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INAUDIBILITY IN CONTEXT AND IN PRACTICE

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INTRODUCTION

I'm sure the vast majority of us will admit that we can think of situations where very low levels of noise have annoyed us. A dripping tap; somebody incessantly drumming their fingers; the continuous muffled beat of a neighbours party until 2am, and so on.

There are a number of factors which contribute to the annoyance. The listener feels unnecessarily subjected to the intrusive sound; it has a regular rhythm with discrete information so as to attract and dominate the listeners attention; and it is easily remedied (the washer can be changed, the fingers kept still, and the music turned down). In many instances the annoyance is heightened by the fact that there is an assumed lack of consideration on the part of the perpetrator.

Conversely there are of course many situations where relatively high noise levels are perfectly acceptable to the listener. Broad band noise with no tonal components or discrete information can be accepted even at noise sensitive times.

It is obvious that inaudibility, as with any criterion, must be used in context. We have to take care not to use it just on the basis that if the complainant cannot hear the noise he cannot complain about it. The criterion has to reflect a genuine and reasonable response to a given set of conditions.

THE ADOPTION OF A STANDARD

In dealing with noise complaints it is perfectly possible to avoid criticism by applying existing standards, and then to take no further action if they are met. There are those who may cling dearly to the Wilson Report's [1] L_{10} of 35 dB(A) in a bedroom at night. It has it's advantages: It can be measured and provides an easier way of abating complaints. The complainant is simply told there is nothing

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more that can be done. He or she will just have to put up with the thumping noise until 2am or take a private action. I would argue that the Environmental Health Officer (EHO) who is responsible for assessing noise nuisance, also has a responsibility for assessing and reviewing existing standards.

If as has been stated a criterion should reflect a genuine and reasonable response to a given set of conditions, then it is no good saying to people that they have no right to feel annoyed at low levels of music if under certain conditions this is found to be the genuine response of reasonable people. That would be like telling the man whose house fell down, that if lower vibration limits had been set to protect the building, they would not have been able to carry on blasting.

So, just as vibration limits may be selected for the prevention of structural damage, and noise limits may be selected to avoid human annoyance, neither are valid if the building is damaged and the average person perceives the noise as a nuisance.

As circumstances change, or as peoples attitudes change, there is a necessity to review our standards to ensure that they do indeed represent what they purport to represent.

So how did inaudibility come to be adopted as a standard? Quite simply, in Edinburgh the "dog was now allowed to wag the tail". We stopped telling people what they should be happy with and started listening to their opinions.

PUTTING IT IN TO CONTEXT

In Edinburgh it was noticed that there was a high degree of "customer dissatisfaction" with two products in the range of Environmental Health noise nuisance services. These were

- (a) the inability to take action in respect of a considered loss of amenity by way of noise from certain new commercial operations, and
- (b) the adoption of a standard which meant one was supposed to find it acceptable to listen to someone else's music if it was clearly audible but below 35dB(A).

(a) Planning

If planning permission is required for a new commercial activity, then

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planning conditions can be used to prevent any loss of amenity occurring in the first place. Many complaints have been received regarding new noises following a planning change of use. For example from a daytime only use (office or shop premises), to an evening/night time use (restaurant/hot food carry-out/bakery premises). Consequently noises which are found to be disturbing, even at very low levels, are encountered especially when the new use is directly under, or very close to residential accommodation. The complaints varied from kitchen activity noise to amplified music. Rather than adopting a policy to refuse all such applications it was decided to see if the problems could be anticipated and prevented.

The following conditions have therefore been attached to consents where considered appropriate.

Any music or vocals shall be so controlled as to be inaudible within the nearest noise sensitive premises

and

The sound insulation properties and sound transmission characteristics of the structure and finishes shall be such that no impact or airborne noise from the normal operations in the premises is audible within any neighbouring living apartment.

These conditions are used to control a combination of the structural properties of the premises and the nature of operations taking place within the premises. If it is obviously impossible for the conditions to be complied with, then the application would be recommended for refusal. Where there is some doubt, the onus is put on the applicant to undertake such tests as will satisfy himself and the local authority that he can comply with the conditions. An example of this procedure in practice, is given in the next section.

(b) Music

In dealing with complaints about excessive noise from music it was obvious to the investigating EHO that the enforcement of existing standards was not satisfying the complainants.

The average person found it unacceptable to be regularly subjected to even very low levels of music in their house. The common factors recognised in each of the complaints were:-

- (a) being subjected to it on a very regular basis (frequently every day of the week), and,
- (b) on each occasion being affected for a significant period of time (ie several hours).

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Of course the situation becomes even more intolerable if music is heard all evening, and then on into the early hours of the morning. The distraction is reported to be such that sleep is found impossible until the music stops.

It will be obvious by now what type of premises such complaints arise from. Long gone are the days when dominoes and a darts board were all that was required as entertainment in the corner pub. There is now the mandatory juke box in the corner, live music once a week, and a visiting discotheque on Thursday, Friday and Saturday nights. And as if all that was not enough, the licensee has to install an in-house CD Hi Fi system to fill in the gaps.

If a liberal helping of late licenses is then added to this mixture of pubs, approximately 54% of which are directly under residential premises, then you will have some idea why the 'Edinburgh recipe' led to audible indigestion.

In recognition of the specific nature of these complaints, Bye-Laws [2] were introduced under the Licensing (Scotland) Act 1976 [3] to control the problem. The Bye-Laws allow a condition to be attached to a license which requires the licensee to obtain the written permission of the Licensing Board before musical entertainment can take place. This permission can be withdrawn at any time. Irrespective of whether complaints have been received, the condition "all music or vocals must be controlled to the satisfaction of the Director of Environmental Health so that no noise is audible within any neighbouring premises" is attached to any regular extensions for opening after 11pm.

It is worth pointing out at this juncture that no such conditions are attached to 'Occasional licenses' ie one-off events. These and other similar irregular and sporadic events eg neighbours parties, musical instrument practice, domestic hi fi noise etc, can all be dealt with under Section 58 of the Control of Pollution Act 1974 [4], or more commonly under the Civic Government (Scotland) Act 1982, Section 54 [5] which states

54 (1) Any person who -

- (a) sounds or plays any musical instrument;
- (b) sings or performs; or
- (c) operates any radio or television receiver, record player, tape-recorder or other sound producing device

so as to give any other person reasonable cause for annoyance and fails to desist on being required to do so by a constable in uniform, shall be guilty of an offence and liable, on summary conviction, to a fine not exceeding £50.

(2) This Section is without prejudice to any offence under section 62 of the Control of Pollution Act 1974 (operation of

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loudspeakers in streets).

Inaudibility as a criterion is therefore only used in certain specific circumstances the context of which it has shown to be valid.

PUTTING IT INTO PRACTICE

Even if it is accepted that when used in context inaudibility is a desirable standard, it is pointless theorising about it if it is unworkable.

Inaudibility as a standard is not new. Indeed I would hazard a guess that most EHO's responsible for noise control work have actually served Notices under the Control of Pollution Act 1974 requiring it. The following condition is one which you may recognise from a Section 60 Notice.

All works which are audible at the Boundary of the Premises or at such other place as may be agreed with the Council, shall be carried out only between the Hours ofand at no other time.

This condition is in fact more onerous than any of the previous conditions as it can require inaudibility at the site boundary. In relation to construction sites this generally means the site has to close down outwith certain hours of operation.

As construction site operations are temporary, it can be argued that preventing a permanent loss of amenity by way of noise from a planning change of use, or music from licensed premises is, all the more important.

Practical Example (Planning)

A firm of upholsterers applied for planning permission to change the use of a shop to a workshop. I contacted the architect and the applicant, and discussed with them my concern regarding noise from their operations affecting the occupiers of the neighbouring flats. At first they did not seem to think it would be a problem and asked what criteria would apply. I explained that at present the neighbours did not hear any banging or machine noise from the premises and that it would be unfair to expect them to suffer any loss of amenity at all. Upholstering operations had been a source of noise complaints in the past and their firm had the option of avoiding such premises and selecting a more suitable location.

The applicant agreed that this was a reasonable position to adopt and on my advice engaged the services of a consultant to assess the feasibility of operating from the proposed premises without being heard by the neighbouring residents.

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A representative number of machines and upholsterers were set to work and surveys carried out from the three neighbouring flats. Level differences were also calculated from measurements obtained in octave bands using a suitable sound source.

The survey results showed that;

- (a) the noise from the upholstering would have been intrusive and unacceptable, and,
- (b) suitable remedial works could be undertaken to ensure the operations would not be heard by the neighbours.

The Planning Committee granted permission subject to a condition requiring the normal operations to be inaudible. The works were carried out, and the neighbours have suffered no loss of amenity.

In relation to commercial kitchens, the condition is routinely attached if there are neighbouring noise sensitive premises. It ensures that prior to the conversion taking place, the design has to take account of the proposed operations and the sound insulation and transmission characteristics of the structures and finishes. The following are examples of works which may be necessary in certain situations.

<u>Situation</u>	<u>Works</u>
Flat above	Independant ceiling may be necessary
Residential adjacent	Independant wall may be necessary
Residential overlooking kitchen windows	Double glazed sealed windows with suitably silenced ventilation
Structurally connected	Isolate plant and machinery, avoid hard, uneven floor surfaces and trolleys, isolate worktops especially if used for chopping.

Practical Example (Music)

A typical complaint about discotheque music from licensed premises would be dealt with as follows.

The complainant would be visited at night and the music witnessed in his house. During the initial visit a note would be made of the nature of the problem. The character of the noise, any obvious breakout points, the orientation of the source and receiving premises etc. No measurements would be undertaken at this stage as the information is of limited use without knowing the source. noise levels. Measurements would be taken if the problem was considered so severe as to require an application for an interdict (injunction).

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The next day the licensee would be approached and advised of the problem. A date would then be fixed, typically within 7 days, when the sound system would be set at an appropriate level, and governed by a sound engineer called in by the licensee. The time for setting the system would be selected so that the background noise levels would be representative of the most noise sensitive times. Equipment used would be a sound level meter and radio handsets. The source noise level would be reduced until inaudible in the house and a reference level taken inside the disco.

Having dealt with the immediate problem, the licensee can then investigate the possibilities of carrying out remedial works in order to increase the level of music. At this point he would generally be advised to contact a consultant to optimise the level of music. Once remedial works are completed we are only too pleased to assist in resetting the level.

It would be unfair to say that there are no problems in setting sound systems to be inaudible and so here are a few which we regularly have to overcome as best we can.

- (i) The variability of source recording levels - the system has to be set for the loudest tape/disc available and therefore before the setting is considered complete a number of the loudest tapes/discs are played. Home recorded tapes can be a problem. A compressor limiter can limit the power through the system and therefore allow quiet tapes to be played louder and still limit the output from the louder tapes.
- (ii) The variability of peoples hearing - the level is set for the occupier of the premises even if the EHO can still hear it. On rare occasions a person will still be aware of the music but find it acceptable. These situations are noted. If the complainant still hears the music and the EHO doesn't, a series of checks are carried out unknown to the resident, during which the music is cut altogether. If the complainant still hears the music the level is thereafter set by the EHO's ear. An audiometry test is arranged for any EHO joining the Noise Section.
- (iii) It is not always possible to set and govern a system at 2am and so it is necessary to listen for the music through gaps in traffic noise in order to be representative of the situation for such licensing hours.

If there are continuing problems once a sound system is set, the matter can be brought before the Licensing Board and it would be usual to require the licensee to give a written undertaking to comply with the following conditions.

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- 1 No sound system(s) shall be operated on the premises other than on which has been set and governed to the satisfaction of the Director of Environmental Health.
- 2 No alteration or modification to any existing sound system(s) should be effected without the prior knowledge of the Director of Environmental Health.
- 3 There shall be no live music performances on the premises without the written permission of the Director of Environmental Health.

Does It Work In Practice?

For the last four years inaudibility has been successfully applied in context and in practice. Planning development have continued to take place and the breweries are still in business. Under these circumstances the public in Edinburgh no longer have to put up with unnecessary noise which the developer can prevent and the licensee can turn down.

REFERENCES

- [1] Wilson, Committee, Noise Final Report, Office of the Lord President of the Council, HMSO 1963.
- [2] The City of Edinburgh District Licensing Board, Byelaws for Licensed Premises SHHD St Andrews House, Edinburgh 1984.
- [3] The Licensing (Scotland) Act 1976, HMSO, London 1976.
- [4] The Control of Pollution Act 1974, HMSO, London, 1974.
- [5] The Civic Government (Scotland) Act 1982, HMSO, London, 1982.

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