

# APPENDIX G

## USE OF EAR PROTECTORS

1. The revised "Code of Practice for noise levels in ships" was published in March 1990 and Merchant Shipping Notice No. M.1415 has been issued to shipowners, shipbuilders, ship managers and masters. Compliance with the Code should also satisfy the Merchant Shipping (General duties) Regulations 1998, AS AMENDED, under which shipowners and employers have a duty to ensure the health and safety of other persons aboard ship who are not engaged in the normal business of the ship. Surveyors of the MCA, while on board ships engaged in official business, would come under this category. However, in addition, the MCA has a duty to protect its employees from the risk of noise induced hearing loss under the Health and Safety Executive Noise at Work Regulations 1989 and NOISE GUIDES by HSE which implements in the UK, EC Directive 86/188/EEC "The Protection of workers from noise".

2. It is considered that the time spent by most surveyors under potentially hazardous noise level conditions is likely to amount to a small proportion of their working time and that they are at little or no risk. However, the following information is to be noted and appropriate action taken.

3. During surveys or inspections on board ship where surveyors move from one place to another, or during inspections in works ashore, e.g. engine testing, the length of time spent in each place may vary and it is not generally practicable to measure and control exposure to potentially harmful noise. Ear muffs are therefore provided on an individual basis to surveyors who are likely to be exposed to high noise levels. These ear muffs are of a type which, when worn correctly, will effectively reduce all noise likely to be encountered by surveyors to, or below, the limit for unprotected ears.

4. Examples of noise levels in different locations are given below in order to enable personnel to appreciate when and where a potentially harmful noise exposure may exist:

120 dB(A) 60 metre from a jet aircraft taking off. Between 2 running 1800 rpm diesel generators.

110 dB(A) 1 metre from a riveting machine. In a small ship engine room with 900 rpm diesel main engines and 900 rpm diesel generator.

105 dB(A) 1 metre from cylinder tops, slow speed (120 rpm) main diesel engine.

100 dB(A) Between 2 running diesel generators (600 rpm).

95 dB(A) In a slow speed (120 rpm) diesel main engine room at the after end of the floor plate level or in an open side flat.

90 dB(A)	Noisy factory, machine shop, quieter parts of ship's engine rooms.
80 dB(A)	15 metre from a pneumatic drill.
70 dB(A)	Noisy domestic machinery (vacuum cleaner at 3 metre).
60 dB(A)	Inside large public building (i.e. supermarket).
50 dB(A)	Inside a house in a suburban area during daytime.
40 dB(A)	Quiet city area outdoors at night. Library whisper at one metre.
25-30 dB(A)	Countryside at night. Quiet church.
0	Threshold of hearing of young persons of normal hearing.

These levels are only approximate and engine noise can vary considerably with the type of installation.

5. The following figures illustrate the acceptable maximum daily noise doses for unprotected ears, based on dB(A) sound energy received.

Less than	80 dB(A) for no limit (24 hours)
	82 dB(A) for 16 hours
	85 dB(A) for 8 hours
	90 dB(A) for 2 hours
	95 dB(A) for 50 minutes
	100 dB(A) for 15 minutes
	105 dB(A) for 5 minutes
	110 dB(A) for 1 minute

As an alternative illustration and equivalent to the above figures, the maximum daily noise dose for unprotected ears is halved for each increase of 3 dB(A).

i.e.	85 dB(A) for 8 hours
	88 dB(A) for 4 hours
	91 dB(A) for 2 hours, etc.

6. Surveyors should not, in general, allow themselves to be exposed to sound levels exceeding 80 dB(A) unless they are wearing the ear muffs provided. However, in order to avoid unnecessary encumbrance ear muffs need not be used where exposure to noise is for short periods where in the surveyor's professional opinion the noise level and time of exposure is within the limits described above. It is suggested however that in all circumstances where other shipboard personnel are seen to be wearing ear protection the surveyor should do likewise from the point of following or setting a good example, especially as entrances to such spaces should be provided with notices warning of excessive noise levels and requiring ear protectors to be used.

7. Surveyors may wish to note that as employees they have a duty under Section 7 of the Health and Safety at Work, Act 1974 to take reasonable care to avoid injury to themselves or to others by their work activities, and to co-operate with employers and others in meeting statutory requirements. Section 8 of the Act also requires employees not to interfere with or misuse anything provided to protect their health, welfare or safety in compliance with the Act.