

3APPENDIX H**WASHINGTON STATE UNIVERSITY VANCOUVER
HEARING LOSS PREVENTION PROGRAM**

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1.0 POLICY

University units are responsible for minimizing employee exposure to hazardous noise levels (Hearing Loss Prevention - WAC 296-817).

2.0 EXPOSURE THRESHOLD

Since exposure to noise that equals or exceeds the threshold of 8-hour time-weighted average (TWA) of 85dBA (decibels – the “A” weighting scale is potentially hazardous to hearing. Noise exposure levels generated at WSU Vancouver above this decibel level must be limited or eliminated. The “A” weighting scale primarily measures high frequency (>8000 Hertz (Hz) sound which affects humans more than mid and low frequency sounds. As sound is a wave, the term Hertz refers to cycles per second of the noise exposure.

3.0 EXPOSED EMPLOYEES

Each employee exposed to an 8-hour TWA (Time Weighted Averaged) occupation noise of 85dBA or greater without regard to the use of hearing protection is to be provided a hearing protection device, annual audiometric testing and annual training concerning hearing conservation.

4.0 NOISE CONTROLS

Occupational noise exposure above 85dBA (8-hour TWA) are to be reduced using engineering and/or administrative controls. Where these controls are not capable of keeping noise levels below 85dBA, hearing protection is to be supplied to and worn by each affected employee.

5.0 PROTECTION REQUIREMENTS

Each affected employee must wear hearing protection when Occupational noise exposures exceed 85dBA (Continuous Noise 8-hour TWA) or when noise exposure exceeds 115dBA for pulsed noise emission(s).

6.0 EMPLOYEE REQUIREMENTS

6.1 SUPERVISORS

Supervisors are responsible for the following:

- Ensuring that employees receive and wear appropriate hearing protection when noise exposure exceeds the hearing threshold (see Protection Requirements);
- Requesting noise assessments from Environmental Health and Safety Department (EH&S);
- Requesting additional noise monitoring when processes or procedures change which can affect noise levels;
- Providing hearing conservation annual training opportunities;
- Ensuring annual audiometric testing is performed on affected employees;
- Ensuring appropriate warning signs are posted in high noise areas (>115 decibels);
- Providing EH&S with a list of affected employees;
- Maintaining a record of hearing loss prevention training for employees;

Ensuring standard threshold shifts (STS) are reported on the Incident Report Form. (S2.24). An STS is defined by OSHA/WISHA as a change in the hearing threshold relative to the baseline audiogram of an average of 10dB or more at 2000, 3000, or 4000hz in either ear.

6.2 EMPLOYEES

Employees are responsible for the following:

- Wearing appropriate hearing protection when noise exposure exceeds a hearing threshold (see Protection Requirements section)
- Using hearing protection as directed by the supervisor;
- Maintaining hearing protection equipment in good condition;
- Requesting additional noise monitoring when processes or procedures change which affect noise levels.

6.3 ENVIRONMENTAL HEALTH AND SAFETY (EH&S)

- The WSU Vancouver Environmental Health and Safety (EH&S) coordinator is responsible for managing the hearing loss prevention program. Contact the EH&S Coordinator for questions regarding the hearing loss prevention program. EH&S coordinates:
 - Noise monitoring;
 - Audiometric Testing;
 - Hearing Conservation Training.

6.4 HUMAN RESOURCES

WSU Vancouver EH&S will retain all records e which will be supplied to Human Resources upon request.

7.0 MONITORING

Contact the WSU Vancouver EH&S Coordinator to coordinate sound level monitoring.

Monitoring requirements are as follows:

- When reasonable information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85dBA, WSU Vancouver EH&S will obtain individual or representative exposure measurements for all employees who may be exposed at or above that level;
- The sampling strategy will be designed to identify all employees required to be included in the hearing loss prevention program and to enable the proper selection of hearing protective equipment;
- Where circumstances such as high worker mobility, significant variations in sound level or a significant component of impulse noise exist, WSU will use representative employee sampling strategy to comply with the monitoring requirements of this section unless the WSU Vancouver EH&S coordinator establishes that the area sampling produces equivalent results.

7.1 METHOD OF NOISE MEASUREMENT

Noise Measurements will be performed in compliance with WAC 296-817. Monitoring will be repeated whenever a change in production, process, equipment or controls increase noise exposures to the extent that:

- Additional employees may be exposed at, or above an 8-hour time-weighted average of 85dBA or;
- The attenuation provided by hearing protectors being utilized by employees may be rendered inadequate to attenuate employee exposure at least to an 8-hour time weighted average of 85dBA or below.

7.2 CALIBRATION OF MONITORING EQUIPMENT

Personal sound dosimeters and sound level meters used to monitor employee noise exposure will be calibrated using the instrument manufacturer’s calibration instructions before - and after each day’s use.

7.3 EMPLOYEE NOTIFICATION AND OBSERVATION OF MONITORING

WSU Vancouver shall notify each employee exposed at or above an 8-hour time-weighted average of 85dBA of the results of monitoring. Affected employees or their representatives will be provided the opportunity to observe sound monitoring.

8.0 NOISE CONTROL

Whenever employee noise exposures equal or exceed an 8-hour time-weighted average of 90dBA, administrative and/or engineering controls will be utilized to reduce noise exposure. When engineering and administrative controls are not feasible, hearing protection will be provided to affected employees.

Upon request, WSU Vancouver EH&S will prepare and submit a written compliance plan to the Director the Washington Department of Labor and Industries (L&I), or his/her designee. This plan would include a description of the manner in which compliance will be achieved with respect to cited violations and will include proposed abatement methods, anticipated completion dates, and provision for progress reports to the L&I director or their designee.

9.0 AUDIOMETRIC TESTING PROGRAM

WSU Vancouver has established an audiometric program for affected employees whose exposure equal or exceed an 8-hour time-weighted average of 85dBA. The testing program is provided at no cost to employees, and includes an initial baseline audiogram and annual audiometric testing thereafter. Audiometric tests and testing contractors must meet the specifications in WAC 296-817, and must be able to provide required records as needed. Contact WSU Vancouver’s EH&S Coordinator (6-9706) to arrange for testing of affected employees.

9.1 BASELINE AUDIOGRAM

Baseline audiogram procedures are as follows:

- An employee’s baseline audiogram will be obtained prior to or within 180-days after and employees first exposure to noise at or above a time-weighted average of 85dBA. This will establish for each employee so a baseline comparison can be made against subsequent audiograms can be compared. All audiograms will be performed at a certified facility (not mobile units) to ensure accurate audiogram results.

- Testing to establish a baseline audiogram will be preceded by at least 14-hours without exposure to workplace noise. This may be accomplished by the use of hearing protectors; however, WSU Vancouver EH&S will notify employees of the need to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination.
- A revised baseline: An annual audiogram may be substituted for the baseline audiogram when, in the judgement of the audiologist, otolaryngologist (ENT), or another qualified physician who is evaluating the audiogram.
- The standard threshold shift - a difference of 10dbA or more in the speech recognition frequencies of 2000, 3000, and 4000hz from previous audiograms) revealed by the audiogram is persistent, *or*;
- The hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram.

9.2 **ANNUAL AUDIOGRAM**

After obtaining the baseline audiogram, a new audiogram is required at least annually (i.e. every 12-month interval) for each employee exposed at or above a time-weighted average of 85dBA. Annual audiometric testing may be conducted at any time during the work shift.

9.3 **EVALUATION OF THE AUDIOGRAM**

Audiograms will be evaluated follows:

- Each employee's will be compared to that employee's baseline audiogram to determine if a Standard Threshold Shift (STS – a loss of 10dB in hearing response from the previous audiogram) has occurred. If the annual audiogram indicates that an employee has suffered a standard threshold shift, WSU may obtain a re-test within 30-days and consider the results of the re-test as the annual audiogram.

An audiologist, otolaryngologist (ENT), or other qualified physician will review audiograms that indicate a Standard Threshold Shift to determine whether there is a need for further evaluation. WSU Vancouver will provide to the person performing the evaluation the following information:

- A copy of the requirements for hearing-loss prevention as set forth in WAC 296-817;
- The baseline audiogram and most recent audiogram of the employee to be evaluated;
- Measurements of background sound pressure levels in the audiometric test room;
- Records of audiometer calibrations.

9.4 **EMPLOYEE NOTIFICATION OF AUDIOMETRIC TESTING**

Each affected employee will be informed of the results of his/her audiometric test and whether or not there has been a hearing loss or improvement since the previous audiometric test.

9.5 **STANDARD THRESHOLD SHIFT FOLLOW-UP**

If a comparison of an employee's annual audiogram to the baseline audiogram indicates a Standard Threshold Shift exists, WSU EH&S will ensure that employee's:

- Employees not using hearing protection are fitted with hearing protectors, trained in their use and care, and be required to use them;

- Employees already using hearing protection are refitted and retrained in the use of hearing protectors and provided with hearing protection devices offering greater attenuation;
- Employees are informed in writing within 21-days of the determination, or the existence of a Standard Threshold Shift reduction in hearing capability within 21-days after WSUV EH&S receives the results, (If a vendor doesn't provide the notification service);
- Employees will be referred, at no cost to the employee, for a clinical audiological evaluation or an ontological examination as deemed appropriate. If additional testing is necessary, or if a suspect medical pathology of the ear (as defined in WAC 296-817) is caused or aggravated the wearing of hearing protection devices provide;
- Employees will be informed of the need for an ontological examination if an existing medical pathology of the ear – (unrelated to the use of hearing protective devices provided) is suspected. The individual employees are responsible for the scheduling and associated costs of this exam.

9.6 REPORTING OF STANDARD THRESHOLD SHIFTS (STS)

Report STS to the WSU Vancouver EH&S (6-9706) by means of the Incident Report Form (S2.26).

10.0 HEARNG PROTECTIVE DEVICES

Purchases and selection of hearing protective devices must be approved by supervisors, and have appropriate attenuation ratings. Supervisors will:

- Ensure that a variety of hearing protective devices be made available and worn by employees who are exposed to:
- An 8-Hour time-weighted average of 85dBA or greater;
- (Continuous and/or impact Noise exposures) above 115dBA;
- Ensure employees are trained in the use and care of hearing protective devices provided;
- Replace hearing protective devices as necessary;
- Ensure proper initial fitting to ensure adequate hearing protection is provided;
- Monitor the correct use of all hearing protective devices.

11.0 HEARING PROTECTION ATTENUATION (REDUCTION) – NOISE REDUCTION RATING (NRR)

Hearing protective devices attenuation procedures are as follows:

- Hearing protective devices will be evaluated for attenuation of specific noise environments which the protective device will be used by one of the methods described in WAC 296-817; “Methods for estimating the adequacy of hearing protector attenuation” or by other methods if approved by the Director of the Department of Labor and Industries” or their designee;
- Hearing protective devices must attenuated employee exposure at least to a time-weighted average of 85dBA or below;
- The adequacy of hearing protective device attenuation will be re-evaluated whenever employee noise exposures increase to the extent that the hearing will be re-evaluated whenever employee noise exposures increase to the extent that the hearing protective devices initially provided may no longer provide adequate attenuation. More effective hearing protective devices will be provided when necessary.

12.0 TRAINING PROGRAM

Supervisors will ensure that Hearing Conservation training will:

- Be provided for employees who are exposed to noise at or above an 8-hour time-weighted average of 85dBA;
- Be provided to new hires in the initial employee orientations for affected employees;
- Be repeated annually for each employee included in the Hearing Conservation Program;
- Be updated to be consistent with changes in protective equipment and work processes.
- Including:
 - The effects of noise exposure to hearing;
 - The purpose, selection, use, fit and care of hearing protectors;
 - The purpose of audiometric testing and explanation of the test procedures;
 - The right of access to audiometric records as specified in WAC 296-817;
 - The locations of WSU Vancouver's Hearing Loss Prevention Program and the Washington State Hearing Loss Prevention Standard.

13.0 ACCESS TO INFORMATION AND TRAINING MATERIALS

Access to information and training materials:

- A copy of the WISHA Hearing Loss Prevention Standard (WAC 296-817) is available via the WSU Vancouver EH&S Office. It is also available for review by means of the Washington State Labor and Industries (L&I) website;
- Informational materials pertaining to WAC 296-817 supplied to WSU by the Director of L&I will be provided to affected employees;
- WSU Vancouver will provide, upon request to the Director of Labor and Industries all materials related to WSU's Vancouver Hearing Conservation Program and training.

14.0 HIGH NOISE WARNING SIGNS (POSTING REQUIREMENTS)

Signs will be posted at entrances to or on the periphery of all well-defined work areas in which employees may be exposed to noise levels at or above 115dBA. Signs must indicate that the area is a high noise area and that hearing protective devices must be utilized for entry. A WSU Vancouver specific example of a high noise area would be inside the chiller rooms when operational.

15.0 RECORDKEEPING: AUDIOMETRIC TEST RECORDS

Audiometric test records obtained pursuant to WAC 296-817 will be retained by the WSU Vancouver EH&S Department for the duration of the affected employee's employment and will become part of the permanent personnel file upon separation. The test records will include:

- Employee name and job classification;
- Legible copy of employee audiograms;
- Date of the audiogram testing;
- The name of the (audiogram) examiners name;
- The date of the last acoustic and/or exhaustive calibration of the audiometer;
- The employee's most recent noise exposure assessment;
- Measurements of the background sound pressure levels in audiometric test rooms.

15.1 TRAINING RECORDS

Hearing Loss Prevention training records will be retained within the WSU Vancouver EH&S Department, Physical Plant Room H20.

15.2 ACCESS TO RECORDS

Hearing Loss Prevention records will be provided upon request to affected employees, former affected employees, representatives designated by the individual affected employee, and/or the Director of the Washington State Labor and Industries or their designee.

15.3 TRANSFER OF RECORDS

If WSU Vancouver ceases to do business or if an employee leaves WSU Vancouver, their audiometric records will be transferred to the successor employer all records required by WAC 296-817. The successor employer is then required to retain these records.