Appendix 1: Determining risk

Inspectors need to consider the personal noise exposure when dealing with noise risks on site. This information will determine the risk to health, the adequacy of the controls and the significance of the risk present. Gathering and recording this information is important for supporting any subsequent action taken.

Where the daily personal noise exposure ($L_{EP,d}$) is likely to be above the upper exposure action value of 85 dB, the risk of serious ill-health is significant and you should treat noise as a matter of evident concern (see OC 18/12).

Where noise exposure is between the lower (80 dB, $L_{EP,d}$) and upper exposure action values there is a lesser but still quantifiable risk, and employers should be encouraged to take action to reduce risks and exposures so far as is reasonably practicable.

Many of the high-risk activities listed in Appendix 3 will result in daily personal exposures above the upper exposure action value unless exposure times are very short.

Inspectors are not expected to carry out a surrogate assessment of exposure in place of one when required of the employer by legislation. Instead Inspectors are expected to make a best estimate of overall risk based on the available evidence.

When estimating personal noise exposure you need information on the **noise level** or levels to which employees are exposed, and the **duration** of the exposure(s) during the working day. No account should be taken of the effect of any personal hearing protection in estimating personal noise exposure in comparison with the exposure action values.

Table 1: Issues determining risk

Issue	Detail
Noise exposure (noise level & duration)	As a ***rough guide***, it is likely that the upper exposure action value ($L_{EP,d}$ of 85 dB) will be exceeded if: • You have to raise your voice to talk to someone about 2 m away and employees are exposed to the noise for most of the working day; • You have to raise your voice to talk to someone about 1 m away and employees are exposed to the noise for more than two hours; Other information to gather: • refer to the employer's noise risk assessment, where $L_{EP,d}$ has been calculated or there is sufficient information to allow it to be calculated, and you are satisfied that the assessment reflects the working conditions; • draw comparison with your experience of noise exposures and records of noise risk assessments in similar premises; • use a sound level meter (measure the A-weighted Leq), to determine the typical exposure duration and estimate the exposure using the ready reckoner (http://www.hse.gov.uk/noise/dailyexposure.pdf) or calculator (http://www.hse.gov.uk/noise/calculator.htm) on the noise section of

	the HSE website; or • use the 'rough guide' above to decide whether the upper exposure action value is likely to be exceeded.
Other information that might be helpful:	
Noise level	• Likely emission levels for common activities such as on HSE website, from trade associations, Hire companies etc • BS 5228-1:2009 – Code of practice for noise and vibrations control on construction and open sites • Manufacturers' likely emission levels (NOTE these are usually much lower than actual emission in practice)
Duration	Where there is a high level of noise; how long is the task taking? The longer the task the greater the risks will be. However, some tasks give very high exposures in a short period.
Frequency	Where there is a high level of noise; how frequently is the task done? Are people likely to be regularly exposed by doing similar tasks?
Location	Where is the work taking place? The more enclosed a space the worse things will be.
People	Who is being exposed? Is it just the worker doing the task or others nearby as well? How close is the person to the task?

Inspectors should note that weekly rather than daily personal noise exposure may be used where noise exposure varies markedly from day to day. This ***may*** mean that exposure-related duties under the Regulations do not apply even when the daily personal exposure exceed action values on a particular day, and if there are significant variations in work activities from day to day. Inspectors should establish the nature of any variations in working patterns, and consult a Noise & Vibration Specialist Inspector if in any doubt about the consequences for assessment of exposure.

Table 2: Typical issues limiting control effectiveness

Control	Issues Limiting Effectiveness
Elimination at source	• No consideration of alternative methods of work • No consideration of mechanisation of tasks • No use of specialist design to remove need to use noisy tools and equipment for finishing • No use of prefabrication off site
Controls to reduce noise	• No Buy quiet policy • Lack or ineffective isolation or enclosure of process • Poor maintenance of tools; • Poorly trained worker • Tools not operated as per instructions leading to higher noise created • Lack of barriers or distance to protect other workers from noise source
PPE – Hearing	• HP that does not give high enough protection factor for noise level;

Protection (HP)	• HP that over attenuates the noise so that communication and ability to hear hazards is affected • Not suitable for the wearer • Conflicts with other PPE • Not suitable for the work / environment; • Not properly worn; • Not stored, maintained or cleaned properly; • Poorly trained worker.
Health Surveillance	• Lack or inadequate provision for those at risk • Lack of action on feedback of anonymised results