

Interim Construction Noise Guideline

What is the Interim Construction Noise Guideline?

The *Interim Construction Noise Guideline* (the Guideline) sets out ways to deal with the impacts of construction noise on residences and other sensitive land uses. It does this by presenting assessment approaches that are tailored to the scale of construction projects and indicate how work practices can be modified to minimise noise. The Guideline provides detailed advice on the range of work practices and regulatory approaches to manage construction noise.

The Guideline takes into account comments made during community consultation on the draft guideline in late 2008. The key changes made in response to issues raised are listed at the end of this information sheet.

The Guideline is primarily aimed at managing noise impacts from construction works regulated by the Department of Environment and Climate Change NSW (DECC). It will be used to assist DECC in setting statutory conditions in licences or other regulatory instruments for construction noise. The Guideline may also be of assistance to local councils in guiding their decision-making on construction projects they regulate.

'Construction' is defined in the Guideline to include the erection, installation, alteration, repair, maintenance, cleaning, painting, renewal, removal, excavation, dismantling or demolition of, or addition to, any building or structure, or any work in connection with any of these activities, that is done at or adjacent to the place where the building or structure is located. The Guideline takes into account that construction noise has only a temporary impact.

Who is the Guideline for?

The Guideline is for all those involved with construction, including project planners, managers, contractors, acoustic practitioners, consent authorities and regulators, who require an understanding of noise impacts and management of work practices.

The Standards Australia committee responsible for revising *AS2436-1981: Guide to noise control on construction, maintenance and demolition sites* was consulted to address any potential inconsistencies between the Guideline and relevant standards.

Is the Guideline mandatory?

No. The Guideline aims to inform the selection and application of work practices to minimise noise impacts based on the level and extent of impact expected taking into account site-specific considerations, and therefore is not mandatory.

However, the Guideline will assist DECC in setting statutory conditions in licences or other regulatory instruments for construction noise. Other determining authorities (such as the Roads and Traffic Authority or Sydney Water) and consent authorities (such as the Department of Planning and local councils) may also find the Guideline useful when dealing with noise from construction and maintenance works that require planning approval.



What types of construction does DECC regulate?

The types of construction regulated by DECC under the *Protection of the Environment Operations Act 1997* are:

- construction, maintenance or renewal carried out by a public authority (section 6 of the Act). An example is maintenance and repair of public roads.
- non-scheduled activities for the purpose of regulating water pollution (section 43(d) of the Act) – in this case the licence may include conditions for managing noise impacts. An example is a small construction project that discharges to environmentally sensitive waters.
- development work that will enable scheduled activities to be carried out (section 47 of the Act). An example is the construction stage of a new coal loader terminal or a new major marina.
- construction, maintenance or renewal related activities described in Schedule 1 of the Act – DECC regulates these through an environment protection licence. An example is construction, maintenance or repair of railway lines.

The Guideline does not cover occupational noise, noise from powered equipment used on residential premises, vibration from construction works, noise from quarrying or mining, or noise from construction traffic on public roads, as these are covered by other regulations or policies.

Why has the Guideline been developed?

The previous guideline was out of step with current approaches and a new guideline was needed to deal with the following issues:

- choosing the appropriate assessment method
- assessing construction noise at sensitive land uses other than residences (such as schools, hospitals, and places of worship)
- assessing noise from tunnelling works
- selecting less annoying audible warning alarms on powered mobile plant
- assessing noise from out-of-hours construction works.

When will the Guideline be reviewed?

The Guideline will be reviewed after three years to ensure it meets the needs of regulators, the construction industry and the community.

Guidance on work practices to minimise noise impacts

The Guideline contains extensive information on options for work practices to minimise noise. This information can be used by regulatory and consent authorities to guide construction proponents to consider a broad range of work practices that may be feasible and reasonable.

The categories of work practices covered in the Guideline include:

- training site workers to minimise noise
- consultation and notification processes
- using quieter methods and operating plant in an efficient manner

- work scheduling, including respite periods and delivery times
- temporary noise barriers and treatments to residences.

One of the greatest improvements in managing noise impacts from construction works is expected to arise from communication between project staff and the community, particularly where this leads to changes in work practices to minimise annoyance to the surrounding community.

What are the differences between the previous and interim guidelines?

The table below highlights the main advances of the Guideline over the previous guideline in (1) choice of assessment method, (2) realistic noise management levels, and (3) guidance on work practices with case study examples.

Comparison of previous and interim guidelines

Previous guideline	Interim guideline
Recommended standard hours	
Monday to Friday 7am to 6pm Saturdays 8am to 1pm No work on Sundays or public holidays	No change from previous
Choice of assessment method	
No choice – only numeric noise criteria given	Choice of either qualitative assessment for projects under three weeks, or quantitative assessment for major projects
Noise levels	
Noise goal	Noise management level
0 to 4 weeks Background + 20 dB(A)	Short-term infrastructure maintenance Qualitative assessment – apply work practices in checklist at all times of the day Major construction projects Recommended standard hours: Background + 10 dB(A) and L_{Aeq} 75 dB(A) Outside recommended standard hours: Background + 5 dB(A)
5 to 26 weeks Background + 10 dB(A)	
Greater than 26 weeks Background + 5 dB(A)	
Guidance on work practices	
No guidance	Extensive list of options for work practices, based on world-wide review of best approaches
Examples on applying guideline	
No examples	Six case studies based on real-life projects. Also worked examples throughout the Guideline.
Ground-borne noise levels	
No guidance	Evening internal level L_{Aeq} 40 dB(A) Night internal level L_{Aeq} 35 dB(A)

Choice of assessment method

The qualitative assessment method is a new approach presented in the Guideline to provide a simplified means of assessing and managing noise from works of less than three weeks' duration. This assessment method requires the proponent to consider the Guideline's checklist of work practices to minimise noise and implement appropriate strategies. It reduces the complexity and cost of noise assessment for short-term projects by avoiding the need to measure background noise levels and predict noise levels.

For most major construction projects, such as those that DECC licenses, the assessment method remains the same. This is the quantitative assessment method which involves predicting noise levels and comparing them with the recommended noise management levels and taking feasible and reasonable action to minimise noise.

Realistic noise management levels

The Guideline presents noise management levels for use when undertaking a quantitative assessment, such as for major construction projects. The changes to noise management levels in the Guideline have been based on a review of achievable construction noise levels on recent major projects in NSW, as well as a review of international best practice in regulating the noise impact of construction works.

The noise management level for works during the recommended standard hours is background + 10 dB(A). Above this noise level the proponent needs to implement all feasible and reasonable work practices, as defined in the Guideline, to minimise noise impacts.

For works outside the recommended standard hours, the noise management level is background + 5 dB(A).

The highly noise-affected level of L_{Aeq} 75 dB(A) represents the point above which there may be strong community reaction to noise and indicates a need to consider other feasible and reasonable ways to reduce noise, such as restricting the times of very noisy works to provide respite to affected residences. This noise management level was derived from the following considerations:

- A review of predicted noise levels for some recent major construction projects indicated that a level of 75 dB(A) would not likely be triggered on many projects.
- Some other countries (New Zealand, Ireland and parts of the United States) apply a management level of 75 dB(A) when assessing construction noise.
- The Occupational Health and Safety noise limit in current legislation is 85 dB(A) for an eight-hour work day.

Will the Guideline be more costly to apply?

Noise management costs associated with the Guideline are likely to be either lower than, or equivalent to, those under the previous guideline, because of the introduction of a simplified assessment approach for short-term construction works.

Benefits to industry include more flexible ways to identify and assess noise impacts, improved understanding of options to minimise noise, and reduced time dealing with complaints about noise. All these benefits are expected to lower costs.

Benefits to the community include improved awareness of the expected amount and duration of noise from construction works, and improved communication between the community and construction professionals, as well as lowered noise impacts.

Summary of the main changes incorporated into the Guideline

Selecting the assessment method

The draft guideline suggested a quantitative noise assessment for projects of more than one week's duration. Several of the government agencies responsible for maintenance of public infrastructure questioned the cost and practicality of undertaking a quantitative assessment for routine infrastructure maintenance projects. The Guideline clarifies that a qualitative assessment can be used on short-term maintenance of public infrastructure, where an individual or sensitive land use (such as a school) is affected by noise for no more than a total of three weeks.

Recommended standard hours

Submissions on the draft guideline from a local council and a construction company supported work on Saturday afternoons in industrial and commercial areas. A union wanted standard hours to observe union work-hour agreements. An individual wanted no construction work before 9 am and consideration of the needs of shift workers when determining standard hours. The remaining 53 submissions either supported or made no comment on the recommended standard hours. The recommended standard hours in the Guideline remain the same as those in the previous guideline, as they are in line with community expectations. The Guideline clarifies what construction typically needs to be undertaken outside the recommended standard hours.

Alternatives to reversing alarms

Several submissions were received about the 'beeper' alarms on construction equipment; some were unclear as to whether alternatives to reversing beeper alarms are permitted under current legislation, and whether it is illegal to replace a fitted alarm with a less annoying alternative. Others considered that beeper alarms are a necessary feature of the industry where many workers have hearing loss. WorkCover NSW clarified that it is not mandatory under current occupational health and safety legislation to use reversing beeper alarms; any safe system can be used. WorkCover confirmed that the 2004 code of practice does not require the use of reversing beeper alarms and discusses a range of options that may be considered a safe system of work. DECC is currently reviewing alternatives to reversing beeper alarms.

What the Guideline applies to

There was a range of opinions about what the Guideline should apply to. Some wanted the Guideline to apply to all construction across NSW, others preferred that the Guideline not apply to works dealt with by local councils or the Department of Planning. The Guideline clarifies that the guidance is primarily aimed at construction regulated by DECC, and that the Guideline may be of assistance to local councils and other regulatory bodies in their decision-making.

Feasible and reasonable

The Guideline has new definitions of the terms 'feasible' and 'reasonable' to give more guidance on selecting appropriate noise mitigation practices. A range of hypothetical examples of feasible and reasonable work practices has been added to the Guideline. It also explains how the regulatory authority would review the information on feasible and reasonable practices provided by a proponent.

Equipment noise levels

Several submissions asked for more details to be included in the table of indicative noise levels in Appendix B of the draft guideline. After consideration of the comments raised, the table was replaced by a list of published databases that present extensive details on equipment noise levels.

Predicting noise levels

Further guidance has been added on factors to consider when deciding what level of detail to apply to calculations. A worked example has been added to illustrate a rough calculation of noise levels.

Industry published procedures

Guidance was added recommending that organisations consult with the public and take into account any comments raised when finalising their procedures. The Guideline also clarifies that any published procedures should be consistent with the Guideline and, regardless of whether a published procedure is in place, the organisation's principal obligation is to meet any statutory conditions imposed.

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