

# Driven Out of Town



**Recent changes to Noise Control legislation have lately been introduced to ban diesel hammers for percussive piling work in urban areas. This month J.A. McInnis looks at these changes and some of the background involved with them.**

## **Background to Controls**

While the earliest attempts to control noise date back to the Roman empire more recent efforts in Hong Kong date principally to the late 1980s and also the Government's 1989 White Paper entitled Pollution in Hong Kong - A Time to Act. It was really this late beginning that began a legislative initiative to control pollution on land, sea and in the air in Hong Kong. The Noise Pollution Control Ordinance dates to this time and this hope. Since the White Paper was released three reviews have followed which have generally sought to report on the progress of the schemes, the legislation which originally flowed from it and the changes which have been required. In the area of noise pollution it was thought that more could be done in particular regard to construction activities.

## **Noise Control on Construction Sites**

Both construction noise and piling noise are regulated under the Noise Control Ordinance by means of a permit system. In the past permits have generally been required for percussive piling between 7:00 am and 7:00 pm on weekdays and not permitted at all on weekends. Separately, during these hours on weekdays, there were also no controls on the unrestricted use of mechanical equipment although permits would have been required for the use of mechanical equipment either between 7:00 pm and 7:00 am or on weekends. In 1995, for example, approximately 2400 such permits were issued and some 500 or so refused. Apart from controls on percussive pilers, controls have also been placed on hand-held percussive breakers and air compressors; however, in these cases, the controls have been the means of a labelling system. Thus, in 1995, for example, some 1200 breaker labels and approximately 600 air compressor labels were issued. The rationale in labelling has been that only breakers and air compressors complying with the most stringent noise emission standards would be approved and allowed to be used on construction sites.

Apart from the permit system dealing with authorised regulation of noise there is also regulation through which are

termed noise abatement notices. The same approach can be found in many other jurisdictions including the United Kingdom. The Environmental Protection Department may serve a noise abatement notice requiring noise to be reduced to permissible levels or prosecution may follow. It should be noted that construction site noise is only one source of noise locally. Other sources of noise include commercial and industrial activities, road works, traffic and aircraft noise. A wide variety of noise reduction programmes have been gradually introduced across these and other sectors throughout the territory. The measure now introduced to eventually ban percussive piling altogether in urban areas is one more such programme.

## **The Amendments**

The amendments to the Noise Control Ordinance introduced in May were twofold:

(1) to allow the Noise Control Authority - the body administering the legislation - to refuse to issue permits if they would breach any criterion set out in a new Technical Memorandum on noise; and (2) to allow the Secretary for Planning, Environment and Lands to set out in that new Technical Memorandum different criteria relating to the issue of noise permits for different types of percussive pilers. The amendments also made a short but significant change by introducing two new criteria relating to the assessment of construction noise. Thus the criteria will now pertain to guidelines, standards and limits whereas previously the legislation for the old Technical Memorandum referred only to principles and procedures.

## **The New Technical Memorandum**

The new Technical Memorandum on Noise from Percussive Piling was issued under s. 9 of the Noise Control Ordinance and replaces the old Technical Memorandum which came into operation in December 1988. The new Memorandum deals with three general issues and procedures: (1) determining permissible hours of operation for percussive piling; (2) issuing construction noise permits for percussive piling; and (3)

determining whether these noise permits are being complied with. Considerable detail is set out with regard to this first general issue and is reflected in 10 steps which are itemised in the Memorandum. The new Memorandum is detailed in setting out new guidelines standards and limits but it is also to be noted that they are not described “absolutes”. Thus there are provisions for special cases when the guidelines etc may be exceeded. These special cases are dealt with separately in the new Memorandum under three other categories: (1) when other quiet working methods or special factors pertain; (2) when the percussive piling has important social implications; and (3) in designated geologically difficult areas. Hence there are rules and there are exceptions. The new Memorandum of course has significant technical detail which reflects our present level of understanding on noise pollution in general. These details are given in four tables which make up part of the new Memorandum and address: (1) acceptable noise levels (ANLs); (2) sound power levels for percussive piling; (3) noise levels in general; and (4) correction factors to obtain predicted noise levels (PNLs) from sound power levels at given distances. These details are summarily expressed in formulae depending upon the type and nature of equipment involved; namely (a) piling work not involving the use of diesel, pneumatic and/or steam hammers Table 5A below; and (b)

piling work involving the use of diesel, pneumatic and/or steam hammers both in urban areas Table 5B below. Briefly those tables may be reproduced as follows:

Tables 5A and 5B will apply once the amendments are fully brought into force although stricter standards will be introduced in three stages over the next two and a half years.

### **Government Contracts**

The stricter standards will be applied though from July 1st this year when a ban on the use of diesel hammers for all percussive piling in Government contracts tendered after this date comes into effect. The intention is to move from diesel to hydraulic hammers which are more amenable to noise control measures such as enclosures and in this way lead the private sector by example. Exceptions from the ban will still be possible but only with the approval by the head of the relevant Government department and the agreement of the Secretary for Works (Policy and Safety), who in turn would notify the Director of the Environmental Protection Department. Amendments to both the General Specifications for Civil Engineering and for Building will give effect to this policy change.

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**AAC**

**Table 5A**

Amount by which Corrected Noise Level (CNL) exceeds Acceptable Noise Level (ANL), CNL-ANL	Permitted hours of operation on any day not being a general holiday
10db(A) < CNL-ANL	08:00 to 19:00 and 12:30 to 13:30 and 17:00 to 18:00
0 db(A) < CNL-ANL ≤ 10 db(A)	08:00 to 09:30 and 12:00 to 14:00 and 16:30 to 18:00
CNL-ANL ≤ 0 db(A)	-

**Table 5B**

Amount by which Corrected Noise Level (CNL) exceeds Acceptable Noise Level (ANL), CNL-ANL	Permitted hours of operation on any day not being a general holiday
10db(A) < CNL-ANL	08:00 to 09:00 and 12:30 to 13:30 and 17:00 to 18:00
0 db(A) < CNL-ANL ≤ 10 db(A)	08:00 to 09:30 and 12:00 to 14:00 and 16:30 to 18:00
CNL-ANL < 0 db(A)	07:00 to 19:00