



FIFTH INTERNATIONAL CONGRESS ON SOUND AND VIBRATION

DECEMBER 15-18, 1997
ADELAIDE, SOUTH AUSTRALIA

An Overview of Environmental Noise Legislation throughout Australia

**Marco Ciccozzi, Tony Circelli and Richard French
South Australian Environment Protection Authority**

Australia is made up of a number of different states and territories. Each of these have their own governments which administer environmental noise policy. Historically there has been very little coordination or collaboration between the states to ensure a consistency of approach to such issues. For many years there was a group made up of environmental officers from most of the states that met on a regular basis. This group did achieve some good results in terms of rationalising research and the labelling of noisy equipment such as air conditioners, however it was disbanded just at the time when it was about to get stuck into the issues of uniformity between the states. As a result we have a situation where environmental noise is assessed in many different ways and by different agencies within each state or territory. Most states or territories are currently in the process of reviewing their noise policies. There has been much greater consultation between the states and territories during the development of their new policies than there ever was in the development of the original policies. Despite this however there will still be many significant differences between the policies when they have all been finished and become operational.

Overview

It is important to understand at this stage that there is no best way or worst way to assess environmental noise. There are many more issues apart from the technical ones to take into consideration because after all it is a question of getting the most from the funds allocated by governments to tackle such issues. Hence there will always be this balance between what one may like to do on purely technical grounds and what one can do given the funds and resources available.

Most of the current policies in Australia are non-mandatory.

Noise protection policies have been developed or are being developed in most other states.

A comparison of the key features of these interstate policies is given below.

Queensland

Currently in Queensland most environmental noise issues are dealt with by the Department of Environment and Heritage and the principle method for determining compliance is the “background +” method ie the $L_{A,10}$ of the source should not exceed the L_{A90} by more than 5 dB(A). There separate methods for those more specific activities eg shooting ranges.

The new noise policy in Queensland is currently being developed. From the drafts that have become available it appears that the “background +” method will remain.

The main features as outlined in the draft are:

1. The descriptors to be used are:

$L_{A,eq}$ for the noise source in most cases

$L_{A,90}$ for background noise level

$L_{A,10(18hr)}$ and L_{Aeq} for road traffic noise

ANEF contours for aircraft noise

$L_{A,(I)}$ for shooting ranges

$L_{lin, (peak)}$ for blasting

$L_{OCT,10}$ and $L_{OCT,90}$ for entertainment premises

2. Some activities will have specific criteria and method of assessment which is unique and appropriate for the particular activity concerned. These include blasting, motor boats, entertainment premises etc
3. Most non-domestic activities have as their noise criteria +3dB(A) or +5dB(A) above the background noise level when assessed on noise sensitive premises. Other criteria can also be used depending on the characteristics of the noise.
4. When the noise is being assessed on a non-noise sensitive premises the following criteria apply:
55 dB(A) when measured on a commercial premises
65dB(A) when measured on an industrial premises

Tasmania

The noise policy in Tasmania is to be reviewed in the near future. The currently policy is centred on the “background+ “ method, similarly to Queensland. Most issues are dealt with by Local Government with the Environmental Authority having a consultative role

The policy is based around the following main points.

1. The descriptors to be used are:

$L_{A,eq}$	for the noise source in most cases
$L_{A,90}$	for background noise level
$L_{A,10(18hr)}$	for road traffic noise

2. The noise criteria is +5dB(A) above the background noise level

Australian Capital Territory

Integrated environment protection legislation has been drafted and is presently with the ACT Legislative Assembly. The draft legislation provides for a deemed value as a criterion for all noise sources. The deemed values have been determined on the basis of permissible land use as provided for under the Territory Plan. It is anticipated that the legislation will be passed by the Assembly by the end of 1997 with effect within six months from the date of passage of the legislation. As part of this package environment protection policies are being prepared.

Pending the introduction of the new legislation the current policy is centred on the "background+" method, similar to Queensland and Tasmania. Most issues are dealt with by the Environmental Authority.

The main features of the policy are:

1. The descriptors used are:

$L_{A,10}$	for the noise source in most cases
$L_{A,90}$	for background noise level
$L_{A,10(18hr)}$	for road traffic noise
$L_{lin, (peak)}$	for blasting
2. Some activities, such as blasting, have specific criteria and method of assessment which is unique and appropriate for the particular activity concerned.
3. Non-domestic activities have as their noise criteria +5dB(A) above the background noise level when assessed on noise sensitive premises. There is provision for the granting of exemptions for a limited number of specific activities which cannot comply with the +5dB(A) criteria. These activities include motor sports, open air concerts, essential construction activity etc.
4. When the noise is being assessed on a non-noise sensitive premises the criteria is likewise +5dB(A)..

New South Wales

The noise policy in the NSW is currently being reviewed. The existing policy or guideline is centred on the "background+" method, similarly to Queensland, ACT and Tasmania. Most issues are dealt with by the Environmental Authority and Local Councils.

The main features of the new policy are:

1. The descriptors to be used are:

$L_{A,10}$ and $L_{A,eq}$	for the noise source in most cases
$L_{A,90}$	for background noise level
$L_{A,eq}$	for road traffic noise
$L_{lin(peak)}$	for shooting ranges

- $L_{lin, (peak)}$ for blasting
- 2. Some activities will have specific criteria and method of assessment which is unique and appropriate for the particular activity concerned. These include blasting, motor boats, entertainment premises etc
- 3. Most non-domestic activities have as their noise criteria or +5dB(A) above the background noise level when assessed on noise sensitive premises.
- 4. When the noise is being assessed on a non-noise sensitive premises the following criteria in Australian Standard AS2107 applies.

Western Australia

The noise policy in the WA is to be reviewed in the near future. The currently policy is centred on the “background+ “ method, similarly to Queensland, NSW, ACT and Tasmania. Most issues are dealt with by Local Councils with the EPA having a more consultative role. The main method of assessment will change from the “background +” method to what is commonly known as the “circle” method. There are different version of the method but the overriding principle is that the compliance level is determined by assessing the make up of the area within a particular radius of the point of complaint.

The main features of the new policy are:

1. The descriptors to be used are:
 - $L_{A,eq}$ for the noise source in most cases
 - $L_{A,90}$ for background noise level
 - $L_{A,10(18hr)}$ for road traffic noise
 - $L_{A,(I)}$ for shooting ranges
 - $L_{lin, (peak)}$ for blasting
 - $L_{OCT,10}$ and $L_{OCT,90}$ for entertainment premises
2. Some activities will have specific criteria and method of assessment which is unique and appropriate for the particular activity concerned. These include blasting, motor boats, entertainment premises etc
3. Most activities will have as their noise criteria a number based upon a system which assesses the area surrounding the complainant’s premises in terms of the use for which the area is intended. For example if a complainant was located in or close to an area meant for industrial activities the maximum noise level to which he or she can be exposed to would be greater than for someone located in or close to an area meant for residential purposes only. Where the make-up of the surrounding area was a mixture of residential, industrial and commercial, the criteria would lie somewhere in between the two above. This method of determining criteria is more commonly referred to as the “circle” method because only those activities within a particular radius of the complainant are considered in the assessment. This method relies on the EPA allocating a “noise number” to each planning zone. The proportion of a zone type within the circle of assessment will determine the overall noise level criterion for the particular industry.

Victoria

The currently policy is based primarily on the “circle” method, similar to WA,s proposal. Most issues are dealt with by Local Councils with the EPA having a more consultative role. There is no plan to review the noise policy in Victoria in the near future.

The main features of the policy are:

1. The descriptors to be used are:

$L_{A,eq}$	for the noise source in most cases
$L_{A,90}$	for background noise level
$L_{A,10(18hr)}$	for road traffic noise
ANEF	contours for aircraft noise
$L_{A,(l)}$	for shooting ranges
$L_{lin, (peak)}$	for blasting
$L_{OCT,10}$ and $L_{OCT,90}$	for entertainment premises

2. Some activities will have specific criteria and method of assessment which is unique and appropriate for the particular activity concerned. These include blasting, motor boats, entertainment premises etc
3. *as for Part 3 in Western Australia*

Note: Although this is similar to the WA circle method the details are not same and therefore each method would produce a different criterion for the same given location.

South Australia

In SA there are two noise policies. The first deals mainly with machine son domestic premises and uses a prescribed value as the criterion

The second deals with noise from non-domestic premises and has as its criterion a value based on a table provided in the policy. The value given by the table will depend on which one of six area categories the investigating officer allocates to the source under investigation.

There are plans for a new policy but as yet the main issues of the new policy have not yet been determined.

1. The descriptors currently used are:

$L_{A,eq}$	for the noise source in most cases
$L_{A,95}$	for background noise level

A number of different methods are being considered by the EPA for adoption into the new policy. One of the more favoured methods of assessment of non-domestic activities is the so called “Simple method”.

This method has a prescribed maximum noise level which any non-domestic activity is allowed to make when measured on any noise sensitive premises. It does not matter in what type of zone the industry is located. The prescribed level would be 55dB(A) $L_{A,eq}$ for daytime (45dB(A) $L_{A,eq}$ for night time) based on the recommendations of OECD “Fighting Noise, 1986”. These levels would be for the Adelaide metropolitan area and some large country towns. Rural areas would have a different set of levels due to the lower backgrounds in such areas.

Noise from machines operated on domestic premises would also have a prescribed maximum noise level when measured on a noise sensitive premises. This would be a night time level

only and is likely to be $45\text{dB(A)} L_{A,\text{max}}$.

Northern Territory

Currently the NT deals with environmental noise issues in an entirely subjective manner, however there is more specific legislation soon to be introduced which will involve a more objective approach.

We do not have any more details at this stage.

The Future

There is still no formal group made of state environmental officers set up to coordinate policy issues, however in the past 2 to 3 years there has been an informal working party which meets occasionally but is in regularly consultation amongst members of the group and almost by default we are gravitating towards a more uniform way of dealing with the issues. This is especially so in some of more specific areas eg noise from road traffic, heliports, railways shooting ranges, quarry blasting etc

Whether we will ever formalise such a group to achieve the greater uniformity that we believe is important is difficult to predict. We do feel however that the informal working party will continue and hopefully in time achieve the desired goals.

Some progress towards uniformity is being made in the area of road traffic noise. At a recent meeting of state road and environmental authorities delegates debated a wide range of issues including such things as

- descriptor of choice
- what hours constitute day or night
- what theoretical model should be used

Although no firm consensus was reached it was agreed that we would meet again when some more information would be available on noise modelling and other issues.