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MANAGING NOISE FROM OUTDOOR LEISURE EVENTS – AN AUSTRALIAN EXPERIENCE

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ABSTRACT

Outdoor events such as festivals, concerts, motor sports etc. bring enjoyment to participants and income to the region but also unwanted noise to nearby residential areas. These events are usually held in open spaces, such as parks or playing fields, and held intermittently through the warmer months of the year. Most environmental agencies have more generous noise limits for outdoor leisure events, balancing the benefits against higher noise impact for the fixed duration of a limited number of events. This paper will discuss the approach to noise management of outdoor music concerts and motor sports events with particular reference to a venue in the vicinity of a residential area of Canberra, ACT Australia. It will also discuss some challenges related to the changing nature of such events, the changing attitude of the event organisers as well as the changing expectations of the surrounding community.

Keywords: *leisure noise, noise management, environmental noise*

1. INTRODUCTION

While the aim is to control unacceptably high noise levels in the surrounding areas, the management strategies for outdoor recreational events generally differ from those applicable to those venues which are used on a very regular basis, such as daily or weekly. In part this is because a frequently used venue, such as a club, restaurant or commercial sports facility, is an established entity so considered like any other commercial activity and hence needs to comply with the relevant noise limits on their boundary. Around Australia there are some variations in this approach for premises with a liquor license and for areas zoned as entertainment precincts.

Events like music festivals, concerts, motor sports etc bring social and financial benefit to part of the community. Thus the authority has to establish guidelines and noise limits which will allow for a viable and enjoyable special event while not causing excessive annoyance and disturbance in the rest of the community. These noise limits need to be based on the understanding that, by the very nature of being outside and the size of the crowd there is a limit to the amount of noise reduction that can be achieved by noise control means.

In this paper we refer to approach to event noise across Australia and then focus on the approach and experiences from managing the noise from outdoor events in the Australian Capital Territory (ACT) Australia.

2. APPROACHES TO OUTDOOR EVENT NOISE AROUND AUSTRALIA

Except for type approval and some aspects of aviation, in Australia management of community noise is devolved to the State and Territory level. Very local matters, such as noise from a neighbour's air conditioner, is further devolved to the local council. The general guidance on excess noise is based either on 5 dBA above a background noise level or defined zone noise levels that consider existing land use and amenity.

In regard to event noise, there is considerable diversity across Australia in the approach to limiting such noise. In many States it is devolved to the local council level on the

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basis that the local council is better placed to consider the advantages and disadvantages of any proposed event which may be occurring in their district. For example, the South Australian EPA guidance relating to outdoor events is provided under neighbourhood nuisance [1]

Noise or other nuisance from community events is managed by your council.

Understanding that the local council may not have sufficient expertise, the Environmental Protection Authorities do provide some guidance to Councils on approaches to management. For example, the NSW EPA, gives guidance on options to noise management within its Noise Guide for Local Government [2]

"*Councils may have a policy that sets out requirements for outdoor entertainment events, including noise conditions. A policy might state rules for the duration of events, closing times, maximum noise levels and requirements for measurement (how and where on the site), mitigation measures, etc"*

The Victorian EPA is a little more specific in that it gives the responsibility to local Councils to manage most events but retains the power to manage events via a permit if the event is a larger or repeated event, goes later than 11 pm, lasts more than 8 hours and more than six such concerts will be held at the same location in a financial year [3].

This diversity across the country means that promoters need to check the requirements for the specific event location. Travelling events cannot assume that the control measures implemented for one location will satisfy compliance for other locations on their schedule. Promoters are best advised, and in some jurisdictions required, to engage a local acoustic consultant who is familiar with the venue and the local/regional requirements.

3. POLICIES IN THE ACT

The Australian Capital Territory (ACT) is an area of over 2,000km^2 around the city of Canberra, the capital city of Australia and with a population approaching 500,000. So it is small in comparison with the other states but is large in comparison with local councils. The ACT has no local council so the ACT EPA manages all the noise issues within the Territory. For general noise concerns the guidance limits are based on land use planning zones with higher limits in town centres than in outer suburban areas.

The ACT EPA acknowledges that there needs to be a different approach for dealing with the noise from outdoor events. Two specific policies were developed and have been applied for over two decades: one for outdoor concerts and one for motor sports [4, 5].

While there are some subtle differences, both these policies have similar elements with the main goal being that of managing the noise within reasonable limits while allowing for viable events to be held. For small events; those which have estimated attendance less than 2,000; there are general time and noise limits that are similar to the limits for other types of noise in the residential areas. An approval authorization is required for the events when more than 2,000 patrons are expected. This requires the proponent to provide details including how they intend to manage the noise from the event to comply. Certain larger venues which are more suitable for larger events also have an annual credit system aimed at encouraging careful management of the use of these venues while not affecting the viability for the operation of the venue.

For an event at one of the larger venues, if the estimated noise level at specified compliance locations is likely to be more than $L_{A10,\ 15min}$ 50dBA, then event credits, each allowing a 5dB increase, can be applied up to a maximum allowable level of 65 dBA. The higher allowable noise levels apply up to 11 pm and after that there has to be compliance with the usual nighttime noise limit for the area. The allowance for the higher noise limits comes with conditions aimed at encouraging good management of the venue. An important one being that there is a specified number of event credits allocated to each of these larger venues. As well the duration for each credit is limited to 4 hours, thus requiring use of double the number of credits for a full day event. Spreading of events is required by not having events on a series of weekends.

Communication with the surrounding community is also an important part of the process. A formal notice in local newspapers is required six weeks before the event. Promoters are also encouraged to have a letter box distribution giving the start and stop times as well as a '*hot line*' number for complaints. The intention of the '*hot line*' is to allow the venue to take fast action to reduce the noise levels and annoyance in the community. In addition, residents can register complaints at an after-hours government office number and multiple complaints via this route can lead to the on-call EPA officers attending and checking for compliance.

An additional requirement is for monitoring at the compliance locations during the event. The report to be provided after the event requires details of when excesses were noted and the actions taken to reduce the noise levels.

4. EXPERIENCE WITH THE POLICIES

Over the two decades there have only been a few small changes in the implementation of the policies. The issue of the authorization gives the opportunity for the EPA to vary conditions to a small extent.

One example of variation in the authorization, and effectively as a reward for compliance over a number of years, is that the requirement for attended monitoring can be relaxed. This allows a noise logger to be used for monitoring and reporting after the event. The risk for the event managers is that if there are complaints that lead to EPA officers attending and they find excess noise then a fine can be applied.

Another variation that the authorization process has allowed is in regard to the adjustment for low frequency noise from concerts. The guidance in the ACT Noise Management Manual [6] is that a 5 dB adjustment be made if the difference between the C weighted and A weighted noise level is more than 15 dB. The authorization for an outdoor concert can change this to a difference of 20dB before the 5dB adjustment is applied.

The policies provide clear directions to all the stake holders involved with outdoor motor sports and concert events. Of course, problems are still encountered in their implementation. For example, even when there is compliance there are some in the community who will complain that the noise levels for an event are too high, the event goes for too long or the compliance locations are not appropriate. However, as with most environmental noise concerns, most complainants become accepting if there is clear and consistent communication along with evidence that there is overarching management of the noise.

Inadequate management of the noise can occur when companies related to the sound installation develop the noise management plan. Apart from a conflict of interest, there are limitations in the understanding by the audio engineers of environmental noise aspects, such as the metrics used as well as the propagation of sound at distance. Many commonly used software assist with suitable set up of the sound system within the venue but are not necessarily designed to properly estimate the sound outside the venue. Once a concert is in process the options to make major adjustments to the sound system are limited.

The changing nature of major concert events will mean that there will be an increasing need for events to seek authorisations and the currently applicable compliance locations will need to be reviewed. For example, where previously there was a single stage, more concerts now have multiple main stages plus smaller stages within the event boundary. While the sound installation may be planned to minimize spread of sound between the different areas within the venue, the presence of multiple sources may require more compliance points in the surrounding areas.

Not only are concert and festival sound installations becoming more complex but amplified entertainment is becoming a part of many sporting events. The simple public address systems for reporting the scores for football, cricket or winners of horse races have been supplemented with concert quality sound systems for entertainment during breaks. The upgrading of lighting in sporting venues means the event and the entertainment continues later into the evening.

The application of the policy relating to motor sports facilities has led to improved management of the multitrack venues. For example, the event credit system encourages the controlling council for multitrack venues to utilize as many tracks as practicable on the one day as this optimizes the use of their annual allocation of credits. The regular refurbishment of tracks is used as an opportunity to reroute the tracks as well as to improve the mounding and shielding around the tracks with the intent to reduce the noise at the compliance locations. In addition, the actions by various motor sports organisations to better implement their limits on the noise from individual vehicles has further reduced the environmental noise from such venues.

5. CONCLUDING COMMENTS

The management of noise from outdoor events differs across jurisdictions in Australia but the ultimate goal is to allow events to be held while minimizing the extent of annoyance in the surrounding areas. Limits for the noise levels in the residential or sensitive areas outside the event venue are established and management strategies include: limits for the duration of events; closing times; maximum noise levels; and for the larger events requirements for measurement and reporting. The approach in the ACT, involving an allocation of event credits for some large venues allowing higher noise levels but with overriding conditions, has been found to be a successful means to address the concerns of the community while still allowing for viability of major events. The changing nature of outdoor events with the increase of amplified sound at sporting events requires regular review of the applicable noise control measures.

6. REFERENCES

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