HSP XXX
Noise and Vibration Policy

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AUTHOR	Justin Tyas / Sandrine Pluviaux
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1. Statement

The City of London Corporation is committed to keeping our employees and those affected by our activities healthy and safe. We recognise that there are health risks to employees who undertake tasks that may involve exposure to vibration and noise at work. This policy provides services with the standards to reduce risk and comply with the relevant health and safety legislation ensuring good practice to manage exposure to vibration and noise at work.

2. Introduction

Exposure to excessive noise can cause hearing damage and even hearing loss. Noise also interferes with communication and may therefore compromise safety at work. The effects of noise may be cumulative and ultimately irreversible.

Exposure to excessive vibration can have a negative effect on the health of employees. It could damage joints, muscles, circulation and sensory nerves. This could lead to considerable pain, time off or even permanent disability.

Vibration is a physical phenomenon whereby oscillations occur about an equilibrium point. The word comes from Latin *vibrationem* ("shaking, brandishing"). The oscillations may be periodic, such as the motion of a pendulum—or random, such as the movement of a tire on a gravel road.

Sound is a vibration that propagates as an acoustic wave, through a transmission medium such as a gas, liquid or solid. In human physiology and psychology, sound is the reception of such waves and their perception by the brain.

Sound is what we hear. **Noise is unwanted sound**. The difference between sound and noise depends upon the listener and the circumstances.

This policy does not cover the environmental aspects of noise and noise pollution; or the adverse effects on wellbeing which can arise from ‘nuisance’ noise which is below the levels likely to cause permanent harm

This policy provides standards of good management practices to identify minimise and control the risk of long-term injury to employees who are exposed to vibration and noise at work.

The policy endeavours to comply with good practice and with the following specific legislation in addition to the more general duties to employees under the Health and Safety at Work etc. Act 1974:

- The Management of Health and Safety at Work Regulations 1999
- The Control of Vibration at Work Regulations 2005 (“Vibration Regulations”)
- The Control of Noise at Work Regulations 2005 (“Noise Regulations”)
- Provision and Use of Work Equipment Regulations (PUWER) 1998
- The Reporting of Injuries, Diseases and Dangerous Occurrence Regulations (RIDDOR) 2013

3. Scope

This policy applies where occupational exposure to noise and vibration at work is equal to or exceeds the statutory action levels or exposure limits. It applies to both employees and (where relevant) others who may be affected by noise or vibration as part of the City Corporation's undertakings. The policy does not apply to complaints about third party noise. For example, construction sites or intruder alarms which could be a *statutory nuisance* covered by the Environmental Protection Act 1990.

4. Policy aims

The City Corporation will put in place measures to:

- ensure that workers' hearing is protected from excessive noise at work, which could cause them to suffer hearing loss and/or to suffer from tinnitus (permanent ringing in the ears).
- protect workers from the risks of Hand Arm Vibration Syndrome (HAVS) and from Whole Body Vibration (WBV), which can be caused by excessive exposure to vibration.

These measures will include (where necessary):

Noise and vibration

- Assessing the risks from noise and vibration exposure
- Taking measures to reduce noise and vibration exposure where a risk assessment shows that this is necessary
- Ensuring the level of noise and vibration generated is considered when a new piece of work equipment is purchased or hired
- Providing hearing / personal protection where appropriate if risks cannot be adequately reduced by other means
- Providing training and information for employees on the risks from noise and vibration and the measures in place to reduce these
- Providing health surveillance where the risk assessment shows that this is appropriate

This will enable the City Corporation to satisfy its obligations under the Noise and Vibration Regulations and the Management of Health and Safety at Work Regulations.

5. Interactions with other policies and guidance

This Policy supports and is aligned with other City Corporation policies and guidance including but not limited to:

- Health Safety and Wellbeing Policy
- Noise at work Guidance
- Hand Arm Vibration and Whole Body Vibration at work Guidance
- Risk assessment Guidance
- Health Surveillance Guidance
- Personal Protective Equipment Guidance
- Accident / Incident Reporting Procedure
- Lifting and Work Equipment Policy

- Corporate Transport Policy
- Equal Opportunity Policy

6. Vibration at work

Definition of vibration at work

Vibration at work can occur when using work equipment such as power tools and cutting equipment. “Hand Arm Vibration” (HAV), is vibration transmitted from work equipment into the person’s hands and arms. “Whole-Body Vibration” (WBV) is vibration transmitted to the body whilst sitting/standing on work equipment.

Exposure to excessive levels of vibrations can have significant health effects on an individual, which can lead to permanent disablement. HAV can cause a range of conditions collectively known as Hand-Arm Vibration Syndrome (HAVS), as well as specific diseases such as Carpal Tunnel Syndrome (CTS). Both HAVS and CTS are specified diseases under RIDDOR 2013 and are therefore reportable to the Health and Safety Executive (HSE).

WBV has been linked to persistent back pain as a result of continual vibration being transmitted through the seat of a vehicle or standing on work equipment which vibrates.

Drivers of some mobile machines including certain tractors, forklift trucks and earth-moving machinery may be exposed to WBV and shocks which can be associated with back pain, although other work factors like posture and heavy lifting can also contribute to back problems.

Exposure action and limit values

The Vibration Regulations 2005 defines a daily Exposure Action Value (EAV) and a daily Exposure Limit Value (ELV) in respect of both HAV and WBV. Vibration is caused by the acceleration of an object (m/s²).

These values are:

<u>Hand-Arm Vibration (HAV)</u>
EAV: normalised to an 8-hour reference period is 2.5m/s².
ELV: normalised to an 8-hour reference period is 5m/s².

<u>Whole-Body Vibration (HBV)</u>
EAV: normalised to an 8-hour reference period is 0.5m/s².
ELV: normalised to an 8-hour reference period is 1.15m/s².

The EAV represents a clear risk to employees that requires to be managed. Where a risk assessment highlights that an EAV is likely to be reached or exceeded action is required to reduce exposure to as low a level as is reasonably practicable.

The ELV represents a high risk above which employees should not be exposed. If either the risk assessment or monitoring shows an individual’s exposure exceeds or is likely to exceed the ELV Line Managers should immediately cease the work activity and seek

advice from The Corporate Health, Safety and Wellbeing Team and The Occupational Health Service.

Risk assessment

The purpose of the risk assessment is to enable managers to make an assessment of the risk of exposure to vibration and identify measures to prevent or control the exposure to vibration.

Risk assessments should be undertaken in accordance with reference to the Corporate Risk Assessment Guidance and the Corporate Vibration Guidance. When conducting the assessment, the following steps should be followed:

- Identify all existing powered tools, equipment and machinery which potentially pose a risk of HAV or WBV.
- Review and observe the conditions under which such powered tools, equipment and machinery are used to obtain a true and representative appreciation of the nature of the work.
- Ensure that employees use equipment correctly.
- Assess the vibration magnitude from each piece of equipment used. The manufacturer's information on products will provide basic data on the vibration levels of new equipment; however it is not recommended that this be used for risk assessment as data will often come from testing under specific controlled environments and may underestimate exposures in practice. New equipment should always be measured to establish an accurate reading before being made available for use.
- Identify the maximum duration of their use in any working day, if necessary, by keeping a log or using monitoring devices. The risk assessment should identify the maximum trigger time, or usage time permissible for the equipment to ensure that exposure does not exceed the ELV.
- Detail the controls in place to reduce the risk from vibration exposure.

Through the process of Risk Assessment, tasks and processes will be identified that could expose employees to vibration. To quantify the vibration exposure which may be occurring, measurements need to be conducted using a Vibration Analyser, thus determining exposure values. You must be trained before you can use and interpret the readings. Once vibration levels are known for equipment used in your workplace, personal exposure levels may be calculated using the HAV Exposure Limit Calculator on the Health and Safety website or on the HSE website:

http://www.hse.gov.uk/vibration/hav/hav.xls
http://www.hse.gov.uk/vibration/hav/vibrationcalc.htm

Vibration Monitoring

Any tool or equipment that has the potential to cause HAVS or WBV issues will be monitored; such equipment will be clearly identified in tooling, equipment and asset lists.

The results of monitoring will be compared with the manufacturer's information. If monitoring should highlight deterioration through the effect of age or poor maintenance or

that there is something wrong with a particular item of equipment it will be removed from service immediately and either repaired or in the case of small items, rendered unusable.

Further information is available in the HSE's documents:

- *Hand-arm vibration at work - A brief guide* http://www.hse.gov.uk/pubns/indg175.pdf
- *Control back-pain risks from whole-body vibration – A brief guide* https://www.hse.gov.uk/pubns/indg242.pdf

Risk assessments should be reviewed at least annually or following an incident involving workplace vibration, or where there has been a significant change in working practices or equipment used.

Other solutions may include:

- Purchase of different/new equipment
- Improved maintenance/servicing

Vibration Reduction

Measures should be put in place to reduce vibration exposure to as low a level as is reasonably practicable – even if vibration levels are below the EAV, consideration should be given as to whether further reduction is practical.

Wherever vibration levels may exceed the EAV, assistance should be sought from the Corporate Health, Safety and Wellbeing Team and the Occupational Health Service to assist with risk assessment and reduction of vibration exposure.

Measures to reduce risks from vibration exposure may include:

- replacing tools and equipment with alternatives which produce lower magnitudes of vibration
- ensuring work activities are designed to take into account ergonomic principles, and to encourage good posture
- ensuring all equipment is properly maintained
- reducing time exposed to vibration e.g. regular breaks, job rotation etc
- providing suitable clothing to protect employees from cold and damp
- providing suitable information, instruction and training for all those exposed to vibration

Purchasing of New Equipment

Whenever new equipment is to be purchased, the supplier's vibration information will be checked in advance and every effort made to ensure that equipment with the lowest vibration levels and best protection is obtained.

Health surveillance

The Vibration Regulations 2005 require that health surveillance is provided where a risk assessment indicates that there is a risk to the health of employees who are, or are likely to be, exposed to vibration levels at or above an EAL.

If there is a significant risk of HAVS, i.e. due to high vibration limits or long exposure times, then health surveillance will be undertaken. The aim of this is to identify at an early stage any employee who may be showing medical signs of developing HAVS. If at any time between scheduled surveillance an employee notices any of the signs of HAVS, they should report it to their line manager immediately in order that referral to the Occupational Health Service can be organised and investigation of the equipment carried out by a competent person immediately.

There is also a risk of WBV that can affect those who work with tractor/flail mower combinations, forklifts etc. The assessment of this risk be similar to that for HAVS in that identification of a significant risk will lead to control measures such as equipment modification/maintenance, minimising length of exposure and providing information to employees.

All individual records will be held in line with GDPR and City Corporation data principles. Where appropriate, summary results for groups of employees will be reported back to a relevant manager to indicate the effectiveness of the management system.

Employees diagnosed as having a medical condition will be required to have specific risk control measures developed for them. The exact requirements for control will normally be determined by Occupational Health in consultation with the Employee and the Line Manager. These controls may include:

• regular reviews of health by Occupational Health
• restricted use of plant and equipment
• prevention from use of high vibrating equipment
• redeployment to alternative duties.

Training and information

The City Corporation will ensure that all employees at risk of exposure to HAVS and WBV receive information, instruction and training. This should include periodic supervised practice to identify work practices which may increase risk such as poor postures, gripping equipment too tightly etc.

Training should include information on the following items:

- Information on vibration levels relevant to the machinery they are to use, particularly identifying pieces of equipment that are known to have higher vibration levels.
- The need to interrupt work using vibrating machinery on a regular basis with other tasks and/or to divide such work with other colleagues,
- To be aware of other factors that can increase the likelihood of HAVS or WBV such as low temperature, smoking, etc.
- What control measures are in place to minimise risks
- What personal protective equipment is provided and when this should be used, e.g. the need to keep warm
- How to report issues or concerns

Where new staff are employed, they should be made aware of the risks of vibration prior to first exposure, or at least within the first week of employment. This can be done at the

same time as asking them to complete the initial health assessment form for return to Occupational Health.

7. Noise at work

Definition of noise at work

The Noise Regulations 2005 places a general duty on employers to do all that is reasonably practicable to eliminate the risks to employees' health and safety from exposure to noise at work. If the risks cannot be eliminated, they must be reduced to a minimum. The regulations do not apply to members of the public when not at work or to low-level noise that is a nuisance but causes no risk of hearing damage.

Exposure action and limit values

There are specific actions required by the regulations, which are defined by the upper and lower exposure action values. There are also exposure limit values in the regulations that are levels of noise above which an employee must not be exposed.

Noise is measured in decibels "dB". The A-weighted scale "dB(A)" is used to measure average noise levels and C-weighted scale "dB(C)" for peak or impact noises. It should be noted that the decibel scale is logarithmic and therefore a small increase in the decibel level can mean a significant increase in the hazard. A 3dB change in noise level is barely noticeable to the ear but is actually a doubling of the noise and therefore a significant increase in the risk. For example, eight hours exposure to 85 dB(A) is the same as four hours exposure to 88 dB(A).

The regulations require you to take specified actions at given action values. These values relate to the levels of noise exposure of your employees averaged over a working day (or week if the daily exposure varies markedly from day to day) and the maximum (peak) noise to which employees are exposed in a day. Daily personal noise exposure (or LEP,d) represents a daily noise 'dose' – a combination of 'how loud' and 'how long exposed' for the various noises that a person is exposed to in a working day. The lower exposure action level is a daily or weekly equivalent exposure of 80 dB(A), or a peak sound pressure of 135 dB(C) (known as LCpeak). If your employees are exposed to noise at or above this level, you must:

• carry out an assessment of the risk from the noise to the health and safety of your employees
• provide your employees with a choice of hearing protection on request and recommend they use it
• provide information, instruction and training on the risks you have identified, and control measures you have put in place
• provide hearing checks where a risk to health has been identified

The upper exposure action level is a daily or weekly equivalent exposure of 85 dB(A), or a peak sound pressure of 137 dB(C). If your employees are exposed at or above this level, you must:

• implement a programme of noise control to reduce the exposure to as low as is reasonably practicable
• where noise cannot be reduced through other means, issue your staff with hearing protectors
• identify Hearing Protection Zones where use of hearing protection is compulsory
• restrict access to these zones and ensure so far as is reasonably practicable that employees do not enter them unless they are wearing hearing protectors

There is also a noise exposure limit value of 87 dB(A) daily or weekly exposure and 140 dB(C) peak sound pressure, which must not be exceeded for all employees, including those who are wearing hearing protection. If your employees are exposed above the noise exposure limit value, you must take immediate action to reduce exposure e.g. by providing hearing protection if it is not already worn. Where hearing protection is worn and is not effective you must take other action to reduce exposure, if necessary, by stopping work.

Risk assessment

The purpose of the risk assessment is to enable managers to make an assessment on the risk of exposure to noise and identify measures to prevent or control the exposure to noise.

It is the aim of the City Corporation to minimise the risk of noise-induced hearing damage to all who may be affected, by keeping exposure to noise as low as is reasonably practicable and where the Upper Action Value is likely to be exceeded, control measures will be put in place to reduce it.

There are a few simple tests that can be used to determine if a risk assessment is needed.

If the noise is intrusive but normal conversation is possible (e.g. comparable to a busy street, a crowded restaurant or a typical vacuum cleaner) this is probably about 80 dB and the lower exposure action value could be triggered if people have to work in this environment for around 6 hours in a day.

If employees have to raise their voices to hold a conversation with someone who is about 2m away this could be about 85 dB and the lower exposure limit would be triggered if people have to work in this environment for 2 hours in a day.

If employees have to raise their voices to hold a conversation with someone who is about 1m this could be about 90 dB and the lower exposure limit would be triggered if people have to work in this environment for 45 minutes in a day.

Managers should also check the information and signage about noise emission that is provided with the plant and equipment which your employees have to use. This should give you an indication of any potential noise exposure.

If managers are in any doubt you should assume that the lower exposure action value has been reached and carry out an assessment.

Risk assessments should be undertaken in accordance with reference to the Corporate Risk Assessment Guidance and the Corporate Noise Guidance.

Noise Monitoring

Information will be needed on noise levels and the duration of exposure to calculate daily exposure values for your employees. It may be necessary to obtain assistance in measuring the noise levels where sufficient information is not available from other sources.

Further assistance is available from Corporate Health Safety and Wellbeing Team on how to work out the daily exposure of employees who are exposed to different noise levels throughout the day.

The daily exposure values calculated should be compared to the exposure action values and exposure limit value in the regulations, to determine what action is required by law. Appropriate control measures should then be used to reduce the exposure.

The HSE have provided exposure calculators that can be used to help work out daily noise exposure, weekly noise exposures, and estimate the performance of hearing protection:

https://www.hse.gov.uk/noise/calculator.htm

Noise Reduction

There is a general duty to reduce risk from noise exposure to the lowest level reasonably practicable. You should consider alternative processes, equipment and/or working methods that would make the work quieter or reduce the duration of exposure. For example:

- reducing the need for employees to be in the vicinity of noisy jobs if they are not undertaking them
- job rotation of noisy jobs and quiet jobs to reduce duration of exposure
- find out about any good practice control measures appropriate to your industry / type of work
- change or modify equipment to reduce noise emissions

You should adopt a policy of considering noise emission in selecting and purchasing new tools and machinery to prevent the need for expensive retrofitting of noise control measures. Also ensure that equipment is maintained in accordance with the manufacturer's recommendations, to prevent noise levels becoming greater with time and wear. Where the upper action level is exceeded, a programme of noise control (other than hearing protection) must be put in place. This involves:

• Identifying possible controls
• Prioritising actions
• Assigning responsibilities
• Ensuring implementation
• Checking effectiveness

Further guidance including about personal hearing protection can be found in the Corporate Noise Guidance.

Purchasing of new equipment

Whenever new equipment is to be purchased, the supplier's noise information should be checked in advance and every effort made to ensure that equipment with the lowest noise levels is obtained. Any second-hand equipment should also be assessed before being put into use.

Health Surveillance

The regulations require that health surveillance, including hearing checks, are provided for all employees who are regularly exposed to noise above the upper action level, or who are particularly at risk (e.g. they already suffer from hearing loss or are more sensitive to damage).

The hearing checks should warn if any employees are suffering the early signs of hearing damage, enable you to take action to prevent it getting any worse and check that the control measures are working.

The Occupational Health Service can arrange hearing checks.

Training and information

Employees exposed to noise should be given information on the sources of noise to which they are exposed, the risks associated with noise exposure and the controls that have been put in place to control their exposure. Where hearing protectors are provided you must ensure employees are provided with training and information on how to use and care for the equipment properly.

8. Responsibilities

Town Clerk and Chief Executive

The Town Clerk and Chief Executive has overall responsibility for health and safety at the City of London Corporation and specifically under this policy must ensure:

- promotion and support for the aims of this policy
- there are robust arrangements for identifying, evaluating and managing risks associated with the risks from noise and vibration
- there are arrangements for monitoring incidents linked to risks from noise and vibration, and that the Chief Officers and Summit Group periodically review the effectiveness of these arrangements.

Day to day responsibility for preventing risks from noise and vibration in line with this policy has been delegated, via the Town Clerk to Chief Officers/Headteachers.

Chief Officers/Headteachers

Chief Officers/Headteachers have overall strategic responsibility for ensuring that robust health and safety arrangements (including resources) for preventing the risks from noise and vibration are in place within their departments, services and operations.
Where the provision of service is via a third party or partnership, they must ensure that similarly robust arrangements are in place, and that through appropriate client monitoring these are maintained.

Directors/Assistant Directors, Bursars and other Senior Officers ("Senior Officers") - Senior Officers are responsible for:

- the operational management of health and safety in their services/localities including robust arrangements for managing the risks from noise and vibration
- ensure all managers and employees within their department/service discharge their responsibilities in accordance with this policy and supporting aims and objectives of this policy
- ensuring that robust system(s) of risk assessment and control measures are in place to protect employees from noise and vibration risks

Managers / Line managers are responsible for:

- ensuring a safe working environment for staff exposed to vibration or noise so far as reasonably practicable
- ensuring that necessary noise and vibration risk assessments have been undertaken for any equipment used by those in their charge
- ensuring that all relevant staff are familiar with the contents of the policy, the findings of any specific noise and vibration risk assessments and any associated local procedures within their respective department
- ensuring noise and vibration factors are taken into account when hiring or purchasing new work equipment.
- implementing and enforcing noise/vibration control measures
- ensuring employees are suitably trained in all aspects of operating equipment, including noise and vibration control

Staff are responsible for:

- taking reasonable care of themselves and other people who may be affected by their actions
- familiarising themselves with relevant health and safety policies and procedures, and co-operating by following rules and procedures designed for safe working
- reporting all incidents, difficulties or risks arising from noise or vibration, however minor they may be, to their line manager, even if they do not wish any further action to be taken. Failure to report an incident may put others at risk
- attending all training designed to meet the requirements of the policy and subsequent guidance

- using and maintaining any equipment that has been provided in accordance with any training or instruction received
- wearing Personal Protective Equipment (PPE) where required
- co-operating with any programme of health surveillance which is identified as necessary following risk assessment.

Health Safety and Wellbeing Team is responsible for:

- providing guidance on risk assessment
- advising on training needs and corporate training standards
- conducting audits and inspections
- reviewing accidents / incidents, and assisting departments with investigations where necessary
- liaising with Occupational Health Service where a need for health surveillance has been identified
- ensuring the Health Safety and Wellbeing (consultative) Committee is kept advised on preventing vibration and noise

Occupational Health Service is responsible for:

- providing advice around fitness to work (for example, where staff have a medical condition), and around reasonable adjustments.
- providing advice in relation to return to work following injury or ill-health
- conducting statutory health surveillance and advising on statutory requirements in relation to risk assessments

9. Monitoring and Review

The Corporate Health, Safety and Wellbeing Team has lead responsibility for reviewing this policy and reporting to the Corporate Health, Safety and Wellbeing and other committees as required.

This Policy will be reviewed on a regular basis.

Revisions

Version	Page/ Para No	Description of change	Date Approved
00 - 01		New Policy	XXXXX Establishment Committee