Ministry for the Environment
Manatū Mō Te Taiao

Proposed National Planning Standards evaluation report 2018

Part 2D – Noise and Vibration Metrics

Evaluation for the proposed first set of National Planning Standards

New Zealand Government

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Context to this document

This document forms part of the *Evaluation Report for the Proposed National Planning Standards*. This document should be read in conjunction with the other documents that make up the report as a whole. The *Evaluation Report for the Proposed National Planning Standards* report is set out as follows:

Contents

1 Introduction to metrics

Metrics are standards of measurement for a variety of aspects ranging from simple matters (like length or area) to more complicated matters, such as noise and radio frequency. In regard to district and regional plans, metrics are typically part of a rule and are accompanied by thresholds that indicate if a use or development is permitted or requires a particular level of consent.

The Ministry for the Environment considered how the National Planning Standards (planning standards) could provide a more consistent approach to the metrics in plans to improve the user friendliness and give plan users certainty as a result of consistent plan interpretation. Standardised metrics could also result in time and cost savings for people working across council boundaries, as well as councils themselves that spend significant time developing metrics. Standardised metrics could free up councils and practitioners to focus on core resource management issues by reducing the time spent developing, implementing and defending metrics.

Standardising metrics would impose costs on local authorities that will need to review and update their plans. However, these initial costs could be expected to be offset by the associated benefits that occur over time as a result of national consistency.

A discussion paper[1] on potential metrics was released in May 2017. The paper identified the following four metric themes for potential inclusion in the first set of planning standards: earthworks, noise, light spill, and building bulk and location. Feedback on this paper was received in the practitioner workshops that occurred in June and July 2017 and in submissions on the discussion paper.

The workshops and feedback on the metric topic paper also found that there was potentially support for other metrics (including noise) to be included planning standards. A transportation metric (covering car parking sizes, turning circles and vehicle sightlines) in particular was seen as more useful than an earthworks metric. Any of these topics will require careful research and or specialist input before they are applied as national metrics.

Noise metrics are used frequently in council plans but are inconsistently used, formatted and described. There is large variation in of noise levels, ways to measure, timeframes within which to measure, where to measure from and hours of the day to which noise levels apply. It is considered benefits could be derived from standardisation of noise metrics. The Acoustical Society of New Zealand was willing to assist with the development of noise metrics and provided the necessary technical input into this topic area. Noise metrics were therefore chosen as a metric to be standardised in the first set of National Planning Standards. The rest of this section is focused the noise and vibration metrics standard.

[1] Ministry for the Environment. 2017. *National Planning Standards: Metrics (how things are measured) – Discussion paper I*. Wellington: Ministry for the Environment.

2 Introduction to the noise and vibration metrics standard

Acoustics metrics themselves are standardised through the New Zealand Standards (NZS) system. For example NZS 6801:2008 defines 'basic quantities to be used for the description of sound in community environments and describes procedures for the measurement of these quantities'.

The NZSs are periodically updated to reflect changes in technology and best practice. The differences between versions can vary greatly in terms of the real world environmental effects that are experienced. Metrics are commonly found in plans developed under the Resource Management Act 1991 (RMA) and typically form part of a rule accompanied by thresholds in which activities must comply. The metrics being used in plans are often outdated or have been superseded and do not reflect the latest NZS. This is partly due to their highly technical nature, and the requirement for a Schedule 1 of the RMA (Schedule 1) process to update metrics. Consequently, across plans there are inconsistencies in how up-to-date metrics are. This means that an activity may comply with the noise rules of one plan and not another, solely due to the way the effects (for example, noise) are measured and not the actual levels themselves. This translates into resource costs for users of multiple plans as they are required to translate the effects of an activity into two different metrics.

Under the RMA, managing the effects of noise is a function of territorial authorities. There are a number of New Zealand acoustical standards (NZSs) around how noise should be measured and assessed. Some of these NZSs have been amended over time to reflect changes in what is considered best practice. The NZSs are often used or referred to in district plans, resource consent conditions and designation conditions.

The NZSs and the noise measurement and assessment methodologies in the NZS 6801 and 6802 are often used or referenced by territorial authorities in district plans. NZS 6801 and 6802 were superseded in 2008 and 1999.

The acoustic NZSs have been developed and amended over time to:

- be consistent with technical advances in measurement equipment
- reflect advances in understanding how sound is best measured to reflect the experiences that people have with noise sources.

3 Description of acoustic standards

NZS 6801 and 6802 are the standards that generally cover the measurement and assessment of noise sources. Other New Zealand acoustical standards apply to specific noise sources such as:

- construction noise
- port noise
- airport noise
- wind farm noise
- helicopter landings
- road traffic noise.

Our research shows that some district plans still contain rules and definitions based on versions of the NZS that are now obsolete.[2]

L_{10} has been used as a measure for transient sounds. The main issue with the use of L_{10} is that for transient sounds the dBA level recorded does not necessarily correlate well with the adverse effect of the sound. The L_{10} is the level exceeded for 10 per cent of the measurement period. The most common measurement period is 15 minutes. This means that any sound that is present for less than 90 seconds during the 15 minutes will not be captured by an L_{10} measurement. However, that noise could actually be very disruptive. For example, on a site where one or two heavy vehicles start up and drive off the every 15 minutes all day and night, the L_{10} level reported will not include the sound from these vehicles and therefore will be unrealistically low, though the environmental effects of the activity could be substantial.

Advances in measurement equipment have also been reflected in amendments to NZSs. Outdated versions of the acoustic NZSs used analogue sound level meters to take sound measurements. Analogue meters had a needle that moved back and forth to give a sound level reading. Unless the sound level was constant, the needle would always be moving. A 'time above' statistical measure like L_{10} was more practical with an analogue meter, as one could note down the sound level at consistent intervals to give an approximate value for L_{10}. This meant that it was practically impossible to determine an accurate L_{eq} level for varying sound until technological advances (integrating sound level meters) became commonplace. So technology in part may be why the L_{10} became common. The metric L_{eq} is used in the more recent NZS, and better reflects how people experience noise effects. The L_{eq} (energy average) noise level correlates more closely with people's likely subjective response to the noise, and is consistent with international guidelines.

There are some New Zealand Standards for specific activities such as ports, airports and wind farms. Operators of these activities have had some difficulty in ensuring the most relevant New Zealand Standard is applied to their activity when noise effects are being measured and assessed.

Despite being more appropriate metrics the adoption of both the more recent acoustic standards and the more specific standards has been slow due to the requirement for a Schedule 1 plan change to update rules and references to new standards, which can be time

[2] Boffa Miskell. 2015. *RMA District Plan Definitions.* Prepared for the Ministry for the Environment by Boffa Miskell. Wellington: Ministry for the Environment.

consuming and costly for councils. Including these noise metrics in the National Planning Standards expedites the adoption of the more suitable metrics.

Waiting for territorial authorities to complete their ten-year reviews of plans or initiate specific plan changes is not an efficient way for councils to adapt their plans to reflect new versions of the NZS. Territorial authorities usually require advice from acoustical engineers to amend their plans to reflect changes to New Zealand Standards 6801 and 6802. This duplication of advice is unnecessary for councils, and places an unnecessary burden on Acoustical Society of New Zealand, who have already worked collaboratively to develop the technical requirements of the NZSs.

4 Statutory context

4.1 Sections 6, 7 and 8

There are no section 6 or 7 matters, and no section 8 principles that are relevant to this topic.

4.2 Sections 58C and 58G

This standard is not considered to be a minimum requirement under section 58G for the first set of standards, but is within the scope of section 58C, which enables the National Planning Standards (planning standards) to specify objectives, policies and methods in policy statements and plans, and rules in any plan. The planning standards can also require local authorities to include specific provisions in their policy statements and plans. The approach taken in this planning standard is that the way in which the plan provisions (rules) are to be included in the plan is being set by the planning standards, but the planning standard is not going as far as specifying exact provision that must be included.

4.3 Section 16 of the RMA

Under section 16 of the RMA there is a duty for everyone to manage their activities to avoid unreasonable noise. The RMA enables plans to contain rules to manage noise effects. Most council plans contain rules to manage noise.

Section 16 'Duty to avoid unreasonable noise':

> (1) Every occupier of land (including any premises and any coastal marine area), and every person carrying out an activity in, on, or under a water body or the coastal marine area, shall adopt the best practicable option to ensure that the emission of noise from that land or water does not exceed a reasonable level.
>
> (2) A national environmental standard, plan, or resource consent made or granted for the purposes of any of sections 9, 12, 13, 14, 15, 15A, and 15B may prescribe noise emission standards, and is not limited in its ability to do so by subsection (1).

4.4 Section 18A

Section 18A of the RMA states procedural principles under the RMA. The principles in this section set out how people exercising powers and functions under the RMA must act. Table 1 shows how the noise and vibration metrics standard assists councils in meeting section 18A Procedural principles

Table 1: Noise and vibration metrics standard assists territorial authorities to meet the requirements of section 18A

Section Number	Provision	How the standard assists
18A(a)	(a) use timely, efficient, consistent, and cost-effective processes that are proportionate to the functions or powers being performed or exercised	Providing a noise and vibration metric standard in planning standards will promote consistency across plans. In particular, all councils will be required to recognise the latest accepted methodologies for measuring and assessing noise so that this will be consistent across the country in accordance with the latest versions of the New Zealand acoustic Standards.

4.5 National instruments

There are five National Policy Statements (NPSs) and six National Environmental Standards (NESs) currently in effect. The planning standards are required to give effect to NPS and be consistent with NES and other regulations.

Early on, it was recognised that this metric would not apply to the national direction instruments. Two NES[3]s currently refer to the latest New Zealand acoustical Standards. It is considered that this standard is consistent with the approach used in the two NESs.

[3] Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016 and Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017

5 Research that informed the development of the standard

Our research[4] assessed 25 district and five regional plans to better understand how a range of metrics are developed and applied. In general, there was some commonality in terms of metrics used across all themes, but there was a high degree of variation in the metric thresholds and terminology describing metrics.

To help us determine what metrics should be included in the first set of National Planning Standards (planning standards), we applied the following criteria to the 14 metric themes identified in our research:

- **Criteria 1**: Highly used in regional and district plans (those that have a strong frequency of use in the plans analysed as part of our research, that is, appearing in over 75 per cent of plans)
- **Criteria 2**: Common to both district and regional plans
- **Criteria 3:** Urban focused
- **Criteria 4**: Infrastructure focused.

This approach resulted in a refined list of four metric themes that could be included in the first set of planning standards. These four metric themes are:

- earthworks
- noise
- light spill
- building bulk and location.

Our research found that standardising any of these four metric themes would result in benefits for aligning district and regional plans and making them more user-friendly. The regional workshops on the metric discussion paper also found that there was potentially support for other metrics to be included. A transport metric (covering car parking sizes, turning circles and vehicle sightlines) in particular was seen as being more useful than earthworks metrics for instance. These metric topics are likely to be the focus of subsequent standards proposed following the first set.

We found that noise metrics are included in almost all plans, but inconsistently used, formatted and described. There is large variation of:

- noise levels
- ways to measure
- timeframes
- where to measure from
- hours of the day to which noise levels apply.

Significant benefits could be derived from standardisation, and the Acoustical Society of New Zealand was also able to provide the necessary technical input. Noise metrics were therefore

[4] GHD. 2015. *Resource Management Plan Metric Research*. Prepared for the Ministry for the Environment by GHD. Wellington: Ministry for the Environment.

chosen as a metric to be standardised in the first set of National Planning Standards. The noise metrics proposed to be included in the National Planning Standards has been based on the definition of noise in section 2 of RMA, which is ‘includes vibration’.

6 Consultation undertaken to date

This standard has been developed with the assistance of the Acoustical Society of New Zealand. As mentioned in the section 1, The Ministry also received feedback from metric discussion paper released in 2017 which suggested that this would be a good topic for a standardised metric.

Table 2: Summary of consultation undertaken

Who	What	When	Issues/actions
Electricity Generators and Wind Energy Association	Informed of the intention to apply the 2010 New Zealand Standard 6808 Acoustics – Wind Farm Noise through the planning standards	October 2017	Action: Supportive of approach
Feedback from discussion paper	Feedback from key stakeholders and resource management practitioners on discussion paper analysed	August to September 2017	Support for noise standards in accordance with NZS 6808:2008 by submitters, Ministry of Education and Fire and Emergency NZ, support for exemption from noise standards for sirens by Fire and Emergency NZ. Action: application of standard 6808.
Airport Association Representatives from Auckland, Wellington, Christchurch and Queenstown airports	Idea of proposed noise standard discussed	December 2017	Concerned about the assessment measures in the 1992 New Zealand Standard 6805 Airport Noise and Land Use Planning being applied. Accepting of the measurement methodologies being applied. Action: Clarify application does not include thresholds.
Practitioners Drafting Group	Draft Noise Standard presented	January 2018	Raised issue around notional boundary definition, supportive of approach. Action: application of standard 6808.

7 Summary of the issues analysis

Based on the research, analysis and consultation outlined above the following issues and associated responses have been identified:

Table 3: Summary of the issues identified

Issue	Comment	Response
Application of assessment measures for noise standards	Concerns about the implications of noise assessment standards.	Standard limited to only standardise the metric to be used. It does not propose to standardise other noise-related provisions (ie, objectives, policies, thresholds, rules).
Standard noise objectives, policies, rules rather than assessment and measurement only could cause problems in plans	Submitters were concerned that standard noise provisions would not reflect local conditions.	Standard limited to only standardise the metric to be used. It does not propose to standardise other noise related provisions (ie, objectives, policies, thresholds, rules).

8 Amendments to the standards as a result of consultation

The Ministry for the Environment considered whether to standardise noise objectives, policies and rules as well as noise measurement and assessment. Concern about whether provisions would fit with local conditions led to this option not being pursued. The Ministry also considered which New Zealand Standards (NZSs) would be most effective to adopt, with advice from the Acoustical Society of New Zealand. Support for measurement methodologies contained within NZS 6801:2008 Acoustics – Measurement of Environmental Sound (NZS 6801:2008) and the assessment methodologies in NZS 6802:2008 Acoustics – Environmental noise sound (NZS 6801:2008) led to these being adopted. Consideration was also given to how noise sources not covered by these two NZSs should be managed, and as a result the planning standards also identify the other relevant NZSs. The noise and vibrations standards discussed in this evaluation report have become draft planning standard CM-2.

9 Quantification of benefits and costs

Section 32(2)(b) of the RMA requires that, where practicable, the benefits and costs of a proposal are to be quantified. Given the assessment in this report that the scale and significance of the proposed National Planning Standards (planning standards) is high, an economic evaluation of the planning standards was commissioned by the Ministry for the Environment. This evaluation is available on the Ministry for the Environment website.

Assuming an implementation period of five years, the report concluded that the benefit-cost ratio (BCR) for all planning standards would be 1.53. This particular standard was assessed as part of a group of similar standards, specifically the definitions standard. The standards in the definitions category returned a BCR of 1.19. This is driven by the fact that there are user-time savings, however councils may feel that changed definitions obliges them to go through a Schedule 1 process, which has associated costs, including the chance of appeals.

However, the nature of this noise standard is relatively self-contained, so consequential changes should be able to be made without a Schedule 1 process. The cost of implementing this change should be much less compared to alternative (status quo) scenarios.

10 Options assessed

Under section 32(1)(b) of the RMA, reasonably practicable options for achieving the proposed objectives outlined in part 1 section 5 must be identified and examined. “Reasonably practicable” is not defined in the RMA, but may include options that:

- are both regulatory and non-regulatory
- are targeted towards achieving the goal/objective
- are within the Ministry for the Environment’s resources, duties and powers
- represent a reasonable range of possible alternatives.

For each potential option an evaluation has been undertaken relating to the costs and benefits, in order to determine the effectiveness and efficiency of the approach, and whether it is the most appropriate way to achieve the relevant objective(s). These evaluations are outlined in the table 5 below.

Table 4: Options overview

Options	Noise metrics
1	Develop noise objectives, policies and rules for a stand-alone noise chapter and standard measurement.
2 (Preferred option)	Standardisation of latest noise metrics to reflect best practice but no set limits or thresholds.
3	Only define noise definitions from the latest noise standards (and not require consistent approaches to the assessment and measurement techniques from the latest noise standards).

10.1 Scale and significance

As noted in Part A of this evaluation report, section 32(1)(c) of the RMA states that a section 32 evaluation must contain a level of detail that corresponds to the scale and significance of the effects of the proposal. The planning standards as proposed will not lead to direct, material changes in environmental outcomes, but they will lead to changes in processes and efficiencies. It is considered that the National Planning Standards (planning standards or standards) as a package are of a large scale and high significance. However, each individual standard will be of varying scale and significance.

This noise and vibration metrics standard is considered to be of small scale and low significance because it is likely to only affect a small part of plans that are already highly technical. Advice from the Acoustical Society of New Zealand also identified that plans could easily be updated to reflect the latest New Zealand acoustic standards and achieve very similar outcomes; that is, the change from L_{10} noise limit to a LA_{eq} noise limit basically only requires a change in the measurement unit. This is reflected in the level of analysis contained in the following table.

10.2 Costs assessed

As this planning standard will not directly affect material changes in environmental outcomes, the costs and benefits considered the table below are not categorised as environmental,

economic, social and cultural costs and benefits as often occurs in RMA plan section 32 assessments.

Although the planning standard will not have a direct effect on environmental outcomes it will create opportunity benefits for individual planning process and the planning system as a whole by enabling more resources to be directed to managing environmental effects instead of administrative matters.

Table 5: Options analysis for the Noise and Vibration Metrics Standard

Planning standards objectives	
Objective 1: An appropriate level of standardisation is achieved for matters that don't need local variation: • avoid duplication of effort • ensure that only matters that do not need local input are included in the standard • standardises how national direction is represented and implemented in plans • result in standards where the effort put in by councils to implement the standards is commensurate with the level of standardisation achieved	**Objective 2: Improve the accessibility and usability of plans:** • plans are easier to access • plans are easier to understand • electronic functionality is used to improve accessibility wherever possible.
Objective 3: Improve plan-making baseline performance: • shorter timeframes • less resource intensive • more focus on local outcomes • assist in good practice being adopted in a more timely manner.	**Objective 4: Implementation of the standards is practical and feasible, while taking into account the:** • resource intensity needed to implement the planning standards • capacity and capability of councils to implement the planning standards • efficiency of central government having ownership, associated ongoing responsibility and maintenance costs for this level of standard.

Option 1: Noise Chapter Provisions		
Option 1: Develop noise objectives, policies and rules for a stand-alone noise chapter and standard measurement.	Costs	Benefits
	Councils • costs to councils to update provisions in their plans may prompt a broader review • costs explaining to community why noise provisions have changed • loss of noise provisions that reflect local circumstances. **Ministry for the Environment, and central government** Costs to develop the standard provisions. **Plan users** Time costs to understand new noise provisions. **General public** Standardise noise rules may not adequately manage the adverse effects in a particular local context.	**Councils** • reduces the need for councils to develop guidance and provisions individually, as these could be produced by the Ministry • reduced costs to councils determining noise thresholds for their individual plans; reduction in costs where these noise rules could have appealed • reduced inefficiencies incurred for new council staff, as they will not have to learn locally specific noise rules or limits. **Plan users** Noise provisions would be consistent across the country. This would provide certainty for what is required around the country to comply with the provisions.
Effectiveness and efficiency	**Effectiveness** While this option achieves the greatest level of consistency, it is not considered the most effective option as there are likely to be locally specific reasons why noise limits need to be determined by each council. Standardised provisions could inadvertently restrict desired activities and outcomes of the council through too restrictive or too permissive noise limits, and in some localised areas would not be suitable for local conditions.	**Efficiency** While this option would be most efficient and avoid councils having to develop these provisions themselves, there is a risk that standardised provisions would not be appropriate in all locations. Many councils have already developed localised provisions to manage noise issues. The Ministry does not have the capability or capacity to review all plans and be aware of the local environmental conditions to ensure any standardised provisions would be suitable, or the differences that exist between them.

Overall evaluation	This is option is considered likely to meet the objective of the National Planning Standard that is relevant, but also contains high risk that standardised provisions could be too restrictive or too permissive in some localised situations. The need for local variation means that it is not the most effective option for achieving the objective of standardising matters that do not need local variation.	
Option 2: Standardised noise metrics without limits or thresholds		
Option 2: Standardisation of latest noise metrics to reflect best practice, but not set limits or thresholds.	**Costs**	**Benefits**
	Councils • some costs to councils to update provisions in plan • costs explaining to community why noise metrics have changed. **Ministry for the Environment, and central government** Cost to ensure that the National Planning Standard remains current and references New Zealand standards that are routinely replaced in the future. **Plan users** Time costs to understand new noise provisions.	**Councils** • provides clarity and expedites updates to technical detail of plan, which will reflect latest New Zealand acoustics standards and adopt the approaches that are considered to be best practice • resource consent conditions are likely to become more consistent as they will begin to reflect the current NZSs. **Plan users** Saves time and resources for users such as national organisations knowing that metrics will be consistent, even if limits/thresholds are different. Will assist to ensure that the specialist acoustic standards for activities such as wind farms and airports are utilised in council approaches to manage noise effects in council plans.
Effectiveness and efficiency	**Effectiveness** This option is considered the most effective. It meets objective 1 above, while balancing local variation and national consistency. It achieves a consistent approach to the management methodologies around noise effects while still enabling localised provisions to reflect the local environment.	**Efficiency** This option is considered the most efficient. It will require councils to adopt the approaches used in the latest versions of the New Zealand standards, which have been established as best practice. It will remove ambiguity and resolve at a national level which measurement technique must be used. A number of councils have already adopted the approaches in the latest version of the New Zealand acoustic standards. This option will provide an effective mechanism for all councils to use a consistent approach for the management of noise effects. The approach does not require a Schedule 1 process to be followed, which minimises the resources required by councils to adopt this process.
Overall evaluation	This option is considered the most reasonably practicable option and most likely to achieve the objective of the planning standards to which it relates. It achieves a balance of valid local variation and national consistency. It will require that noise provisions are all following the noise measurement methodologies of the latest version of the NZSs that cover acoustic matters. Avoiding the need for a Schedule 1 process to be followed means that any	

	amendments required to the council's plans to simply bring them in line with the planning standard requirements will not subject all of the noise provisions in the plan to a submission and potential appeal process.	
Option 3: Noise definitions only		
Option 3: Only define noise definitions from the latest noise standards (and not require consistent approaches to the assessment and measurement techniques from the latest noise standards).	**Costs**	**Benefits**
	Councils Current costs to councils to develop their own approaches to noise measurement continue with little substantive benefit to the planning system. This also creates uncertainty as some plans will continue to reference the old standards. **Plan users** This approach could also result in plan provisions that are not clearly linked to the terms defined in the plan. Technological advances have changed the way that noise is measured and this needs to be reflected in both the plan provisions (rules) and the definitions in the plan. **General public** This approach could result in a reduction in noise terms if a council removes the obsolete terms without amending other plan provisions and could make the plans harder to use and understand.	**Councils** • councils with the latest noise standard would have clear definitions to adopt • councils may have the ability to adopt the latest assessment and measurement methods acoustic standards but this would have to be determined on a case-by-case basis, and whether the necessary changes are only a consequential change to the adoption of the noise definition. **General public** Where councils follow current noise standards definitions would be clear. **Plan users** Noise definitions would be consistent.
Effectiveness and efficiency	**Effectiveness** This option is not considered the most effective or likely to meet the relevant objective of the National Planning Standards. It would not require all plans to follow a consistent approach and would cause local authorities to have to amend their plans with little substantive benefit to the planning system, despite the cost incurred.	**Efficiency** Limiting the definitions would encourage the councils to adopt the approaches in the latest versions of the NZSs, with the next plan review. However, it is considered that waiting until the next plan review with no requirement to adopt the approach in the current NZSs is basically just the status quo.

Overall evaluation	The unnecessary variation currently in council plans would not be removed and plans could still follow the approaches in the obsolete NZSs. This will not achieve the relevant objective of the planning standard, as it would not achieve a balance of valid local variation and national consistency.

11 Risk of acting/not acting if there is uncertain or insufficient information about the subject matter of the standard

An assessment of the risks of acting or not acting if there is uncertainty or insufficient information is usually undertaken for each reasonably practicable option in a regular section 32 report. However, as established in Part 1 of this report, the National Planning Standards (planning standards) require evaluation following a slightly different methodology. As the options outlined above are essentially variations of one another, the risks of acting or not acting if there is uncertainty or insufficient information are considered to be the same. Therefore, they are addressed collectively here. This planning standard is also only proposing to address the metric used to manage noise effects, and the outcome being achieved from the plan provisions will not change as a result of this planning standard being implemented.

It is considered that there is certain and sufficient information on which to base the proposed policies and methods as:

- the proposed standard is based on research into how acoustic standards are referred to in plans
- consultation was undertaken with the Acoustical Society of New Zealand, airport operators, New Zealand Wind Energy Association and electricity generators
- a risk associated with not implementing this standard is that the continued reference to outdated NZSs would no longer represent best practice approaches to measuring noise.

12 Conclusion/summary of rationale for the preferred option

The noise and vibration metrics standard outlined will require those councils that are not already adopting the approaches used in the latest versions of the acoustic New Zealand Standards to do so, while still enabling localised noise provisions where this can be justified to reflect the characteristics of the local environment.