Operations with associated Noise and Vibration
Responsibility: All Employees

Purpose:
Employees may be required to work under noisy conditions, or work which exposes them to vibration. The purpose of this instruction is to:

- Ensure where possible that works under these conditions are eliminated;
- Ensure employees are aware of the health effects associated with exposure to excessive noise and vibration;
- Ensure the assessment of the level of noise/vibration risk to employees by carrying out appropriate surveys and risk assessments;
- Ensure the provision of hearing/vibration protection if the work cannot be carried out in a way that reduces the exposure enough by using other methods;
- Ensure the legal limits on noise/vibration exposure are not exceeded and provide employees with information, instruction and training;
- Ensure that where required health surveillance is carried out on personnel, where there is a risk to their health.
- Provide information to assist in the protection of others from the effects of noise and vibration.

Definitions:

Vibration
Hand-arm vibration is vibration transmitted from work processes into workers’ hands and arms. It can be caused by operating hand-held power tools, such as road breakers, and hand-guided equipment, such as powered lawn mowers, or by holding materials being processed by machines, such as pedestal grinders.

Levels of Vibration risk:
High risk - above the Exposure Limit Value (ELV)
Employees who regularly operate:
- Hammer action tools for more than about one hour per day; or
- Some rotary and other action tools for more than about four hours per day.

Medium risk - above the Daily Exposure Action Value (EAV)
Employees who regularly operate:
- Hammer action tools for more than about 15 minutes per day; or
- Some rotary and other action tools for more than about one hour per day.

Employees in this group are likely to be exposed above the exposure action value set out in the Regulations.

Noise
Any signal that does not convey useful information, it can cause stress or aggravation and loud noise can be damaging to the ear resulting in either temporary or permanent hearing loss.

Ideally, daily exposure levels to noise should not exceed 80dB and peak sound pressure should not exceed 135dB. Where they do, adequate hearing protection must be made available to employees upon their request. Where 85dB is exceeded (daily), and 137dB (peak), mandatory hearing protection measures must be introduced.

Safe Working Practices
If working in a noisy environment or with tools that cause noise and or vibration cannot be avoided, the results of the risk assessment shall be used to help identify the necessary
precautions to reduce the risk of harm. These will depend on the nature of the risks, the environment, the equipment, and the person undertaking the work.

Make sure that a safe system of work, including the precautions identified, is developed and put into practice. The following issues should be considered:

Alternative work methods
All employees are to look for alternative work methods which eliminate or reduce exposure to vibration/noise and mechanise or automate the work where possible.

Equipment selection
- Equipment selected or allocated for tasks shall be suitable and is able to do the work efficiently;
- Equipment that is unsuitable, too small or not powerful enough is likely to take much longer to complete the task and expose employees to vibration for longer than is necessary;
- The quietest and lowest vibration tool that is suitable and can do the work efficiently shall be selected;
- The use of excessively noisy or high-vibration tools shall be avoided wherever possible;
- All equipment should be CE-marked to show that it complies with Supply of Machinery (Safety) Regulations 1992 (as amended).

Workstation design – Vibration
- Management should assist in improving the design of workstations to minimise loads on employees’ hands, wrists, and arms caused by poor posture;
- Devices such as jigs and suspension systems should be considered in order to reduce the need to grip heavy tools tightly.

Workstation design – Noise
- Silencers shall be used wherever possible on equipment;
- Noisy work shall be restricted to one area wherever possible.

Maintenance
- Appropriate maintenance programmes shall be introduced for the equipment used to help prevent avoidable increases in noise and/or vibration (following the manufacturer’s recommendations where appropriate);
- Blunt or damaged concrete breaker and chipping hammer chisels shall not be used. Consumable items such as grinding wheels; shall be replaced frequently so that equipment is efficient and keeps employee exposure as short as possible.

Work schedules
- Limit the time that employees are exposed to noise and, or vibration;
- Plan works to avoid individuals being exposed to noise and or vibration for long, continuous periods, several shorter periods are preferable;
- Where tools require continual or frequent use, introduce employee rota to limit exposure times.

Clothing - Vibration
- All employees shall be provided with protective clothing when necessary to keep them warm and dry. This will encourage good blood circulation which should help protect them from developing vibration white finger;
- Gloves can be used to keep hands warm, but should not be relied upon to provide protection from vibration.
- Note that clothing will fall within the definition of PPE and as such falls within the scope of the Instructions for Personal Protective Equipment Use and Storage.
Clothing – Noise
- Provide employees with appropriate Ear protection where noise cannot be reduced at source.
- Note that clothing will fall within the definition of PPE and as such falls within the scope of the Instructions for Personal Protective Equipment Use and Storage.

Health Effects and Surveillance
Estate Development Service must provide health surveillance for all employees who, despite action to control the risk, are likely to be regularly exposed above the exposure levels or are considered to be at risk for any other reason.

Vibration
When hand held vibratory power tools, equipment and plant are used, without suitable controls, there is a possibility of employees using these tools and equipment on a regular basis of contracting “hand-arm vibration syndrome” (HAVS) commonly known as Vibration White Finger (VWF). When this equipment is used the risk assessment should detail what controls are in place to reduce the risk of injury. Frequent users of this equipment should be monitored or undertake regular health checks.

Noise
Noise at work can cause hearing loss which can be either temporary or permanent, depending on the person, the level of noise and the duration of work. If employees are subjected to long durations or high frequency noise on a regular basis then they should have hearing tests on a regular basis.

Information and Training
Must be given to all employees who are likely to work under these conditions and should cover the following:
- Health effects and symptoms
- Controls
- Sources of noise/vibration
- Acceptable levels
- Risk factors

Review of Routine Tasks Undertaken and Determination of Exposure Levels
Once the nature of the workplace, the tasks and tools or equipment to be used are known, Estate Development Service will prepare and maintain records to assist management and employees identify risks and their necessary control measures. In this context and in addition to risk assessments and method statements, records will include schedules containing the following information:

Noise:
- Areas or workplaces designated as Hearing Protection Zones
- Type of ear protection devices and level of protection/sound reduction afforded
- Sound levels generated by hand tools, equipment and the like to assist in calculating daily or weekly personal exposure limits

Vibration:
- Schedules of hand held tools providing data indicating the levels of vibration emitted so as to assist in determining ELV and EAV’s.

Reference:
- Control of Noise at Work Regulations 2005
- Control of Vibration at Work Regulations 2005
- The Management of Health and Safety at Work Regulations 1999
- The Provision and Use of Work Equipment Regulations 1998