UNIVERSITY OF VICTORIA

HEARING PROTECTION PROGRAM

Department of Occupational Health, Safety and Environment

August 2009
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August 2009
1.0 PROGRAM OBJECTIVE

Risks associated with high levels of noise exposure include: noise-induced hearing loss, which can be permanent and irreversible, as well as, tinnitus and accidents attributable to the inability to hear work instructions or warning bells.

The Hearing Protection Program (HPP) aims to reduce or eliminate workers exposure to unsafe levels of noise, and to prevent the risks associated with noise exposure above regulatory limits.

2.0 PROGRAM SCOPE

This program applies to the University of Victoria campus where:

(i) Sound levels may be equal to or exceed 85 dBA, and

(ii) Employee noise exposures equal or exceed an 8-hour time weighted average sound level of 85 dBA.

3.0 ROLES AND RESPONSIBILITIES

Individuals in every location where a Hearing Protection Program exists, play a vital role in ensuring a safe work environment.

The responsibilities given to various individuals and groups on campus are outlined below.

3.1 DEPARTMENT HEAD

The Department Head has the following responsibilities within the program:

- Identifying all Managers and Supervisors under his/her authority and ensuring that they clearly understand their duties and responsibilities as individuals with principle authority for areas requiring a Hearing Protection Program;
3.2 MANAGER/SUPERVISOR

Managers and Supervisors are responsible for:

- Identifying and reporting excessive noise levels to the Hearing Protection Officer;
- Identifying changes in process or equipment that may increase or decrease noise exposure;
- Implementing appropriate noise control measures;
- Notifying employees of a hazardous noise area;
- Providing appropriate training to employees and maintaining a record of training;
- Providing appropriate hearing protection and ensuring that it is worn;
- Ensuring noise hazard signage is posted;
- Arranging audiometric testing for employees.

3.3 HEARING PROTECTION OFFICER (HPO)

The Hearing Protection Officer through the Department of Occupational Health, Safety & Environment is responsible for:

- Responding to requests for noise surveys;
- Notifying managers and supervisors of excessive noise exposure areas;
- Providing recommendations on noise control measures;
- Monitoring and keeping a record of employee annual hearing tests;
- Providing training to managers and supervisors responsible for departmental Hearing Protection Programs;
3.4 WORKERS

Worker responsibilities include:

- Observing noise hazard signage;
- Wearing hearing protection when required;
- Attending annual audiometric testing;
- Reporting all noise hazards to their supervisors;
- Completing the employee training sign-off form in partnership with their manager or supervisor.

4.0 PROGRAM COMPONENTS

A Hearing Protection Program may start with identifying a noise hazard, but it does not end with simply providing hearing protection. There are seven major components of a Hearing Protection Program, that all work together to reduce the risk of hearing loss and injury to workers.

4.1 NOISE MEASUREMENTS

There are three separate noise measurement surveys that make up the noise measurement component of the Hearing Protection Program. They are the:

i. Initial Sound Survey,
ii. Formal Noise Exposure Survey, and
iii. Annual Noise Exposure Assessment
4.1.1 INITIAL SOUND SURVEY

When workers are or may be exposed to noise above 82 dBA, the Hearing Protection Officer must be contacted to measure the noise level.

**How Loud is 82 dBA?**

If you have to raise your voice to carry on a conversation, then the noise level is possibly over 82 dBA.

**What Happens During an Initial Sound Survey?**

During the initial sound survey the Hearing Protection Officer will survey the workplace, making note of the noise producing equipment and or processes. The sound levels for various locations in the workspace will be recorded. As well, the Hearing Protection Officer will speak with the manager/supervisor to gain a sense of the amount of time workers spend in the area.

Once the information is gathered, a recommendation will be made by the Hearing Protection Officer as to whether or not a noise hazard exists and if further testing is required. If further testing is required a Formal Noise Survey will be conducted.

The Initial Sound Survey form can be found in Appendix I.

4.1.2 FORMAL NOISE EXPOSURE SURVEY

A formal noise survey is more involved than the initial survey. Workers may be asked to wear a personal noise dosimeter for the duration of their shift in order to measure their noise exposure. Workflow patterns and noise control measures will be closely evaluated.

If noise exposure levels exceed regulations the department will be responsible for implementing a Hearing Protection Program, in consultation with the Hearing Protection Officer.

The Formal Noise Exposure Survey can be found in Appendix II.
What is a Personal Noise Dosimeter?

A personal noise dosimeter is a small expensive piece of equipment that is worn on the shirt collar, which is an area representative of the workers hearing zone. It collects and records the noise data throughout the worker’s shift and provides information on the worker’s total noise exposure. Guidelines for the use of the personal noise dosimeter are provided in Appendix V.

4.1.3 ANNUAL NOISE EXPOSURE ASSESSMENT

Equipment or process changes can affect noise levels, either decreasing noise and eliminating the need for a HPP or increasing levels and changing the hearing protection requirement. In order to monitor any changes to noise levels, the Hearing Protection Officer will conduct an annual noise exposure assessment for all areas where a HPP currently exists.

4.2 NOISE CONTROL MEASURES

Noise control measures can significantly reduce noise levels, even eliminating the need for Hearing Protection Devices and therefore providing the best form of protection. Every effort should be made to implement noise control measures and eliminate or reduce the noise hazard.

Engineered noise control options may include:

- Reduction at the source (choosing quieter equipment, retrofitting etc.),
- Enclosure of the noise source,
- Enclosure of workers or separating workers from the noise source,
- Acoustical treatment of the room (sound-absorbing panels or hanging baffles etc.).

Administrative noise control options may include:

- Reduction of the length of exposure (limiting a workers exposure by job rotation),
- Ensuring that workers wear the appropriate hearing protection.
4.3 HEARING PROTECTION DEVICES (HPD)

Where workers are exposed to an 8-hour time weighted average of 85 dBA, the workers must wear hearing protection. Hearing Protection Devices (HPDs) reduce the level of noise reaching the ear. The two main types of protection are:

- Earplugs (compressibles, reusables, custom-molded and canal caps)
- Earmuffs

Selecting Appropriate Hearing Protection

- Done in consultation with the Hearing Protection Officer.
- Reference should be made to CSA Standard Z94.2-02
- Care should be taken to select a protector that will reduce a wearer’s exposure to below 85 dBA but not below 70 dBA.

Overprotection

- If exposure is reduced to below 70 dBA, then the wearer’s HPD has too much attenuation. This is called “overprotection” and leads to the wearer feeling isolated.
- As well, sounds such as speech, machinery noises, or warning signals may be significantly altered, affecting productivity or safety.

4.4 EDUCATION AND TRAINING

Managers and Supervisors

- The Hearing Protection Officer through the Department of OHSE provides training to Managers and Supervisors on hearing protection and the administration of the Hearing Protection Program.

Workers

- Managers and supervisors are responsible for ensuring their staff are trained in: signage recognition, when and how to wear hearing
HEARING PROTECTION PROGRAM

protection, how to care for hearing protection devices, and importance of annual audiometric testing.

4.5 HEARING TESTS

Audiometric testing measures the individual’s hearing ability and acuity. It can identify hearing threshold shifts in exposed employees during the course of their employment. Also, it can be used to determine the effectiveness of noise control measures by the hearing threshold of exposed employees.

It is the responsibility of the Manager or Supervisor to arrange for audiometric testing for new employees and annual testing for continuing employees. Please contact the Hearing Protection Officer at 250-721-8971 for the contact information of a hearing testing service.

Hearing tests results are kept on file in the department of OHSE.

4.6 POSTING OF NOISE HAZARD SIGNAGE

Clearly visible warning signs shall be posted in all areas where hearing protection is required.

Location of Posting

- If the sound level in the entire room exceeds 85 dBA, a sign shall be posted at the door.

- If only the sound level of a process or equipment exceeds 85 dBA, a sign shall be posted at the approach to the area, and where practicable, on the equipment or in the immediate vicinity.

Where to Find Signage

Hearing protection signage can be purchased from Acklands-Grainger at https://www.acklandsgraeinger.com, catalogue number BDY103341.

4.7 ANNUAL PROGRAM REVIEW

The University of Victoria Hearing Protection Program will be reviewed once per year. In addition, the Hearing Protection Officer in partnership with Managers and Supervisors will review Departmental Hearing Protection Programs for compliance. A department review will check for appropriate signage, maintenance of training records, implemented noise controls, inspection of hearing devices and assessing any equipment or procedural changes that may effect hearing protection requirements.

5.0 RESOURCES

WorkSafeBC
“Sound Advice, A Guide to Hearing Loss Prevention Programs.”

Hearing Protection Officer
University of Victoria
Department of Occupational Health, Safety & Environment
250-721-8971
ohs@uvic.ca
APPENDIX I

INITIAL NOISE SURVEY
Initial Sound Survey

Contact and Room Information

Contact: ____________________ Phone No/E-mail: ____________________
Bldg and Rm No: ___________ Department: _________________________
Survey Date: ______________ Surveyor: ___________________________

Survey Equipment

Device: ________________________________
Model: ___________________________ Serial No: ______________________________
Calibration Date: ______________

Sound Level Results

<table>
<thead>
<tr>
<th>Location in Room</th>
<th>Sound Level (dBA)</th>
<th>Type of Noise*</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

*Steady, Intermittent, Impulse.

Recommendation

_____ Preliminary results show noise levels < 80 dBA, no further action required.
_____ Preliminary results show noise levels > 80 dBA, further testing required.

Comments:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
APPENDIX II

FORMAL NOISE EXPOSURE SURVEY
Formal Noise Exposure Survey

**Contact and Room Information**

Contact: ____________________ Phone No/E-mail: ____________________
Bldg and Rm No: _____________ Department: _________________________
Survey Date: ________________ Surveyor: __________________________

**Area Information**

Major Noise Sources:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Noisiest Areas:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Complaints:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Noise Control Measures Implemented:

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
**Personnel Information**

Typical Work Day Pattern:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

The Average Length of Time Worker(s) Spends in Noisiest Area:

<table>
<thead>
<tr>
<th>Worker</th>
<th>Location/Process</th>
<th>Avg. Length of Time Spent in Location</th>
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**Survey Equipment**

Device: ________________________________________________________________

Model: ____________________________  Serial No: ____________________________

Calibration Date: _________________
### Summary Table for Noise Exposure Measurements

<table>
<thead>
<tr>
<th>Worker’s / Job</th>
<th># of Workers</th>
<th>$L_{Aeq}$ dBA</th>
<th>Shift (hours)</th>
<th>$L_{EX}$ dBA</th>
<th>Peak Level dBC</th>
<th>Comments</th>
<th>OK with Reg’s? (Y/N)</th>
<th>Recommendations</th>
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APPENDIX III

DEPARTMENTAL ANNUAL REVIEW FORM
Departmental Annual Review

Contact and Room Information

Contact: ____________________ Phone No/E-mail: ____________________
Bldg and Rm No: ____________ Department: ________________________
Review Date: _______________ Reviewer: _________________________

Survey Equipment

Device: ____________________________________________________________
Model: _________________ Serial No: ________________________________
Calibration Date: ______________

Sound Level Results

<table>
<thead>
<tr>
<th>Location in Room</th>
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*Steady, Intermittent, Impulse.

Checklist

☐ Have all workers been trained? _________________________________
☐ Are records of training maintained? ____________________________
☐ Are managers and supervisors directly involved? ________________
☐ Is signage provided in appropriate areas and clearly visible? _______
Departmental Annual Review
Hearing Protection Program
University of Victoria

☐ Is hearing protection worn in appropriate areas? ________________________

☐ Are hearing protection devices inspected regularly for damage? __________

☐ Are hearing protection devices maintained in a clean condition? __________

☐ If required, are cleaning materials provided? _____________________________

☐ Have there been changes in areas, equipment, or process that have altered noise exposure? __________________________________________________________

☐ Have noise control measures been implemented? ________________________

☐ Have all workers undergone annual audiometric testing? _________________

Comments
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Signatures

__________________________________  ____________________________________
Hearing Protection Officer           Department Manager / Supervisor

__________________________________  ____________________________________
Date                             Date
APPENDIX IV

EMPLOYEE TRAINING SIGN-OFF FORM
Employee Name: ______________________________
Date of Hire: ______________________________
Supervisor’s Name: ______________________________

Supervisors and employees will review the following training requirements as part of the Hearing Protection Program and sign-off on the form when all training requirements have been met. Departments are to keep training records on file.

1. Employee educated on how hearing damage can occur? (One option is to have the employee watch the WorkSafe BC video on hearing called, “The Hearing Video” available at: http://www2.worksafebc.com/Publications/Multimedia/Videos.asp?reportid=34284).
   □ Yes □ No

2. Employee shown areas where hearing protection is to be worn and introduced to noise hazard signage?
   □ Yes □ No

3. Employee shown how to correctly wear hearing protection devices?
   □ Yes □ No

4. Employee instructed in how to care for hearing protection devices?
   □ Yes □ No

5. Employee explained the requirement for annual audiometric testing?
   □ Yes □ No

Signatures

______________________________  ______________________________
Manager/ Supervisor               Employee

______________________________  ______________________________
Date                             Date
APPENDIX V

PERSONAL DOSIMETER USE GUIDELINES
User Guidelines

To help ensure results accurately reflect your workday please adhere to the following guidelines:

- Keep the dosimeter clipped to your person at all times (even during lunch and coffee breaks),
- Avoid getting any moisture on the dosimeter,
- Do not tamper with the dosimeter,
- Do your best to go about your workday as you normally would,
- Remember to keep a log of your activities throughout the day,
- At the end of the wearing period, return the dosimeter directly to the HPO.

Dosimeter Sign-out

Issued to: __________________________________________________

Wearing period: ______________________________________________

Returned (date/time and signature): ______________________________

Supervisor Sign-off

The above employee is responsible for the use and care of the dosimeter during the wearing period. Any loss or theft of the dosimeter, prior to return, may result in a chargeback to the employee’s department for its replacement.

_________________________________________  ______________________________
Manager/ Supervisor                          Hearing Protection Officer

_________________________________________  ______________________________
Date                                           Date