrafting of the matters of consideration.

These changes differ to Mrs Devery's recommendations and therefore require further assessment under Section 32AA.

Section 32AA Further Evaluation

The detail of this Section 32AA assessment is reflective of the scale of the amendments. The amendments being assessed by this evaluation are considered to be of a minor scale and significance, and therefore it is not necessary or practical to quantify in detail the economic, social, cultural, environmental and employment effects of these changes.

Business 3 Zone Policy 5 Noise – Deletion of (C)

A new policy has been added to the Business 3 Zone which recognises that some parts of the Zone are subject to higher levels of noise generated by the transportation network. This Policy was a recommendation of Mrs Devery which has been adopted by the Committee. As a consequence of this change the Committee has deleted Policy 5(C) to remove duplication between provisions. It is considered that the new policy better reflects the issue and that the deletion of Policy 5(C) will provide for a more user friendly Plan.

Rule 3.13.11B(b) Activities Near Transport Corridors – Redrafting of the Rule

In the Section 42A Report, Mrs Devery recommended including a new rule specifying a base line model to use in the assessment of noise attenuation for activities close to the railway and state highways. The Committee has accepted this recommendation but has redrafted the rule recommended by Mrs Devery. It is considered that the changes made by the Committee simplify the rule but do not alter its outcome, and will ultimately aid plan users. It is not anticipated that any significant adverse effects will arise as a result of this change.

Rule 3.13.13 – Temporary Military Training Activities - Amendment to include rules on firing of weapons, noise from mobile sources, noise from fixed sources and Helicopter Landing Areas.

This decision redrafts the noise rules relating to temporary military training activities. The rule has been made more specific to the different types of activities and noise sources specifically that of firing of weapons, noise from mobile sources, noise from fixed sources and helicopter landing areas. It is considered that this change provides the right balance between controlling adverse effects and providing the NZDF with the ability to fulfil their obligations under the Defence Act 1990. It is not anticipated that any significant adverse effects will arise as a result of this change.

Rule 3.13.16 (previously 3.13.13) Invercargill Airport Operations – Deletion of (B) and (C)(a)

The Committee has deleted Rule 3.13.16(B) to avoid unnecessary duplication between the District Plan and the IAL designation.

Rule 3.13.16(C)(a) has also been deleted. The Committee is of the opinion that this provision was misleading, allowing activities that may not otherwise be permitted by the Zone Rules. Its deletion does not change the outcome of the rule, as permitted activity status is implied if compliance with Rule 3.13.16(C)(b) is achieved.

These changes will provide a more streamlined and user-friendly plan by removing rules which are in effect superfluous. No negative effects will arise as a result of these amendments. Due to the minor scale of this change, no further evaluation is considered necessary.

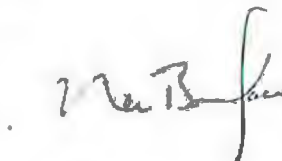
Rule 3.13.17 Activity Status and Matters of Consideration - New matter of consideration for activities breaching the vibration limits along the railway and minor redrafting.

Mrs Devery recommended the inclusion of a new rule on vibration in the railway network corridor. The Committee has accepted this recommendation and as a consequence of this new rule has added additional matters which are to be included with an application for resource consent. Some redrafting of the matters listed for consideration by the Council when assessing an application for resource consent has also occurred. These changes are minor in scale and will benefit plan users by aiding applicants in the resource consent process. It is not considered that any adverse effects will arise as a result of these amendments.

Dated at Invercargill this 11th day of October 2016

A handwritten signature in blue ink, appearing to be 'D. Ludlow', with a long horizontal stroke extending to the right.

Councillor Darren Ludlow (Chair)

A handwritten signature in blue ink, appearing to be 'N. Boniface', with a stylized 'N' and 'B'.

Councillor Neil Boniface

A handwritten signature in blue ink, appearing to be 'G. Sycamore', with a stylized 'G' and 'S'.

Councillor Graham Sycamore

A handwritten signature in blue ink, appearing to be 'K. Hovell', with a stylized 'K' and 'H'.

Keith Hovell

APPENDIX 1 - DECISIONS BY SUBMISSION

Submission	Decision
<p>90.24 H W Richardson Group Ltd Support 3.13.9 Activities Near Transport Corridors. The submitter considers that noise sensitive activities that locate near transport corridors should be designed, sited and constructed to prevent issues of reverse sensitivity arising. Retain Rule 3.13.9.</p> <p>FS28.17 NZ Transport Agency support Submission 90.24 agreeing that noise sensitive activities locating in close proximity to transport corridors should be designed, sited and constructed to prevent potential reverse sensitivity issues.</p>	<p>Decision 33/33 This submission is noted.</p> <p>Amendments to District Plan None required.</p> <p><u>Reason:</u> The submitter supports the provision and seeks no change to it.</p>
<p>26.3 NZ Defence Force Oppose 3.13.10 in part. The submitter wishes to ensure that the noise standards included in the Proposed District Plan are up-to-date, appropriate for the type of noise generated and relatively simple to understand and assess compliance with. In doing so the submitter has developed revised noise control standards to control noise effects from Temporary Military Training Activities that it is seeking to have included in District Plans nationwide. The replacement noise standards proposed by the submitter are attached to the submission and focus on compliance at dwellings, residentially zoned sites and buildings used for residential, education or healthcare purposes.</p> <p><u>Decision Sought:</u> That the noise standards attached to this submission be included for Temporary Military Training Activities in all zones.</p> <p>FS30.26 Southern District Health Board support Submission 26.3 stating the new rules are consistent with approach nationwide and necessary for nationally important activities while affording reasonable protection to the health and amenity of people and communities in the vicinity of such temporary activities.</p> <p>117.37 Southern District Health Board Support 3.13.10 in part. The submitter believes that the provisions need to be amended to ensure that they utilise the correct terminology to be consistent with the rest of the Plan and the measurement and assessment standards cited. The submitter states that description of the explosives noise metric frequency is inaccurate and contradictory stating that there is no frequency weighting</p> <p><u>Decision Sought:</u> Support subject to amendment:</p> <p>a. In (B) Replace "noise levels shall not exceed" with "sound levels within any other Zone or at any point within the notional boundary of any noise sensitive activity on another site, shall not exceed"</p>	<p>Decision 33/34 This submission is accepted in part.</p> <p>Amendments to District Plan Replacing Rule 3.13.10 as provided for by Decision 29/6.</p> <p><u>Reasons:</u></p> <ol style="list-style-type: none"> 1. As set out on pages 2 - 3 of Decision 29 it is appropriate to provide for temporary military training activities in the Rural Zone with adoption of the default rules in other Zones. 2. The distribution and character of activities within the Invercargill setting, and the geography of the land make it unsuitable to undertake explosive events outside of the hours 0700 - 1900. 3. The changes sought by SDHB have where appropriate been incorporated into Decision 29/6.

APPENDIX 1 - DECISIONS BY SUBMISSION

Submission	Decision
<p>b. Replace L10 with "$L_{Aeq(15min)}$" in the table</p> <p>c. In the proviso under the table delete the phrase "non-frequency weighted"</p>	
<p>101.9 NZ Fire Service Commission Oppose 3.13.11 in part. The submitter believes that the exemption in (B) should be extended to include warning devices associated with emergency service training activities to allow for the drills and training activities it carries out on its sites</p> <p><u>Decision Sought:</u> Amend 3.13.11 to read:</p> <p>(B) Sound from warning devices used by emergency services are exempt from all noise limits, <u>this includes warning devices associated with emergency service training activities</u></p> <p>FS2.41 NZAS Ltd support Submission 101.9 to exempt warning devices associated with emergency service training activities from the noise limits</p> <p>FS30.27 Southern District Health Board support Submission 101.9 and considers that an appropriate amendment enabling the safety of the community should be promoted.</p>	<p>Decision 33/35 This submission is accepted.</p> <p>Amendments to District Plan Amend 3.13.11(B) (renumbered as 3.13.14(B) as a result of decisions) as follows:</p> <p>(B) Sound from warning devices used by emergency services, <u>including warning devices associated with emergency service training activities</u>, are exempt from all noise limits.</p> <p><u>Reason:</u> The suggested addition clarifies the scope of the exception.</p>
<p>103.63 Invercargill Airport Ltd Support 3.13.11. The submitter considers it appropriate to permit aircraft operations for use during emergencies. Retain 3.13.11 as notified</p> <p>117.38 Southern District Health Board Support 3.13.11. The submitter supports the provisions as this is essential for the health and safety of people and communities and notes that emergency landing of aircraft are outside the scope of the RMA being within CAA jurisdiction. Retain 3.13.11 as notified.</p>	<p>Decision 33/36 These submissions are noted.</p> <p>Amendments to District Plan None required.</p> <p><u>Reason:</u> The submitters support the provision and seeks no change to it.</p>
<p>117.39 Southern District Health Board Support 3.13.12 Temporary Activities/Events in part. The submitter raises concern that the possibility of continuous activity at one location over six days may not be sustainable if there are noise sensitive activities nearby, so intermittency on one site should be limited. The submitter notes that the intermittency frequency is a matter for local governance.</p>	<p>Decision 33/37 This submission is accepted.</p> <p>Amendments to District Plan Amend Rule 3.13.12(C) (renumbered as 3.13.15(C) as a result of decisions) as follows:</p> <p>There are no more than six events (days) on the site in any one calendar year <u>provided</u></p>

APPENDIX 1 - DECISIONS BY SUBMISSION

Submission	Decision
<p>neighbourhood undermining residential property values, and peace and tranquillity. The submitter believes that Industrial 1 properties that share a boundary with residential zones need to have different rules in place to protect residential amenity values.</p> <p><u>Decision Sought:</u> More stringent noise control and dB limits for Industrial Zones that border residential zones.</p> <p>V6.1 Mark T MacKenzie Oppose. The submitter is concerned about the effects of increasing the noise levels from 40dB to 50dB on adjoining residential areas. The submitter believes that there should be a buffer between residential areas and industrial areas.</p> <p><u>Decision Sought:</u> Undertake a citywide initiative to gradually remove light industrial zoning where only a road separates it from residential areas. Existing businesses could continue with the current limitations but would be encouraged to move to more appropriate, well-defined and sufficiently buffered areas such as the old Showgrounds area and the Bluff Road/Awarua areas.</p> <p>The submitter also seeks the retention of the hours of operation and not to increase the noise levels to 50dB_{L_{Aeq}}</p> <p>VFS2.4 and VFS2.6 Blue River Dairy LP oppose Submissions V4.1 and V6.1. The further submitter supports retention of the changes to the Proposed District Plan as promoted by way of Variation 2 as originally notified.</p>	<p>3. Issues related to enforcement are subject to separate processes outside of the District Plan review process.</p>
<p>V9.2 New Zealand Defence Force Oppose in part. The submitter is concerned that the noise provisions subject to this Variation do not reflect the relief sought in their original submission for Temporary Military Training Activities. The submitter has developed provisions for noise emitted by Temporary Military Training Activities that it is seeking to have included in district plans nationwide.</p> <p>The submitter's submission includes the detail for their preferred provisions, with minor amendments to the relief sought in their original submission for the Proposed District Plan. The provisions proposed by the submitter focus on compliance at dwellings, residentially zoned sites and buildings used for residential, educational or healthcare purposes and can be applied across all zones.</p> <p>In summary, the submitter proposes standards that divide noise sources from</p>	<p>Decision 33/48 These submissions are rejected.</p> <p>Amendments to District Plan None required.</p> <p><u>Reasons:</u></p> <ol style="list-style-type: none"> 1. The matters raised by the submitter are not relevant to Variation 2. 2. The issue of Temporary Military Training Activities is considered on page 11 of this Decision and Decision 33/34 above together with General Issues Decision 29/6.

APPENDIX 1 - DECISIONS BY SUBMISSION

Submission	Decision
<p>Temporary Military Training Activities into three categories. Each of the three categories is considered to have difference noise characteristics, and therefore a different set of standards for controlling noise.</p> <p><u>Decision Sought:</u> Include a new provision in 3.13 Noise to address noise from Temporary Military Training Activities as set out in the submission.</p> <p>VFS1.1 Southern District Health Board supports in part Submission V9.2 but the relief requires amending to align with what the Southern District Health Board seeks in its own submissions.</p>	
<p>V16.1 Quenton Stephens Oppose. The submitter opposes the Variation. Retain the noise provisions as notified as part of the Proposed District Plan process.</p> <p>17.1 G C and H V McLellan Oppose. The submitter objects to the increase in noise level.</p>	<p>Decision 33/49 These submissions are rejected.</p> <p>Amendments to District Plan None required.</p> <p><u>Reasons:</u></p> <ol style="list-style-type: none"> 1. The rural areas of the Invercargill District comprise a working rural environment, which together with transport routes contributes to an amenity which is not pristine. As a consequence, it is appropriate to adopt a night time noise standard at the upper end of that recommended in NZS 6802. 2. The provisions in the Proposed Plan as modified by Variation 2 are more restrictive than those of the Operative Plan, and represents an appropriate balance between maintaining and enhancing amenity values enjoyed by the community and providing for economic activities.
SECTION TWO – ISSUES, OBJECTIVES AND POLICIES	
2.40.3 Policy 8 Noise and 2.41.3 Policy 7 Noise	
<p>V9.1 New Zealand Defence Force Support 2.40.3 Policy 8 Noise and 2.41.3 Policy 7 Noise. The submitter considers the amended wording of the policies reflects the nature of the rural environment, where higher noise levels can be expected in certain parts of the zone, resulting from activities expected in the Rural zones.</p> <p>The submitter considers that the amendments to the policies provides greater</p>	<p>Decision 33/50 These submissions are noted.</p> <p>Amendments to District Plan None required.</p> <p><u>Reasons:</u></p> <ol style="list-style-type: none"> 1. The original submitters support the provisions in Variation 2 and

APPENDIX 1 - DECISIONS BY SUBMISSION

Submission	Decision
<p>direction when assessing the potential amenity effects on sensitive receivers from activities, and is less prescriptive than the previous wording.</p> <p><u>Decision Sought:</u> Retain 2.40.3 Policy 8 and 2.41.3 Policy 7 as notified as part of the Variation.</p> <p>V5.2 Niagara Sawmilling Company Ltd Support 2.40.3 Policy 8 Noise. The submitter supports the removal of the wording 'low daytime ambient noise levels and lower night time' and the addition of the wording 'to protect health, and amenity of noise sensitive activities' on the grounds that the amendment removes the ambiguity of wording. Retain 3.13.2(A) as notified as part of the Variation</p> <p>V18.1 Southern District Health Board Support 2.40.3 Policy 8 Noise and 2.41.3 Policy 7 Noise. The submitter considers that, in the context of the proposed amended plan, the policy is more sustainable and consistent with section 5 of the Resource Management Act 1991.</p> <p>Retain the Policies as notified as part of the Variation subject to any amendments to like effect arising from the consolidation, reordering or expansion of like provisions in this section or elsewhere in the plan, or consequential amendments to this proposed section as a result of decisions on other parts of the Plan.</p> <p>VFS3.2 Quenton Stephens and Regina Stephenson oppose Submission V5.2 and the removal of the wording "low daytime ambient noise levels and lower night time" and the addition of "protect health and amenity of noise sensitive activities". The submitter does not believe that there is ambiguity in the Proposed Plan, and that the wording proposed will add ambiguity.</p>	<p>seek no change to them.</p> <ol style="list-style-type: none"> 2. The amended wording of the Policies better reflects the expectations in relation to noise within the rural environments. 3. The wording adopted does not introduce ambiguity but allows for a reasonable range of activities to be carried out in the rural areas whilst also protecting the health and wellbeing of those living and working within these parts of the District.

- 70 dB $L_{Aeq(1\text{ hour})}$ up to 12 metres
- 67 dB $L_{Aeq(1\text{ hour})}$ between 12 and 24 metres
- 61 dB $L_{Aeq(1\text{ hour})}$ between 24 and 40 metres

Note: Compliance with this Rule must be achieved concurrently with any Building Code ventilation requirements.¹⁰¹

3.13.13 Vibration in Rail Network Corridor¹⁰²

Any new building exceeding two storeys, or additions in excess of 25m² to an existing building exceeding two storeys, used for a noise sensitive activity that is within 40 metres of the closest railway track shall be designed and constructed to ensure that the following levels of vibration from trains shall not be exceeded based on the procedures set out in the Norwegian Standard NZ 8176E: 2nd-edition September 2005 Vibration and Shock Measurement of Vibration in Buildings from Land Based Transport and Guidance to Evaluation of its Effects on Human Beings.

<u>Receiving Environment (New relocated or altered)</u>	<u>Class C criterion: Maximum Weighted Velocity, Vw,95</u>
Noise Sensitive activities	0.3mm/s

3.13.140 Temporary Military Training¹⁰³

~~(A) — Other than for the use of firearms or explosives, noise levels as a result of temporary military training activities are not to exceed the noise levels set out in the noise standards above (Rule 3.13.2) for the surrounding zone(s).~~

~~(B) — For the use of firearms or explosives, noise levels shall not exceed:~~

Time on any day	L_{10}-dB	L_{max}-dB
0730—1800	75	90
1800—2000	70	85
2000—0730 the following day	55	75

~~Provided the limits for impulsive noise arising from any use of explosives ammunition, or pyrotechnics at any time, shall not exceed a peak non-frequency weighted sound pressure level of 122 dBC (peak).~~

(A) Weapons firing and/or the use of explosives

(a) Notice is provided to the Council at least 48 hours prior to the commencement of the activity, specifying whether the activity involves live firing and/or the use of explosives, or firing of blank ammunition; the location of the activity and the boundaries within which the activity will take place, and distances to buildings housing noise sensitive activities; and the timing and duration of the activity.

¹⁰¹ Decision 33/32

¹⁰² Decision 33/10

¹⁰³ Decision 29/6

- (b) Weapons firing and the use of explosives is limited to the hours of 0700 to 1900 hours.
- (c) The separation distance required between the boundary of the activity and the notional boundary to any building housing a noise sensitive activity shall be at least:
 - (i) 1,500 metres for the live firing of weapons and single or multiple explosive events.
 - (ii) 750 metres for the firing of blank ammunition.
- (d) Sound levels at any point within the notional boundary to any building housing a noise sensitive activity shall not exceed a peak sound pressure level of 120 dB L_{Cpeak} .

(B) Noise from Mobile Sources

Noise from mobile sources, including but not limited to personnel, light and heavy vehicles, self-propelled equipment and earthmoving equipment, shall comply with the noise limits set out in Tables 2 and 3 of NZS6803:1999 Acoustics - Construction Noise, with reference to "construction noise" referring to noise from mobile sources.

(C) Noise from Fixed (Stationary) Sources

Noise from fixed (stationary) noise sources, other than provided for in 1 above, including but not limited to power generation, heating, ventilation or air conditioning systems, or water or wastewater pumping/treatment systems shall not exceed the following when measured in accordance with NZS6801:2008 Acoustics - Measurement of Sound:

- (a) at any point within the notional boundary of any building housing a noise sensitive activity;
- (b) at any point within, any land zoned Residential 1, 1A, 2 or 3 or Otatara.

<u>Time</u>	<u>Noise Level</u>
<u>0700 - 1900 hours</u>	<u>55 dB $L_{Aeq}(15 mins)$</u>
<u>1900 - 2200 hours</u>	<u>55 dB $L_{Aeq}(15 mins)$</u>
<u>2200 - 0700 hours</u>	<u>40 dB $L_{Aeq}(15 mins)$</u>
<u>the following day</u>	<u>75 dB L_{AFmax}</u>

(D) Helicopter Landing Areas

The operation of helicopter landing areas shall comply with the noise limits set out in NZ6807 Noise Management and Land Use Planning for Helicopter Landing Areas.

3.13.4415 Emergencies

- (A) Aircraft operations for defence purposes, civil defence, search and rescue, medical emergency or during any emergency landing of any aircraft, are exempt from all noise limits.

of any consultation undertaken with the New Zealand Fire Service and the response received.²⁴⁹

3.38 RURAL 4-ZONE

3.38.1 Permitted Activities: The following are permitted activities in the Rural 4-Zone:

- (A) Agriculture
- (B) Animal boarding activity
- (C) Educational activity on sites listed in Appendix V - Educational Activity (Existing)
- (D) Home occupation
- (E) Home stay
- (F) Residential activity
- (G) Residential care activity limited to a maximum of eight persons
- (H) Roadside sales activity, other than on State Highways
- (I) Veterinary clinic

(J)²⁵⁰ Temporary Military Training Activities

(K) On the land legally described as

(i) Crowe Road (Part Section 45 Block XIV Invercargill Hundred),

(ii) 159 Crowe Road (Lot 32 Block II DP 64, Lot 3 DP 10900, Lot 33 Block II DP 64, Part Section 36 Block XIV Invercargill Hundred SO 284, Part Section 35 Block XIV Invercargill Hundred SO 284),

(iii) 1 Crowe Road (Lot 1 DP 386107, Lot 2 DP 10900, Lot 5 DP 10900) and 183 Steel Road (Lot 4 DP 10900),

the disposal of liquid and solid waste associated with meat processing activities undertaken on land legally described as:

Part Sections 26 – 28, 32, 50 – 58 and 61 Block XIV Invercargill Hundred

Part Sections 1 and 2 Block XL Town of Wallacetown

Part Section 1 Block XL Town of Wallacetown

Lots 2, Part Lot 3 and Lot 4 DP 2156

Lots 1 - 3 DP 6857

Lot 4 DP 6863²⁵¹

²⁴⁹ Decision 7/24

²⁵⁰ Decision 29/6

²⁵¹ Decision 38/38

3.38.2 Discretionary Activities: The following are discretionary activities in the Rural ~~4~~ Zone:

- (A) Commercial recreation activity
- (B) Communal activity
- (C) Education activity other than those on sites listed in Appendix V - Educational Activity (Existing)
- (D) Essential services
- (E) Habilitation centre
- (F) Healthcare activity
- (G) Hospital activity
- (H) Marae activity
- (I) Nursery activity
- ~~(J)~~ ~~Residential activity~~²⁵²
- ~~(K)~~ Residential care activity for nine or more persons
- ~~(L)~~ Roadside sales activity on State Highways
- ~~(M)~~ Service stations
- ~~(N)~~ Visitor accommodation

3.38.3 Non-complying Activities: The following are non-complying activities in the Rural ~~4~~ Zone:

- (A) Any activity not listed as either permitted or discretionary.

Space around Buildings²⁵³

3.38.4 A yard ~~of~~ at least four metres deep shall be provided ~~on~~ along all side and rear boundaries of any non-residential activity.

3.38.5 A yard ~~of~~ at least 20 metres deep is required ~~for~~ between plantation forestry activities and any site boundary.

3.38.6 Where an activity does not comply with Rules 3.38.4 or 3.38.5 above, the activity is a discretionary activity.

3.38.7 Applications under Rule 3.38.6 above shall address the following matters, which will be among those taken into account by the Council:

²⁵² Decision 35/17

²⁵³ Decision 34/28

ANNEXURE E

A list of names and addresses to be served with a copy of this notice

A list of names and addresses to be served with a copy of this notice

Amy M Iverson 12 Fox Street Invercargill 9810	Mark T MacKenzie 110 Nith Street Invercargill 9812
Ballance Agri-Nutrients Ltd Private Bag 12503 Tauranga Mail Centre Tauranga Attn: Warwick Catto, Nigel Sadlier, S Miles and Gavin Kemble warwick.catto@ballance.co.nz nsadlier@ballance.co.nz enquiries@ryderconsulting.co.nz k.edlin@ryderconsulting.co.nz b.malcon@ryderconsulting.co.nz s.miles@ryderconsulting.co.nz	McDonalds Restaurants (NZ) Ltd C/- Barker and Associates Ltd PO Box 1986 Shortland Street Auckland 1140 Attn: Matt Norwell and Hannah Whittle mattn@barker.co.nz hannahw@barker.co.nz
Barry R Munro 73 Weka Street Invercargill 9810	Michael and Michelle Grantham 27 Kennington Road Kennington Invercargill 9871 michellemike27@xtra.co.nz
Blue River Dairy LP C/- Opus International Consultants Ltd Opus House 65 Arena Avenue Invercargill 9840 Attn: Luke McSoriley	Niagara Properties Ltd C/- Bonish Consultants PO Box 1262 Invercargill 9840 admin@bonischconsultants.co.nz
Bruce Maher 115 Marama Avenue South RD 9 Invercargill bandbamaher@xtra.co.nz	Niagara Sawmilling Company Ltd PO Box 524 Invercargill 9840 Attn: Christine McMillan
Clair E Hikawai 116 Nith Street Invercargill 9812	NZ Fire Service Commission C/- Beca Ltd PO Box 3942 Wellington 6140 Attn: Alexandra Strawbridge Alexandra.strawbridge@beca.com
Dean and Leona Evans 21 Kennington Road Kennington	NZ Transport Agency PO Box 5245 Moray Place

Invercargill 981 d.levans@xtra.co.nz	Dunedin Attn: Tony MacColl tony.maccoll@nzta.govt.nz
Federated Farmers PO Box 176 Invercargill 9840 Attn: Tanith Robb and David Cooper trobb@fedfarm.org.nz dcooper@fedfarm.org.nz	New Zealand Aluminium Smelters Ltd C/- Chapman Tripp PO Box 993 Wellington 6140 Attn: Ben Williams ben.williams@chapmantripp.com hadleigh.pedler@chapmantripp.com
G C and H V McLellan 242 Tiwai Road Invercargill 9877	Paul E Ellis 14 Drury Lane Invercargill 9810
H W Richardson Group Ltd C/- Mitchell Partnerships PO Box 489 Dunedin 9054 Attn: Megan Justice and Joanne Dowd megan.justice@mitchellpartnerships.co.nz joanne.dowd@mitchellpartnerships.co.nz	Quenton Stephens 29 Kennington Road Kennington Invercargill 9871 quenton.stephens@opus.co.nz
Harvey Norman Properties (NZ) Ltd and Harvey Norman Stores (NZ) Pty Ltd C/- Haines Planning Consultants Ltd PO Box 90842 Victoria Street West Auckland 1142 Attn: Laura Swan laura.swan@hainesplanning.co.nz	Regina and Barry Stephenson 30 Rimu Road Kennington RD 1 Invercargill 9871
Hector McKinnel 114 Nith Street Invercargill 9812	Shanan De Garnham 31 Kennington Road Kennington Invercargill 9871 sparkssurf@yahoo.co.nz
ICC Environmental and Planning Services Private Bag 90104 Invercargill Attn: Judith Christie judy.christie@icc.govt.nz	South Port NZ Ltd C/- Mitchell Partnerships PO Box 489 Dunedin 9054 Attn: Kirsty O'Sullivan and John Kyle kirsty.osullivan@mitchellpartnerships.co.nz john.kyle@mitchellpartnerships.co.nz

ICC Environmental Health and Compliance Services Private Bag 90104 Invercargill Attn: John Youngson john.youngson@icc.govt.nz	Southern District Health Board C/- Public Health South PO Box 1601 Invercargill 9840 Attn: Dr Leanne Liggett Leanne.liggett@southerndhb.govt.nz
Invercargill Airport Ltd C/- Mitchell Partnerships PO Box 489 Dunedin 9054 Attn: Kirsty O'Sullivan kirsty.osullivan@mitchellpartnerships.co.nz	Todd Meikle 81 Colyers Island Road Green Hills Invercargill 9877
Jayson A Payne 143 Ettrick Street Invercargill 9812	Trevor Thayer PO Box 370 Invercargill 9840 trevor@ttval.co.nz
Jeanette Bullock 17 Kennington Road Kennington Invercargill 9871 fontra@kinect.co.nz	Vibrant Invercargill 36 Don Street Invercargill Attn: Joan Scarlett vibrant@ihug.co.nz
Kiwirail Holdings Ltd PO Box 593 Wellington 6140 Attn: Rebecca Beals Rebecca.beals@kiwirail.co.nz	William Fraser 25 Kennington Road Kennington Invercargill 9871 fraserdom@vodafone.co.nz
Kylie Fowler 322 Gore Street Bluff 9814	Z Energy, BP Oil NZ Ltd, Mobil Oil NZ Ltd (Oil Companies) Burton Planning Consultants Ltd PO Box 33817 Takapuna Auckland 0740 Attn: Karen Blair
L O'Callaghan 137 Tanner Street Invercargill 9810	