

BRITISH ACOUSTICAL SOCIETY: Meeting on "PLANNING  
TO AVOID NOISE NUISANCE": on 28th October, 1971,  
at EWELL COUNTY TECHNICAL COLLEGE.

Industrial Noise by P.E. Kinton  
Chief Public Health Inspector, Royal Borough  
of Kingston upon Thames

The Writer does not presume to be an expert on the subject of industrial noise, but he does claim that by virtue of his appointment which involves leading a team of public health inspectors he has gained some experience in this particular field. For those unfamiliar with the duties of a public health inspector, it is explained that he is the officer of the local authority charged with the responsibility for investigating nuisance including noise. He is qualified - B.Sc. (Environmental Health) or Diploma of the Public Health Inspectors Education Board, and it is upon his judgment that the Council will rely for impartial report and assessment of an alleged nuisance.

Often the complaint cannot be substantiated immediately - it is 'intermittent', 'less than usual', 'they must have known you were coming', 'road traffic particularly heavy' and so on, consequently more visits become necessary and often they extend well into the night. If the public health inspector's assessment confirms the existence of a nuisance he will advise the management who will normally take steps to 'abate' the nuisance. If however the 'nuisance' persists, a report can be submitted to the Health Committee who, being satisfied with the report of the public health inspector, will authorise the service of an Abatement Notice and proceedings in a Court of Summary Jurisdiction. At the hearing the magistrates will have to decide upon the evidence presented to them, whether or not to make a 'Nuisance Order' and whether to impose a fine and award costs. If the defendant fails to comply with the 'Nuisance Order' the court can decide to impose a daily penalty of up to £5 and a fine of £50. The usual appeal procedures are available to the defendant.

The public health inspector may not be satisfied of the existence of a nuisance in which event three occupiers of premises effected may lay information before a magistrate. An individual can proceed quite independently to obtain an injunction under common law in the High Court. If this course is adopted the defendants do not have the benefit of the defence of having taken the best practical means to prevent nuisance but most complainants are reluctant to take such action fearing the financial burden if they fail to succeed.

It should be pointed out at this stage that the public health inspector is not directly concerned with the effects of noise upon workers in a factory but with the external effects of noise. The problems associated with personal physical damage (hearing loss) within the industrial premises are the concern of the factory inspector. It is significant that many workers will tolerate noise which is acceptable to them yet is a nuisance to neighbours.

Up to this point, I have not referred to instruments used to measure noise. There is nothing in law to define acceptable noise levels but only that it shall not be a nuisance. The sound pressure level meter is used to obtain accurate measurements so as to enable comparisons to be made at a later date, often after the carrying out of remedial measures.

Let us examine some of the complaints and sources of noise investigated in Kingston upon Thames, a suburban town with much of its industry cheek by jowl with dwellings.

#### Case 1 - Printing Works

22.00 hours. 12 ft. from nearest wall 43 dBA. SPL in bedroom with windows open and two young children sleeping 32 dBA. House faced major trunk road A3 and passing traffic gave reading of 54-59 dBA. Wilson Report (page 165) states should try to ensure noise level in busy urban areas inside dwellings should not exceed 35 dBA for more than 10% of the time. Had lights in factory been screened so as not to draw attention to the fact that they were working, there might well have been no complaint. In this case the complainant was advised that in the opinion of the public health inspector it was not a public health nuisance but that three occupiers of land or premises who were aggrieved could make a complaint to the magistrates.

#### Case 2 - Plastics Factory

Machine used for reducing waste plastic to fragments for re-use gave rise to complaints: described as a high pitched monotonous wail, 24 hours a day. The machine was situated in a building having brick walls with sheet asbestos roof and after these were lined with thick felt, plasterboard and acoustic tiles, the complainants, when visited, stated the machine was switched off whereas in fact it was operating. Incidentally the cost was approximately £800.

#### Case 3 - Package Boiler in Factory

Have not been able to satisfy all complainants in seven years. The present occupiers took over and extended the premises and have regularly employed a small night shift on presses. Previously no night work had been carried on and practically no machinery used. When complaints were first received SPL readings of 47-48 dBA were recorded 12 ft. from nearest walls of the houses and although this, in the opinion of the public health

inspector, did not give rise to a public health nuisance in the houses, it was felt to be borderline and in the summer when windows were open might amount to a nuisance. The firm were approached, were co-operative and the following work was carried out:-

Fan and trunking fitted to supply air to compressor so that external door could be kept closed, compressor mounted on heavy resilient rubber mountings, ventilation casements to boilerhouse bricked up and roof-lights and windows closed at night.

On the completion of these works a marked reduction was noted and all the complainants expressed themselves as satisfied. Before long, one person was complaining of vibration although none could be detected even on a Vibrograph. Following receipt of a petition the Council, the firm and the complainants agreed to share the cost of a noise survey by an acoustics engineer. He reported that although SPL were such that complaints would not be expected in that type of area, a low frequency rumble at 63 and 125 hertz originating in the secondary air duct was noted. A silencer which was expected to give 10 dB attenuation at 80 hertz was fitted but only 5 dB was achieved and subsequently an additional silencer was fitted. From time to time complaints are still received from two of the original complainants.

#### Case 4 - Foundry

In another case involving a foundry on the edge of an industrial estate, complaints were received regarding the roar of the furnaces which were in the main oil fired. Following the conversion of the oil burners to gas and the existing gas burners being redesigned and converted to North Sea Gas a reduction from 65 dBA to 51-54 dBA was achieved readings being taken 12 ft. from nearest wall of dwelling - large double doors to the external air being open. One of these doors nearest the houses was lined on the inside with sheet lead while the angle of opening of the other was increased to prevent reflection. This foundry only operated during the day and complainants were satisfied with the reductions achieved.

Other cases in which we have been involved are as follows:

Manufacture of reinforced concrete garages using a concrete vibrator. Remedy was by sound insulation with partial success.

The polishing of spectacle frames in revolving timber barrels, all operating for many hours continuously. An outer wall of breeze blocks was constructed and noise considerably reduced.

Fans to a Press shop of a large factory causing disturbance to residents in the neighbourhood at night. The fans were relocated on the other side of the factory away from dwellings.

Refrigerator motors at a large butchers. Additional baffles were fixed with complete success.

An Engineering Works beating metal and using acetylene torches. The firm reverted to single shift working and no further problem was experienced.

Plastic fabrication saws and routers. On keeping the doors closed no nuisance was experienced.

From the foregoing it will be seen that in the cases quoted the legal procedure referred to earlier has not been resorted to. Our experience, which I believe to be typical, has produced the desired results without litigation. Industrialists have co-operated and adopted the best practical means when a nuisance has been proved or alleged with justification.

Persons will often complain of noise from a factory and associated with lights, the inference being that if the lights were not visible from the outside they would not realise that work was in progress and they might well not be aware of any noise. Noise which people believe can be remedied is more often subject of complaint as a nuisance than that which they think cannot be altered. We do not receive complaints about trains but we do receive complaints about factories near railways emitting far less noise. Aircraft noise might be regarded as an exception although it is generally believed that, in spite of its exclusion from the provisions of the Noise Abatement Act, something can be done about it. Noise of slamming doors, loudspeakers and voices of workmen, all draw attention to a factory which is on night work and these noises probably produce more complaints than plant machinery which is operating continuously.

B.S.4142: 1967 was published as a method of rating industrial noise affecting mixed residential and industrial areas. It is not a document designed to indicate permissible noise levels, and does not do so, but a means to assess whether in given circumstances the noise emanating from a source is likely to give rise to complaints. In view of our experience I am in some doubt whether SPL readings taken in dBA for the purpose of assessing whether complaints are likely to arise are adequate.

In considering industrial noise it would seem that there are two aspects which are of concern: the first being the risk of damage to workers who are subjected to the noise, the other is the increasing intolerance of the general public to any noise, and both these factors will make it necessary for industrialists to be increasingly willing to co-operate with the authorities in dealing with noise abatement.