1.0 PURPOSE

The purpose of this procedure is to protect the hearing of University of Windsor employees by controlling exposure to hazardous noise and implementing protective measures against occupational hearing loss.

2.0 SCOPE

This procedure applies to all workers, students and visitors of the University of Windsor.

3.0 DEFINITIONS

dBA (decibel A scale): a measurement of sound pressure that has been modified to take into account that the ear is not equally sensitive to all frequencies.

Equivalent sound exposure level (L_{ex8}): the steady sound level in dBA which, if present in a workplace for eight hours in a day, would contain the same total energy as that generated by the actual and varying sound levels to which a worker is exposed in their total workday, determined in accordance with the formula set out in subsection (2).

Noise: an unwanted sound that causes harm, either by causing hearing loss or stress, or interferes with communication

Noise hazard area: an area is considered a noise hazard if the sound levels regularly exceed 85 dBA.

NIHL: Noise-induced Hearing Loss

Nuisance noise: Nuisance noise is that noise which may be irritating or annoying to some people, but it is not loud enough to be hazardous or associated with noise-induced hearing loss. Nuisance noise is not covered by the University's Noise Control and Hearing Conservation Program. Concerns of nuisance noise will be assessed separately, as required.

NRR: Noise Reduction Rating

PPE: Personal Protective Equipment

4.0 RESPONSIBILITIES

***Managers / Supervisors* are responsible for:**

- Contacting Campus Safety & Emergency Planning for a noise hazard assessment
- Ensuring warning signs are posted in noise hazard areas
- Ensuring employees are trained in the noise hearing conservation program, noise control and the use of hearing protection and wear it, when required
- Supplying employees in noise hazard areas with proper hearing protection.
- Developing action plans for noise hazard areas
- Maintaining a current list of employees who work in noise hazard areas and send to Campus Safety & Emergency Planning yearly

- Ensuring that the specifications for any new piece of equipment are checked for noise generation prior to purchase.

***Employees* are responsible for**:

- Wearing hearing protection in posted areas
- Using appropriate hearing protection provided
- Using and caring for hearing protection in an appropriate manner
- Reporting any noise concerns to their supervisor

***Campus Safety & Emergency Planning is* responsible for**:

- Conducting noise hazard assessments, if required
- Arranging noise exposure monitoring
- Forwarding results from noise surveys to appropriate departments
- Coordinating annual audiometric tests & reviewing results, as required
- Maintaining all documents and records pertaining to this program

5.0 REFERENCE DOCUMENTS

Ontario Regulation 851 – Industrial Establishments

OHS-4.6.17a Noise Hazard Identification

6.0 PROCEDURE

The University of Windsor's Noise Control & Hearing Conservation Program is comprised of the following seven sections: Assessment, Control Measures, Personal Protective Equipment, Education & Training, Exposure Monitoring, Audiometric Testing, and Records.

SECTION A: NOISE ASSESSMENT

A noise hazard assessment will be completed for areas that are identified as high noise level areas by Department Managers and Campus Safety & Emergency Planning. A noise hazard identification survey can be conducted to assist with identifying noise hazard areas on campus, see (CSEP-2023-06-4.6.17a Noise Hazard Identification). Department Managers/Supervisors may contact the Campus Safety & Emergency Planning at any time for an assessment in their area.

SECTION B: NOISE CONTROL MEASURES

Where possible and reasonable, efforts to reduce or eliminate excessive noise exposure using engineering controls or proper work practices will precede the use of mandatory hearing protection.

Engineering Controls

Areas identified with high noise levels will be assessed to investigate engineering and administrative controls that can reduce the noise level.

Engineering controls may include barriers, vibration damping, source isolation, and sound absorbing enclosures.

Administrative Controls

If engineering controls are not practical or feasible, administrative controls are to be implemented. These may include changes to Standard Operating Procedures (SOPs), decreasing the duration of noise exposure, job rotation, and warning signs posted in noise hazard areas.

Department Managers/Supervisors will ensure that a clearly visible warning sign is posted at the approach to a noise hazard area. The warning sign must state that the use of hearing protection is mandatory in this area. If a piece of equipment presents a noise hazard, a sign must be affixed to the equipment indicating that the operator must wear hearing protection to use the equipment.

Regular equipment maintenance is an important noise control measure since maintained equipment, in addition to being safer and more reliable, also tends to be quieter.

SECTION C: PERSONAL PROTECTIVE EQUIPMENT – HEARING PROTECTION

Department Managers/Supervisors supplies proper hearing protection for all employees working within noise hazard areas. At a minimum, employees MUST use the appropriate hearing protection when exposure to noise is equal to or exceeds the equivalent of an 8-hour exposure of 85 dBA.

For those employees who are regularly exposed to noise levels between 80-85 dBA, hearing protection is optional but will be provided upon request.

Employees must clean and store the hearing protection properly.

NOTE: Ear plugs should not be used by individuals that are prone to ear infections and earmuffs should not be worn by individuals that wear eyeglasses.

Selection of hearing protection:

The selection of hearing protection is dependant of the Noise Reduction Rating (NRR) for the best protection with an NRR rating of 33 decibels should be selected.

To determine the proper NRR rated personal protective equipment the following formula is applied:

Step 1: NRR -7 = dB (note that the 7 is for the improper fit equalling a De-rating level)

Step 2: De-rating /2 = dB (note take the above De-rating level and divide by 2 equalling a final De-rating)

Step 3: Noise Level (of the space) – De-rating = dB (note taking the noise level of the space and subtracting the above final De-rating you should obtain a number below 85 dBA)

*Note if you obtain a number higher than 85dBA please contact Health and Safety for further assistance.

An example is found below:

If you have NRR of 33 and the noise in the room is at 95dB

Step 1: 33dB - 7dB = 26dB

Step 2: 26dBA / 2 = 13dB

Step 3: 95dB – 13dB= 82dB

Therefore 33 NRR rated ear plugs bring the hearing to 82dB for a room at 90dB.

NOTE: THE RATING IS below 85dB an NRR OF 33 CAN BE USED.

If you require assistance to determine the correct hearing protection for your work environment please contact Campus Safety & Emergency Planning.

SECTION D: EDUCATION AND TRAINING

Department Manager and Supervisors will ensure that all employees working in the designated noise hazard areas who are required to wear hearing protection will be educated in the following topics:

a) Health effects of noise
b) Noise legislation and the University of Windsor's Noise Control and Hearing Conservation Program
c) Control measures in place to reduce noise exposure
d) Reasons for Audiometric Testing
e) Proper fit, use and care of PPE

SECTION E: NOISE EXPOSURE MONITORING

Campus Safety will arrange for noise exposure monitoring to be conducted periodically for designated noise hazard areas, or as changes to the work process or equipment occur. It is important that Department Managers notify Campus Safety & Emergency Planning of any changes in the workplace that may require a noise assessment.

Campus Safety & Emergency Planning will forward all results from noise surveys to the Department Manager/Supervisor for review. Department Managers will develop action plans for all areas that are identified as a noise hazard area.

SECTION F: AUDIOMETRIC TESTING

Noise-induced hearing loss (NIHL) is gradual in onset and usually goes unrecognized until communication and comprehension are affected. Once noise damage has occurred, hearing loss is permanent and irreversible. However, NIHL is completely preventable through noise control and hearing conservation measures.

Annual audiometric testing allows the early detection of NIHL. Changes in an employee's audiometric results may indicate that noise conditions in the workplace have changed, or that hearing protection is not being used properly. Audiometric testing does not prevent hearing loss but is a measure of the effectiveness of the program.

Campus Safety & Emergency Planning will coordinate confidential audiometric testing annually for all University employees at risk of developing NIHL. During the testing, employees will be notified of their test results and any changes which may have occurred since their last test.

SECTION G: RECORDS

Campus Safety & Emergency Planning will maintain all documents and records pertaining to the University's Noise Control and Hearing Conservation program. Audiometric test results will be kept confidential.

All Department Managers are responsible for maintaining a current list of employees who work in noise hazard areas, the date they completed their Noise Control and Hearing Conservation Program training, and dates that they completed their audiometric testing (if participating). A copy of this list should be forwarded to Campus Safety & Emergency Planning annually.

7.0 REVISION HISTORY

Date (yyyy/mm/dd)	**Revision**
2023/06/07	New Document
2025/01/28	Updated to reflect organizational change of CSEP under VPFO