

OUTDOOR LIVE MUSIC – NOISE CRITERIA & AUDIBILITY

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1 INTRODUCTION

This paper discusses the question of whether audibility is an appropriate criterion for evaluating outdoor live music, especially with regard to events that continue after 2300 hrs. The issues discussed are based on observations at many different music events over the last 20 years from the consultant's point of view. The paper covers noise criteria, standards, license conditions, Department for Environment Food and Rural Affairs (defra) research and observations arising from licensing hearings and sound control at events.

2 MUSIC NOISE CRITERIA

The most frequently used reference for outdoor music events is The Noise Council 'Code of Practice on Environmental Noise Control at Concerts' ^[1]. The code states in para 3.2 that:

3.2 *For events continuing to be held between the hours 2300 and 0900 the music noise should not be audible within noise sensitive premises with windows open in a typical manner for ventilation.*

Notes to Guideline 3.2

1. *The use of inaudibility as a guideline is not universally accepted as an appropriate method of control. This guideline is proposed as there is insufficient evidence available to give more precise guidance.*
2. *Control can be exercised in this situation by limiting the music noise so that it is just audible outside the noise sensitive premises. When that is achieved it can be assumed that the music noise is not audible inside the noise sensitive premises.*

Representatives from local authorities and acoustic consultants on the Noise Council's Working Party were not able to reach an agreement regarding the use of inaudibility.

Further guidance regarding internal music noise levels from occasional events can be found in The Noise Act 1996 as amended by Anti-Social Behaviour Act 2003 and the Clean Neighbourhoods and Environmental Act 2005, Guidance to Local Authorities in England, March 2008 ^[2].

The Noise Act defines an offence based on exceeding an objectively measured sound level ('the permitted level'). The fixed penalty for night-noise from domestic premises can be set locally or defaults to £100. The fixed penalty for night noise from licensed premises is set at £500. The permitted level is set at 34 dBA if the underlying level of noise is no more than 24 dBA, or 10 dBA above the underlying level of noise where this exceeds 24 dBA. The measurement of the noise from the offending dwelling or premises in terms of the L_{Aeq} must be for at least 5 minutes.

The permitted level is based on the results of research for defra reported in Noise from Pubs and Clubs (Phase II) dated May 2006 ^[3]. The research involved extensive laboratory testing of the correlation of 18 variations of 9 different noise measurement methodologies and criteria with the subjective response of a representative group of ordinary members of the public. The study also considered field testing from existing licensed premises. Some of the key conclusions of this research were that:

The majority of the members of the public reported the ability to tolerate a modest degree of intrusive audible entertainment noise in their home late at night for a "one-off" occurrence (i.e. occurring at intervals of less than six months), and that the onset of audibility of the

entertainment noise did not equate to a threshold of acceptability for intrusive entertainment noise.

The majority of EHPs also reported that a modest degree of intrusive entertainment noise from a “one-off” occurrence was acceptable, and that the onset of audibility of the entertainment noise did not equate to a threshold of acceptability for intrusive entertainment noise in such circumstances. EHPs also reported that a lesser degree of intrusive entertainment noise was acceptable for more regular occurrences (i.e. once a week), and that for either scenario the onset of audibility of the entertainment noise did not equate to a threshold for enforcement action for intrusive entertainment noise in such circumstances.

The noise metric that provided the best overall prediction of subjective ratings of all the entertainment noise types tested by ordinary members of the public was the Absolute L_{Aeq} .

Other guidance on noise criteria at night can be found in:

- WHO Guidelines for Community Noise ^[4] – ‘At night-time, outside sound levels about 1m from the facades of living spaces should not exceed 45 dB L_{Aeq} , so that people may sleep with bedroom windows open.’
- BS8233:1999 ^[5] – Table 5 of the British Standard provides a design range for reasonable resting/sleeping conditions in bedrooms of $L_{Aeq,T}$ 30 to 35 dB (good to reasonable indoor ambient noise levels in spaces when they are unoccupied).

3 NIGHT-TIME OUTDOOR EVENTS

Various night-time noise criteria that have been used at concerts, based on either historical noise limits or licence conditions are discussed below:

Turweston Aerodrome. The local authority adopted an objective night-time noise standard of $L_{Aeq,10\min}$ 45 dB at the facade of any noise sensitive dwelling. This standard was considered to be acceptable for a one-off event and was found to correlate closely with the threshold at which noise complaints occurred ^[6]. Since this event in 1997, the $L_{Aeq,T}$ 45 dB standard has been successfully been adopted at many night-time events.

Glastonbury – The main stages operate until 1230am (Fri and Sat evenings) and midnight on Sunday with an off-site noise limit of $L_{Aeq,15\min}$ 60 dB. After these times the noise is judged against a criterion of whether the music is ‘audible and discernible’ above the general noise from the site. Although open to interpretation this criterion has been successfully applied at many Glastonbury festivals.

Noise Council’s Code of Practice – The guidance within the Code of Practice states that ‘the music noise should not be audible within noise sensitive premises with windows open in a typical manner for ventilation’. This provides practical difficulties with regard to gaining access to determine the internal noise levels within properties at night. As suggested by the Code of Practice, generally the music is judged externally and if it is considered to be ‘just audible’ then the levels are likely to meet the internal guidelines.

Low Frequency Limits – At some night-time events a low frequency noise limit has been set in the 63 and 125 Hz octave bands alongside an $L_{Aeq,T}$ limit. The time period for the low frequency limits has included $L_{max,fast}$ and L_{eq} ’s with time periods varying from 1 minute to 15 minutes. It is our experience that although at long distances from events the music is dominated by the low frequency content, noise complaints correlate closer to an $L_{Aeq,T}$ limit of around 45 dB than with the various low frequency limits that have been applied. This has been observed for one-off night-time events in rural areas ^[6] and is considered to be an area where further research is required.

4 NOISE PREDICTIONS

One advantage of an objective noise standard is that the music noise levels can be predicted and assessed against it prior to the event. The noise predictions can indicate whether the event is viable against the standard and the likely music noise levels at the sound desk that will be required to achieve the off-site noise limits. Where subjective standards have been set such as 'music should not be audible within noise sensitive dwellings' or music should not be 'clearly audible' the noise predictions only provide a guide as to the likely outcome as many factors affect the audibility of music.

5 AUDIBILITY & NOISE NUISANCE

Audibility and its relationship with noise nuisance is a complex issue. Environmental Health Practitioners (EHP's) have training to enable them to provide a subjective judgement of noise nuisance and this is based on an individual's opinion taking the existing noise climate and specific circumstances into account.

A simple description of nuisance is an 'undesirable disturbance'.

A more detailed description can be found in the decision of the House of Lords in the cases of *R v Rimmington*, *R v Goldstein* [2005] UKHL 63 where Lord Bingham cited with apparent approval the comments of Romer LJ in the case of *Attorney General v PY Quarries Ltd* [1957] 2 QB 169 to the effect:

"that any nuisance is 'public' which materially effects the reasonable comfort and convenience of life of a class of Her Majesty's subjects. The sphere of the nuisance may be described generally as the neighbourhood".

6 CASE STUDY – OBJECTIVE NOISE LIMIT V CLEARLY AUDIBLE

The following case study examines a Magistrate's decision between an objective and a subjective noise condition.

A small number of evening marquee events were proposed at a stately home venue and the local authority attached a condition to the premises licence that 'Amplified sound from the licensed premises shall not be clearly audible at the boundary of any noise sensitive premises'.

Representations were made to the council that the term 'clearly audible' is not defined and is open to a different interpretation from each party. The following concerns were outlined:

- There was no time period attached to the condition so it could be interpreted that the condition has been breached if the music is considered to be 'clearly audible' for just a few seconds.
- The interpretation of the condition is also dependent on the sensitivity of the hearing of all parties. It is unlikely that all parties will agree that a specific level is or is not 'clearly audible'. Furthermore, the interpretation of 'clearly audible' is also likely to vary for each individual EHP.
- It is not possible to undertake noise predictions to indicate whether the condition will be complied with or whether the event is viable, as the condition is not acoustically or numerically defined.

- The condition requires regular assessment of the noise from the premises and requires a judgement as to whether the music is 'clearly audible' by the event organisers. This judgement may vary from that of an EHP who may consider the levels to be in breach of the licence even though they are being controlled in accordance with the condition.
- There is no clear definition between audible and 'clearly audible'. A noise can still be clearly audible even at a very low level.

It was not possible to reach an agreement with the council so the case went to an appeal hearing. The magistrates considered that the key issue was that 'clearly audible' was open to interpretation and that as appropriate objective guidelines were already established that these should be used to assess the impact of music. The result was that an objective noise condition was imposed based on the Noise Council's Code of Practice for 4 to 12 events per year.

7 CONCLUSIONS

The defra research concluded that for one off events *'the onset of audibility of the entertainment noise did not equate to a threshold of acceptability for intrusive entertainment noise'* and that *'The noise metric that provided the best overall prediction of subjective ratings of all the entertainment noise types tested by ordinary members of the public was the Absolute L_{Aeq} '*^[3]

This research is consistent with our experience of noise at one off events where a noise limit for night-time events of $L_{Aeq,T}$ 45 dB at the facade of any noise sensitive dwelling has correlated well with the onset of noise complaints. At many of these events the use of the guidance provided in the notes of the Code of Practice on Environmental Noise Control at Concerts^[1] that; *'For events continuing to be held between the hours 2300 and 0900 the music noise should not be audible within noise sensitive premises with windows open in a typical manner for ventilation'* would have prevented the events from taking place.

For outdoor live music events objective noise targets are required to assess the viability of the events in the planning stage and can also be used to control the music noise levels during the event to provide acceptable off-site noise levels.

The Code of Practice is presently under review and the issue of appropriate noise criteria for night-time events will be considered as part of this process.

8 REFERENCES

1. The Noise Council 'Code of Practice on Environmental Noise Control at Concerts', published in 1995
2. The Noise Act 1996 as amended by Anti-Social Behaviour Act 2003 and the Clean Neighbourhoods and Environmental Act 2005, Guidance to Local Authorities in England, March 2008
3. Noise from Pubs and Clubs (Phase II), May 2006, Contract No, NANR 163. Capita Symonds and BRE on behalf of defra.
4. World Health Organisation Guidelines for Community Noise, 2000
5. BS8233:1999 Sound insulation and noise reduction for buildings – Code of practice
6. Noise control at an all-night event at Turweston Aerodrome. Peirce & Garthwaite, IOA Bulletin, March/April 1998