

# Noise Guide for Local Government

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# Glossary

## Ambient noise

The all-encompassing noise within a given environment. It is the composite of sounds from many sources, both near and far.

## Appropriate regulatory authority (ARA)

The body responsible for regulating particular activities. Section 6 of the POEO Act specifies which body is the ARA for different activities.

## Authorised officer

A person appointed under Part 7.2 of the POEO Act by an appropriate regulatory authority who can exercise the investigation powers listed under Chapter 7 of the Act and issue Noise Abatement Directions under section 276.

Authorised officers must be appointed as Enforcement Officers to issue Penalty Notices.

## Authorised person

An authorised officer or a Police officer, or an officer or employee of the marine authority (in relation to vessels in navigable waters).

Authorised persons have powers to issue Noise Abatement Directions as per section 276 of the POEO Act.

## Background noise

The underlying level of noise present in the ambient noise, excluding the noise source under investigation, when extraneous noise is removed. This is described using the  $L_{A90}$  descriptor (see below).

## Community annoyance

Includes noise annoyance due to:

- characteristics of the noise (e.g. sound pressure level, tonality, impulsiveness, low-frequency content)
- characteristics of the environment (e.g. very quiet suburban, suburban, urban, near industry)
- miscellaneous circumstances (e.g. noise avoidance possibilities, cognitive noise, unpleasant associations)
- human activity being interrupted (e.g. sleep, communicating, reading, working, listening to radio/TV, recreation).

## Compliance

The process of checking that source noise levels meet with the noise limits in a statutory context.

## dB

Abbreviation for decibel—a scale used in sound measurement. It is equivalent to 10 times the logarithm (to base 10) of the ratio of a given sound pressure to a reference pressure.

## dB(A)

A value used for 'A-weighted' sound pressure levels. 'A' frequency weighting is an adjustment made to sound-level measurement to approximate the response of the human ear.

## Enforcement officer

A person authorised to issue Penalty Notices for offences against the POEO Act and Regulations (s. 226).

An enforcement officer is able to use all the investigatory powers of an authorised officer listed under Chapter 7 of the POEO Act, but only for the purposes of issuing a Penalty Notice (s. 189A).

Under the Noise Control Regulation, officers or employees of a local authority, the EPA, a ports corporation, the Police, the Sydney Harbour Foreshore Authority, or the Waterways Authority may be authorised as an enforcement officer to issue Penalty Notices for specific provisions of the regulation.

## Environmentally unsatisfactory manner

Referenced under Part 4.3 of the POEO Act as a requirement for issuing Prevention Notices. An activity is carried on in an environmentally unsatisfactory manner if:

- it is carried on in contravention of, or in a manner that is likely to lead to a contravention of, this Act, the regulations or a condition attached to an environment protection licence
- it causes, or is likely to cause, a pollution incident
- it is not carried on by such practicable means as may be necessary to prevent, control or minimise pollution, the emission of any noise or the generation of waste, or
- it is not carried on in accordance with good environmental practice.

## Extraneous noise

Noise resulting from activities that are not typical of the area. Atypical activities may include construction, and traffic generated by holiday periods. Normal daily traffic is not extraneous noise.

## Feasible and reasonable measures

Feasibility relates to engineering considerations and what can practically be built. Reasonableness relates to applying judgement to arrive at a decision, taking into account noise mitigation benefits, cost of mitigation, community views and noise levels for affected land uses.

## Habitable room

Any room (in a dwelling) other than a garage, storage area, bathroom, laundry, toilet or pantry. Used in determining the audibility of noise under the 'Times of Use' sections of the POEO Noise Control Regulation.

### $L_{A90}$

The A-weighted sound pressure level that is exceeded for 90% of the time over which a given sound is measured. This is considered to represent the background noise (see above).

### $L_{A10}$

The A-weighted sound pressure level that is exceeded for 10% of the time over which a given sound is measured.

### $L_{Aeq}$ (equivalent continuous noise level)

The level of noise equivalent to the energy average of noise levels occurring over a defined measurement period.

### $L_{Amax}$

The A-weighted sound pressure level that represents the maximum noise level measured over the time that a given sound is measured

### $L_{A1}$ (60 seconds)

The A-weighted sound pressure level that is exceeded for 1% of the time over a 1 minute measurement period; i.e. is exceeded for 0.6 seconds. This measure can approximate to the maximum noise level but may be less if there is more than 1 noise event during this 0.6 second period.

### $L_{Aeq}$ (15 minutes)

The level of noise equivalent to the energy average of noise levels occurring over a 15 minute measurement period

### $L_{As(T)}$ : meaning of the symbol 'T'

'T' is the time period over which measurements are taken.

## Protection of the Environment Operations Act 1997 (POEO Act)

An Act that consolidates air, water, noise and waste requirements into a single piece of legislation. The POEO Act repeals and replaces (among other Acts) the *Noise Control Act 1975*. It contains the provisions for Noise Control Notice, Prevention Notice, Compliance Cost Notice and Noise Abatement Directions discussed in this Guide.

## POEO (Noise Control) Regulation 2000 (Noise Control Regulation)

The regulation that provides controls on specific community noise situations, including noise from individual motor vehicles, vessel noise and a range of neighbourhood activities such as use of power tools, alarms, air conditioners and amplified music.

## Rating background level (RBL)

The overall, single-figure, background level representing each assessment period (day/evening/night) over the whole monitoring period (as opposed to over each 24-hour period used for the assessment of background level). This is the level used for assessment purposes. It is defined as the median value of:

- all the day assessment background levels over the monitoring period for the day (7:00 am to 6:00 pm)
- all the evening assessment background levels over the monitoring period for the evening (6:00 pm to 10:00 pm)
- all the night assessment background levels over the monitoring period for the night (10:00 pm to 7:00 am).

## Receiver

The person who is hearing the noise.

## Sleep disturbance

Awakenings and disturbance to sleep stages.

## Tonality

Noise containing a prominent frequency and characterised by a definite pitch.

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## Overview of this document

This *Noise Guide for Local Government* aims to provide practical guidance to council officers in the day-to-day management of local noise problems and in the interpretation of existing policy and legislation.

This Guide focuses on how to assess and manage noise issues dealt with by council officers, such as neighbour-to-neighbour problems and those resulting from commercial or industrial premises.

Importantly, the Guide is also aimed at planners. It outlines planning considerations that can have a significant bearing on prevention of future noise problems.

The Guide is advisory in nature, and council officers are encouraged to use it to develop council procedures or policy to deal with noise issues relevant to local circumstances.

**Part 1—Framework for noise control** outlines the legal framework for noise control and the distribution of responsibility for dealing with noise problems.

**Part 2—Noise assessment** describes the key noise assessment procedures that council officers may use when deciding whether noise is a problem. These tools include assessments of time of use and audibility, duration of alarms and offensive noise, and noise measurement.

**Part 3—Noise management principles** describes the range of mitigation strategies to prevent or minimise noise impacts from both planning and management perspectives.

**Part 4—Regulating noise impacts** identifies the statutory processes that are available to avoid or control noise.

**Part 5—Case studies** illustrate how the assessment and management tools available can be used to help control some common noise problems.

The **alphabetical index** on page 90 is intended to help with quick access to a particular noise issue. The document includes **cross-references** to other relevant material throughout the text. A **glossary** is included on page iii to explain commonly used terms.

**The Environment Protection Authority (EPA) is a statutory body with specific powers under environmental protection legislation. In September 2003, the EPA became part of the Department of Environment and Conservation (DEC).**

In some cases, assessing and applying suitable mitigation measures to noise problems is not straightforward. The following guidelines may be of help when dealing with more complex noise problems:

**The NSW Industrial Noise Policy**—specifically aimed at large industrial developments, but also provides guidance on measuring and assessing noise from small commercial and industrial premises regulated by councils.

**NSW Environmental Criteria for Road Traffic Noise**—criteria for assessing road traffic noise from road developments with the aim of promoting the consideration of noise pollution impacts early in the planning of new roads and freeways.

**This Noise Guide for Local Government** does not cover in detail the powers that are the province of the NSW Environment Protection Authority (EPA), Police or Waterways Authority. These include Police and EPA noise control powers for motor vehicles operating on public roads and Waterways Authority powers for noise from vessels.

The EPA's *Environmental Noise Control Manual* can no longer be considered to contain current information on noise management. The manual is no longer in print, is not being updated, is not actively supported by the DEC, and has been superseded by other DEC policy documents, including this Guide. However, it may still be a useful source of information for councils developing a policy or dealing with a particular noise issue.

The noise guidelines and technical notes found in the manual from Chapter 150 onwards are either contained in this Guide or are no longer relevant. Chapters 152 'Motor Sport', 158 'Domestic Air Conditioners', 159 'Lawful Sporting Activities' and 162 'Open Air Entertainment' from the manual have been incorporated into the case studies in this Guide; Chapter 175 'Gas scare guns' has been superseded by the draft South Australian guidelines ([http://www.environment.sa.gov.au/epa/pdfs/bird\\_scarers.pdf](http://www.environment.sa.gov.au/epa/pdfs/bird_scarers.pdf)) and chapters 171 and 174 cover policy areas are under revision. The most relevant technical notes and data sheets (from Chapter 200 onwards) from the manual have been retained in the appendixes of this Guide. Other technical matters are best referenced through text books on the subject.



# Part 1 Framework for noise control

## 1.1 Challenges in managing noise

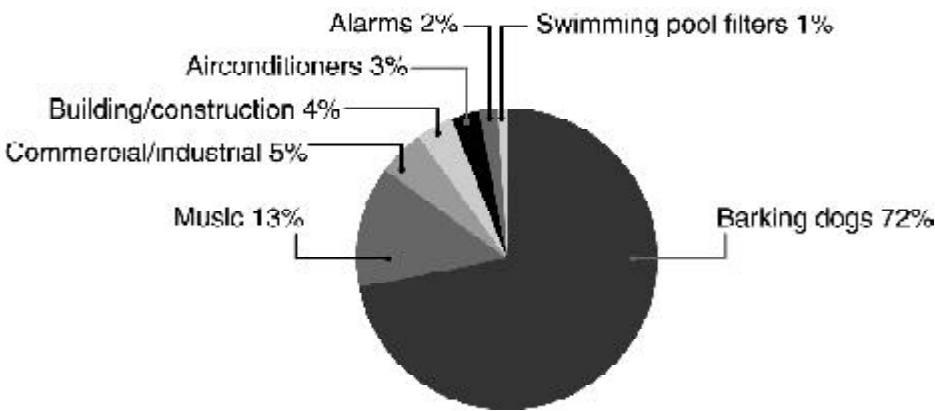
Noise affects most of us at some time. We live in a society where noise levels tend to be increasing, along with a heightened potential for disruption to our work, home life or recreational activities. There are also significant variations in the way individuals react to noise. Some people may be more annoyed than others by any given noise level. Noise may become annoying if it intrudes into people’s awareness, is heard against their wishes or offers them no benefits. Noise can disrupt people’s activities and rest by interfering with speech, study, leisure or sleep.

Breakdowns of noise-related complaints received by Blacktown City Council and Shoalhaven City council are included in Figure 1 as examples of complaints received in urban and semi-rural council areas.

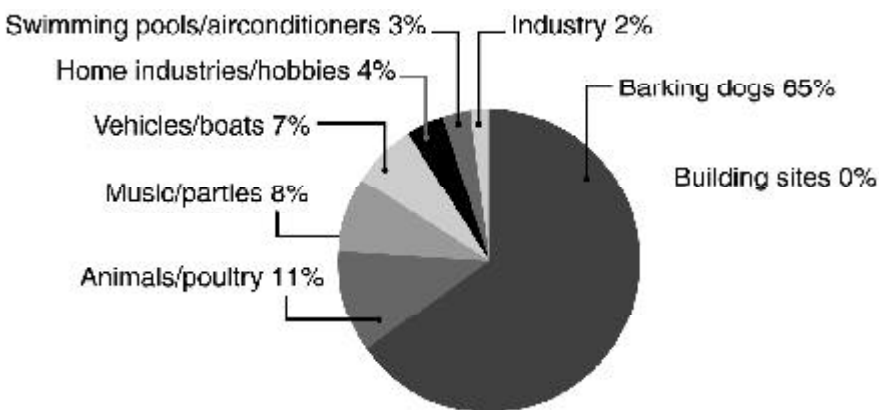
In 2002–03, noise-related calls received by Blacktown Council’s environmental services department totalled 63% of total calls received. Similarly for Shoalhaven Council the proportion was 35% of total calls.

Figure 1: Noise-related complaints received by Shoalhaven and Blacktown councils, 2002–03

### Blacktown City Council



### Shoalhaven City Council



An individual's response to noise is subjective and can depend on specific circumstances, such as time of day and the type of activity being undertaken. This can make it difficult to determine a noise level that is satisfactory to all people, so it is important to ensure that there is an independent and unbiased assessment of noise problems. This will help find the balance between being able to conduct legitimate activities that may emit noise and the responsibility to minimise noise.

Where noise is a problem, there is a general expectation that whoever is creating the noise should take all reasonable and feasible measures to minimise it.

Councils and Police have a key role in managing local noise problems by providing an impartial and fair assessment of what level of noise is reasonable, taking into consideration the nature of the activity, the surrounding area and number of people likely to be affected.

Resolving noise problems successfully will often rely not just on identifying the problem and developing a suitable noise management strategy, but also on managing the complaint effectively. This is important so that the complainant sees that action is being taken, has realistic expectations about the end result (i.e. noise may still be audible) and understands the time it will take to resolve the problem.

## 1.2 Noise management spectrum

Successful noise management is based on a spectrum of considerations and options. At one end of the spectrum is prevention using long-term strategic approaches that aim to avoid or minimise potential noise impacts before they occur. Land use planning has a key role in helping to prevent potential noise impacts, both at the strategic planning level for an area and at a project-specific level.

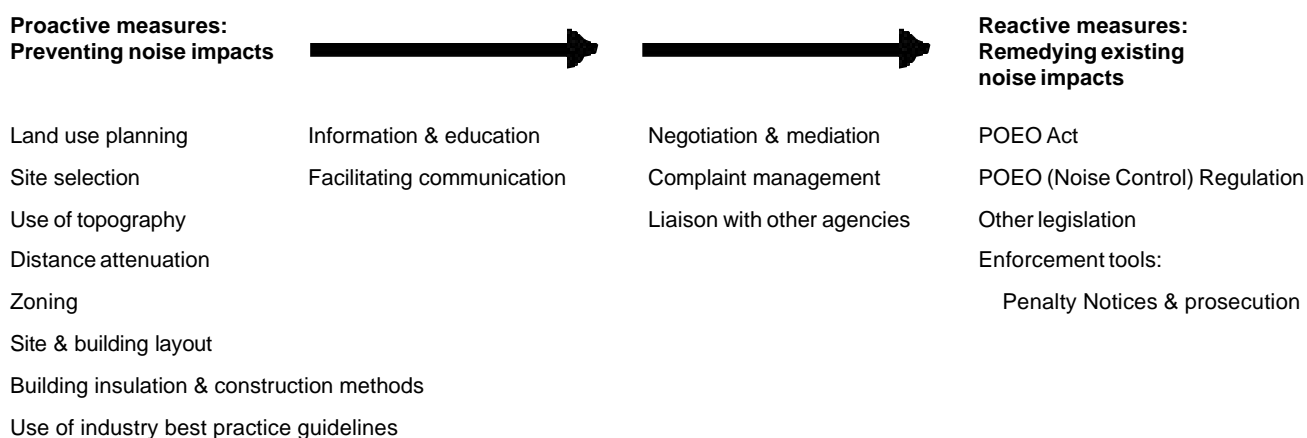
At the other end of the noise management spectrum is the need to remedy existing noise impacts that are unacceptable and causing disturbance to the community. The *Protection of the Environment Operations Act 1997* (POEO Act) provides regulatory tools for managing noise impacts from new and existing noise-producing developments. Of course, non-regulatory approaches also have an important role to play in managing existing local noise problems and should be used before applying regulatory mechanisms.

The primary obligation to mitigate noise impacts on neighbouring properties lies with the person making the noise, but where noise mitigation options have been exhausted the only practical means to reduce noise impacts may be to incorporate mitigation measures into new noise sensitive developments that are receiving the noise.

Figure 2 illustrates the spectrum of options available to prevent and manage noise impacts. Options located in the middle of the spectrum can be used both to prevent noise impacts and to manage existing problems.

**Figure 2: Noise management spectrum**

### Noise management tools (non-regulatory & regulatory)





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### 1.3 Legal framework for noise control

The *Protection of the Environment Operations Act 1997* (POEO Act) and the *Protection of the Environment Operations (Noise Control) Regulation 2000* (Noise Control Regulation) provide the legal framework and basis for managing unacceptable noise.

The POEO Act:

- identifies responsibility for regulating noise
- defines 'offensive noise'
- provides a range of tools to manage noise, including a Noise Control Notice, Prevention Notice, Noise Abatement Direction and Noise Abatement Order
- makes it an offence to do various things that cause the emission of noise and to breach the conditions of a notice or order.

The POEO Act defines the **appropriate regulatory authority** (ARA) responsible for regulating various activities. The Act also gives powers to particular classes of people, for example council officers, EPA and Waterways Authority officers and Police. Their powers depend on whether they are **authorised officers**, **enforcement officers** or **authorised persons**. It is important to note the differences between ARAs, authorised officers, enforcement officers and authorised persons (explained below).

The **ARA** is the body responsible for regulating particular activities and can issue Prevention Notices and Noise Control Notices for these activities. Section 6 of the POEO Act specifies which body is the ARA for different activities. The POEO (General) Regulation 1998 also declares other bodies (such as the Waterways Authority) to be ARAs for particular activities.

**Authorised officers** are people who are appointed by an ARA under section 187 of the POEO Act, and act on its behalf in investigating alleged environmental problems relating to activities regulated by the Act. Authorised officers have a range of investigatory powers and can issue Noise Abatement Directions and other notices provided for by the POEO Act or Regulations. The POEO Act provides authorised officers with powers to:

- require information or records (Part 7.3)
- enter and search premises (Part 7.4)
- question and identify persons (Part 7.5).

Section 187 of the POEO Act enables a local council to appoint officers and employees of other local councils (as well as its own officers and employees) as authorised officers for the purposes of the Act, in relation to its area. This is to facilitate activities under the Act that require action across local government boundaries.

**Enforcement officers** are people who are authorised under clause 6(2) of the POEO (Penalty Notices) Regulation 1999 to issue Penalty Notices (see section 4.2) for offences listed in Schedule 1 of that Regulation. An enforcement officer can use all the investigatory powers of an authorised officer (i.e. a person appointed under section 187), but only for the purposes of issuing a Penalty Notice.

The POEO Act and POEO (Penalty Notices) Regulation previously referred to people who were authorised to issue Penalty Notices as 'authorised officers'. However, to differentiate them from people appointed as 'authorised officers' under section 187 of the POEO Act, the new term 'enforcement officer' was introduced from 1 July 2002 to refer to a person who is authorised to issue Penalty Notices. It is expected that ARAs will commonly appoint a person as both an 'authorised officer' and an 'enforcement officer', however, there may be occasions on which an ARA decides it is appropriate to appoint a person as one but not the other.

**Authorised persons** are people who can issue Noise Abatement Directions (see section 4.2). They are usually Police officers and people whom an ARA has appointed as authorised officers under section 187 of the POEO Act. Police also have powers to regulate noisy motor vehicles and noisy recreational boats, and to seize noise-making equipment.

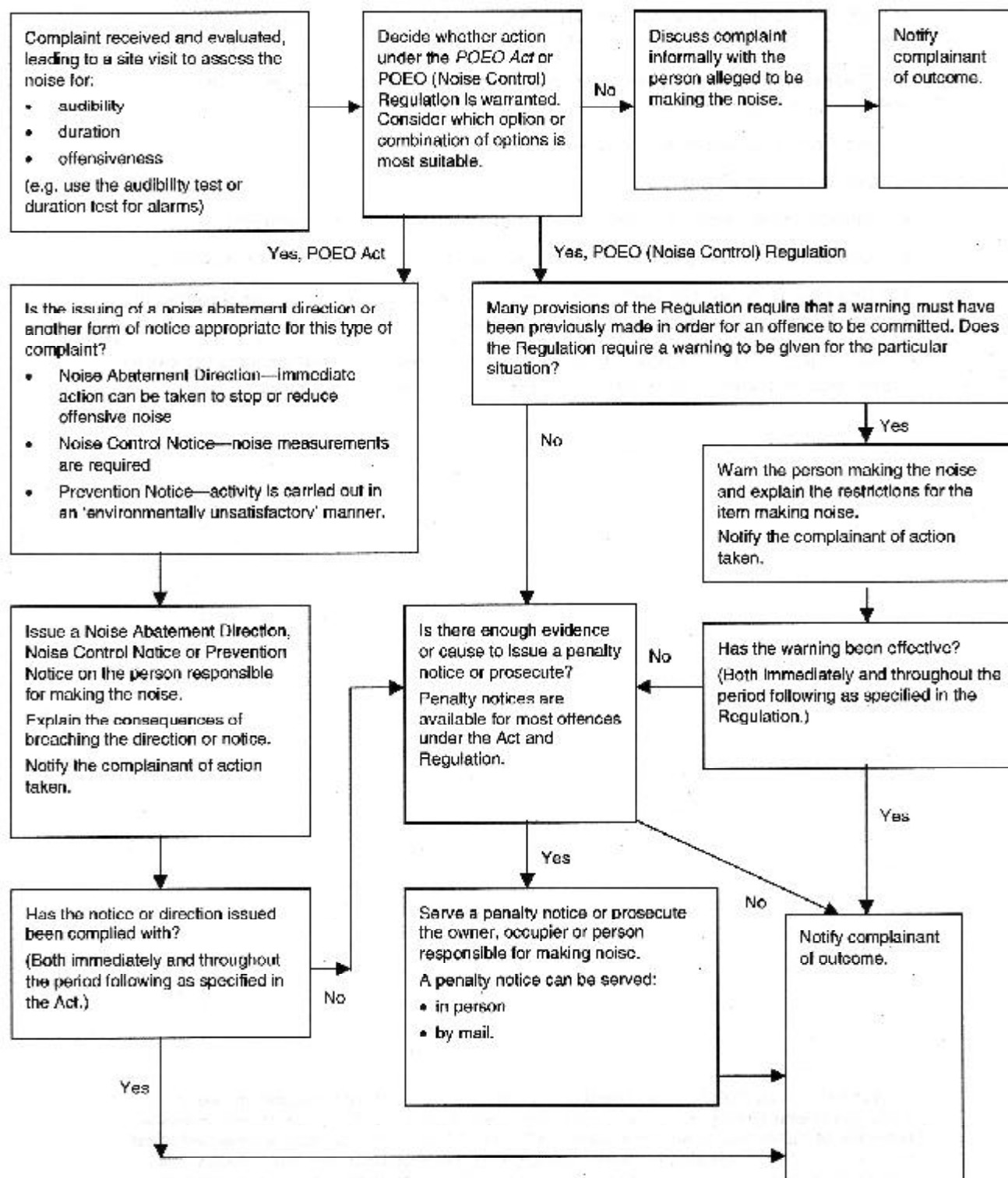
The **Noise Control Regulation** contains specific provisions relating to common noise problems, including restrictions on the use of:

- air conditioners, pool pumps, power tools etc.
- building and car alarms
- individual motor vehicles, including car sound systems and defective mufflers
- recreational marine vessels, including sound systems on vessels and the use of sirens.





















The flow chart in Figure 3 identifies important steps in investigating a noise complaint and the regulatory options available to resolve noise problems.

A detailed description of the types of notices, directions, orders and penalty notices that can be used in relation to noise issues is contained in Part 4, Regulating noise impacts.

Figure 3: Investigation of noise complaints



**Table 1: Regulatory authorities responsible for noisy activities**

Activity	Local council	Police	Waterways Authority	NSW EPA	LAB	RTA	Commonwealth
Premises not licensed by the EPA under POEO Act —non-scheduled industrial/commercial premises (e.g. small factories & shops)							
Neighbourhood noise & noise from residential premises (e.g. animals, music, power tools)							
Motor vehicles in off-road locations (e.g. trail bikes & vehicle sound systems)							
Marine vessels & associated premises including jet skis™ and other personal water craft							
Recreational activities (e.g. target shooting, open air concerts & motor sport)				Limited to major public venues in Sydney (e.g. Opera House)			
Hotels & licensed premises							
Motor vehicles on roads (including mufflers)							
Premises licensed by EPA under Schedule 1 of POEO Act (scheduled premises)							
Public authority activities (e.g. utilities, RTA road construction)							
Commonwealth activities (e.g. defence facilities)							
Airports	Private airports 			Councils that operate airports 			Commonwealth & military airports 

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## 1.4 Roles and responsibilities in noise control

Essentially, local councils have powers to control:

- noise from commercial and industrial operations that are not required to hold a licence from the EPA (and that are not carried out by a State or local public authority)
- neighbourhood noise from residences, vehicles used off-road, vehicle alarms, and sound systems.

Police also have powers to deal with neighbourhood noise and are typically the main agency for control of noise from late-night parties, or where safety may be a concern or where council officers are not available.

The Waterways Authority can regulate noise from motor vessels and premises involved with vessel repair under Part 8.6 of the POEO Act.

The EPA handles noise from premises that hold an Environment Protection Licence and activities carried out by a State authority. Activities that require a licence are listed in Schedule 1 of the POEO Act and typically include large-scale industrial operations and outdoor concerts held on lands specified in section 67 of the POEO (General) Regulation. These include the Royal Botanic Gardens, the Domain, Centennial Park, Moore Park, Parramatta Stadium, Sydney Cricket and Sports Ground, Homebush Bay, Sydney Harbour foreshores, the Opera House and Darling Harbour.

Under separate legislation, the Liquor Administration Board (LAB) licenses premises such as hotels and clubs that sell alcohol. LAB licences typically include conditions to manage noise. Further information on the LAB is set out in section 1.4.1 of this Guide.

The EPA, Police and NSW Roads and Traffic Authority (RTA) all have a role in controlling noise from motor vehicles. The EPA, Police and RTA periodically conduct joint campaigns against noisy motor vehicles. The RTA tests heavy vehicles for noise. Pollution Line accepts public complaints about noisy motor vehicles (phone 131 555). Councils can also deal with offensive noise from motor vehicle sound systems.

Commonwealth agencies have the primary responsibility for managing noise from airports and aircraft. The main Commonwealth agency is Airservices Australia, which runs a noise inquiry and complaint line (ph 1300 302 240). Councils that operate airports also have a role in managing aircraft noise.

The distribution of responsibility between government bodies for controlling common noisy activities is outlined in Table 1 (see opposite page).

### 1.4.1 Liquor Administration Board

The Liquor Administration Board (LAB) is constituted under the *Liquor Act 1982* and consists of four Licensing Magistrates appointed under the Act. The legislation involving the LAB in dealing with noise complaints is the *Liquor Act 1982*, the *Registered Clubs Act 1976* and associated Regulations.

The objective of section 104 of the *Liquor Act 1982* and section 17AA of the *Registered Clubs Act 1976* is to provide an informal mechanism for complaints to be made (by residents, Police, local consent authorities and others) where the amenity of local neighbourhoods is unduly disturbed by the conduct of licensed premises and registered clubs (or their patrons). The LAB is responsible for resolving such complaints and may impose temporary or permanent conditions on the licence.

Complaints to the LAB can relate to noise emitted from licensed premises and registered clubs from within the physical structure of the premises and to noise created by patrons, especially when departing. Complaints may include other issues such as antisocial behaviour of patrons, including vandalism, method and timing of delivery vans, and disposal of refuse such as bottles, glassware and food packaging. In some instances the LAB will consider complaints where the operation of the licensed premises or registered club is alleged to be the cause of an increased requirement for Police resources owing to its operation or type of clientele it attracts.

Generally noise created by mechanical equipment is outside the LAB's responsibility, and the local council should be contacted.

Officers of the Department of Gaming and Racing, who provide administrative support to the LAB, also assist complainants by providing information on legislative measures and requirements of the Board. Councils may seek assistance from the LAB in resolving a noise issue from a premises licensed under the 1982 Act or *Registered Clubs Act 1976*.

A section 104/17AA complaint must be made (or verified by) a statutory declaration and where necessary be accompanied by authorisation forms from at least two people residing in the neighborhood of the licensed premises/registered club. Forms are available from the Department of Gaming and Racing, licensing court registries (court houses) and the Department's website—[www.dgr.nsw.gov.au](http://www.dgr.nsw.gov.au).

Complainants are required to provide their contact details and must be advised that the complaint cannot proceed anonymously, that is, a copy of the complaint and accompanying documents will be forwarded to the licensed premises or registered club, and the complainant's attendance will be required at the conference, if convened.



However, the LAB requires the venue not to publish identifying information about complainants to other persons who are not party to the complaint.

Matters are usually dealt with at a conciliation conference between the licensee or secretary and the complainant. The local Police and local council are also invited to attend, along with any party who has a financial interest in the premises.

The types of condition that can be imposed on licensees by the LAB include but are not restricted to:

- noise conditions
- prohibition on amplified entertainment
- requirement for acoustical testing and amelioration work
- provision of licensed security
- restriction on time of entry to the premises.

Further information is available from the Department of Gaming and Racing website (<http://www.dgr.nsw.gov.au/>) or telephone (02) 9995 0300.

A copy of noise conditions currently imposed on all licensed premises and registered clubs follows.

#### **Current Liquor Administration Board noise condition**

The  $L_{A10}$ \* noise level emitted from the licensed premises shall not exceed the background noise level in any Octave Band Centre Frequency (31.5 Hz – 8k Hz inclusive) by more than 5 dB between 07:00 am and 12:00 midnight at the boundary of any affected residence.

The  $L_{A10}$ \* noise level emitted from the licensed premises shall not exceed the background noise level in any Octave Band Centre Frequency (31.5 Hz – 8k Hz inclusive) between 12:00 midnight and 07:00 am at the boundary of any affected residence.

Notwithstanding compliance with the above, the noise from the licensed premises shall not be audible within any habitable room in any residential premises between the hours of 12:00 midnight and 07:00 am.

\* For the purposes of this condition, the  $L_{A10}$  can be taken as the average maximum deflection of the noise emission from the licensed premises.

This is a minimum standard. In some instances the Board may specify a time earlier than midnight in respect of the above condition.

*Interior noise levels which still exceed safe hearing levels are in no way supported or condoned by the Liquor Administration Board.*

### **1.4.2 The role of the NSW Ombudsman**

The NSW Ombudsman investigates and reports on complaints about the conduct of a NSW agency or their employees, including both government (State and local) and some non-government agencies.

If a person thinks they have been unfairly treated by a local council, a councillor or council staff, they can complain to the Ombudsman.

The Ombudsman helps to make sure councils act fairly and reasonably and can look at the conduct of councillors and council employees and the administrative conduct of the council itself.

Issues that can be investigated by the Ombudsman include:

- failure to comply with proper procedures or the law
- failure to enforce development conditions
- failure to act on complaints about unauthorised work and illegal activities
- failure to enforce compliance with the law and conditions of consent
- failure to notify people before decisions that affect them are made
- failure to comply with tendering procedures
- unreasonable, discriminatory or inconsistent treatment
- failure to reply to correspondence
- failure to provide relevant information
- unauthorised disclosure of information.

The Ombudsman will not usually investigate decisions such as the setting of rates, the merits of particular development applications or the adoption of particular policies. It is best for a person to lobby the council or councillors directly if they are unhappy about these sorts of decisions.

The Ombudsman does not have the power to amend or revoke development consents. Generally there needs to be some issue of public interest or evidence of abuse in the determination processes for the Ombudsman to investigate such matters.

The Ombudsman is independent and impartial and offers services free of charge. Further information can be obtained by using any of the following ways of contacting the Ombudsman's office:

#### **NSW Ombudsman**

Inquiries 9.00 am – 4.00 pm, Monday to Friday or by appointment.

Level 24, 580 George Street, Sydney, NSW 2000

Phone: (02) 9286 1000; Fax: (02) 9283 2911

Tollfree: 1800 451 524; TTY: (02) 9264 8050

Email: [nswombo@ombo.nsw.gov.au](mailto:nswombo@ombo.nsw.gov.au)

Web: [www.ombo.nsw.gov.au](http://www.ombo.nsw.gov.au)

## 1.5 Guidance for managing noise problems

The *NSW Industrial Noise Policy* and the *NSW Environmental Criteria for Road Traffic Noise* provide guidance about assessing and managing noise sources that councils regulate.

The *NSW Industrial Noise Policy* is mainly aimed at large industrial developments, but it also provides some guidance on the measurement and assessment of noise from small commercial and industrial premises that are regulated by councils. Examples of situations where the *NSW Industrial Noise Policy* may be helpful include noise from a supermarket refrigeration plant, noise from a panel beater's or cabinet-maker's workshop, or even a noisy (non-domestic) pool pump or air conditioner operating during the day.

Rare or one-off events such as motor sport events, open-air concerts, gas scare guns, frost fans and target shooting ranges, or situations where residential premises generate noise, generally do not fall under the *NSW Industrial Noise Policy*. The *Noise Guide for Local Government* can help with managing these sorts of noise problems. The case studies in Part 5 illustrate particular approaches that can be taken in these special situations.

It may be appropriate for councils to develop their own policy or guideline for common sources of local noise in their area, so that local preferences and community expectations can be taken into account. This is especially important where a noisy activity plays a key role in the local economy. Examples of council policies and guidelines for a specific noisy activity:

- Sydney City Council has developed a policy on construction noise and a guideline for noise from spruikers in shopping centres.
- Griffith Council has developed a policy for the use of frost fans in the area.
- Cessnock Council has covered noise in a Development Control Plan for its vineyard district.

Developing a guideline or policy to manage specific noisy activities can help provide certainty for people engaging in a noisy activity and for the local community. It can establish realistic and reasonable expectations for noise levels and how the activity should be carried out. When developing a significant guideline or policy for a specific activity, councils should consult the local community and any relevant industry associations.

Factors that council may need to consider in developing a guideline or policy for a specific noisy activity include:

- how the noise should be measured to capture annoying characteristics, for example measuring the maximum noise level ( $L_{Amax}$ ) or the equivalent continuous noise level ( $L_{AeqT}$ ) (see section 2.4.3)
- the number of events (per week or per year) (Case study 8)
- operating times (day, evening or night)
- complaint management procedures for the operator
- a noise monitoring plan for the operator
- best management practices for the activity
- whether the noisy activity might be reasonably expected to occur in that land zoning
- community and other stakeholder views
- socioeconomic benefits.

## 1.6 Useful references and links

- The Australian Institute of Refrigeration, Air Conditioning and Heating—***Air Conditioner Residential Best Practice Guidance 2003*** brochure which provides general information on air conditioner noise and siting considerations (at [www.airah.org.au](http://www.airah.org.au)).
- Australian Acoustical Society—professional society of noise-related professionals ([www.acoustics.asn.au /index.php](http://www.acoustics.asn.au/index.php)).
- Association of Australian Acoustical Consultants—professional society of noise-related professionals ([www.aaac.org.au](http://www.aaac.org.au)).
- Roads and Traffic Authority NSW—***Environmental Noise Management Manual***, a manual detailing the RTA's framework for managing noise and vibration impacts from road traffic, individual vehicles, and road construction and maintenance activities [www.rta.nsw.gov.au/environment/noise/index.html](http://www.rta.nsw.gov.au/environment/noise/index.html)).
- New South Wales Government Legislation home page for access to all NSW legislation, including the *Protection of the Environment Operations Act 1997* and the *Protection of the Environment Noise Control Regulation 2000* ([www.legislation.nsw.gov.au](http://www.legislation.nsw.gov.au)).
- Department of Environment and Conservation NSW, Noise Policy Section web page ([www.environment.nsw.gov.au/noise](http://www.environment.nsw.gov.au/noise)).
- DEC NSW Public Register provides electronic access to information about licences, licence applications, Environment Protection Notices and Noise Control Notices, exemptions from the provisions of the POEO Act or regulations, convictions in prosecutions, and the results of civil proceedings, as required by section 308 of the POEO Act ([www.environment.nsw.gov.au/prpoeo/index.htm](http://www.environment.nsw.gov.au/prpoeo/index.htm)).

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- Liquor Administration Board—regulatory authority for noise from pubs and clubs ([www.dgr.nsw.gov.au](http://www.dgr.nsw.gov.au)).
  - Department of Local Government administers *Companion Animals Act 1998* ([www.dlg.nsw.gov.au](http://www.dlg.nsw.gov.au)).
  - ***AS 2021:2000 Acoustics Aircraft Noise Intrusion—Building Siting and Construction***, required construction standards for noise insulation.
  - ***AS/NZS 2107:2000 Acoustics***—recommended design sound levels and reverberation times for building interiors; required construction standards for noise insulation. Available from Standards Australia.
  - Community Justice Centres—free mediation service provided by the NSW Government ([www.cjc.nsw.gov.au](http://www.cjc.nsw.gov.au)).
  - *The Building Code of Australia*, published by the Australian Building Codes Board ([www.abcb.gov.au](http://www.abcb.gov.au)).





## Part 2 Noise assessment



*It is important to know what noise source is being measured.*

A noise assessment is an examination of the nature and characteristics of a noise. It may involve verifying aural factors such as:

- the location of the noise source
- its audibility at certain locations
- the time the noise is made
- its duration
- the reported effect it has on people.

A noise assessment may extend to the measurement of the noise level and its physical characteristics.

Noise assessments are important in situations where the Noise Control Regulation will be applied. The Regulation relies on an assessment of noise, based on its **audibility, time of day, duration or offensiveness**, depending on the situation.

The POEO Act does not require measurement of noise to determine whether it is offensive, or whether a Noise Abatement Direction can be served, but measurement can help to inform a decision about what action is necessary. However, noise measurements are generally required before a Noise Control Notice is issued.

From the outset, it is important to establish what the purpose or possible outcome of a noise assessment

will be. This will also make it easier to ensure that all necessary information is collected during the assessment.

This part of the Guide discusses the means by which a council officer or authorised person would judge whether, as defined by legislation, a noise is audible, excessively long in duration or offensive. It also outlines the techniques for measuring noise where this is desirable or necessary to support decision making.

### 2.1 Times of use and audibility of noise

The Noise Control Regulation restricts the times of operation for

equipment such as motor vehicles on residential premises, refrigerated vans, power tools, swimming pool pumps, air conditioners, musical equipment and marine vessels (see Noise Control Regulation clauses 15, 16, 32, 50, 51 and 52—also summarised in clause 4.3.1—Miscellaneous Articles and 4.3.3—Motor Vehicle Noise).

Noise from these items should not be audible inside a habitable room of any other residence after certain times. A habitable room means any room other than a garage, storage area, bathroom, laundry, toilet or pantry in a dwelling, whether or not the windows or doors are open or closed.

Audibility is simply whether the noise from the equipment can be heard. Persons or authorised officers giving the warning under the Regulation need to satisfy themselves that the noise is audible in the habitable room and is coming from the alleged source at the time of the offence during the prescribed times of use. This may involve listening to the noise inside the affected residence or external to the residence and/or seeking signed statements from the affected person regarding audibility of the noise inside the residence. (See also 'What Constitutes an Offence' in clause 4.3.1 'Miscellaneous articles'.)

The purpose of these clauses in the Regulation is to minimise noise when many people are sleeping or resting.

## 2.2 Duration of noise from alarms

The Noise Control Regulation specifies time limits that car and building intruder alarms may sound for (see Clause 4.3.2 *Alarms* and Regulation Clauses 23–25 and 53 for details). This is the duration test and simply means an offence occurs where the alarm has sounded for longer than the time permitted in the Regulation.

The Regulation also states that alarms that sound intermittently can be taken to sound continuously. For example, a car alarm that sounds for 30 seconds, cuts off for one minute and sounds again for 30 seconds is taken to have sounded for more than the 45 seconds permitted for car alarms manufactured after September 1997.

## 2.3 Offensive noise

The concept of offensive noise is applied in both the POEO Act and the Noise Control Regulation. Offensive noise is defined in the POEO Act as being noise:

- (a) *that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances:*
  - (i) *is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or*
  - (ii) *interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or*
- (b) *that is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances, prescribed by the regulations.*

The definition of offensive noise is relevant when issuing a Noise Abatement Direction (section 276, POEO Act) and also for relevant clauses of the Regulation (i.e. clause 14—Vehicles used off-road; clauses 17 and 17A—Motor vehicle sound systems; clause 30—Use of engine-powered marine vessels).

Determining whether noise is offensive noise relies on the unbiased judgement of the officer and consideration of the POEO Act definition. It is important for the officer (or other person assessing the noise) to account for any personal preferences or bias and to put them aside when making an assessment of noise. An example of this may be personal tastes in music.

Offensive noise can occur at any time of day, and a determination of offensiveness can be made regardless of any specified times of use for certain articles specified in the Noise Control Regulation.

### Offensive noise considerations

When deciding whether noise is offensive an officer needs to consider the definition of offensive noise in the POEO Act. The following questions are expected to be relevant in helping to make a judgement about whether any noise is offensive noise. Not all of the questions posed need to be answered in the affirmative to indicate offensive noise, but when you are using them as a guide a description of the situation will emerge that should help you in making a decision in regard to the definition.

- Is the noise loud either in an absolute sense or relative to other noise in the area?
- Is the noise well above the background noise level?
- Does the noise include any tones, impulses or fluctuations in volume?
- Does the noise occur at times when unreasonable interference with comfort or repose occurs or is likely? For example, during evenings or at night?
- How often does the noise occur (hourly, daily, monthly)?
- Is the volume, duration or character of the noise typical of the type of activity in question?
- Is the noise affecting or likely to adversely affect people's activities? For example, conversation, reading, studying, watching TV or sleeping?\*
- Is the noise typical of activities conducted in the area?
- Only one person need be affected as described in the definition for a noise to be deemed offensive. However, consideration of how other neighbours exposed to the same level of noise are affected may assist in deciding what course of action is appropriate. Some councils have a policy of requiring a minimum number of complaints from separate individuals before taking formal action.

\* Statements should be requested from complainants about the effects the noise is having on them. Where statements help in an officer's determination of offensive noise then the person giving the statement should be told about the potential need to give evidence in court.

The above list of considerations provides some guidance on the factors that may be relevant in deciding whether noise is offensive. The list is not exhaustive, nor is it implied that all of the factors listed must be met before a noise is offensive. In most cases the process of considering the listed factors will be sufficient to decide whether or not a noise is offensive and why.

In assessing whether noise is offensive, consider the applicable factors in the 'Offensive noise considerations' box and any other relevant factors.

The process involved in determining offensive noise should be noted in case the decision has to be supported later. The concept of having a subjective approach is to make it easier for appropriate regulatory authorities to control noise by avoiding the need for a complex and often time-consuming measurement using sound level meters.

The range of technical considerations for measuring noise is discussed in section 2.4. However, councils may still consider taking noise measurements to support a prosecution or where a Penalty Notice is likely to be challenged. The offensive noise test is outlined in the videos 'Managing Neighbourhood Noise' (1999) and 'Managing Rural Noise' (2000), obtainable from Pollution Line on 131 555.

## 2.4 Noise measurement

Noise measurements can help confirm when noise is a problem, and are appropriate for assessing ongoing noise. They also allow a comparison with the existing background noise levels. They may also be helpful in checking compliance with a notice or a condition of development consent.



*A professional sound level meter.*

Noise Control Notices specify a noise limit not to be exceeded at a specified location. Noise measurements are therefore usually necessary to establish an acceptable noise limit that can be specified in the notice (an exception is where a Noise Control Notice is used to specify an absolute noise level for a future event, such as a concert). Subsequent noise measurements are required in order to check that the noise limit is being met while the activity is being undertaken.

Any noise measurements taken in relation to a Noise Control Notice or for compliance purposes may be used as evidence to prove a breach of a notice or development consent.

It is important to remember that noise measurements introduced as evidence in court can be challenged on various technical grounds including:

- validity of calibration or conformance certificates for the measuring equipment (AS2659.1-1988 requires certificates to be valid for 2 years from the date of the certificate)
- rough handling of equipment, which may affect accuracy of readings
- field calibration and measurement location
- the way the measurement was taken (e.g. effects of weather, equipment parameter settings etc.)
- what is actually being measured (was it the subject noise?), and whether the level measured was affected by extraneous noise (e.g. noise from sources such as road traffic or neighbourhood activities that are not the noise source being investigated).

It is important that people responsible for taking noise measurements have been appropriately trained and update this knowledge over time.

Noise measurements can identify whether noise is intrusive. This is important in determining appropriate levels for a Noise Control Notice. Both the noise source and the background noise levels need to be measured.

Appendix 2 outlines techniques for carrying out simple noise level calculations, such as noise level addition and distance attenuation.

### 2.4.1 Intrusive noise

A noise source is generally considered to be intrusive if noise from the source, when measured over a 15-minute period, exceeds the background noise by more than 5 dB(A). The intrusiveness criterion can be summarised in more detail as follows:



### Intrusiveness criterion

$L_{Aeq, 15 \text{ minute}}$  is less than or equal to the rating background level plus 5 dB(A)

where:

$L_{Aeq, 15 \text{ minute}}$  represents the equivalent continuous (energy average) A-weighted sound pressure level of the source over 15 minutes.

$L_{Aeq, 15 \text{ minute}}$  is assessed at the most-affected point on or within the residential property boundary, or, if that is more than 30 metres from the residence, at the most-affected point within 30 metres of the residence

Rating background level is the short-term background level to be used for assessment purposes.

In most situations, short-term, operator-attended noise measurements will be most appropriate for council officers investigating noise complaints. Using this method (detailed below) will allow the officer to:

- establish the difference between the background noise level and the noise source being investigated
- check compliance with noise requirements for a premises.

Longer-term measurement procedures (e.g. those used for planning and development purposes) are provided in the *NSW Industrial Noise Policy*.

### 2.4.2 The difference between offensive noise and intrusive noise

Offensive noise is described subjectively by means of a definition in the POEO Act.

Offensive noise also has other statutory definitions for specific situations dealt with in the Noise Control Regulations, such as alarms which should not ring for more than a prescribed time and a range of domestic activities which should not be heard between certain hours at night. For instance, where no statutory definition of offensive noise has been made, policy documents can inform how an authority would approach managing offensive noise.

The EPA has produced policies for road traffic noise and industrial noise in this regard. Intrusive noise is one of the factors considered in the *NSW Industrial Noise Policy* to quantify noise impacts (other factors are cumulative noise and characteristics of noise).

Thus, the relationship between the statutory definition of offensive noise and intrusive noise is that intrusive noise can represent offensive noise, but whether this is always true can depend on the

source of the noise, noise characteristics and cumulative noise levels.

### 2.4.3 Procedure for measuring short-term noise

1. **Decide when the noise is representative** of the maximum level of noise from the source or activity being investigated and take measurements at this time. It is also important to measure background noise when it is representative of minimum levels that occur during the time the activity would typically be conducted.
2. **Avoid taking measurements** when it is raining or when the average wind speed at microphone height exceeds 5 m/s. (Typically at a wind speed of 5 m/s, leaves and small twigs would be in constant motion and the wind would extend a small flag.)
3. **Calibrate the noise sound level meter** before and after each set of noise measurements. The sound pressure level shown on the meter should match the stated sound pressure level for the calibrator being used. The equipment should not have varied by more than 1 dB. If it has then the measurements may be invalid.
4. **Set the meter** to 'Fast' time weighting and 'A' frequency weighting.
5. **Hold the sound-level meter at arm's length or set it up on a tripod** so the microphone is 1.2 to 1.5 metres above the ground and, where feasible, 3 to 5 metres from walls, buildings and other reflecting surfaces. The location of vegetation also needs to be considered, because noise levels can be increased locally by even a light breeze rustling leaves. Take care not to make noise such as talking that will affect the readings.
6. **Background noise measurement** should only be done at times or locations unaffected by noise from the source or activity under investigation. Measure the background noise level continuously for 15 minutes, excluding all distinct extraneous noises. If extraneous noise is present, pause the meter when this occurs or choose another measuring time or restart the measurement at another location. Extraneous noise is noise resulting from activities that are not typical of the area. Atypical events may include construction and traffic generated by holiday periods or special events such as concerts or sporting events. Normal daily traffic is not considered to be extraneous noise.

The background noise level for assessment purposes is the  $L_{A90, 15 \text{ minute}}$  level measured by a sound-level meter.

NOTE: If more than one valid noise measurement of the background noise for a location is obtained, use the lowest level as the background noise level. If the measured background level is less than 30 dB(A), then the background noise level is taken as 30 dB(A).

7. **Measure the noise from the noise source** under investigation continuously for 15 minutes, excluding all distinct extraneous noises as above. The noise level of the source under investigation is measured as an  $L_{Aeq, 15 \text{ minute}}$  level and ideally should be measured at the point where the impact occurs. If there is uncertainty about whether the noise being measured includes extraneous noise, move the sound-level meter closer to the noise source to a point where the source clearly dominates and note this new position. Measured values may then need to be extrapolated back to the position of the affected resident.

**Use of correction factors:** The particular characteristics of a noise, such as an audible impulsive or tonal component, may result in a higher level of disturbance and annoyance than would be suggested by the measured sound pressure level alone. In this situation, a correction factor should be applied to the measured noise level. For more information on the use of correction factors see Appendix 1 (which reproduces Section 4 of the *NSW Industrial Noise Policy*).

8. **Check the field calibration** at the end of the monitoring period in accordance with Australian Standard IEC 61672.1-2004 and Australian Standard 2659. Re-monitoring may be required where there is a calibration drift greater than that allowed by the standards.

#### 2.4.4 Difference between noise descriptors

$L_{Aeq}$  should not be confused with  $L_{A50}$ , which is a statistical measure of the level exceeded for 50% of the time of the measurement.  $L_{Aeq}$  is a measure of sound energy, not a statistical measure.

Figure 4 (see next page) provides an example of how relationships between different noise descriptors can change with different noise sources.

Figure 4 shows changing levels of traffic noise over time for both light traffic and heavy traffic situations and demonstrates the relative levels of three noise descriptors,  $L_{A10}$ ,  $L_{Aeq}$  and  $L_{A90}$  for light and heavy traffic. The light traffic, occurring at night includes some individual noisy vehicles. The noisy vehicles increases the  $L_{Aeq}$  level because of the extra sound energy being measured. However the  $L_{A10}$  level is not as responsive as the number of noisy vehicles

may occupy less than 10% of the measurement period, resulting in the  $L_{Aeq}$  level exceeding the  $L_{A10}$  level. Figure 4 also shows typical noise characteristics from a stream of daytime heavy traffic. Typically the  $L_{A10}$  is about 3 dB above the  $L_{Aeq}$ .

NOTE: The inclusion of 'T' in the descriptor is only necessary where the time over which measurements are made is a feature in the context in which the descriptor appears.

#### 2.4.5 Choosing the appropriate noise descriptor

In most situations, the  $L_{AeqT}$  is the most appropriate noise descriptor to use when measuring noise impacts. The  $L_{AeqT}$  is the equivalent continuous (average energy) level of the noise under investigation and is used in assessing noise impacts against existing limits, and to identify an acceptable noise limit that should be met. In certain circumstances, noise descriptors other than the  $L_{AeqT}$  may be more appropriate for measurement and assessment or compliance purposes, depending on the characteristics of the noise source. For example, where the noise emissions from a source of interest are constant (e.g. fan noise, air conditioner or pool pump) and the ambient noise level has a degree of variability (e.g. due to traffic noise), the  $L_{A90}$  descriptor may adequately describe the noise source and may be much easier to measure or assess (see case study 10). The aim is to ensure that the descriptor chosen adequately represents the source noise rather than the other extraneous noise in the environment.

Where sleep disturbance is being assessed, the  $L_{A1(60 \text{ seconds})}$  or  $L_{Amax}$  noise level is most appropriate, and the measurement position might be outside the bedroom window. Sleep may be disturbed if the source noise level exceeds the background noise by more than 15 dB(A). More research is needed to better define the relationship between noise level and sleep disturbance. The *Environmental Criteria for Road Traffic Noise* (ECRTN) have additional material about assessing sleep disturbance.

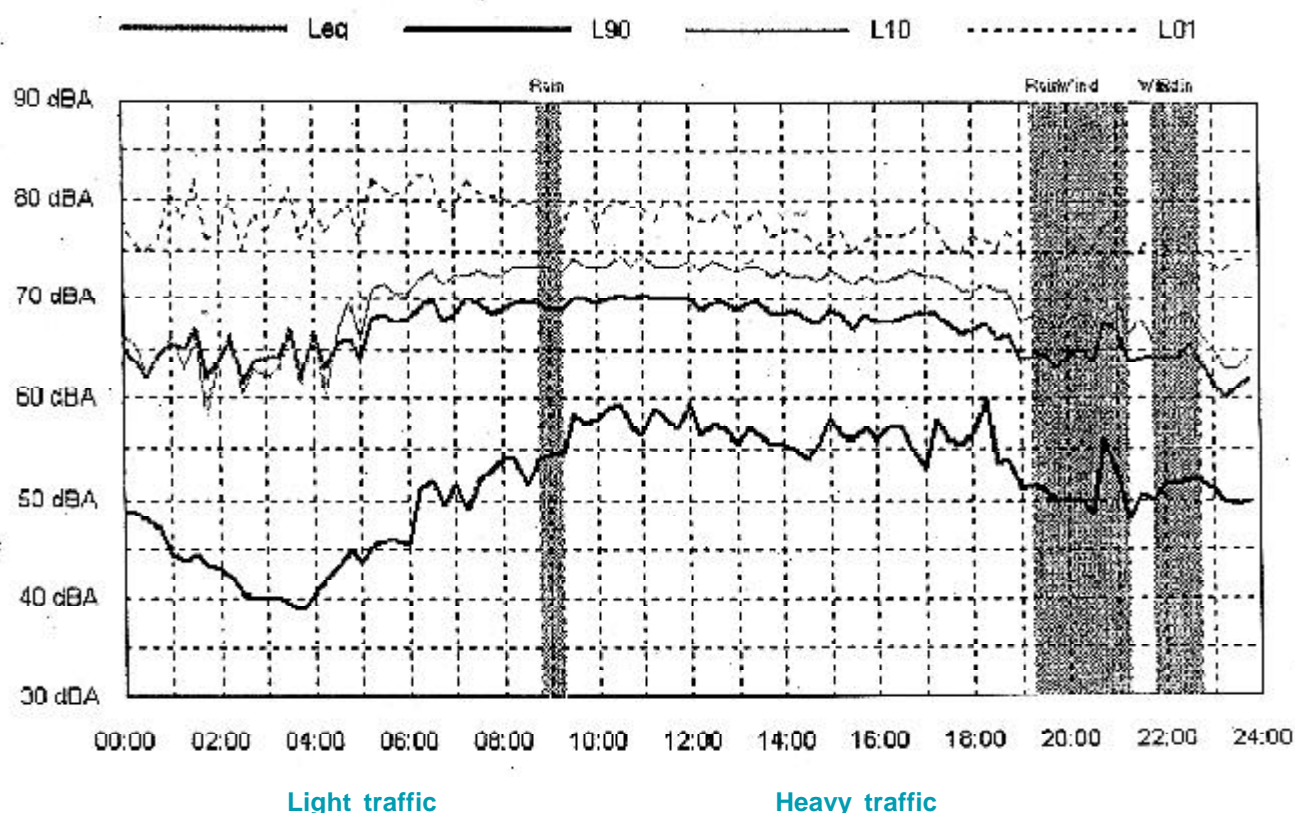
Target shooting ranges and gun clubs produce high levels of very-short-duration noise from firearm discharges. One approach to capture this type of noise is to set a sound level meter to linear peak hold so that the short-duration events can be captured and measured by the meter.

Where the noise descriptor chosen for noise measurement is not the  $L_{AeqT}$ , the reasons for the variation should be set out in any noise assessment report.

Modern integrating sound-level meters can measure values for a number of descriptors, including  $L_{A1}$ ,  $L_{AeqT}$  and  $L_{A90}$ .

Figure 4: Relationships between noise descriptors

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In measuring the level of the noise source the  $L_{Aeq}$  descriptor is now used. Before the introduction of the *NSW Industrial Noise Policy* in 2000, the  $L_{A10}$  descriptor was used. ( $L_{A10}$  measures the level exceeded for 10% of the time.) Reasons why the  $L_{A10}$  descriptor has been superseded include the following:

- $L_{Aeq}$  is supported as a better measure of the affect of noise (e.g. the World Health Organization uses  $L_{Aeq}$ ).
- There is a general worldwide move towards the use of  $L_{Aeq}$  as the preferred descriptor of source noise for most situations.
- $L_{Aeq}$  is a measure of energy and can be mathematically manipulated, while  $L_{A10}$  is a statistical descriptor which cannot be accurately added to or subtracted from other  $L_{A10}$  measures.

## 2.5 Common sources of noise

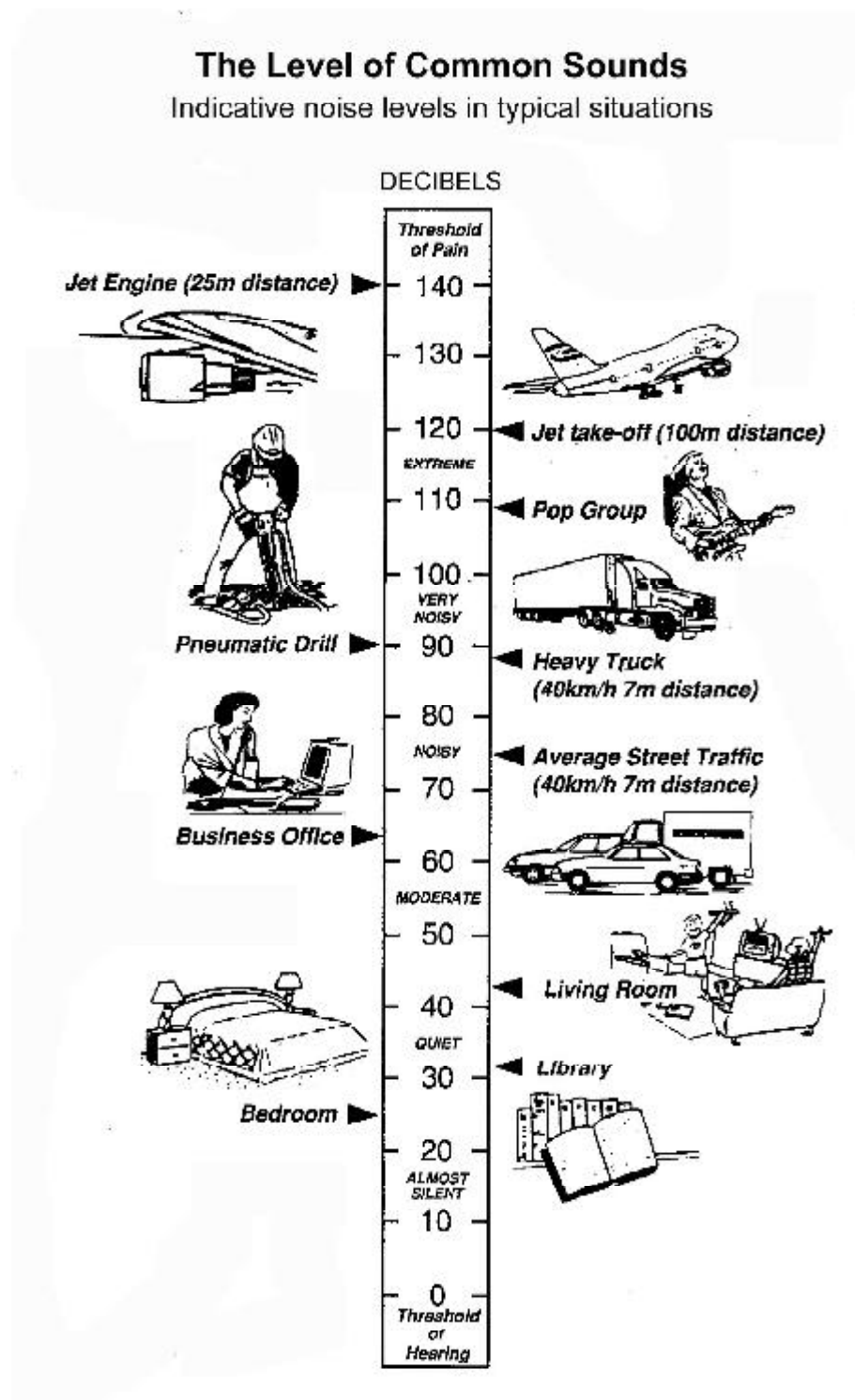
Figure 5 (next page) illustrates some common noise sources and compares their typical noise levels. It is not only the volume or loudness of noise that governs people's reactions. In any given situation

there can be a range of contributing factors, including impulsiveness, frequency and tone. How people view or feel about the source of noise and whether the activity creating the noise is seen as reasonable in the context in which it is made are also important factors. Other aspects, including whether respite from the noise is available or how invasive the noise is, will also affect an individual's reaction.

Examples of noise sources that can fall into these categories include:

- reversing beepers, particularly when operated at night
- amplified music, particularly where the noise has a large bass or low frequency content, which can be very invasive because low frequency noise is not attenuated well by building facades
- continuously sounding alarms, particularly where there is no respite.

Figure 5: An illustrated comparison of common noise sources



Source: Road Traffic Noise Taskforce Final Report





## Part 3 Noise management principles



*One example of taking a strategic approach to noise control is for land use planning to avoid residential/commercial interfaces.*

Avoiding the co-location of noise-sensitive and noise-producing premises can often prevent noise problems. Where this is not possible, noise controls need to be incorporated into new noise-producing developments, and mitigation measures may be prudent for new noise-sensitive developments (including residential areas, schools, hospitals, nursing homes and places of worship).

### **A multidisciplinary approach**

The following people have a key role to play in preventing and managing noise impacts:

### **3.1 Preventing noise impacts**

When managing noise impacts, prevention is always better than cure. Resolving noise problems after they occur may not always be possible and is often difficult and costly. It is best to anticipate, avoid or manage potential noise impacts as early as possible in the planning process. Noise impact assessment and management should be incorporated into processes for making land use planning decisions and should be considered at the earliest stage of the land use planning process.

The scope of issues considered should not be limited to localised impacts or even to local government boundaries. For example, a large construction site permitted to start work at 7.00 am may result in increased truck noise in surrounding streets much earlier.

#### **3.1.1 Preventing noise impacts by land use planning**

Land use planning and environmental legislation have complementary roles. Effective land use planning may help prevent potential noise impacts before they occur.

- **Strategic planners** should consider the potential noise impacts of different land uses in developing a strategy for an area. Planning instruments or policies should be developed to provide a consistent approach to managing potential noise impacts. This is particularly important where an important local industry has noisy aspects and there is a need to balance noise impacts and the role of a local industry in an area.
- **Development control (statutory) planners** should consider potential noise impacts during the development application phase for new or changing land uses. This applies to both noise-producing and noise-sensitive activities.
- **Industry and developers** should consider noise impacts in their development proposals and operating procedures so that noise impacts are minimised.
- **Managers and elected representatives of council** have an important role as decision-makers in many development and land use planning instruments.
- **Environmental health and compliance officers** should provide support and advice to planners and councillors in relation to existing and future noise impacts and offer advice on individual development applications where noise impacts may occur.
- **Transport corridor regulators and managers**, such as the RTA, local government and managers of railway activities.

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Changing land use patterns in an area can sometimes lead to new noise impacts or can exacerbate existing noise impacts. This can occur in both rural and urban areas owing to:

- new residential development located close to existing noisy activities
- new or intensified noisy activities close to existing residential areas
- changing expectations of residents about the amenity of a local area.

Common sources of noisy activities include commercial or industrial premises, main roads, rail lines and some entertainment facilities.

### 3.1.2 Land use planning instruments

Land use planning instruments include Local Environment Plans (LEPs) and Development Control Plans (DCPs) which can identify:

- areas where existing noise levels are already high, such as near an existing noisy industry, a busy road or a rail line
- acceptable noise criteria (internal/external) for noise-sensitive developments (e.g. setting acceptable noise levels for inside residential dwellings)
- acceptable performance criteria for noise-sensitive developments, such as specifying setbacks, boundary walls, solid balconies and window glazing
- activities that are likely to be noisy
- acceptable performance criteria for noisy activities such as the location of the proposed activity
- circumstances where an acoustic report may be required.

Several councils have addressed noise in land use planning instruments:

- Sydney City and North Sydney councils both have Development Control Plans addressing noise intrusion for residential apartments in commercial areas.
- Cessnock Council has a Development Control Plan which addresses potential noise impacts from different activities in the vineyard district.
- The Southern Sydney Regional Organisation of Councils developed a model Development Control Plan for road and rail noise impacts. The Plan provides acceptable noise criteria for noise-sensitive developments and provides a process for compliance.

Other councils have prepared policies or guidelines that let developers know the information that needs to accompany development applications. These approaches have an important role to play in

seeking to balance local activities and potential noise impacts. Councils can also implement noise control measures as part of development consents given for subdivisions and for individual developments, and may include specific conditions of consent to address noise issues. For example:

- Mulwaree Shire and Liverpool councils separately developed guidelines for poultry industries, including the management of noise.
- Griffith City and Leeton Shire councils each have a policy on frost fans.

### 3.1.3 Addressing noise impacts in the planning process

There are generally three stages of development and planning where potential noise impacts can be considered and managed.

**1. The initial planning stage**—A greenfield (undeveloped) site offers the greatest management flexibility in zoning industrial and noise-sensitive land uses. This is the point where compatibility of different land uses should be considered. During the initial planning stage it may be possible to identify the potential for land use conflict due to noise, and to develop management strategies to address these. Clear goals for new noisy activities (industry) can be developed that provide an equitable share of noise while protecting the amenity of nearby (planned or existing) residential areas.

An example of where this approach has been used successfully is the Ingleburn industrial estate at Campbelltown. Noise goals were developed for the whole of a new industrial subdivision. An equitable share of the total noise goal was then allocated among the industrial lots within the subdivision. Some activities created more noise than others did, but overall the total noise goal was maintained, helping to protect the noise amenity of a nearby residential area.

This approach was also used in the Greystanes Precinct Plan, a significant redevelopment area in western Sydney, which incorporates a new industrial area and a new residential area. Other examples of where this approach has been applied include the Glendenning industrial estate at Blacktown, Braemar industrial estate at Mittagong and the Steel River development at Newcastle.

**2. The subdivision stage**—When a commitment has already been made to locate residential and industrial land use areas close to one another but subdivision development has not started, there is an opportunity to design the internal subdivision layout to minimise noise impacts. This may apply to new residential or new industrial

developments. Noise mitigation strategies that can be used at this stage of development include:

- using the natural topography to prevent line of sight between the noise source and residential areas and thus block direct propagation of noise
- locating activities that are not noise sensitive, such as commercial areas and parkland, between residences and the noise source
- orienting dwellings so that living areas face away from noise sources
- defining areas affected by noise where building design needs to incorporate noise mitigation. (An example is the Shellcove residential development in Shellharbour Council area, which is alongside an existing quarry access road.)

**3. The building design stage**—Noise control measures can also be applied to individual buildings to ensure that internal noise levels are acceptable. It is far more cost effective to install appropriate noise insulation at the building stage, rather than later adding it to a finished building. Internal noise can also be minimised by:

- locating living areas away from the area most exposed to a noise source
- using thick or double-glazed windows, solid walls and doors, and window and door seals
- carefully selecting the location for installation of noise sources (such as air conditioners and gas water heaters).

Similar approaches can be used to prevent noise escaping from properties that generate noise. Consideration of the impact of a new building's noise sources (e.g. air conditioning unit) is important in minimising impacts on existing or future neighbours.

Site layouts for premises with noisy activities should consider using building structures to shield noisy operations and should locate areas of access to the site or buildings away from noise-sensitive areas.

### 3.1.4 Acoustic reports as a noise management tool

Acoustic reports have an important role to play in both preventing and remedying noise problems. It is often advisable for people who are planning activities that have the potential to cause noise impacts to seek professional advice on how to prevent, minimise or control noise impacts.

Requesting an acoustic report as part of the development application process can help council in its decision making and ensure that appropriate control measures are integrated into the development.

Situations where an acoustic report may be needed include:

- where required by a planning instrument or council policy
- where a new development is proposed that will create significant noise (e.g. new industry, or commercial premises with refrigeration, air conditioning or exhaust equipment)
- where a new noise-sensitive development is proposed in an area where existing noise sources are present (e.g. an existing industrial site, main road or rail line is located nearby)
- where a new development will generate a significant amount of traffic.

It is recommended that a suitably qualified acoustic consultant (e.g. a member of the Australian Acoustical Society, the Institution of Engineers, the Association of Australian Acoustical Consultants or a person with other appropriate professional qualifications) undertake acoustic assessment reports.

#### Information provided in an acoustic report should include:

- project description
- relevant guideline or policy that has been applied
- background noise measurements
- details of instruments and methodology used for noise measurements (including reasons for settings and descriptors used, calibration details)
- a site map showing noise sources, measurement locations and noise receivers
- noise criteria applied to the project
- noise predictions for the proposed activity
- a comparison of noise predictions against noise criteria
- a discussion of proposed mitigation measures, the noise reduction likely and the feasibility and reasonableness of these measures
- how compliance can be practically determined.

The *NSW Industrial Noise Policy* and the *NSW Environmental Criteria for Road Traffic Noise* provide detailed guidance on what areas may need to be covered in an acoustic report. Ultimately the decision to request an acoustic report from a developer rests with council.

### 3.1.5 Notifying of potential noise impacts

Section 149(2) certificates are used to notify a land owner of restrictions on the activities that can be carried out on the land. A certificate could, for

example, reference the fact that a particular planning policy applies to the land, such as a Development Control Plan (DCP), Regional Environmental Plan (REP), Local Environment Plan (LEP) or State Environment Protection Plan (SEPP).

Where land is likely to be affected by nearby noisy activity, potential purchasers of affected property could be made aware of the situation recording the relevant information on a certificate issued under section 149(5) of the (*Environmental Planning and Assessment Act 1979*). Additional advice under section 149(5) certificates should not be seen as a regulatory tool, but information on a section 149 Certificate could advise, for example, that adjoining or nearby industry operates on a 24-hour basis and noise may be audible at night. This approach has been taken by some councils in relation to noise from aircraft or from port activities. This approach allows a purchaser of the land to make a decision on the suitability of the land for the intended purpose, taking into account personal sensitivities. Note that recording information on section 149 certificates to notify of potential environmental impacts needs careful consideration and should only be contemplated after all feasible and reasonable noise mitigation measures have been applied to the source of the noise, and there is a need to manage potential land use conflicts.

Other information and education programs could be used to encourage consideration of neighbours' sensitivities to noise. Advice for hobby farm residents on what is reasonable to expect in a working rural area is one example. Those programs can be aimed at encouraging responsible behaviour and cooperative neighbourhood relationships. Council can play a role in providing information to new residents through a welcoming kit, or via leaflets available at council offices.

## 3.2 Noise mitigation measures

Many of the noise mitigation measures discussed below can be applied at the planning stage for a new area or development and can also be applied to existing noise problems.

There are three main areas where noise mitigation measures can be applied:

- at the source.
- in the transmission path.
- at the noise receiver.

Noise mitigation measures are generally most effective at the noise source and in the noise transmission path. Noise mitigation at receiver locations is generally least preferred because external noise levels may remain high.

The selection of the right approach to noise mitigation will depend on the nature of the noisy activity, the location of noise receivers, the cost and viability of various solutions, the degree of noise mitigation required, any special characteristics of the noise and the individual site factors. Often a mixture of noise control measures will work best.

### 3.2.1 Controlling noise at source

There are generally two approaches to controlling noise at source: use of **noise-efficient technology** and **best management practices**. Both these approaches aim to reduce the amount of noise at the source so that the surrounding environment is protected.

#### Noise-efficient technology

This involves selecting and using the most advanced and affordable technology, equipment, plant and machinery, so that the noise emitted is minimised, including the use of noise control equipment. Examples of noise-efficient technology include the following:

- **Choosing quiet equipment**—Noise should be a factor in selecting equipment. Equipment often has manufacturer specifications identifying noise output, and this can be used to compare items of equipment. The Noise Control Regulation (clauses 18 and 35–48) includes labelling requirements to provide information to help in choosing quiet equipment.
- **Managing equipment operation**—Equipment can be operated in such a way as to manage noise optimally. For example, the Regulation requires that common noisy items such as domestic air conditioners, jackhammers and grass cutting machines have a label at the time of sale showing their maximum noise level.
- **Using proximity-sensitive 'smart' reversing alarms**, or using systems that reduce alarm noise levels in low-noise areas.
- **Using vibratory piling** instead of impact piling.
- **Using high-pressure hydraulic rock crushers** to split rock, instead of hydraulic or pneumatic hammers.
- **Choosing fan design features that will reduce noise**—These may include blade length and speed of rotation.
- **Ensuring that equipment has an efficient muffler system** or suitable noise insulation (e.g. compressors or jackhammers with insulation, or trucks that have efficient muffler systems).
- **Providing insulation** to line metal trays, hoppers or bins on equipment such as macadamia nut de-huskers, grain containers or hoppers. This helps to stop impact noise and reverberations.



- **Using vibration isolation**, such as placing rubber mats or springs between noisy equipment and a rigid floor or wall. This approach may be helpful in boiler rooms, for commercial cake or bread mixers in bakeries, or in refrigeration motors and exhaust equipment and ducting.
- **Building an enclosure** around the noise source so that noise is contained. The enclosure may need to allow for sufficient ventilation and cooling. Any gaps need to be properly designed to limit the amount of noise that can escape. It needs to be made of dense material and may have noise-absorbing material like glass or polyester batts inside.

### Best management practices

Best management practices involve adopting particular operational procedures that minimise noise while retaining production efficiency. Some common noise reduction strategies include:

- **Considering alternatives** to the noisy activity (e.g. using nets to protect crops instead of gas scare guns).
- **Changing the activity** to reduce the noise impact or disturbance (e.g. reorganising the way the activity is carried out).
- **Choosing a suitable time**—scheduling a noisy activity to a less sensitive time of the day. There are sensitive times of the day for different people, for example schools during the day, times of religious services, and residences during evenings and night. Where several noisy pieces of equipment are used, their operation can be scheduled to minimise impacts.
- **Relocating the noise source** away from receivers or behind existing structures that can act as a barrier. The activity may work just as well in a more remote location. Examples for which this approach may be suitable include power tools, air conditioners, pool pumps and music practice.
- **Conducting regular maintenance** of equipment. This helps minimise noise levels as well as keep equipment working efficiently. Poorly maintained equipment can be very noisy, such as when bearings are worn or an engine needs to be tuned. Examples include motor vehicles, lawn mowers, power tools, and commercial equipment such as refrigeration and exhaust systems.
- **Changing the orientation of equipment** away from receivers (e.g. changing the direction of a gas scare gun or a diesel generator exhaust outlet).
- **Locating pets or farm animals** away from noise-sensitive areas, and using management practices that minimise noise. Applications include poultry sheds or dog kennels.
- **Following ‘quiet’ work practices**, such as requiring trucks to turn engines off rather than idle for long periods.
- **Keeping neighbours informed** of a planned noisy activity, its duration and the reasons for the activity. Neighbours may be more accepting of temporary intrusion if they know when and why the noise is happening, and how long it will last.
- **Educating staff and contractors** about noise and quiet work practices. This could include signage, e.g. some construction sites have signs reminding contractors to consider neighbours and be quiet, and to not start noisy work too early (e.g. before 7.00 am).

### 3.2.2 Controlling noise in the transmission path

Noise can be controlled in the transmission path by using separation distances, barriers and sound absorptive materials.

- **Increasing the separation distance**(distance attenuation) between the noise source and receiver reduces the noise level. As a rule of thumb, each doubling of the distance from a source equates to a reduction of sound pressure level of 6 dB (the inverse square law). This does not apply close to a loud noise source. It may also be affected by wind and temperature inversions for source–receiver distances over 300 m.
- **Careful site selection** for a new noisy activity can help minimise noise impacts where it is possible to provide adequate separation distances. Taking advantage of topographic features by siting the noisy activity behind a hill can reduce the distance needed to adequately reduce noise levels.
- **Barriers** are most effective when they are located close to the noise source and when they block the line of sight between the source and receiver. The amount of noise reduction achieved depends on the height and mass of the barrier and the frequency of the noise (barriers are less effective for low-frequency noise). Noise barriers should have no gaps. Use of absorptive material on the side of the barrier facing the noise source can also help to reduce noise levels by reducing noise reflections.
- **Materials commonly used for noise barriers** include solid brick walls, concrete blocks or panels, earth mounds, trenches and cuttings. Natural topography and existing buildings can also provide an effective noise barrier and should be considered when developing a new noisy activity. Trees or other vegetation do not provide an effective noise barrier. Some limited attenuation may be gained where trees are densely planted, but little attenuation is achieved for low frequencies.

- **Sound-absorptive materials** reduce the level of reflected sound. They are porous materials such as glass fibre, wool and mineral wool. Thin layers are capable of absorbing only high frequencies, whereas thicker layers can absorb over a wider frequency range.

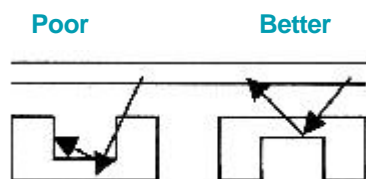
### 3.2.3 Controlling noise at the receiver location

This can be cost effective if used at the planning and construction stage, but is typically the least desirable of the three types of noise mitigation for treating existing problems. For existing situations, applying noise mitigation to affected buildings may be more appropriate and cost effective where only a few receivers would be affected by noise and the alternative is to retrofit expensive controls at the noise source.

Common approaches to controlling noise at receiver locations, such as residential dwellings, schools or hospitals, can include a combination of the following measures.

- **Site and building layout** can include the use of setbacks for a new house, or changing the shape and orientation of the building to avoid sound being reflected into noise-sensitive rooms (Figure 6). Orientation and placement of rooms within a building can also help to minimise noise impact (e.g. placing bedroom and sensitive living areas furthest from a noise source and placing kitchen, bathroom or garage areas closest to the noise source). This approach can also be used in designing mixed-use developments, where a commercial activity can be located closer to a noise source and residential activities can be located further away.

Figure 6: Site and building layout to avoid noise



- **Barriers and fencing** can be placed on the residential boundary to protect a house and external areas. Barriers and fencing can also be used within a property to provide a protected external recreation area such as a walled courtyard

Figure 7: Links Housing development at Camden incorporating noise barriers



or garden (Figure 7). Solid building facades closest to the noise source will also act as noise barrier. Other options include providing solid balconies designed to reflect sound away from a building.

- **Building construction methods** are also an important noise control strategy for receiver locations. The major controls are insulating building elements such as doors, walls, windows, floors, roof and ceilings. Options for window design include sealing air gaps around windows and doors, laminated or thick glass, and double-glazing. All external building elements need to be considered to ensure that noise insulation is effective. This is because even small gaps can significantly reduce the effectiveness of noise insulation measures. Ventilation needs to be considered in conjunction with any noise insulation work; mechanical ventilation (such as air conditioning) may be necessary.

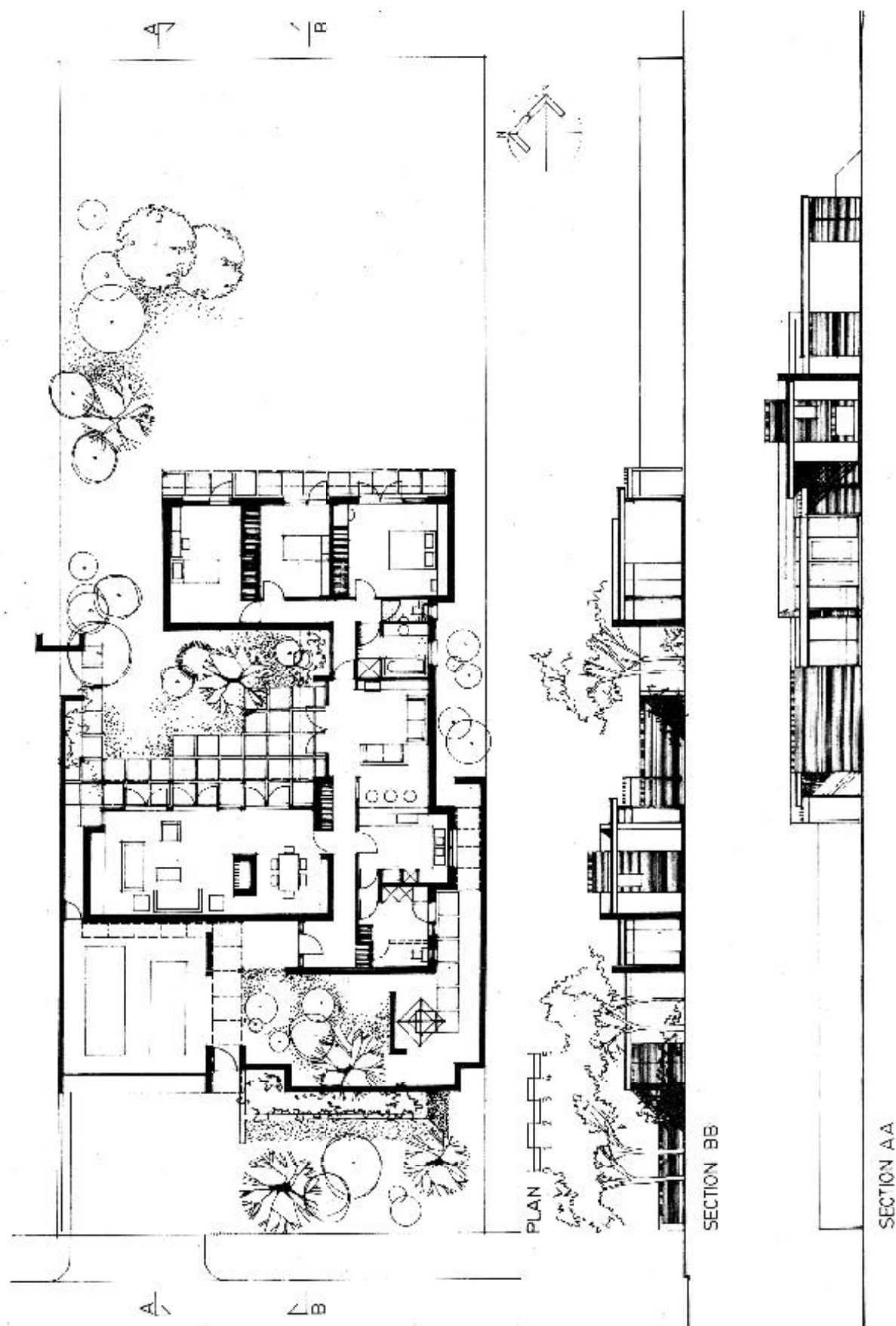
#### The 'Quiet House'

The 'Quiet House' (Figure 8, next page) was built as a demonstration of how design can be used to greatly reduce the noise impact (in this case traffic noise) inside a residential dwelling.

Features of the design (illustrated in the following plan) that reduce the noise include:

- a high front wall (noise barrier)
- the courtyard at the front of the house (including vegetation)
- hallways that do not provide a direct transmission path for noise
- bedrooms that are located at the rear of the house (furthest from the road).

Figure 8: Floor plan and sections of the 'Quiet House'





### 3.2.4 Air conditioner installation— estimating the noise impact on neighbouring properties



*Poorly sited air conditioners can  
cause noise impacts to neighbours.*

Residential air conditioning units are a common source of neighbourhood noise complaints. Annual sales of over 600,000 residential units in conjunction with increased levels of high density urban development represents significant potential for the an increased number of complaints. The level of impact is influenced by the amount of noise produced by the unit, the siting of the unit, and the height and composition of any boundary fence.

For proposed residential dwellings, it is important that such factors be considered at the development planning stage to minimise any noise impact created by the operation of the air conditioning system when the dwelling is built.

In the case of existing dwellings, it is important to consider the potential noise impact of installing an air conditioner. Councils may consider requiring development approval for installation of large air conditioning systems (e.g. above a specified power rating) so that siting and potential noise impacts can be properly assessed before installation. Similar principles to those discussed above also

apply to the installation of large, outdoor, gas hot water heaters.

Two methods are presented below for estimating the likely noise impact of an air conditioner installation on neighbouring properties (previously published under the title 'Air Conditioning Noise' by the former Australian Environment Council, see Appendix 5).

**Method 1** is designed to estimate the allowable level of noise from an air conditioner sited in a particular location. The object here is to compare the allowable level of noise to the sound power level shown on labels attached to air conditioning units.

**Method 2** is designed to show what level of noise would be produced at a neighbouring residence for an air conditioning unit sited at a particular location and emitting a level of noise shown on the label attached to the unit.

All domestic air conditioners manufactured after 1 March 1986 and not exceeding 12 kilowatts in power (when measured in accordance with Australian Standard 1861) are required to be sold bearing a noise label displaying the unit's sound power level, according to the Noise Control Regulation clause 45).

Each method depends on knowing what noise level needs to be achieved at the neighbour's boundary. Council may advise on noise levels it considers are appropriate. At night the Noise Control Regulation prescribes that air conditioning units installed on residential premises should be inaudible in any habitable room of a neighbour's residence. If complaints establish that problems exist then council may need to consider what noise level might be prescribed that may achieve inaudibility internally and then use one of the methods detailed here to provide an indication of what noise controls for the air conditioning unit may be needed. This may approximate to 30 dB(A) externally measured near a window of the neighbour's residence. Night time noise control if needed would be effective during the day, as night time noise control measures would be more stringent.

In advising levels to be achieved, council may need to consider the location where the desired noise levels for the neighbour are intended to be achieved, especially to achieve inaudible internal levels at night. The position also needs to be accessible for compliance testing reasons. If the position is near a wall or other reflective surface then actual levels may be enhanced by up to 3 dB, and the prescribed levels that council determine need to take account of this. If reflection appears to be an issue then measurements could be taken to test what level of enhancement occurs for that assessment position.



Appendix 5 reproduces the brochure issued by the Australian Environment Council to aid residents in assessing potential noise problems from air conditioners. Additionally, the booklet titled, *'Air Conditioning Residential Best Practice Guideline'* was developed through a joint project between The Australian Institute of Refrigeration, Air conditioning and Heating and Brisbane City Council. The booklet can be downloaded from [www.airah.org.au](http://www.airah.org.au). Both documents include a broad range of considerations which should be taken into account when siting an air conditioning unit. Expert input may be needed to overcome specific site issues.

### 3.3 Other noise management options

#### 3.3.1 Environmental audits

##### Audits required by council

Environmental audits of industrial premises that are regulated by councils are becoming more common as a range of councils implement environmental audit programs. Environmental audits provide an opportunity to identify the environmental impacts of an activity or business that may need to be improved. Audits have an important role to play in educating people and improving the environmental performance of commercial and industrial premises. The *EPA Manual for Authorised Officers* provides advice on developing and implementing an environmental audit program. (*EPA Manual for Authorised Officers*, at <http://www.environment.nsw.gov.au/mao/>).

##### Voluntary audits

The POEO Act also provides for voluntary audits undertaken by operators for the purpose of gaining information (for operators) on compliance with legal requirements, codes of practice or environmental policies, and to help identify ways an activity can be improved in order to protect the environment and to minimise waste (POEO Act, s. 172).

Voluntary audits differ from audits required by councils in that documents prepared for the sole purpose of a voluntary audit are protected. They cannot be used as part of enforcement action, including the issuing of notices, or for prosecution (POEO Act, ss. 180–183).

#### 3.3.2 Environmental management plans

Environmental management plans can be used to establish clear goals and to encourage best management practices during construction activities and ongoing operation. These types of plan can be

most useful when mitigating an environmental impact through the use of best management practices. In some situations it may be appropriate for council to require a proponent to develop an environmental management plan as part of a development consent, or to encourage the development of a plan as part of the environmental audit program for a particular premises.

#### 3.3.3 Contract specifications

Conditions set in contractual agreements can also help to avoid or minimise noise impacts and can be used where council is using contractors to provide services. Council may also be in a position to recommend changes to contracts for commercial premises.

For example, contract specifications for the management of noise impacts should be applied to garbage collection contracts. The contract should include clauses specifying suitable collection times, the location where compactors can be operated or bottles can be smashed, complaint handling processes, etc. Contractors for road works could also be required to comply with a council noise policy.

#### 3.3.4 Communication, negotiation and mediation

At a neighbourhood and workplace level, people should be encouraged to discuss their noise problems in the first instance with the person or business making the noise. **Communication** with a neighbour may be all that is required to reach a mutually satisfactory solution. Good relationships between neighbours should reduce the need for regulatory intervention.

Where neighbours have not sought to resolve the problem between themselves, the best first step for council officers may well be to facilitate communication. Ways of facilitating communication to resolve noise problems range from informal discussion to more formal negotiation and mediation processes that seek to resolve a dispute. Informal approaches are often preferable to taking statutory actions and are likely to use fewer council or Police resources.

This approach may be useful where, for example, the volume of music needs to be reduced or where the time or location that individuals play loud musical instruments such as drums causes conflict. In this type of situation it may be possible to negotiate days and times that are acceptable to both the complainant and the person making the noise.

**Negotiation** can occur between neighbours, or between council and the person making the noise. By discussing the noise problem with the person

responsible for the noise and by explaining that the noisy activity is disturbing neighbours, the person making the noise may be willing to negotiate a solution to the problem. Solutions often rely on either reducing the noise or changing the way or times the activity takes place.

**Mediation** is a form of negotiation, in which a third party (e.g. Community Justice Centres (CJs) or council) helps the people in dispute to find their own solutions and resolve problems amicably in an informal and confidential forum without strict legal rules, under the guidance of a mediator. The mediator's role is to help the parties discuss the problem and achieve a solution in an atmosphere of cooperation and good faith.

- **Informal mediation** could take place between the person making the noise and the person or people affected, with, for example, the council officer acting as mediator. The aim is to reach a mutually acceptable agreement that avoids the need for more formal mediation or for regulatory intervention. A council officer may decide whether or not to offer assistance by acting as the mediator in this situation.
- **Formal mediation** may be appropriate where underlying issues contributing to the conflict also need to be resolved. CJs or a professional mediator may be able to help in these situations by providing a formal mediation service. Some councils, such as Liverpool Council, have a mediation service for resolving environmental disputes, including those that arise as part of the development approval process. CJC contact information can be found at [www.cjc.nsw.gov.au](http://www.cjc.nsw.gov.au).

The NSW Law Society has developed information for local government on best practice management of environmental disputes. This information is available from the Local Government & Shires Association at [www.lgsa.org.au](http://www.lgsa.org.au).

#### Key strategies for successful mediation

- Remain impartial and focused on solving the problem.
- Look for areas where both sides agree.
- Listen actively and acknowledge what is being said.
- Recognise and understand emotions. Don't let emotional outbursts affect the mediation process.
- Be open to others' perceptions of the problem.
- Try to build rapport with all sides.
- Focus on possibilities, be flexible, and think laterally. With objections ask: 'Why not'?

### 3.3.5 Complaint management

Council officers, Police and other officers can provide an impartial and fair assessment of what level of noise is reasonable, taking into consideration the nature of the activity, the surrounding area and number of people likely to be affected.

Important steps that can contribute to resolving a noise problem include the following:

1. Establish internal procedures to receive and manage neighbourhood noise complaints in a consistent and transparent manner.
2. Act on the complaint as quickly as possible to prevent the situation getting out of control. The complainant's level of tolerance may have already been lowered if a problem has been ongoing. This can make any subsequent improvement in noise unsatisfactory from the complainant's perspective
3. Determine whether the complaint is justified. A site visit to witness the noise first hand is recommended to determine whether the complaint has been made on a reasonable basis. Factors that may need to be considered include the possibility that the complainant has:
  - become sensitised to the noise so that it causes more annoyance than would normally be the case. This can particularly be the case when the complainant feels that their complaints are not being treated seriously. It is important to recognise that this can occur and to be open to a complainant's views
  - a physical condition (e.g. tinnitus) which contributes to their perception of noise. These people may or may not be aware that the noise they hear is exacerbated by that condition.
4. Explain to the complainant what council or the Police can do to address the noise problem, and check that the complainant has reasonable expectations about the likely result. For example, it is not usually reasonable to close a commercial activity that is otherwise operating legitimately because of noise issues. It may also not be possible or reasonable to expect absolute silence.
5. Keep the complainant informed of progress and the action being taken to resolve the problem. The officer also needs to give the complainant realistic expectations about the time it will take to resolve the problem. This may be within the day for a noisy party, or several months where extensive noise reduction work is required.
6. Determine whether there is a history of noise complaints for the premises. The complainant may be able to provide information about any previous action in regard to the same noise issue.

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It may also be helpful to check with other colleagues from council or the Police, as they may have had complaints about noise from the same premises. Often if noise occurs outside business hours, a council ranger or the Police may have visited the premises and given a warning or a Noise Abatement Direction.

Council officers should also be aware of activities or situations that may affect their own hearing. For example, driving on a freeway with the window partially down may cause a short-term temporal shift in the range of hearing. It will take a few minutes after arriving on site to return to normal. Exposure to loud noise (e.g. at an industrial site) before assessing a neighbourhood noise complaint could also affect an officer's perception of noise. Personal activities should also be considered (such as attending a loud concert), as these may affect an officer's hearing the next day. Officers routinely working with noise complaints or issues should consider regular hearing tests.

### 3.3.6 Working with other regulators

Fostering ongoing liaison between regulators such as council, EPA, Police, the Sydney Harbour Foreshore Authority, and Waterways Authority officers can help coordinate resources and resolve ongoing noise problems efficiently and effectively, as each of these regulators has a range of powers and responsibilities. (Section 1.4 *Roles and Responsibilities in Noise Control* gives more details.) Liaison between regulators can help to clarify the role of each regulator in managing noise problems. It can reduce possible duplication and help to resolve difficult and ongoing noise problems in the most efficient and effective way.

An example is Rockdale City Council and the local Police working together to address the issue of loud car stereos, often a problem experienced in shopping precincts and in quiet neighbourhoods late at night, affecting recreation and sleep.

An example of where the combined resources of council and Police can be used effectively is where the Police have been called to a property as a result of loud music on a regular basis, and may have issued a Noise Abatement Direction or a Penalty Notice. Rather than continue to respond to noise complaints, the Police could advise council of the ongoing problem. Council has additional powers to issue a Noise Control Notice or Prevention Notice to manage such ongoing noise problems. (See section 4.2 *The Protection of the Environment Operations (POEO) Act 1997* for details.)

Where complaints are received about licensed premises or apartment buildings, it may also be helpful to involve other regulators, such as the

Liquor Administration Board (see section 1.4.1) when the complaint relates to a hotel or pub, or the owners' corporation (formerly referred to as the body corporate) when noise problems are occurring within a strata title apartment complex.

### 3.3.7 Education

Education of the community can be an important aspect of noise management to assist in avoiding or reducing noise conflicts.

Providing written information that outlines council's requirements and/or relevant legislation can be a cost-effective means of educating the community. DEC has a number of brochures that can be distributed by councils. A greater community understanding of an issue will help promote tolerance of surrounding neighbourhood activities and an understanding of what are generally accepted activities and what can be done should a conflict arise.

An education campaign can target a particular noise issue in the local area. Written material can be provided directly to residents and be made available at council offices or posted with other council correspondence (such as rates notices).

An education campaign could target:

- noise generators in the community to outline their responsibility to other members of the community
- existing or future noise receivers to explain the types of noise that may arise in the area and what level, duration and frequency of noise might be expected.

### 3.3.8 Warning of legal action

Non-regulatory methods should be considered as the first step in resolving a noise problem. Where non-regulatory approaches do not achieve an acceptable environmental outcome, or where the person making the noise is not willing to cooperate, or council would prefer to take stronger initial action, then regulatory tools remain an important option for resolving local noise problems. Where discussion and negotiation have been undertaken but have not resolved a problem, then a warning of legal action may sometimes be enough. An example is a letter advising of council's intention to take regulatory action against the person making the noise if the problem is not remedied. Where this approach is taken, it is important that the warning can and will be implemented if the person making the noise decides not to heed the warning. A warning letter can also demonstrate that council has acted reasonably should legislative remedies ultimately be used, as it has given the person making the noise a chance to address the problem before legal options are implemented.



## Part 4 Regulating noise impacts

The key regulatory tools for managing local environmental noise impacts are provided by the **Protection of the Environment Operations Act 1997** (POEO Act) and the **POEO (Noise Control) Regulation 2000**. A range of notices, directions and orders in relation to noise can be issued under the POEO Act. The Regulation describes offences and outlines penalties for those offences.

Other legislation that can be used to manage specific noisy situations includes:

- **Environmental Planning and Assessment Act 1979 (and Regulation 2000)**, which provides for orders for breach of development consent or development consent conditions with a Penalty Notice option
- **Companion Animals Act 1998**, which provides for Nuisance Dog and Cat Orders requiring the owner to prevent nuisance behaviour for six months
- **Local Government Act 1993(s. 124) Order No 18**, which requires an occupier of a premises to keep animals, including birds, in an appropriate manner specified in the order
- **Local Government Act 1993(s. 125)**, which enables a council to abate a public nuisance or order a person responsible for a public nuisance to abate it
- **Strata Schemes Management Act 1997**, which provides for various notices, orders for breaches of strata by-laws, and disputes between neighbours in strata title schemes.

This Guide focuses on the use of powers under the POEO legislation. The Department of Local Government may give advice on the appropriate use of other powers.

The decision regarding which of these instruments to use will depend on the circumstances of each noise problem and on the judgement of the officer. It may be helpful for council officers to discuss the statutory options available for addressing noise with a senior manager or council's legal officer.

### 4.1 Deciding on a course of action

There are many factors to consider when deciding on the best course of action in response to a specific noise problem.

Issuing a Penalty Notice tends to provide more streamlined enforcement procedures for many common noise problems where a fine may provide

an adequate deterrent. For example, the Noise Control Regulation requires that a motor vehicle not be used in any place, other than a road, in a manner that results in offensive noise (clause 14). If the use of trail bikes on private land was emitting offensive noise and a council officer decided to enforce compliance with the Regulation, then a Penalty Notice could be issued immediately on a single site visit by an enforcement officer.

#### Which notice or direction to use?

Things to consider when choosing which notice or direction to use:

- Is council the ARA, and is the investigating officer an authorised officer or an enforcement officer?
- If a Penalty Notice is to be issued by an officer, is that officer an enforcement officer who has powers to issue Penalty Notices for that offence?
- Will the fine from a Penalty Notice prevent the noise from continuing?
- Can the problem be easily remedied? For example, reducing the volume on a stereo, or stopping the use of trail bikes.
- Is work required to reduce noise? For example, insulation of a noisy pool pump.
- Does council have the expertise and equipment to take noise measurements?
- Do noise measurements need to be taken or can the officer easily assess the noise as being offensive?
- Is it a complex noise problem? For example, are there several different noise sources on a site?
- Is it possible to set an achievable noise level that should be met?
- Is it more appropriate to require best management practices to be adopted to minimise noise?
- How will council determine compliance with any notice served?
- Does the ARA have enough evidence to act on and to defend any appeal of a notice in court?



In comparison, if an officer decided to issue a Noise Abatement Direction under the POEO Act, then at least two assessments of the noise are normally needed. The first is to assess whether offensive noise is or was being made and, if so, to issue the direction. Subsequent assessment would then be required to determine whether the direction was being complied with. A Penalty Notice could be issued if offensive noise continued to be made within 28 days in breach of the direction.

There may be situations where the Regulation has been applied, but where the problem has escalated or is ongoing. For example, if the trail bikes continued to be used on the private property, despite warnings and Penalty Notices, it may be appropriate for an officer to consider the other regulatory tools provided by the POEO Act. A Prevention Notice or a Noise Control Notice could be served on the trail bike rider or the occupier of the land requiring certain action to be taken or setting a noise limit that must not be exceeded.

#### 4.1.1 Concurrent enforcement actions

Sometimes it may be useful to issue notices and directions in combination, but careful management of such processes is required. Some councils have issued a Prevention Notice or a Noise Control Notice to deal with noise from an activity, and have also issued a Noise Abatement Direction to deal with a repetition of the noise for the 21-day appeal period during which the notice is not in effect.

This approach may be appropriate where a noisemaker continues to make offensive noise and is causing significant disturbance. The direction would operate concurrently with the Noise Control Notice or Prevention Notice during any period of overlap, as the direction will last for 28 days (unless a shorter time period is specified in the direction).

##### Example

An activity involving the use of a circular saw is not being carried out by such practicable means as are necessary to prevent, control or minimise the emission of noise from the saw. Noise from the saw is made on Monday and a Prevention Notice is issued requiring an action plan to be developed to control the noise. There is a 21-day appeal period against the Notice. The circular saw is used again on Tuesday and a direction is also issued which prohibits offensive noise for 28 days.

Where more than one notice or direction is used to control noise from a certain activity, the following considerations should generally first be addressed:

- Natural justice must be maintained (e.g. the person issued with the notices retains their rights to appeal against the notices).
- There should have been more than one occurrence of the noise (i.e. on separate days or times).

An ARA or officer intending to use more than one notice or direction in this way should seek legal advice to ensure that legally consistent notices and directions are issued and that the process meets the requirements of natural justice.

#### 4.1.2 Animal noise

As there are a range of possible enforcement options available to control noise from animals, it is recommended that individual councils develop and adopt internal procedural guidelines for dealing with noise complaints relating to animals. This allows all complaints relating to a particular animal noise to be treated consistently within local communities.

When assessing the available options it is important to remember that each enforcement action has a differing cost implication for both council and the recipient of the action. It may be effective to write to the owner of an animal that is causing noise impacts and request that they take action to mitigate the noise within a specified time period (e.g. 2 weeks). The letter should outline council's intended action if this is not done (e.g. issuing a specified notice).

##### Regulatory options for dealing with animal noise

- The *Companion Animals Act 1998* provides for the service of orders to control nuisance dogs and cats (ss. 21 & 31). The Act assists by defining the characteristics of noise from the animal that would be regarded as a nuisance, including that it interferes with a person's 'peace, comfort or convenience'.
- The *Local Government Act 1993* provides for the service of an order (Order 18 under s. 124) to require the occupier of premises to keep animals, including birds, in an appropriate manner. In terms of noise, the regulations provide that poultry are not to be kept in a manner that creates a nuisance or health risk. Unlike the *Companion Animals Act 1998*, the *Local Government Act 1993* does not provide a definition of nuisance.
- The POEO Act allows for the use of Prevention Notices to control noise from animals.

NOTE: the definition of 'activity' under the Act includes the keeping of an animal. The Protection of the Environment (General) Regulation 1998 clause 59 provides a reduced appeal period of seven days for Noise Control Notices relating to the keeping of an animal.

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## 4.2 The Protection of the Environment Operations Act 1997

Table 2 (see next page) summarises enforcement options available under the POEO Act. This may help in deciding which instrument is most appropriate given the specific circumstances of the noise problem. The following sections detail each relevant enforcement option available under the POEO Act.

These are:

- 4.2.1 Noise Control Notices (POEO Act ss. 263–267)
- 4.2.2 Noise Abatement Directions (POEO Act ss. 275–279)
- 4.2.3 Noise Abatement Orders (POEO Act ss. 268–274)
- 4.2.4 Prevention Notices (POEO Act ss. 95–100)
- 4.2.5 Compliance Cost Notices (POEO Act s. 104(3) and 104(4))
- 4.2.6 Noise pollution from operating plant and dealing with materials (POEO Act ss. 139–140)

NOTE: *Maintaining a Public Register*—Part 9.2 of the POEO Act requires each Council, as a regulatory authority, to maintain a public register with details including each Environment Protection Notice, Noise Control Notice, Prevention Notice and Compliance Cost Notice.

### 4.2.1 Noise Control Notices (POEO Act ss. 263–267)

A Noise Control Notice is used to prohibit an activity or the use of equipment from emitting noise above a specified noise level.

#### Scope

A Noise Control Notice prohibits noise from an activity or a piece of equipment from being emitted above a specified level when measured at a specified point. A Noise Control Notice can be applied to a wide range of premises, including industrial, commercial and residential sites.

The notice must specify the:

- acceptable noise level
- measurement location(s)
- days and times when noise levels apply
- activity or article that is to be controlled.

Failure to provide an appropriate description of the noise source or measurement location may make the notice difficult to enforce. If the notice does not

specify the hours during which the noise limit applies, then the noise limit applies to the whole 24-hour period (POEO Act s. 264).

#### Limitations

A Noise Control Notice cannot require or specify works, for example, the preparation of an acoustic report on attenuation. In such instances a Prevention Notice is more appropriate.

#### Using a Noise Control Notice

A Noise Control Notice may be useful when a problem requires work to reduce noise, and where an acceptable noise level can be specified. A Noise Control Notice can also be used before an event occurs by setting an acceptable noise level in advance of when an activity will occur (e.g. a motor sport event or an outdoor concert). A Noise Control Notice remains in force until the ARA revokes it.

#### Specifying a noise level

Before issuing a Noise Control Notice, it is advisable to measure the background noise level. This information makes it possible to assess the intrusiveness (i.e. the extent that noise exceeds the background noise level) of any noise limit being considered for inclusion in the notice. It is possible to use a previously measured background level for the location, provided you can demonstrate that the level is representative of the background in the specific case. A measurement of the problem noise should then be made to determine whether the noise level specified is exceeded. The measuring point selected needs to be representative of the area to be protected. Section 2.4 *Noise measurement* provides advice on how to measure noise. The *NSW Industrial Noise Policy* (Chapter 10) provides additional guidance on noise emitted from existing industrial premises.

A Noise Control Notice must specify:

1. a noise limit that the activity or equipment must not exceed. When deciding what noise limit to set, it is important that the limit be realistic and achievable. Different noise limits may be set for different periods, for example you might set a lower noise limit at night. Don't forget to attach an appropriate noise descriptor and measurement period to the set noise limit (e.g.  $L_{Aeq\ 15\ min}$ )
2. the location where the specified noise limit(s) must be measured. This is usually at the nearest residential boundary, or if the boundary is a long way from a dwelling, such as in rural areas, at 30 metres from the residence. At night, noise can be assessed at 1 metre from a bedroom window to assess the potential for sleep disturbance. However, it is important to ensure that the

**Table 2: Summary of statutory instruments for noise under the POEO Act**

**For use by councils**

Notice or instrument	Precondition	When to use	Example	Appeal period & time in effect	Penalty for prosecution	Penalty Notice fine
Noise Control Notice (POEO Act s. 264)	Measure noise and establish an acceptable noise level for the article or activity.	Used to specify noise level and measurement point in a formal way.	Noise levels from the pump must not exceed 45 dB(A) $L_{eq,15\text{ min}}$ at any time between 7 am and 10 pm on any day when measured at the northern boundary of 45 Smith St.	Notice comes into force after 21-day appeal period, or when Land and Environment Court has confirmed the notice. Can be revoked or varied by ARA.	Corporations \$60,000, and for each day offence continues \$6,000. Individuals \$30,000, and for each day offence continues \$600 (POEO Act s. 265).	Corporation \$400 Individual \$200
Prevention Notices (POEO Act s. 96)	Applies if activity is being carried out in an environmentally unsatisfactory manner as defined by s. 95.	Action specified in the notice must be undertaken. (This notice can also address other pollution or waste problems.)	Prepare, by a certain date, an action plan to reduce noise from the site and submit it to the ARA.	Notice comes into force after 21-day appeal period, or when Land and Environment Court has confirmed the notice. Can be revoked or varied by ARA.	Corporation \$250,000, and for each day offence continues \$120,000. Individual \$120,000, and for each day offence continues \$60,000. (POEO Act s. 97)	Failure to comply with notice: Corporation \$1,500 Individual \$750 Failure to pay admin. fee: Corporation \$1,000 Individual \$500
Compliance Cost Notice (POEO Act s. 104)	Where council incurs costs in ensuring compliance with a Prevention Notice.	Provides for recovery of compliance costs, including monitoring.	Pay \$100, being costs incurred by council in taking listed steps to monitor compliance with a Prevention Notice.	Costs must be paid by due date in notice.	Legal action to recover amount owing.	N/A

**For use by council officers and Police officers**

Notice or instrument	Precondition	When to use	Example	Appeal period & time in effect	Penalty for prosecution	Penalty Notice fine
Penalty Notice (POEO Act s. 224)	An offence against the POEO Act or the POEO (Noise Control) Regulation for which POEO (Penalty Notices) Regulation says council officers & Police can issue Penalty Notices.	Can be used to fine offender on the spot.	Offensive noise was made contrary to Noise Abatement Direction.	Penalty must be paid within 28 days of being served unless notice revoked or offender elects to go to court and is prosecuted.	Various	Various
Noise Abatement Direction (POEO Act s. 276)	Offensive noise is occurring or has occurred within the last seven days.	Quick response to temporary offensive noise.	Cease making offensive noise from stereo system.	Remains in force for up to 28 days. Can be revoked.	30 penalty units (currently \$3300 @ \$110 per unit) (POEO Act s. 277).	Corporation \$400 Individual \$200

**Table 2: (cont'd) Summary of statutory instruments for noise under the POEO Act**

**For use by individuals**

Notice or instrument	Precondition	When to use	Example	Appeal period & time in effect	Penalty for prosecution	Penalty Notice fine
Noise Abatement Order (POEO Act s. 268)	Any occupier of premises whose occupation is affected by offensive noise.	Allows residents to seek intervention by Local Court (magistrate) without reference to Police or council.	Magistrate satisfied (on balance of probabilities) that offensive noise is being emitted. Order issued to person making the noise directing that offensive noise must not be emitted.	In force immediately or at the time specified in the Order. Lasts until revoked by the Local Court. Option of appeal to Land and Environment Court within 21 days of order being made. If appealed, order is suspended until appeal dealt with or withdrawn.	30 penalty units (currently \$3300 @ \$110 per penalty unit) (POEO s. 269).	No provision for Penalty Notice.

measurement location is accessible to whoever receives the notice so they or the issuing officer can check compliance. Where access to check compliance is a problem, a more accessible location to measure compliance can be specified, and the noise level can be adjusted accordingly

3. the times and/or days when the noise limit(s) applies. If none are specified then the noise limit applies at all times
4. the noisy activity or article that must be controlled.

A Noise Control Notice must be issued in writing (POEO Act s. 264). A template for a Noise Control Notice is attached in Appendix 4 to this Guide (source: *EPA Guide to Notices 1999*).

#### Power to issue a Noise Control Notice

An ARA can issue a notice to:

- the occupier of the premises concerned, or
- the person carrying on the activity, or operating the article (POEO Act s. 264).

Councils can issue Noise Control Notices for activities they are responsible for under the POEO Act. The Waterways Authority can issue Noise Control Notices in relation to non-scheduled activities involving non-pilotage vessels in navigable waters.

Police **do not** have the power to issue Noise Control Notices.

#### Appeals and revocation

A Noise Control Notice can be appealed to the Land and Environment Court within 21 days of being served (POEO Act ss. 267 and 290). Where the notice relates to the keeping of an animal the appeal period is within seven days of the notice being served (clause 59 POEO (General) Regulation 1998).

A Noise Control Notice does not take effect until after the appeal period has expired or until the court has determined an appeal or the appeal has been withdrawn (POEO Acts. 267).

#### Offence

It is an offence to contravene a Noise Control Notice. An offence occurs if the activity or article emits noise above the noise limit specified in the notice during the relevant times or days. However, this does not apply where the noise cannot be detected outside the premises without the aid of an instrument (POEO Act s. 265). This means that any noise above the specified level must also be audible.

#### Penalties

A breach of a Noise Control Notice can be prosecuted in the Land and Environment Court with a maximum penalty of \$60,000 for a corporation and \$30,000 for an individual. Daily penalties also apply for each day the offence continues. A maximum penalty of \$22,000 can be issued in the Local Court for breach of a notice.

Alternatively, an enforcement officer can issue a Penalty Notice for a breach of a Noise Control Notice. This provides for fines of \$200 for an individual and \$400 for a corporation, which can be issued 'on the spot' where this is practicable (POEO (Penalty Notices) Regulation 1999). Council receives the bulk of any fines imposed by the court or by a Penalty Notice.

#### 4.2.2 Noise Abatement Directions (POEO Act ss. 275–279)

Noise Abatement Directions can be issued if offensive noise:

- is being emitted, or
- has been emitted at any time within the past seven days from any premises.

The Direction lasts for up to 28 days.

#### Scope

Noise Abatement Directions are useful for quickly dealing with temporary noise problems such as loud music, where the noise can reasonably be reduced or stopped. A direction is an official instruction that offensive noise must cease. A direction can be issued within seven days of the offensive noise occurring and lasts for up to 28 days.

#### Using a Noise Abatement Direction

A Noise Abatement Direction can be issued if it appears to an authorised person that offensive noise is being made or has been made in the past seven days (POEO s. 276). An 'authorised person' is generally an 'authorised officer' (i.e. a person appointed as such under section 187 of the POEO Act) or a Police officer (POEO s. 275).

Offensive noise is defined in the POEO Act. In deciding whether a particular noise is offensive the authorised person would need to apply the definition of offensive noise from the POEO Act and consider what a reasonable person would find offensive. Determining offensive noise is discussed in detail in section 2.3 of this Guide.

The authorised person need not have witnessed the offensive noise before issuing a Noise Abatement Direction. For the direction to be issued, it is sufficient for it to appear to the authorised person



that offensive noise occurred in the past seven days. Where an authorised person has not heard the noise, it is preferable to ask witnesses to make a signed statement about the noise and its effect on them.

A template for a Noise Abatement Direction is included as Appendix 4.

#### Power to issue a Noise Abatement Direction

An authorised person can issue a Noise Abatement Direction to:

- the occupier of the premises concerned, or
- the person making or contributing to the making of the offensive noise.

#### Serving a Noise Abatement Direction

A Noise Abatement Direction can be issued verbally or in writing to the person the authorised person believes to be the occupier of the premises from which the offensive noise originates, or to any person the officer believes is making or contributing to the noise, or both. Where further action may be required it is recommended that a written direction be provided so there is clear evidence of its details. This is helpful for both the regulator and the person receiving the direction.

A Noise Abatement Direction should specify the source or type of offensive noise, for example, 'cease using concrete saw or any other power tools'.

#### Restrictions

Section 278 of the POEO Act states that a Noise Abatement Direction may not be directed to the State, a person acting on behalf of the State, a State public authority, or a person acting in the capacity of a member, officer or employee of that authority. It also has no force if it affects:

- any activity carried on, by or for the State or a State public authority
- any activity or work that requires or is subject to an EPA licence (see Schedule 1 of the POEO Act).

#### Appeals and revocation

There is no right of appeal against a Noise Abatement Direction under the POEO Act.

A direction may be revoked by the person who gave the direction or by another authorised person (POEO Act s. 279).

#### Offence

It is an offence to breach a Noise Abatement Direction. This happens if the offensive noise specified in the direction is made again within 28 days of the direction being given (or within a shorter time period if so specified in the notice).

#### Penalties

Penalty Notices can be issued for failing to comply with a Noise Abatement Direction, with fines of \$200 for an individual and \$400 for a corporation.

The maximum penalty the Land and Environment Court may impose for not complying with a Noise Abatement Direction is 30 penalty units (at the time of publication \$3,300 (\$110 per penalty unit as set by the *Crimes (Sentencing Procedure) Act 1999* s. 17).

#### Special powers of Police for serving or enforcing Noise Abatement Directions

Police officers have special powers for serving and enforcing Noise Abatement Directions.

These include the power:

- to enter premises with a warrant (POEO Act s. 280)
- to require certain information (name and address) (POEO Act s. 281)
- to seize equipment making offensive noise in breach of a Noise Abatement Direction (POEO Act s. 282).

#### Warrant to enter premises (POEO Act s. 280)

A Police officer can enter premises (with a warrant) to give a Noise Abatement Direction or to investigate whether a direction has been contravened (POEO Act s. 280 (1)).

A magistrate can issue a warrant following a complaint by a Police officer (received either directly or indirectly, see POEO Act s. 280 (2) & (3)) if the Police officer:

- has been denied entry to a particular premises
- believes that offensive noise is being or has been emitted from the premises in the past seven days, and
- issues a direction immediately on entering the premises or calls for an investigation to be carried out to see whether a direction has been contravened.

The POEO (General) Regulation 1998 (clause 58 and Schedule 4 Forms 1, 2 & 3) provides the prescribed forms for the magistrate and the Police officer to record details of the case and the information that must be provided to the occupier of the premises where the warrant is being executed.

#### Police powers after entry by warrant (POEO Act s. 281)

If a person is causing or contributing to offensive noise or has done so within the last seven days then

a Police officer can require a person to provide:

- their name and address, or
- the name and address of the occupier of the premises if that person is not the occupier.

The person must first have been warned that they are obliged to provide this information. It is an offence not to provide this information or to give false information, with a maximum penalty of 30 penalty units (POEO Act s. 281(3)).

#### Police power to seize equipment (POEO Act s. 282)

A Police officer can seize or secure any equipment that is making offensive noise if a Noise Abatement Direction is in force and a person is contravening the direction. The person must be warned that the continued use of the equipment may lead to its being seized. If equipment is seized a receipt then needs to be issued to the person. Equipment must be returned or released within 28 days. Other Police powers are not affected (POEO Act s. 283).

### 4.2.3 Noise Abatement Orders (POEO Act ss. 268–274)

Individuals can seek a Noise Abatement Order independent of any regulatory authority such as a council or the Police.

Noise Abatement Orders can only be made by a Local Court.

The magistrate generally issues the order based on the ‘balance of probabilities’.

#### Scope

Any occupier of premises who believes their occupation of the premises is being affected by offensive noise can seek a Noise Abatement Order without involving a regulatory authority such as council or the Police. This is done by filing an Application Notice to a chamber magistrate at the Local Court seeking a Noise Abatement Order. The Court may issue a Noise Abatement Order requiring offensive noise to cease if it is satisfied that the noise was offensive.

#### Using a Noise Abatement Order

Where council or the Police have decided that no further action is justified for a particular matter, the resident can be advised about the option of seeking a Noise Abatement Order from a Local Court.

The burden of proof required for an order to be issued is less than that required for criminal enforcement action by a regulatory authority (i.e. the magistrate may make a ruling on ‘the balance of probabilities’ based on the evidence

presented, rather than having to be convinced beyond reasonable doubt).

#### Obtaining a Noise Abatement Order

Any person wanting to seek a Noise Abatement Order should make an appointment to discuss their proposed course of action with the chamber magistrate at the Local Court. The following steps are involved in issuing a Noise Abatement Order:

1. The occupier of affected premises should call the chamber magistrate and discuss the proposed course of action. The chamber magistrate may request a meeting.
2. The occupier of the premises should then file an application notice with the court registry.
3. The court registrar then assesses the application notice and, if approved, the Court will serve a Court Attendance Notice requiring the defendant to attend court.
4. The magistrate may issue an order if satisfied, on the balance of probabilities, that offensive noise either exists or is likely to recur.

As issuing an order involves court time and possibly the involvement of legal representation, the chamber magistrate will often encourage parties to undertake mediation to prevent this time-consuming and potentially expensive process. This being the case, parties should be encouraged to approach the local Community Justice Centre or seek other mediation opportunities before completing the Application Notice.

It is not necessary to obtain legal advice when seeking an order, although this may be advisable depending on the circumstances. An order takes effect either immediately or at a time specified in the order. An order may be revoked or varied by a local court.

#### Appeal

A person against whom a Noise Abatement Order has been made may appeal to the Land and Environment Court within 21 days of the order being made (POEO Act s. 290). The order is suspended until the appeal is dealt with or withdrawn (POEO Act s. 271).

#### Restrictions

Under section 270 of the POEO Act, a Noise Abatement Order may not be directed to the State, a person acting on behalf of the State, a State public authority or a person in the capacity of a member, officer or employee of the authority. It also has no force if it affects an activity carried on, by or for the State or a State public authority, or an activity that requires or is subject to an EPA licence.

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## Offence

A person who contravenes the terms of a Noise Abatement Order is guilty of an offence (POEO Act s. 269).

The person who applied for the order can seek to have the person given the order prosecuted for contravening the order. Section 218 of the POEO Act identifies who may initiate a prosecution for a breach of a Noise Abatement Order.

Where an order has been breached, the breach will have to be established according to a criminal standard of proof (i.e. beyond reasonable doubt). This is more onerous than the standard of proof required to obtain an order.

## Penalties

The maximum penalty for not complying with a Noise Abatement Order is 30 penalty units (at the time of publication \$3,300 (\$110 per unit set by section 17 of the *Crimes (Sentencing Procedure) Act 1999*). A Penalty Notice **cannot** be used for a breach of an order.

### 4.2.4 Prevention Notices (POEO Act ss. 95–100)

Prevention Notices are used to control activities that are conducted in an ‘environmentally unsatisfactory manner’.

Actions need to be specified in the Prevention Notice.

## Scope

A Prevention Notice can be used to control activities that are conducted in an ‘environmentally unsatisfactory manner’ (as defined in s. 95 of the POEO Act) and should specify the action to be taken to remedy the problem.

Section 96(3) of the POEO Act provides a list of examples of actions that a Prevention Notice can require. This includes requiring an operator to develop an action plan and to supply progress reports on the action required by the Prevention Notice (POEO Act s. 96(5)).

A Prevention Notice can encourage an operator to apply best management practice to an activity. It is likely to be appropriate where:

- there is a complex activity with many noise sources, and changes to operational practices are needed
- it may be difficult or unreasonable to specify an acceptable noise level that must be met
- there are a number of environmental issues requiring action, e.g. noise, air, water or waste problems. A single Prevention Notice can be used

to manage all these problems for a particular site or activity.

The Prevention Notice is designed to set out actions that are needed for an activity to operate in an environmentally satisfactory manner. It is oriented towards finding solutions that would control the noise and cannot be used to simply ban an activity unless this is the only way it can be resolved in an environmentally satisfactory solution.

## Using a Prevention Notice

Before preparing the Prevention Notice you must establish that the activity is being carried out in an environmentally unsatisfactory manner. Section 95 of the POEO Act defines this term. Section 95(c) and (d) contains the most relevant parts of the definition in relation to noise, and states that an activity is being carried out in an ‘environmentally unsatisfactory manner’ if:

- it is not carried on by such practicable<sup>2</sup> means as may be necessary to prevent, control or minimise pollution, the emission of any noise or the generation of waste, or
- it is not carried on in accordance with good environmental practice.

The term ‘practicable means’, as used here, is not defined by the POEO Act, so it is given its natural meaning. The Macquarie Dictionary defines practicable as ‘*capable of being put into practice, done or effected especially with the available means or with reason or prudence; feasible.*’ If there is action that can be taken to prevent, control or minimise the emission of noise, then a prevention notice may be issued.

A Prevention Notice needs to specify:

1. the actions the operator should take to ensure that the activity is carried out in an environmentally satisfactory manner. Section 96(3) of the POEO Act lists some of the things that can be required in a Prevention Notice.
2. If suitable measures to control the noise are not apparent, the Prevention Notice can require that an action plan (noise management plan) be developed by the operator as a first step. The operator usually best understands the noise source and may be able to think of innovative solutions with your encouragement.

An action plan could specify the details that council expects the operator to address. For example, the Prevention Notice may require that the action plan be prepared by a suitably qualified person, that noise be measured or monitored, and that certain control measures have been considered as part of the plan, such as relocating or enclosing equipment or changing operating times. There

could also be a requirement that the plan be submitted to council for approval before being implemented. If a two-stage approach was being followed then a further notice could be issued to implement the approved measures. Management options that are developed to reduce the noise need to be feasible and reasonable.

3. the date(s) when the action required in the Prevention Notice must be completed. If an action plan has been requested then you need to specify a date(s) for the plan to be submitted and implemented.

Where the Prevention Notice is issued to the occupier, but the occupier is not the person carrying on the activity, the occupier must take all available steps to cause the action to be undertaken (POEO Act s. 96(4)).

A template for a Prevention Notice is included in Appendix 4 (source: *EPA Guide to Notices 1999*).

#### Power to issue a Prevention Notice

Only an ARA can issue a Prevention Notice. Police **do not** have the power to issue Prevention Notices. A notice can be issued to:

- the occupier of the premises concerned, and/or
- the person carrying on the activity (POEO Act s. 96(2)).

The Prevention Notice must be issued in writing.

#### Appeals

A person given the Prevention Notice may appeal to the Land and Environment Court within 21 days of being served with the Prevention Notice (POEO Act s. 289).

Section 99 of the POEO Act states that the Prevention Notice does not take effect until:

- after the appeal period has expired (without an appeal being lodged), or
- until the court has decided an appeal, or
- the appeal has been withdrawn, or
- the recipient of the Prevention Notice informs the issuer in writing that no appeal will be made.

#### Offence

A person who fails to comply with the Prevention Notice is guilty of an offence under section 97 of the POEO Act.

The ARA may require the person concerned to pay for all or any reasonable costs and expenses it incurred in monitoring and ensuring compliance with the notice. See section 4.2.5 of this Guide.

If a person has not complied with the Prevention Notice, the ARA itself (or its employees, agents or

contractors) can take the action that the Prevention Notice requires (POEO Act s. 98). The ARA may then require the person concerned to pay for all or any reasonable costs and expenses it incurred in taking that action (POEO Act s. 104(4)).

These cost recovery mechanisms are in addition to any prosecution that may be undertaken.

#### Penalties

A Penalty Notice can be issued for failure to comply with a Prevention Notice with fines of \$750 for an individual and \$1500 for a corporation.

A breach of a Prevention Notice can be prosecuted in the Land and Environment Court, with maximum fines being \$250,000 for a corporation or \$120,000 for an individual. There are also daily penalties if the offence continues.

#### Administrative fee for a Prevention Notice

Cost recovery options for Prevention Notices include an administration fee for serving the notice and a separate Compliance Cost Notice for monitoring or ensuring compliance with the notice.

The mandatory administrative fee of \$320 (at the time of publication) is intended to cover the costs of preparing and giving a Prevention Notice (POEO Act s. 100). The fee must be paid within 30 days of receiving the notice. Where the Prevention Notice is appealed, payment of the fee is suspended until the court has decided the appeal. The administration fee is prescribed by clause 61 of the POEO (General) Regulation 1998.

Appropriate regulatory authorities have discretionary power to waive the administration fee or extend the period for payment (POEO Act s. 100). Examples of circumstances in which appropriate regulatory authorities might consider waiving the fee are:

- demonstrated cases of financial hardship
- where the Prevention Notice has been issued to a charitable organisation.

#### 4.2.5 Compliance Cost Notices (POEO Act s. 104(3) and 104(4))

A Compliance Cost Notice allows an appropriate regulatory authority to recover the costs of monitoring or ensuring compliance with a Prevention Notice.

It is a separate notice which can be served after a Prevention Notice has been given.

#### Scope

A Compliance Cost Notice can be served to recover the costs incurred by the ARA for monitoring or ensuring compliance with a Prevention Notice



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(POEO Act s. 104 (3)). It is issued to the person who was issued with the Prevention Notice.

The notice does not include the cost of preparing and issuing a Prevention Notice, which is covered by the administration fee described in the previous section.

#### Power to issue a Compliance Cost Notice

The ARA that has issued a Prevention Notice to a person may issue a Compliance Cost Notice. A Compliance Cost Notice must be issued in writing.

#### Using a Compliance Cost Notice

A Compliance Cost Notice is used to recover the costs associated with monitoring and follow-up action taken as a result of issuing a Prevention Notice. This may include such things as travel to the site to do follow-up inspections, time spent on inspection to ensure that conditions of the notice are being complied with, and measurements an officer may take to ensure that the conditions of the notice are being complied with.

Officers need to keep accurate records of the time spent in ensuring compliance with the Prevention Notice. The ARA will need to determine an hourly fee charge for the purpose of issuing Compliance Cost Notices.

A template for a Compliance Cost Notice is included in Appendix 4.

#### Appeals

There is no right of appeal under the POEO Act.

#### Payment method

Compliance Cost Notices should specify a time for payment. The notice should also indicate that if the payment is not received by the specified date then the ARA may take steps to recover the unpaid amount.

#### Failure to comply

The ARA may recover any unpaid amounts specified in the notice in a court.

#### Registering Compliance Cost Notices

Compliance Cost Notices may be registered with the Registrar-General, creating a charge over any land owned by the person who is the subject of the notice (POEO Act s. 106). This charge will cease to have effect either (POEO Act s. 107):

- on payment to the ARA or public authority of the amount concerned, or
- on the sale or other disposition of the property with the written consent of the authority, or

- on the sale of the land to a purchaser in good faith who, at the time of the sale, has no notice of the charge.

Compliance Cost Notices can be registered with the Registrar-General if attempts to recover the costs have not been successful.

### 4.2.6 Noise pollution from operating plant and dealing with materials (POEO Act ss. 139–140)

There are two general provisions for noise from premises in sections 139 and 140 of the POEO Act. These relate to the operation of plant and handling of materials, respectively.

#### Operation of plant causing noise (POEO Act s. 139)

In situations where council is the ARA, an authorised council officer or enforcement officer can prosecute or issue a Penalty Notice to the occupier of premises where the council officer considers that a noise problem from the premises is being caused by the operation of plant that is poorly maintained or not operated correctly (A Penalty Notice may be issued only by an enforcement officer). In other words, the occupier has failed:

- to maintain the plant in an efficient condition, or
- to operate the plant in a proper and efficient manner.

An example is the operation of worn conveyor belts causing noise as the loose belt is drawn through the drivers.

#### Dealing with materials causing noise (POEO Act s. 140)

In situations where council is the ARA, a council officer, who is authorised by the council to do so, can prosecute or issue a Penalty Notice to the occupier of a premises where the council officer considers that noise is occurring because materials are not being dealt with in a proper or efficient manner by the occupant. For the purposes of this section of the Act:

- ‘deal with’ means process, handle, move, store or dispose of
- ‘materials’ include raw materials, materials in the process of manufacture, manufactured materials, by-products, or waste materials.

An example is the practice of throwing or dumping empty glass bottles into steel drums or containers, thereby making noise.

No warning is required to be given before issuing a Penalty Notice or proceeding with a prosecution where section 139 or 140 of the POEO Act is breached.



### 4.3 The POEO (Noise Control) Regulation 2000

The Noise Control Regulation streamlines the handling of common neighbourhood noise problems by providing more specific controls than the general powers provided under the POEO Act. The provisions of the Regulation are aimed at residential activities and equipment, rather than those on commercial or industrial premises. Noise resulting from residential construction is not intended to be covered by the Regulation as noise from the construction of a dwelling is dealt with through specific conditions of consent given under planning legislation. The Regulation has three main parts relevant to noisy items. These are:

- **Part 2**, which provides for control of the noise from individual motor vehicles operating on public roads and off-road, including on private property, and noise from motor vehicle accessories such as alarms. Council officers, Police and EPA officers have powers in relation to particular provisions
- **Part 3**, which deals with noise from marine vessels such as powerboats, Jet Skis™ and other personal water craft. This part applies mainly to the activities of Waterways Authority officers and Water Police
- **Part 4**, which deals with common neighbourhood noise problems such as the times of use of air conditioners, swimming pool pumps, power tools, building intruder alarms and loud music. This part is most applicable for councils and Police.

Details of offences which can be dealt with by issuing a Penalty Notice are listed in the POEO (Penalty Notices) Regulation 1999, which lists the fine and the class of officer who can be authorised to issue a Penalty Notice for a particular offence.

Table 3 summarises the offences under the Regulation for which councils can issue Penalty Notices. In all cases, council enforcement officers can issue a Penalty Notice where an offence occurs in relation to activities for which council is the ARA and which occur in or in relation to a council's local government area.

The Regulation applies different methods of control to different neighbourhood noise problems. These controls are:

- preventing the use of certain articles where they can be heard during noise-sensitive periods (e.g. night time)
- placing limits on how long an article can emit noise (e.g. alarms)
- prohibiting the use of certain articles where they emit offensive noise (e.g. off-road trail bikes).

The following discussion of the Regulation groups

the noise sources into three areas:

- **miscellaneous articles** (e.g. power tools, amplified music, air conditioners)
- **alarms** (e.g. burglar and car alarms)
- **motor vehicle related** (e.g. trail bikes off-road, vehicle sound systems, truck-mounted refrigeration units).

#### 4.3.1 Miscellaneous articles

- Power tools and swimming pool pumps
- Musical instruments and sound systems
- Air conditioners on residential premises

The Regulation identifies times when certain items must not be used in residential premises so as to be audible inside a habitable room of another residence (whether windows and doors are open or not). Items with restricted times of use include:

- power tools and swimming or spa pool pumps (Noise Control Regulation clause 50)
- musical instruments and sound systems (Noise Control Regulation clause 51)
- air conditioners (Noise Control Regulation clause 52).

These provisions provide a means of determining whether noise from one of the listed items of equipment, which is heard in a neighbouring dwelling, may warrant action based on the time of day that the noise is being emitted. These provisions do not exclude other courses of action if 'offensive noise' is emitted within the allowed times of use. A Noise Abatement Direction, for example, could be issued if an authorised officer considered that a musical instrument was causing offensive noise, regardless of the time of day.

Table 4 lists the restricted times of use for each item.

#### What constitutes an offence?

Simply operating an item during restricted hours set out in the Regulation is not immediately an offence. A warning needs to be given and contravened before an offence against the 'time of use' provisions of the Regulation is committed.

Any person can give the warning. However, it is preferable for an authorised officer to issue the warning so that if it is necessary to issue a Penalty Notice, the officer can be sure the warning has been given correctly. A warning can be given verbally or in writing. The warning needs to be given within seven days of the noise occurring. If the item is operated outside hours permitted by the regulation within 28 days of the warning, and the noise is audible inside a habitable room in another dwelling, then an offence has been committed.

**Table 3: Offences for which Penalty Notices can be issued by councils under the POEO (Noise Control) Regulation 2000**

Noise source	Offence	Relevant part of the Regulation	Warning required	Penalty Notice
<b>Motor vehicle</b> used off-road	Cause or permit vehicle to emit offensive noise in a place (not a road)	Clause 14	No	Individual \$200 Corporation \$400
<b>Motor vehicle</b> operated on a residential premises	Cause or permit repeat of vehicle noise after warning	Clause 15(1)	Yes	Individual \$200 Corporation \$400
<b>Refrigeration unit</b> fitted to a motor vehicle	Cause or permit repeat of refrigeration unit noise after warning	Clause 16(1)	Yes	Individual \$200 Corporation \$400
<b>Motor vehicle sound system</b>	Cause or permit offensive noise from motor vehicle sound system	Clause 17	No	Individual \$150 Corporation \$200
<b>Motor vehicle alarm:</b> use of car alarm while vehicle engine is running or ignition is on	Cause or permit noise from motor vehicle intruder alarm with panic or override switch	Clause 23	No	Individual \$200 Corporation \$400
<b>Motor vehicle alarm</b> sounding continuously or intermittently	Cause or permit use of noisy alarm (for up to <b>24 hours</b> )	Clause 24(1)	No	Individual \$200 Corporation \$400
<b>Power tools</b> (including powered garden tools, electric power tools, pneumatic power tools, chain saw, circular saw, gas or air compressor) & <b>swimming pool pumps</b> (including spa pumps) used on residential premises	Cause or permit repeat of power tool or swimming pool pump noise after warning	Clause 50(1)	Yes	Individual \$200 Corporation \$400
<b>Musical instruments &amp; amplified sound equipment</b> (includes radio, television, computer, tape recorder, CD player, DVD player or PA system used on residential premises)	Cause or permit repeat of musical instrument or sound equipment noise after warning	Clause 51(1)	Yes	Individual \$200 Corporation \$400
<b>Air conditioner used on residential premises</b>	Cause or permit repeat of air conditioner noise after warning	Clause 52(1)	Yes	Individual \$200 Corporation \$400
<b>Building burglar alarms</b> sounding continuously or intermittently	Cause or permit use of noisy intruder alarm (for <b>up to 24 hours</b> )	Clause 53(1)	No	Individual \$200 Corporation \$400
	Cause or permit use of noisy intruder alarm (for <b>24 to 48 hours</b> )			Individual \$400 Corporation \$800
	Cause or permit use of noisy intruder alarm (for <b>more than 48 hours</b> )			Individual \$600 Corporation \$1,200

**Table 4: Restricted times of use for miscellaneous articles**

Type of noise	Times during which restrictions apply
Power tools and swimming/spa pool pumps (POEO (Noise Control) Regulation, clause 50)	Before 8.00 am or after 8.00 pm on Sundays and public holidays Before 7.00 am or after 8.00 pm on any other day
Musical instruments and electrically-amplified sound equipment (POEO (Noise Control) Regulation, clause 51)	Between midnight and 8.00 am on any day
Air conditioners (POEO (Noise Control) Regulation, clause 52)	Before 8.00 am or after 10.00 pm on weekends or public holidays Before 7.00 am or after 10.00 pm on any other day

A warning must be clear and be understood by the person receiving it. Ideally, it should be confirmed in writing. The person receiving the warning should:

- understand that the warning has a legal basis. This could be achieved by referring to the relevant clause in the Regulation or by giving the person a copy of the clause
- appreciate what they are required to do. This means understanding that they must not cause or permit the particular noise to be emitted within 28 days of the warning being issued
- understand that they will commit an offence if they do not comply.

#### Contravention of a time of use provision

A contravention of a 'time of use' provision occurs where noise from these items can be heard within a habitable room of any residential premises during restricted hours (regardless of whether any door or window to that room is open).

If an offence has been committed, an enforcement officer can issue a Penalty Notice, or council can bring a prosecution in court, provided there is adequate evidence to support the case. Evidence that may help support enforcement action could include a signed statement from one or more witnesses, identifying the source (if known) and nature of the noise, when and where it was heard, an indication of its volume and its effects on them.

If necessary, a Noise Abatement Direction could be used to control offensive noise, regardless of hours of use, as this provision of the POEO Act applies at all times (see section 2.3 Offensive noise).

#### 4.3.2 Alarms

- Motor vehicle intruder alarms
- Building intruder alarms

The Regulation limits the duration for which a building or car intruder alarm may sound.

Time limits for alarms manufactured before or after certain dates are presented in Table 5.

No warning is required for an offence to occur.

The Regulation provides that where an alarm sounds intermittently, it is taken to sound continuously for the purpose of measuring the duration for which it has sounded. For example, a car alarm that sounds for 70 seconds, stops for 60 seconds and sounds again for 70 seconds is taken to have sounded for more than the permitted 90 seconds. This approach applies for both building and car alarms.

**Table 5: Restricted duration of noise from alarms**

Type of noise	Restrictions on the duration of the noise emitted
Motor vehicle intruder alarm (POEO (Noise Control) Regulation, clause 24)	<ul style="list-style-type: none"> <li>• more than 90 seconds if the vehicle was manufactured <b>before</b> 1 Sept 1997</li> <li>• more than 45 seconds if the vehicle was manufactured <b>on or after</b> 1 Sept 1997</li> </ul>
Building intruder alarm (POEO (Noise Control) Regulation, clause 53)	<p>Sound is audible in a habitable room of a residential premises, and sounds for:</p> <ul style="list-style-type: none"> <li>• more than 10 minutes if the alarm was installed before 1 Dec 1997</li> <li>• more than 5 minutes if the alarm was installed after 1 Dec 1997</li> </ul>

#### What constitutes an offence?

In the case of a building alarm, an offence is committed by an occupier of the premises who causes or permits an alarm to sound for longer than the specified time limit *and* it is audible inside a habitable room of a dwelling. In the case of a car alarm, an offence occurs if a person causes or permits an alarm to sound for longer than the specified time limit. However, it would not be an offence if the alarm sounds and the car has been

involved in an accident, or has been damaged or broken into.

Although the Regulation provides different time limits for alarms manufactured (cars) or installed (buildings) before and after December 1997, this can often be difficult to determine. If in doubt, the alarm can be assumed to have been manufactured before December 1997 and the greater of the two time periods can be applied for a building or car alarm sounding. If the matter goes to court, however, it will not be sufficient to assume that the alarm was installed before December 1997—evidence will need to be given to establish when the alarm was installed. For cars, the date of manufacture of the vehicle is recorded on the vehicle's compliance plate, which is located in the engine compartment.

#### Options for dealing with noisy alarms

When an alarm is sounding for longer than permitted and is causing a disturbance, a council officer has several options, including:

- contacting the owner or occupier of the building or vehicle and asking them to stop the alarm
- issuing a Penalty Notice where an offence has occurred (enforcement officer only).

In certain circumstances (described below), council authorised officers can also enter premises (except vehicles) where an alarm is sounding and disable the alarm (POEO Act, Part 7.4).

#### Contacting the owner or occupier

The owner of a property may be traced through council's rates database and other information available to council. Councils may also consider developing a register of building alarms (both monitoring and standalone), with contact details for owners and occupiers in the event that an alarm is activated. This may facilitate disabling an alarm with the help of the person responsible for the property. Real estate agents may also hold spare keys or alarm codes for premises they administer.

The security company that monitors an alarm (as may be displayed on a window sticker) may also provide information about contacting the owner or be able to disable the alarm.

A car alarm hotline is also available for the public to report faulty car alarms. This service is provided by the Australian Car Alarm Traders Association can be found on their website at [www.users.bigpond.com/acata](http://www.users.bigpond.com/acata).

#### Issuing a Penalty Notice for sounding alarms

Enforcement officers from councils, the EPA, the Police, and the Sydney Harbour Foreshore Authority may issue penalty notices for motor vehicle intruder alarms and building intruder

alarms. The Noise Control Regulation provides tiered penalty levels so that a higher penalty is incurred for alarms that sound for longer periods. Where an alarm sounds for more than 24 hours the penalty level is doubled. Where the alarm rings for longer than 48 hours the penalty level is trebled.

A Penalty Notice can be posted or delivered personally to the offender, as provided by section 224 of the POEO Act. In the case of a building alarm sounding where there is no person available to immediately serve a Penalty Notice to, then posting the notice is appropriate.

#### Summarising the powers to enter premises by Authorised Officers and the Police

Authorised officers may enter non residential premises without a warrant where offensive noise has been, is being or is likely to be caused (s.196). In the case of residential premises Authorised Officers will need either the permission of the occupier or hold a warrant in order to enter (s.197).

Police need a warrant to enter ANY premises if denied entry to those premises (s. 280)

Note: Entry to residential premises (s. 197) only occurs on entry to the dwelling, not on entry to the land.

#### Entering premises (building alarms)

An officer may believe that the severity of the impact from a sounding alarm is such that taking action to disable the alarm is necessary. This may be the case when an alarm is making offensive noise for a long period (e.g. several hours or days) and where the owner or occupier cannot be contacted.

All other options for contacting the owner or occupier and dealing with a noisy alarm should be evaluated before you decide that entering the premises is necessary to disable the alarm and prevent the offensive noise from being emitted.

#### Council policy for noise from alarms

It is recommended that councils develop and adopt internal procedural guidelines for dealing with noise complaints relating to alarms. Having a formal procedure in place will allow council officers to know with confidence that they are acting in accordance with council policy when taking action such as seeking a warrant to enter residential premises.

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Under Part 7.4 of the POEO Act, a council authorised officer can exercise a power of entry for the purposes set out in section 184, which provides that the power of entry may be exercised for purposes including:

1. determining whether there has been compliance with or a contravention of the POEO Act or Regulations, or a notice or requirement has been issued or made under that Act (e.g. the offence of causing or permitting the use of a noisy building intruder alarm under clause 53 of the Noise Control Regulation)
2. administering the Act and protecting the environment generally.

Council authorised officers can exercise the power of entry only where council is the ARA. Council enforcement officers (i.e. officers with the power to issue Penalty Notices under the POEO Act) can exercise this power of entry if it is being exercised in respect of the officer's functions as an enforcement officer. (See POEO Act ss. 188(3) & 189A.)

Entry to **residential premises** requires occupiers permission or a warrant subject to POEO Act s.197. Authorised Officers do not have the power under the POEO Act to enter residential premises (apart from crossing land to gain access to the dwelling) used only for residential purposes without occupiers permission or a warrant.

An authorised officer can enter premises (other than residential premises) at any time (subject to POEO Act s. 197 in relation to residential premises) where the officer reasonably suspects that noise pollution has been, is being or is likely to be caused (POEO Act s. 196(1)(b)).

Noise pollution means the emission of offensive noise, i.e. the noise being made by the alarm must fall within the POEO Act's definition of 'offensive noise' for the entry to be authorised under section 196(1)(b). If the noise is not offensive noise, then the authorised officer or enforcement officer could enter the premises at a 'reasonable time' relying on section 196(1)(c). Alternatively, the authorised officer or enforcement officer could enter the premises under section 196(1)(a) if the officer reasonably suspects that any industrial, agricultural or commercial activities are being carried on at the premises, at any time that those activities are being carried out there.

The provisions of the *Search Warrants Act 1985* that apply to warrants issued under section 199 of the POEO Act do not require the premises to be occupied when the warrant is executed. However, the *Search Warrants Act 1985* does require that an 'occupier's notice' be served on the occupier as

soon as practicable after the warrant is executed if there is no-one at the premises who appears to be 18 years or over and to be the occupier.

Note: The *Search Warrant Act* is soon to be repealed. It will be replaced by the *Law Enforcement (Powers and Responsibilities) Act 2002*. Search warrants will be issued under Part 5 of that Act.

The magistrate who authorises the warrant must also issue the occupier's notice, which must contain a summary of the nature of the warrant and the powers conferred by the warrant. An occupier's notice must specify:

- the name of the person who applied for the warrant
- the name of the authorised justice who issued the warrant
- the date and the time when the warrant was issued, and
- the address or other description of the premises that is the subject of the warrant.

More details are provided in section 15 of the *Search Warrants Act 1985*.

Authorised officers and enforcement officers can use reasonable force to enter premises and can engage the assistance of Police officers and other people capable of helping with exercising functions under the POEO Act.

An authorised officer or enforcement officer has the power to switch off the alarm under section 198(1) if the officer is of the opinion that switching off the alarm would be for the purposes set out in section 184 (see above). Section 198(2) specifically lists some of the actions that an officer may take under section 198(1); this includes seizing the alarm where the officer has reasonable grounds for believing that the alarm is connected with an offence against the POEO Act or the Regulations.

Note: In relation to an enforcement officer, the offence concerned must be one for which the officer can issue a Penalty Notice.

#### Police powers of entry for alarms

Police do not have the power to enter premises for the purpose of disabling an alarm (POEO Act, Part 7.4).

Police officers have the power to enter premises (with a warrant) only to serve a Noise Abatement Direction or to investigate whether the direction has been breached (POEO Act s. 280). However, Police could seize or secure a sounding alarm under section 282 of the POEO Act, but only if the alarm is being used to contravene a Noise Abatement Direction and the person in charge of the alarm has



been warned that its continued use may lead to its seizure (POEO Act ss. 275–279). See section 4.2.2 of this Guide.

### Liability for damages

Council could be liable to pay compensation for any damage caused by the authorised officer or enforcement officer in exercising a power of entry, unless the occupier obstructed or hindered the officer in the exercise of that power (POEO Act s. 202).

It is also possible that compensation may be payable for any damage caused by the officer in exercising other powers while at the premises (e.g. in relation to switching off or seizing the alarm). Council should obtain its own legal advice if it is concerned that damage may be caused by its actions.

Before using a power to seize or switch off an alarm, councils and council officers should consider issues such as:

- the continued security of any premises that have been legally and forcibly entered. Consider arranging for a locksmith to assist in entering the premises and securing it on leaving (e.g. installing new locks)
- technical difficulties that may be encountered in disarming sophisticated alarm or security systems. Arranging for an alarm specialist to attend may be beneficial for quickly disabling and avoiding damage to the alarm system
- damage that may occur to the occupier's or owner's property as a result of disarming the alarm (e.g. if the power is switched off or the alarm system is damaged)
- the question of whether compensation will be payable to the occupier or owner for any damage caused by the actions of a council officer.

### 4.3.3 Motor vehicle noise

Provisions enforced by council and Police include:

- use of motor vehicles on residential premises (Noise Control Regulation clause 15)
- refrigeration units fitted to motor vehicles (Noise Control Regulation clause 16)
- vehicles operating in places other than roads; e.g. trail bikes (Noise Control Regulation clause 14)

- motor vehicle sound systems (Noise Control Regulation clause 17).

Vehicle noise is managed in two ways, discussed in detail below:

- restricted times for vehicles on residential premises and for refrigeration units fitted to vehicles (Table 6)
- offensive noise provisions for vehicles used off-road and for vehicle sound systems.

#### Motor vehicles on residential premises (POEO(Noise Control) Regulation clause 15)

A vehicle must not be operated on residential premises so that it can be heard in a habitable room of another residential premises within the restricted times, apart from when the vehicle is entering or leaving the premises. An offence will be committed where the required warning has been issued and a person causes or permits the vehicle to be used in such a manner within 28 days of the warning. An example of where this clause would apply is where a vehicle at a residential premises is being revved or the engine is left running for an extended period. As a guide, an extended period might be longer than 5 to 10 minutes.

*Trail bike noise can be annoying, especially when operating along fire trails near dwellings.*



**Table 6: Restricted times of use for vehicles**

**Type of noise:**

**Motor vehicle** used on residential premises (except when entering or leaving) (POEO (Noise Control) Regulation, cl. 15)

**Refrigeration unit** fitted to a motor vehicle (POEO (Noise Control) Regulation, cl. 16)

**Times for which restrictions apply:**

Before 8.00 am or after 8.00 pm on any Saturday, Sunday or public holiday

Before 7.00 am or after 8.00 pm on any other day

This clause does not cover the noise from an engine if the vehicle is on a public road. This situation is covered by Rule 291 of the Australian Road Rules (applied in NSW under the Road Transport (Safety and Traffic Management) (Road Rules) Regulation 1999) which makes it an offence to start or drive a vehicle in a way that makes unnecessary noise. Police and RTA officers can enforce this provision.

The operation of a vehicle on residential premises should not cause offensive noise to a neighbour at any time of day (see clause 14).

**Refrigeration units on motor vehicles**  
(POEO (Noise Control) Regulation clause 16)

This clause is intended to apply to vehicles fitted with refrigeration units used to keep freight cold. An example might be frozen food delivery trucks parked with their refrigeration units left running for extended periods.

Conditions under which restricted times of use apply, including the provision of warnings, the definition of 'habitable room' and the noise test applied are the same as described in section 4.3.1 of this Guide.

**Vehicles operating in places other than roads**  
(POEO (Noise Control) Regulation clause 14)

'Places other than roads' means places other than an area open to the public, or used by the public, which was developed for, or has as one of its main uses, the driving or riding of motor vehicles. Examples include the use of trail bikes, four-wheel-drive vehicles and dune buggies operating in places other than roads. This may include private or public land, fire trails, bushland and recreation areas.

The regulation makes it an offence for vehicles operating in off-road locations to cause offensive noise. This could include noise affecting neighbours, people enjoying passive recreation on adjoining parks, or pedestrians.

**Sound systems in motor vehicles (POEO**  
(Noise Control) Regulation clauses 17 and 17A)

Offensive noise can result from motor vehicle sound systems operated at high volume. Often the music played in motor vehicle sound systems may have most of its energy in the lower frequencies. Such noise can travel further and is less attenuated by building facades.

Clause 17 makes it an offence for 'a person to cause or permit the sound system of a motor vehicle to be used in such a manner that it emits offensive noise'. Clause 17A took effect from 1 July 2002 and is very similar to clause 17 except:

- under clause 17A, only the driver of the vehicle can be guilty of an offence, and demerit points will be recorded against the licence of a driver who is fined. As the vehicle must be pulled over to issue a fine, only the EPA and Police can enforce this clause; and
- clause 17A applies where the motor vehicle is being driven or used on a road or road-related area, whereas clause 17 does not contain any limitations regarding the location where the motor vehicle is being used.

No general noise limits apply to situations covered by offensive noise requirements. Section 2.3 provides details on how to assess whether noise is offensive.

**Penalties**

Where an offence has occurred under clause 14 or 17 of the Noise Control Regulation, both the driver and the owner of the vehicle are taken to be guilty of the offence (see Noise Control Regulation clause 20A). This means that if a council enforcement officer wishes to issue a Penalty Notice, then it can be posted to the owner of the vehicle. The owner will not be liable if the owner was not in the vehicle at the time and provides a written statement nominating the driver at the time of the offence.

**Equity in penalties**

Clause 20A of the Noise Control Regulation allows the owner of a vehicle issued with a Penalty Notice for offensive noise under clause 14 or 17 to nominate the driver as the offender when the owner was not in the vehicle at the time of the offence. This means that the person responsible for causing the offensive noise would be responsible for paying any fine. The Penalty Notice issued to the owner must be withdrawn and new one must be issued to the driver.

A similar system applies in relation to noise from vessels (see Noise Control Regulation clause 30A), littering from motor vehicles (see POEO Act s. 146), and for speeding and parking offences under the road transport legislation.

## 4.4 Traffic noise

Through road transport legislation, councils can impose vehicle weight restrictions and speed limits on certain roads, which can affect the level of noise generated by traffic on local roads. The design and location of traffic management structures (roundabouts, speed humps, chicanes etc.) can also (sometimes adversely at the location where the devices are installed) affect traffic noise generation. Consideration of noise impacts should be made when planning traffic management measures, particularly in residential streets.

Council may wish to refer to the *NSW Environmental Criteria for Road Traffic Noise* (ECRTN) to assist in their assessment of road traffic noise impacts. The RTA's *Environmental Noise Management Manual* provides additional advice on implementing the ECRTN and information on best practice road traffic management.

## 4.5 Dealing with warnings and offences

For the following clauses in the Noise Control Regulation, a properly given warning needs to be issued to the noise maker before an offence can occur. It is an offence if the noise occurs within 28 days following the issue of a warning. These clauses are:

- 15–Use of motor vehicle on residential premises
- 16–Use of refrigeration units fitted to motor vehicles
- 32–Use of sound systems on vessels
- 50–Power tools and equipment
- 51–Musical instruments and sound equipment, and
- 52–Air conditioners.

Similarly, a Noise Abatement Direction (POEO s. 276) is also a warning in the same way.

It is in the interests of the Police and council to foster a good relationship in relation to noise matters. Therefore, cooperation between Police and council regarding Noise Abatement Directions and warnings under the regulation is encouraged as an effective approach to managing noise issues. Under the POEO (Penalty Notices) Regulation 1999 the EPA, councils and Police have powers to issue Penalty Notices for the offences listed above. Where a Noise Abatement Direction is given by one agency then another agency may be able to issue a Penalty Notice relating to that Direction. Case Study 3 describes a situation where this happens. **However this is not a recommended course of action as it is more effective for council or Police to follow up their own Directions.** It is good practice for council officers to inform local police about Noise Abatement Directions that Council has issued, especially where it is likely that the problem will re-occur at night when council staff are off duty.

Offences under the POEO Act and Noise Control Regulation can be prosecuted in a court.

Alternatively, Penalty Notices can be issued.

**The choice of taking either prosecution or Penalty Notice proceedings is available for all offences that are enforced by councils.**

Prosecutions for offences against the POEO Act and the Noise Control Regulation are criminal offences and must be proved beyond reasonable doubt. Sections 217, 218, 219, and 221 of the POEO Act identify who may institute criminal proceedings and for which offences.

Maximum fines for a prosecution of an offence against the POEO Act or Regulations are generally listed with the relevant section or clause.

**Table 7: When to prosecute or issue a Penalty Notice**

Prosecution	Penalty Notice
Serious breach of the Act or Regulations.	Minor breach of the Act or Regulations. The facts are obvious.
Problem is a continuing situation where previous enforcement action has been unsuccessful.	Problem is a one-off situation and can be remedied easily. Up to two Penalty Notices may be reasonable for the same type of offence.
Education and other enforcement actions have failed to change behaviour. More important to address the serious breach.	A Penalty Notice is likely to be a viable deterrent. Opportunity to educate the noisemaker given that Penalty Notice is immediate.
Want to deter similar offences—successful prosecution may help change others' behaviour.	
Larger penalty more suitable for the nature of the offence.	Smaller fine is suitable for the nature of the offence.

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The *EPA Prosecution Guidelines* provide guidance on deciding when to prosecute or issue a Penalty Notice when an offence has been committed. Some of the things to consider when deciding whether to prosecute or issue a Penalty Notice for a breach of the POEO Act or Regulations are listed in Table 7.

Once a particular occurrence of an offence has been dealt with by issuing a Penalty Notice, it is not possible to proceed with a prosecution of the same occurrence of the offence. However, where a Penalty Notice has been issued and it becomes apparent that the offence is too serious to be dealt with by Penalty Notice, the notice can be withdrawn within 28 days of being served (even if the penalty required by the notice has been paid) and a prosecution can proceed (see POEO Act s. 228).

#### 4.5.1 Dealing with offences committed by minors

Issuing Penalty Notices to people under 18 (minors) can be complex. In many cases it will be more appropriate to issue a warning, because special procedures apply when interviewing, issuing Penalty Notices or taking court action against children.

Where it is deemed appropriate to issue a Penalty Notice to a young person, seek legal advice.

- For children less than 10 years of age, it is not possible to issue a Penalty Notice, as they are presumed incapable of being guilty of an offence. In addition, the *Fines Act* specifically excludes children under 10 years old from being fined.
- Children aged 10 to 14 years can be issued with a Penalty Notice. However, if the matter was referred to the court for consideration then the prosecutor (e.g. council) would need to show that the child knew that what they were doing was wrong. The matter would be heard in the Children's Court and lower penalties would apply.
- Young people aged 15 to 17 years old can be issued with a Penalty Notice. If the Penalty Notice is referred to court it would be heard in the Children's Court and lower penalties would apply.

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## Part 5 Case studies

### Noise management tools

#### *Case study 1*

Using a Noise Control Notice

#### *Case study 2*

Using a Prevention Notice and a Compliance Cost Notice

#### *Case study 3*

Using a Noise Abatement Direction

#### *Case study 4*

Using the POEO (Noise Control) Regulation 2000—Time of use provisions

#### *Case study 5*

Using a Noise Abatement Order

### Noise sources

#### *Case study 6*

Noise from garbage collection

#### *Case study 7*

Noise from an open air concert and public address system

#### *Case study 8*

Noise from a motor sport facility

#### *Case study 9*

Noise from a repeatedly barking dog

#### *Case Study 10*

Choice of appropriate noise descriptors to measure a particular source

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### Case study 1

#### Using a Noise Control Notice

##### Noise from a commercial premises affecting residents

Wylawong Council received a complaint from a resident about noise from the exhaust fan at the Happy Tucker Takeaway. The takeaway operates from 11 am until 1 am, which is consistent with the development consent for the premises. The neighbour has told council that it is the noise of the exhaust fan operating at night that is the main problem.

Helen, the council Environmental Health Officer (EHO), knew that council was the ARA for such a premises, even though there had never been any previous problems with the Happy Tucker Takeaway. She visited the site during the day and could see that the exhaust system was very old and pretty noisy. The ducting was loose-fitting and rattled, while the exhaust fan had a distinctive whine and was also very noisy. She decided that she needed to measure the noise from the exhaust system. She thought a Noise Control Notice would probably be the most appropriate instrument to use in this situation, as there is only one noise source. There was certainly work that could be done to reduce noise, and it was reasonable to set an acceptable noise limit that needed to be met.

Helen measured the noise from the takeaway shop's exhaust system during the day, during her initial visit and also late at night, just after midnight, as the complainant had identified night time operation as a particular problem. Helen also took background noise measurements ( $L_{A90, 15 \text{ min}}$ ) in the morning just before the exhaust fan was turned on and late at night just after the fan was turned off.

Helen applied the intrusive noise criteria (background plus 5 dB(A)—see section 2.4.1 Intrusive noise) to determine whether noise from the exhaust system was likely to be intrusive. She compared the intrusive noise criteria (background plus 5 dB(A)) with her readings of the exhaust system operating. Helen's results are recorded in Table 8 (see next page).

Clearly, noise from the exhaust system was intrusive during the night and marginal during the day. The whine from the fan could also have justified a tonal adjustment to the measured noise levels (see correction factors in Appendix 2), but Helen decided that if the exhaust system were properly repaired the whine would also be fixed. Helen decided that she would include a note regarding tonality in the notice.



**Table 8: Noise measurement results—Happy Tucker Takeaway exhaust system**

	Background noise level (without exhaust system)	Noise limit on notice (B/g +5 dB(A))	Noise from exhaust system	Reduction required
Day (11.00 am–10.00 pm)	47 dB(A) $L_{A90}$ 15 min	52 dB(A) $L_{Aeq}$ 15 min	55 dB(A) $L_{Aeq}$ 15 min	3 dB
Night (10.00 pm–1.00 am)	41 dB(A) $L_{A90}$ 15 min	46 dB(A) $L_{Aeq}$ 15 min	54 dB(A) $L_{Aeq}$ 15 min	8 dB

The Noise Control Notice she prepared required that:

*noise from the exhaust system at the premises, including ducting and fan, must not exceed the following noise limits when measured at a point on the rear boundary with 15 Currajong Street and 2 metres from the northern boundary:*

- *during daytime (7.00 am – 10.00 pm)*  
52 dB(A)  $L_{Aeq}$  15 min
- *during night time (10.00 pm – 7.00 am)*  
46 dB(A)  $L_{Aeq}$  15 min

NOTE: When measuring the noise level for compliance purposes, corrections may need to be added to the measured noise level if the noise contains dominant tonal, low-frequency, impulsive or intermittent components as defined in the NSW Industrial Noise Policy.

Helen advised the complainant of her actions and indicated that the notice had a 21-day appeal period before it took effect. Helen was contacted by the proprietors shortly after receiving the notice and advised that a contractor would be looking at the system. Helen advised the proprietor that before executing any building works they should consult with council's planning department to check whether development consent would be required.

### What if ...

If Helen had decided to use a Prevention Notice instead of a Noise Prevention Order she would not have needed to include noise limits (and so could have avoided taking measurements). She could have instead specified that the owner/operator investigate options for noise reduction on the basis of what could be achieved using feasible and reasonable mitigation measures. A second part to a Prevention Notice would then have specified that these measures be implemented by a specified time with monitoring to assess whether the measures performed as predicted. Monitoring results or a report about the improvement could also be requested.

After the work was completed, Helen conducted an inspection of the takeaway shop and noted a significant noise reduction at the boundary assessment location. Noise measurements indicated that the noise limit was not exceeded. The complainant also acknowledged a significant noise reduction. Helen then noted the notice as complied with.

## Case study 2

### Using a Prevention Notice and a Compliance Cost Notice

Joe's Cabinetmaking Shop has been operating at the end of a residential street for over ten years. The area is a mixed-use zone with houses on the opposite side to Joe's Cabinetmaking Shop. Joe's business has grown progressively, and much of the work is now carried out in the open in what was once a parking area.

Council received a noise complaint from two of the nearest residents. They had a number of issues that were concerning them. The timber storage area had a circular saw which operated on and off throughout the day. Other power tools were also clearly heard in the neighbouring houses. Joe's cyclone (dust extraction system) was also contributing to complaints, as it had not been well maintained, and rattled away, creating noise that intruded on the surrounding neighbourhood. Joe also listens to the radio while working, as it helps him concentrate. At the time of the complaint Joe had recently received a few big orders and had extended his operating hours. He was now working Monday to Saturday, until 10.00 pm most nights, having started at 7.00 am.

Before visiting the premises, Claudia (the council's EHO) checked council files and found that Joe's development consent was quite old and did not contain any conditions regarding hours of operation or noise limits. Claudia then visited the site to investigate the neighbours' noise complaints. She noted the noise from the cyclone, circular saw and the various power tools. All were clearly

audible in the neighbours' properties. She noted these observations and described the nature of the noise and the locations of the various items of equipment in her notebook. Claudia also decided to take noise measurements. The background noise level in the area at 10.30 am was  $L_{A90, 15 \text{ minute}}$  37 dB(A). This meant that the intrusive noise criteria from the *NSW Industrial Noise Policy* would be  $L_{Aeq, 15 \text{ minute}}$  42 dB(A).

Claudia then took several noise measurements during periods when the activities of Joe's Cabinetmaking Shop were clearly audible and dominating the acoustic environment. Claudia recorded the following measurements and noted the activities in Joe's premises that were audible:  $L_{Aeq, 15 \text{ min}}$  52, 54 and 58 dB(A).

Claudia visited Joe's Cabinetmaking Shop and told Joe that council had received a complaint about noise from his factory, and that on the basis of her observations and initial noise measurements the noise was unreasonable. Joe was not pleased. She asked him about some of his work practices, such as work being done in the old parking area, use of the circular saw in the open and his operating hours. Joe insisted it was his right to carry on his business whatever way he saw fit. Claudia advised that she would be in touch again to discuss what Joe would need to do to improve the situation.

From previous experience with a similar operation, Claudia formed the opinion that Joe's activities were not being carried on by such practicable means as may be necessary to prevent, control or minimise the emission of noise. That is, the activities at Joe's workshop were being carried out in an 'environmentally unsatisfactory manner' within the meaning of the POEO Act.

Claudia decided to serve a Prevention Notice on the company to ensure Joe addressed the noise problem. The Prevention Notice required Joe to prepare an action plan to prevent, minimise or control noise from the activities at the workshop and to submit it to council within 4 weeks (commencing from the end of the 21-day appeal period). The Prevention Notice specified that the written action plan should:

- be prepared by a suitably qualified acoustic consultant
- identify possible mitigation measures, including changes to the operating time, location and use of equipment, and the cost effectiveness of installing noise insulation for equipment
- be completed within four weeks (of the end of the appeal period).

Claudia considered a Prevention Notice most appropriate in this situation, as there were many noise sources and the noise problem was mostly

due to the poor management of the noise impacts. An administration fee of \$320 was charged for preparing and issuing the notice.

Claudia advised the complainants of her action and let them know that the notice had a 21-day appeal period, during which time the notice would have no effect. Claudia revisited Joe's premises after the appeal period and inquired about his progress. Joe advised that he had not yet taken any steps to comply with the notice, as he had been busy. Claudia advised Joe that non-compliance with the notice was an offence and that he could be fined if the requirements of the notice were not met by the date specified.

Joe subsequently submitted an action plan that addressed the noise problem through both operational and engineering measures. Claudia then signed off the notice. She then issued a second Prevention Notice requiring the implementation of the action plan recommendations within a three-month timeline she negotiated with Joe.

Claudia subsequently spent considerable time checking compliance with the Prevention Notice in regard to implementation of the action plan, as Joe was slow to respond. She discussed the possibility of serving a Compliance Cost Notice with her manager, as she had kept good records of monitoring and compliance activities. This would require Joe to pay the reasonable costs incurred by council in ensuring that he complied with the notice. Following implementation of the recommendations of the action plan, the impact of the operations of Joe's business was significantly reduced, as Joe was now taking practicable means to control, prevent and minimise the emission of noise.

The complainants were advised of the result of council action. The complainants also acknowledged a significant noise reduction. Claudia then noted that the notice had been complied with.

### What if ...

A Noise Control Notice could have been used, but it would have been onerous to specify limits for each of the various activities undertaken and then to determine what mix of sources was likely to make up a total noise level at each receiver location. Compliance for complex sources may be difficult or time consuming to establish compared with establishing compliance for specified activities and noise control measures, which can be easily demonstrated.

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## Case study 3

### Using a Noise Abatement Direction

#### A noisy stereo

On one Friday afternoon council received several calls from residents of Rock Street complaining about loud music coming from another house in their street. Steve, the council's Environment and Health Officer, rang Ms Miller, one of the complainants, and asked her to describe how loud the music was either inside or outside her house. Ms Miller responded that the music was extremely loud everywhere and she couldn't even hear her favourite daytime TV program. Steve then went to investigate and could hear the loud music as he turned into the street. Steve initially visited Ms Miller's house to evaluate the noise there. Steve considered the definition of offensive noise in the POEO Act (see the list of offensive noise considerations in section 2.3 of this Guide). He decided that the music was definitely offensive noise as it was dominating the whole neighbourhood, and was very likely to be interfering unreasonably with the comfort or repose of people in several houses in Rock Street.

Steve then visited the premises where the music was coming from. The music was so loud there that the resident, Elton, did not hear Steve's knock at the door or hear him call out. After eventually gaining Elton's attention Steve decided to issue a Noise Abatement Direction and explained to Elton that to comply he needed to keep the volume turned down so that it was not loud or annoying to the neighbours. He could check this by having a volume setting that did not dominate over other noise sources when heard at the neighbour's boundary and that this condition would last for 28 days.

Elton then turned the volume of the sound system down. No sooner had Steve returned to the office than more complaints came in from Rock Street. Steve visited again, performed an assessment of the noise and found that the sound system was being played so loudly that it was again offensive and in breach of the Noise Abatement Direction that had been given earlier that day.

Steve decided to issue a Penalty Notice to Elton as the occupier of the premises for the offence of '*contravening a Noise Abatement Direction*', with an on-the-spot fine of \$200. He also warned Elton that if he persisted in playing his sound system so loudly while the direction was in place, he could be issued with another Penalty Notice or be prosecuted. Steve also explained to Elton that under section 282 of the POEO Act, police could also seize his sound system if he continued to make offensive noise. (Police can only seize the sound system if they

are aware that the operation of the sound system is breaching a current Noise Abatement Direction).

Steve later advised the complainants Ms Miller and Mr Jones about the action he had taken. Ms Miller said that she could still hear the music, although only faintly when it was turned down, and was concerned that even at this reduced level it might interfere with her sleep at night if it continued like that. Steve told her that after midnight clause 51 of the Noise Control Regulation required that all amplified music must not be audible inside a habitable room in her house. This additional control was designed to protect against sleep disturbance by preserving a quiet time at night.

#### What if ...

What if council had night ranger patrols, and Steve responded to the initial complaint after midnight? In this case Steve had the option of issuing a warning under the Noise Control Regulation 'Time limits on the use of certain articles', Clause 51, 'Musical instruments and sound equipment', instead of a Noise Abatement Direction. The main difference in using the Regulation is that the noise test of audibility is much stricter than the offensive noise test but easier to perform, as the question simply is 'can the music be heard or not in a habitable room?' However, this test relates to a location inside the neighbour's house. Normally a complainant would allow access inside their house, as it is their interest for the test to be properly performed. However, failing this Steve could have made a judgement by standing outside the complainant's house, observe the noise level and estimate whether the noise would be audible inside the house on the basis that the loudness would be approximately halved when inside (i.e. a drop of about 10 decibels).

Before leaving the office that evening and being mindful that council did not have an after hours complaints service, Steve decided the situation was serious enough and the potential for continued noise problems great enough to notify the Police of the situation.

Steve spoke to Constable McGarrett of the local Police to notify him of a potential noise problem. Steve gave Constable McGarrett a summary of his actions during the day and said there was a strong possibility that they may receive further complaints from Rock Street that evening. Steve stressed that he considered the noise at the time to be offensive and Elton's response to date poor. Constable McGarrett thanked Steve for the notification and advised the duty officers of the situation.

As per Steve's prediction, the Police responded to a complaint at 12:05 am at Elton's Rock Street residence. On the basis of his earlier conversation

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with Steve, Constable McGarrett decided to issue another on-the-spot fine for \$200 for an additional breach of the Council Noise Abatement Direction and told Elton that, on the basis of his discussions with Council earlier that afternoon, if the Police received another complaint he would be taken to court and prosecuted for breaching the direction, and further he would seriously consider seizing the sound system. Elton decided he had pushed his luck far enough and the Police received no further complaints from Rock Street.

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## Case study 4

### POEO (Noise Control) Regulation 2000—Time of use provisions

A swimming pool pump operated until 11.00 pm on most nights during the summer. A neighbour disturbed by the noise had previously asked the pool pump owner (who was also the occupier of the premises) to stop the noise. When that didn't stop it the resident then complained to council.

Dave, an authorised officer, visited the site during the day and established that the pump could clearly be heard in the complainant's home. He reasoned that if it was clearly audible during the day then it certainly would be audible during the restricted times as set out in clause 50 of the Noise Control Regulation. He then gave a warning under the Regulation to the owner of the pool pump, as he was satisfied from statements from the complainant that the pump had been audible within a bedroom during restricted hours within the last seven days. He also asked the complainant to make a written record of the date and time when any further occurrences of the noise took place.

Despite the warning given to the owner of the pool pump, council received more complaints from the neighbour. A council ranger visited the neighbour's premises after 10 pm that evening and, from within the complainant's bedroom, heard the pump operating. On the basis of the evidence of the ranger, Dave was satisfied that the warning had been breached and served a Penalty Notice on the owner of the pool pump.

The complainant was told what had been done about the problem, and was advised to contact council if the problem persisted.

If a ranger had been unable to attend the premises:

- Dave would have asked the complainant to make a signed statement that the pump was audible inside a habitable room in his home during restricted hours (specifying the dates and times when he heard the pump) and how it was affecting

him. The record of times kept by the complainant of when the noise was heard would have helped in making the statement.

- Dave could also have considered whether he had enough evidence to issue a Penalty Notice. To do so, he would have had to assess whether the evidence provided by the complainant was credible and reliable, and whether there was enough evidence to prove that the offence had been committed should the pool pump owner elect to have the matter heard in court. Dave would also need to consider whether the complainant would be willing to give evidence as a witness in court.

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## Case study 5

### Using a Noise Abatement Order

Maria has a neighbour called Elvis, who is a member of a rock band. Elvis practices the guitar at home on most days and sometimes at night until midnight. She tried to negotiate with him to restrict his playing to certain hours and to play in a room that was not facing her house, all to no avail. Council also provided some mediation without result. Both council and the Police at separate times visited Maria to determine whether the noise was offensive. Both authorities concluded that the noise was not offensive at the time of their visit and did not formally warn Elvis.

Maria felt that for her the noise was indeed offensive and required further action. Council advised Maria that although they were not taking any further action she could, as an individual, take the matter further by seeking a Noise Abatement Order from her local court (POEO ss. 268–274). These Orders are served on the person making the offensive noise, requiring that the offensive noise be abated or that the offensive noise be prevented from recurring.

Maria called her local court and, after being directed to the Chamber Magistrate, discussed the process of obtaining a Noise Abatement Order. The Chamber Magistrate advised her on what the local court needed to proceed with an Application Notice for a Noise Abatement Order, which was:

- a full description of the alleged noise problem, giving details about the type of noise, its loudness, especially in relation to other noise normally heard, dates, times of day, duration of the noise, whether the noise had annoying characteristics and the number of incidents during the week
- any action that Maria had already taken to try and resolve the problem
- name, address and contact details (if known) of the alleged noise maker



- statements from witnesses supporting Maria's account of the noise.

These requirements should be discussed with the Chamber Magistrate before making a formal application for a Noise Abatement Order.

Adequate evidence may include signed statements from two witnesses corroborating Maria's account (witnesses need not declare that they found the noise offensive too, only confirm that the noise had been emitted at the time stated by Maria.)

Although the burden of proof will be the same in all local courts, different courts may vary as to the nature and type of evidence that the magistrate may request, to assess whether an order should be made.

During the meeting the Chamber Magistrate advised Maria of the implications of filing the Application Notice as well as the time required and potential legal costs of proceeding. The legal costs may include her legal representation, the defendant's legal representation and nominal court costs.

### What if ... (1)

What if Maria had approached her neighbour about seeking a mediated solution at their local Community Justice Centre (CJC)? CJs offer a free, local mediation service with a 90% success rate in resolving disputes where both parties are willing to negotiate. Chamber magistrates often require this course of action before considering an application to the local court. CJs avoid the time-consuming and potentially expensive legal process. However, attendance at the CJC is voluntary, and both parties must agree to attend the mediation session. It would be futile to require a person to attend mediation if they were unwilling to negotiate a solution to the problem. Local CJs are listed at <http://www.cjc.nsw.gov.au>.

Elvis did not believe he was causing a noise problem and told Maria he was unwilling to attend a CJC session. Maria decided to pursue the Noise Abatement Order option.

Maria had been noting the details of the offensive noise in her diary and collected the requested evidence and neighbours' statements. She then called the Local Court and made an appointment with the chamber magistrate. The chamber magistrate advised Maria that sufficient evidence had been provided to enable the court to assess the matter. Maria completed the Application Notice and submitted it to the court along with the fee of \$61.

### What if ... (2)

What if Maria had been unable to convince her neighbours to provide statements? Many neighbours are unwilling to become involved in disputes for fear of antagonising other neighbours or damaging established relationships. Also, Elvis may have neighbours who state that the noise is acceptable.

The magistrate has to determine that on the evidence presented it is more likely than not that offensive noise occurred; that is, on the balance of probabilities.

Elvis was served with a Court Attendance Notice in relation to the offensive noise complaint, and contacted his lawyer. At the hearing of Maria's application, Elvis's lawyer sought to establish that the noise was not offensive by questioning Maria on her interpretation of offensive noise and argued that his client had played his guitar for over three years without complaint until Maria had recently moved into the area. The Magistrate determined that sufficient evidence had been provided to establish that on the balance of probabilities (a civil standard of proof applying to the granting of a Noise Abatement Order) Maria was being adversely affected and that the noise was offensive, having regard to the definition provided in the dictionary of the POEO Act. The magistrate ordered Elvis to immediately prevent any recurrence of offensive noise from his playing of the guitar. After the hearing Elvis considered appealing but was advised that an appeal could be heard only by the Land and Environment Court. Considering the high court costs that may result from an appeal, Elvis decided simply to ignore the Order.

The Sheriff of the Local Court served the Order on Elvis the next day.

The loud music continued, and Maria continued to be adversely affected. She rang the local court about getting the court to enforce the Order and was advised that she would need to gather evidence so that the court could consider whether the Order had been breached and appropriate action for any breach of the Order. The offence of breaching a Noise Abatement Order is a criminal offence. This means that the proof must be beyond reasonable doubt (and meet a higher standard than the civil standard of balance of probability), so it could be more difficult for Maria to satisfy the Court that an offence has occurred than when she initially applied for the Order.

The court advised Maria that she should obtain statutory declarations from witnesses to the activity, and that the witnesses may need to go to court to furnish their evidence under oath if necessary, as



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part of establishing her case beyond reasonable doubt. Maria approached her neighbours and received two statutory declarations that the noise had been emitted from Elvis's residence at the time stated by her. In providing evidence to satisfy a criminal standard Maria's neighbours may be required to give evidence in court as witnesses.

Subsequently the court sent Elvis another Court Attendance Notice to appear to answer the charge of breaching the Noise Abatement Order, which carries a maximum fine of \$3,300.

At the hearing Maria was required to give evidence as a witness. Maria's neighbours attended the hearing but were not called to the witness box. Elvis's lawyer was unable to convince the court that Maria's evidence and the two neighbours' statutory declarations were inaccurate. In supporting his case Elvis provided a statutory declaration that he believed he kept the music volume at a reasonable level, and moved his speakers so that they faced away from Maria's house. The Court was satisfied beyond reasonable doubt that the Order had been breached. The magistrate fined Elvis \$1,000, required him to seek professional advice about minimising the noise that was created when he played his guitar, and warned Elvis that he did not want to see him taking up valuable court time again.

Now Maria occasionally hears Elvis's guitar from the front of her driveway and she believes her time an effort in pursuing the Noise Abatement Order has been worth the reduction in noise in her neighbourhood.

### What if ... (3)

What if the magistrate was not satisfied beyond reasonable doubt that the noise was offensive and Maria was unsuccessful? In this case the magistrate could award costs to Elvis, making Maria liable for up to several thousand dollars. An award of costs generally includes the legal fees incurred by Elvis, and certain other expenses related to the matter. This would usually be in addition to Maria's own costs (legal and otherwise) that had been incurred. Both parties have the option of retaining legal representation, and it is often the case that the defendant will be represented. Other costs may include engaging a specialist noise consultant and the cost of collecting evidence if this is done by the consultant. The time required to collect evidence and statements and to attend court and the possibility of having to pay another party's legal costs are among a number of things that should be considered before commencing legal action. Additionally, the level of proof required to prove a breach of an order is the criminal level of proof.

### What if ... (4)

What if Elvis continued to be in breach of the Noise Abatement Order by continuing to play his guitar in the same manner as before? The Order continues unless revoked by the court. Maria can collect evidence as before and Elvis can be required to appear before the court as before. If found guilty he may be fined the maximum amount imposed by the local court. In addition, as Elvis has breached a court order he may be in contempt of court, in which case he is subject to severe penalties.

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## Case study 6

### Noise from garbage collection

Council received a complaint from residents about noise from garbage collections at the local supermarket in the early hours of the morning, usually about 2.30 am. Noise from the rubbish collection included squealing brakes, reversing alarm, hydraulic arms to lift the large rubbish bins, the compactor, and the impact of the empty bin hitting the ground.

The council officer investigating the complaint decided to contact the supermarket and find out which company collects the rubbish. It was established that the contractor was not collecting the rubbish on behalf of council. The officer also asked the supermarket manager why collections are scheduled for 2.30 am. The supermarket manager explained that the supermarket is open until midnight and so rubbish collection needs to occur when there is little traffic to ensure the safety of customers and other motorists.

The manager told the council officer that the rubbish contractor was Ray's Rubbish Removals. The manager agreed to discuss the possibility of either earlier or later rubbish collections with the rubbish contractors.

The council officer also contacted Ray of Ray's Rubbish Removals and explained that a number of residents had made complaints about the noise of the collections. He asked whether collections could occur before 11 pm or after 6 am. Ray said he would see what he could do, but explained that the route was pre-arranged.

The council officer has a number of options for resolving this problem:

- Negotiating a change to the rubbish collection with both the supermarket manager and the rubbish contractor. The council officer has asked the residents what times they would consider acceptable for rubbish collections at the supermarket. They indicated that collections



*Noise from garbage collection can often be reduced through better work practices.*

before 10.00 pm or after 7.00 am would be more acceptable, especially if the truck were a bit quieter.

- Discussing options for better management of the rubbish collection services with the rubbish contractor and supermarket manager. Improved management practices could include:
  - relocating where the collection occurs
  - building noise barriers for the collection area
  - using up-to-date equipment that uses 'quieter' technology such as low-noise bin lifters
  - maintaining rubbish trucks and braking materials to minimise or eliminate noise such as squeaky brakes
  - educating drivers and collectors to be careful and to implement quiet work practices
  - setting more appropriate times for the rubbish collection.
- Serving a Noise Control Notice or a Prevention Notice on the occupier of the premises (supermarket operator) or person carrying on the activity (Ray's Rubbish Removals). To issue a Prevention Notice the council officer would need to be satisfied that the garbage collection was being carried out in an environmentally unsatisfactory manner; that is, without taking such practicable means as may be necessary to prevent, control or minimise the emission of noise.
  - A Noise Control Notice would prohibit noise emissions above a specified limit (when measured at a specified point) at certain times

from the rubbish collection activity. This would require noise measurements to be taken when the rubbish was being collected.

- A Prevention Notice would require certain action to be taken to ensure that rubbish collection activity was carried out in an environmentally satisfactory manner. The Prevention Notice could restrict the operating hours for the rubbish collection at the site or could require relocation of collection areas.

- Discussing options for new contract specifications for garbage collection with the supermarket manager to avoid potential future noise problems.

- The Noise Control Regulation requires mobile garbage

compactors to be labelled, showing the maximum noise level of the compactor. This is intended to provide the purchaser with the choice of buying quieter rubbish trucks or incorporating one or more of the improved management practices listed above.

In this instance, discussions with the supermarket manager and rubbish collector led to an agreement to conduct collections outside the period from 10.00 pm to 7.00 am, and to consider whether the collection site could be changed. The rubbish collector agreed to talk to the drivers about keeping the noise to a minimum. The council officer advised the supermarket manager that he would prepare a Prevention Notice to formalise the new operating times and that he would notify the complainants of the outcome. They agreed that the situation would be reviewed in six months, or less if more complaints were received in the interim.

## Case study 7

### Open-air concert and public address systems

Last year council was inundated with complaints about noise from the annual community music festival. As in previous years, the organiser of this year's event had planned to have three music stages with musicians playing through the early hours of each morning over the three days of the festival.

To avoid a repeat of the previous year's complaints council had developed and released a *Management of Outdoor Entertainment Events Policy*. This policy



*Concert noise can be reduced through thoughtful event planning*

The noise management plan included:

- siting the three stages to be as far away from residents as possible, and using the topography of the site and an old spectator stand at the football ground to provide some shielding
- orienting stages and speakers away from residential areas
- instructing sound engineers for each stage to keep the bass noise down

– keeping the local community informed about the music festival

operating times and providing them with a contact number for the event manager.

The community also had input into the noise management plan.

Noise mitigation measures for the PA system used for crowd control purposes and announcements included:

- only nominated people were permitted to use the PA system
- the system was not to be used for providing commentaries
- speakers were small low-power units (horn <20 cm across and amp <30 watts) (in preference to fewer but more powerful speakers)
- speakers were mounted at a downward 45 degree angle
- speakers were located as far down the poles as possible
- units were attached to a sound level limiter, so a maximum noise level could not be exceeded regardless of volume control or commentator's voice. This included removing the volume control after a suitable volume was been preset.

### What if ...

Council's other option was to issue a Noise Control Notice under Section 264 of the POEO Act specifying acceptable noise limits and operating times. However, Jill could not have required the development and implementation of a Noise Management Plan under a Noise Control Notice. Jill helped the organisers choose the orientation and location of the three main stages and the location of amplification equipment so that they were as far away from residential areas as possible.

specified that all events must finish at midnight, that the  $L_{Amax}$  noise level from the concert activities must not exceed 75 dB(A) at the nearest residential boundary and listed a range of management measures that the organisers should take to minimise the noise outside the venue. (Note: Council could have prescribed other noise levels that it considered appropriate for the occasion and for residents.)

This year Jill, council's EHO attended meetings of the festival organising committee and provided advice to the organisers about sanitation, food handling and managing noise from the festival. The preparation of most aspects of the event was generally very good but Jill wanted to ensure that noise was managed better than in previous years and in a manner consistent with the new policy.

Jill considered two options available to council to require the concert operator to comply with Council's policy. These were:

1. to include conditions in the development consent, or
2. to include conditions in the lease agreement. (As the concert was to be held in a council-owned park, council leased part of the park to the operator for the purpose of holding the event.)

The conditions included the following:

- Specifying the acceptable noise limits as well as the operating times in advance of the event. It specified that the  $L_{Amax}$  noise level from the concert activities must not exceed 75 dB(A) at the nearest residential boundary, the location of which was also specified and a midnight finish time.
- Developing and implementing a noise management plan, in consultation with council.



Jill also participated in the sound check the day before the festival which involved playing music from each of the three stages and taking noise measurements at a number of nearby residential locations. This helped both the event organisers and the council to establish suitable volumes for the event. Following the sound check the event organisers were confident that the noise limits specified in the conditions could be met.

Noise monitoring by council officers during the event indicated that the Order had been complied with, and it was subsequently noted as finalised.

**NOTE:** Only the appropriate regulatory authority can issue a Noise Control Notice. In most instances this will be the local council, however the EPA has been declared as the appropriate regulatory authority for outdoor entertainment activities (e.g. concerts, festivals and cinematic, theatrical and sporting events) at specified premises (The Royal Botanic Gardens, the Domain, Centennial Park, Moore Park, Parramatta Stadium, Sydney Cricket and Sports Ground, Homebush Bay, Sydney Harbour Foreshore, the Opera House and Darling Harbour) which involve at least 200 people and where sound amplification equipment is used. The EPA is also the ARA for any rehearsals, sound checks and other preparation activities related to these events. See clause 67 of the POEO (General) Regulation for details.

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## Case study 8

### Noise from a motor sport facility

*Motor sport activities can be very loud, especially when racing vehicles are bunched up.*

Council received inquiries about a proposal to establish a motor racing facility, which would involve drag racing and circuit racing. Council advised that any proposal for such a facility would require a noise assessment predicting noise impact

from the proposed development. Council further advised that the noise assessment should be undertaken in two stages. The first stage would focus on site planning, thereby providing input into the facility location, siting and orientation. The second stage would address operational noise impacts.

In this scenario the noise assessment should assess:

- the sound power level of the different types of racing vehicle
- the number and type of events planned for the facility (e.g. drag racing, motocross, circuit racing, speedway or go-karts)
- the number and location of racing cars on the circuit and in any pit or warm-up areas
- potential meteorological effects on noise propagation and impacts in the surrounding area (the *NSW Industrial Noise Policy* provides guidance on this aspect).

The noise assessment should also identify the vehicle numbers on the track and their configuration with the potential to cause maximum noise impact. Noise modelling that is applied to each proposal should be compared with actual measurements that would serve to validate the model for this use.

Council also asked that the noise assessment provide noise mitigation strategies for the facility as well as predicted noise level reductions. Council expected that such an assessment would discuss the feasibility of the following noise mitigation and management options.

#### On-site noise mitigation

- Orient the track to use existing topography to reduce noise at noise-sensitive receivers.
- Locate very noisy racing track types (e.g. drag racing) furthest from noise-sensitive receivers and orient them to minimise noise.
- Use earth mounds and barriers.

#### Noise source controls

- Use effective mufflers on racing vehicles and require all vehicles to meet Confederation of Australian Motor Sport noise specifications.
- Implement a program for testing the noise of racing vehicles to ensure they meet racing association noise limits.



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### Operational noise controls

- Restrict times for practice and race days.
- Use respite periods during the racing schedule of an event.
- Limit of the number and type of events.

### Receiver noise controls

In extreme situations and as a last resort, council could consider attaching development consent conditions requiring the proponent to implement noise controls at receiver locations, such as:

- noise insulation for nearby houses
- where noise impacts are totally unacceptable, and the facility continues to operate, the proponent offering to acquire nearby property.

Legal advice should be sought if these types of condition were proposed.

### Operational noise management plan

In addition to implementing many of the noise mitigation strategies mentioned above, council decided to ask the motor racing organisation to develop an ongoing noise management plan for events at the proposed facility. This noise management plan was included as a development consent condition, providing clear requirements for noise from the site and enabling council to regulate the operation of the facility. The noise management plan identified the number of events that would be allowed to occur at the facility, the noise monitoring program and the operator's complaint management system.

The event schedule (Table 9) for the motor racing facility was based on achieving a balance between how loud different racing events were likely to be and how often they occur. In this way Council felt there was some control over the amount of noise nearby residents would be exposed to.

Using this approach, council decided that the maximum number of events that would be permitted in any 12-month period would be 50 with noise of background plus 5 dB. Where some events were likely to be noisier than this, then the number of events would reduce according to a ratio shown in Figure 9. The graph allows for an event multiplication factor to be assigned where noise from the event exceeds background plus 5 dB(A). For example, an event that exceeded the background by 8 dB(A) would count as two events, as the multiplication factor from Figure 9 is 2.

### Differences between impacts from new versus existing facilities

The community is generally more sensitive to a new source of noise (e.g. from a new sporting facility at a greenfield site) than from existing facilities at the same noise level. This means that the same noise impact on the community from a new facility compared with an existing facility would occur only if the activity levels at the new facility were lower. In this case the proposal is for a new development. Therefore the number of events allowed for this new facility may be less than council might have approved for an existing facility of comparable size and proximity to residences.

The noise assessment report provided details of the expected noise levels from each type of racing event and how much the background noise level was likely to be exceeded. The noise impacts of drag racing in particular appeared to contribute a disproportionate amount to the 50 equivalent events allowed. Council suggested that the event schedule for the coming year be amended to include one drag racing event each year instead of the two proposed. This meant that the whole event schedule would not exceed the maximum of 50 equivalent events over the year. The type and number of events were included in the noise management plan.

The assessment noted that most racing events were held between 9 am and 5 pm, and up to ten late-night events up to 10 pm would be held each year. These operating times were also included in the proponent's noise management plan.

Council decided that a condition of development consent would be:

*that the type, timing and number of events would be as specified in the facility's operational noise management plan approved as part of the application, and that these could be varied only following agreement by council.*

This condition provided certainty to the operator and the local community while allowing some flexibility.

For existing motor sport facilities, where council is the ARA, council could regulate the activity under the POEO Act using a Noise Control Notice or a Prevention Notice to limit times of operation, noise levels and the way the activity is carried out.

A similar approach, balancing noise level against noise exposure, can be taken for other event-based activities such as target shooting ranges and lawful sporting events at specific sites.

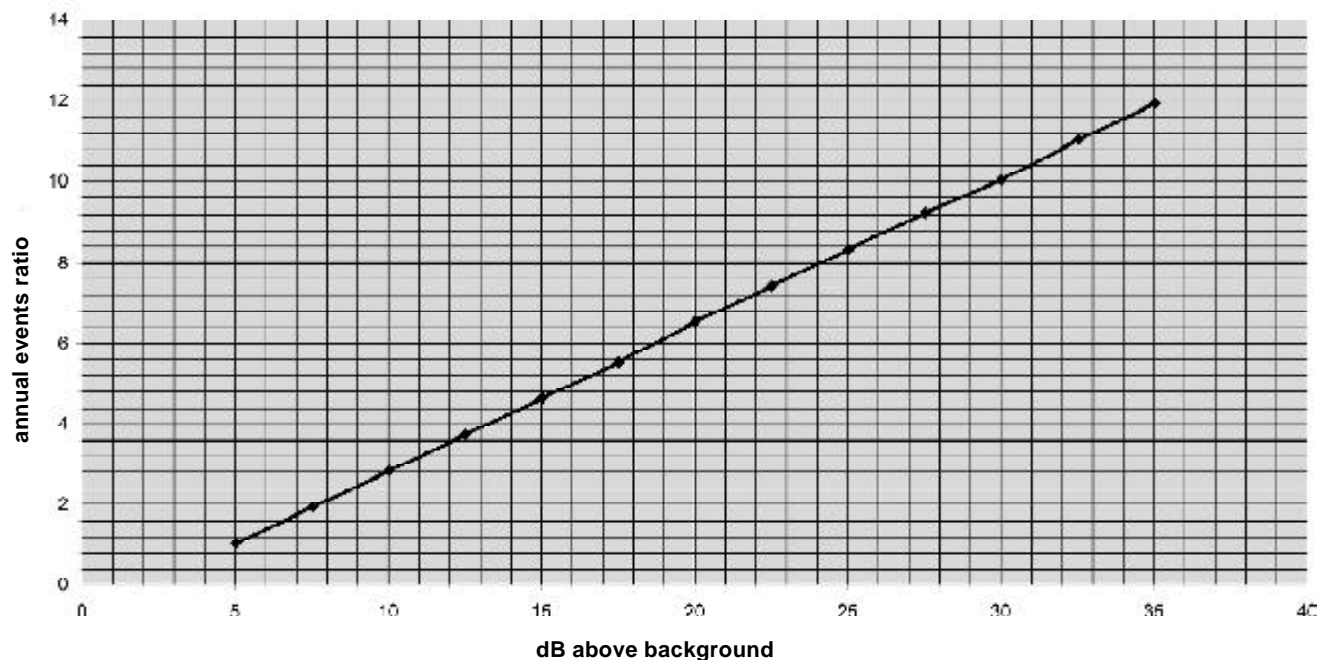


**Table 9: The proponent of the motor sport facility provided council with this event schedule**

Event description	Exceeds background by up to	Proposed no. of events x event multiplication ratio (from graph)	Equivalent no. of events	Amended equivalent events	Permitted no. of events
Super tourers	20 dB	3 x 6	18	18	3
Drag racing	30 dB	2 x 10	20	10	1
Vintage series	10 dB	3 x 3	9	9	3
250/500 cc motor cycles	18 dB	2 x 6	12	12	2
Proposed number of events				59	49
Total equivalent events allowed				50	50

**Figure 9: Graph for determining event multiplication ratio from noise level**

#### Determining annual events ratio



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## Case study 9

### Noise from repeatedly barking dog



Council had received several calls from residents complaining about a barking dog kept at a residence on Kent Road. Angus, the council officer involved, had asked each of the two complainants to keep a brief diary of the times and duration when they were annoyed by the noise for the next two weeks.

One of the complainants, Mrs Green, told Angus that the dog only tended to bark while the owner was at work during the day. Mrs Green said that the dog owner had been told about the dog barking when they were absent but didn't accept that it was a real problem.

After the two-week diary period Angus phoned Mrs Green to confirm whether the dog's barking was still a problem. Mrs Green confirmed this, saying that the dog barked every day, sometimes continuously for up to half an hour at a time and often several times a day. Angus arranged to visit her house the next day in the hope of witnessing the dog barking and to see the noise diary that Mrs Green had kept. Angus did likewise for the second complainant.

The next day when Angus arrived at Mrs Green's residence he clearly heard a dog barking before entering the premises. On entering Mrs Green's house he noted that the noise was clearly audible in the main living area and several other rooms of the

house. Angus entered the backyard of the complainant's house, where the barking was loudest, and clearly established the neighbouring property as where the noise was coming from. Angus collected Mrs Green's diary, which reflected the barking episodes she had described on the phone. The second complainant's diary showed a similar record of barking episodes which corresponded with Mrs Green's diary except for gaps where either of the complainants had been absent from their property.

Angus had established that the animal noise was a problem and was satisfied that the dog was regularly barking for extended periods when the owner was away from the premises.

Angus went to the front door of the Smyth residence, where the dog lived, and confirmed that no one was currently home. When back at the office he was able to leave an answering machine message asking Mrs Smyth to contact him. Mrs Smyth called Angus two days later, and he advised her that he had received complaints about her dog barking during the day when she was absent and that he had verified that the dog was barking on the day he investigated the complaints. He explained that the barking was clearly causing a nuisance and that it needed to cease. He also explained that as a dog owner she had an obligation to prevent her animal causing a nuisance.

Mrs Smyth asked how she was supposed to stop the dog barking. Angus replied that she would need to investigate the options, including animal behaviour training, and that a veterinarian should be able to provide some information. He advised Mrs Smyth that she had 14 days to do this, after which she must take action to stop the nuisance barking. Angus advised Mrs Smyth that after that period he would issue an order under section 21 of the *Companion Animals Act 1998* to formalise this requirement. He explained that Orders under section 21 of the Act are in force for six months and that failure to comply with an Order could result in a fine of \$550 for a first offence and \$1100 for subsequent offences. He was careful to explain that the order was to stop the habitual nuisance barking and would not be breached by the occasional bark. Mrs Smyth agreed to look into her options, and Angus confirmed the approach he would take by fax that afternoon.

That evening Mrs Smyth searched the internet and found some possible reasons, including boredom and lack of exercise, why her dog might bark when she was away. Mrs Smyth had been very busy with work lately and resolved that she would make sure that she walked the dog every morning, which was something she had recently neglected to do. She also decided that she would buy him some toys to

play with in the backyard and try leaving a bone for him to chew throughout the day.

Mrs Smyth implemented these changes promptly, and after a week she asked her neighbours whether her dog had been barking as much. Mrs Green was happy to say that there had been noticeably less barking.

Angus followed up the progress made with Mrs Smyth in the second week. He also spoke to Mrs Green and the other complainant. He considered whether to go ahead with issuing the Order under the *Companion Animals Act*. As Angus believed the animal's barking still met the definition of Nuisance Dog under section 21 of the Act, he decided that issuing the order was still the best course of action, even though it may not need to be enforced.

NOTE: The Department of Local Government website ([www.dlg.nsw.gov.au](http://www.dlg.nsw.gov.au)) provides further information on the provisions of the *Companion Animals Act* and advice on issuing orders under the Act.

### What if ...

What if Angus thought about issuing a Prevention Notice, which would have allowed him to specify actions to be carried out? For example, if the dog were barking at passing pedestrians or traffic, a condition could specify that the owner investigate ways of blocking the dog's line of sight from the backyard to the street. In the end, Angus decided that in this case he could make such suggestions verbally if necessary, and that an Order under the *Companion Animals Act* was preferable because it was specifically designed for the situation.

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## Case study 10

### Choosing an appropriate noise descriptor to measure a particular source

Mary Dickens runs a bookshop located in the shopping centre. The newsagency next door to her had just installed a new air conditioning system with the motor and intake installed on a wall facing Mrs Dickens's bookshop. The constant noise coming from the unit annoyed Mary and her patrons so she contacted James Bond, the Environment and Health Officer at council, to complain.

Mr Bond visited the site and agreed that the air conditioning noise was annoying and unreasonable and considered imposing a noise

limit on the air conditioner by means of a Noise Control Notice.

This course of action would require measurement of the noise from the air conditioner initially to establish its current level and the noise reduction required to meet the desirable level. Mr Bond then had discussions with Mr Sands, the newsagent, about noise control measures that could be taken and the achievability of the desired levels to be prescribed in the Notice.

A measurement problem existed because traffic from the main street interfered with measurements of the noise level from the air conditioner. Sometimes the air conditioner could not be heard because of the traffic. The normal descriptor  $L_{Aeq}$  was unlikely to measure the true level of air conditioner noise, because  $L_{Aeq}$  is sensitive to the high levels of noise energy from individual traffic passby events.

Mr Bond recorded measurements from the bookshop window facing the wall where the air conditioner was located using an  $L_{A10}$  noise descriptor. The sound level meter read 70 dB(A) as an  $L_{A10}$  (which is the level exceeded for 10% of the time). For this descriptor the meter was in fact capturing noisy traffic events, which occupied more than 10% of the time of the measurements.

Mr Bond then switched the meter to use the  $L_{A90}$  noise descriptor, which read 62 dB(A). As the air conditioner noise was constant, the noise level of the air conditioner occupied close to 100% of the measurement period. In contrast to this, the traffic noise was variable, and there were times when there was no significant traffic outside the shop. These periods of infrequent traffic occupied about 15% of the measurement time, during which the air conditioner noise was dominant.

For this situation the use of the  $L_{A90}$  noise descriptor effectively filtered out the short-term traffic noise, measuring only the constant noise output of the air conditioner.

To determine the background noise level in the area Mr Bond moved down the street away from the influence of the noise from the air conditioner. At this location the  $L_{A90}$  during periods of infrequent traffic was measured to be 52 dB(A). Mr Bond set a noise level limit of 57 dB(A) to be achieved by the air conditioner.

In prescribing a noise level to be complied with in the Noise Control Notice, Mr Bond also specified the measuring point and that the measurements use the  $L_{A90}$  descriptor, which would avoid the contaminating effect of the adjacent traffic noise.