

 Portland Community College Health & Safety Manual	Dept: Environmental Health & Safety (EH&S)	
	Function: Facilities Management Services	
	Topic: Chapter 11 — Noise Exposure and Hearing Conservation Plan	
	Board Policy: B507	Revised Date: July 2019

Authority	PCC Board Policy—B507
	Portland Community College is committed to providing a safe and healthy work and educational environment for employees, students and visitors.

Summary	This plan establishes procedures for the evaluation and control of occupational noise and its effects on hearing as well as the prevention of occupational hearing loss.
----------------	---

Sections	I. Purpose
	II. Authority
	III. Responsibility
	IV. Procedures
	A. Noise Exposure Monitoring
	B. Hearing Protection
Appendices	C. Audiometric (Hearing) Test
	V. Training
	VI. Recordkeeping
Ref. Forms	A. Definitions
	B. Evaluating Noise Reduction Ratings (NRRs) of Hearing Protectors
	1. Online Injury or Property Incident Reports (ref. H&SM Chapter 2, Form 1)
	2. Example STS Notification Letter to Employee

I. PURPOSE

Portland Community College (the College) endeavors to protect the health and safety of its employees. To that end, the College strives to reduce and prevent occupational illnesses due to exposure to occupational noise by ensuring that those employees that are exposed to hazardous levels of occupational noise are offered hearing protectors, receive annual training and received an annual audiometric examination. The College also protects its employees by requiring all employees exposed to levels of noise at or above the OR OSHA permissible exposure limit to wear effective hearing protectors.

II. AUTHORITY

PCC Board Policy – B507

OR OSHA Div. 2/G, Occupational Health and Environmental Control, section 1910.95, *Occupational Noise Exposure*

III. RESPONSIBILITY

Supervisors/Managers:

- Work with EH&S to determine which operations and equipment may generate unsafe levels of noise
- Implement and maintain appropriate engineering and administrative noise controls
- Consider quieter equipment when purchasing new equipment
- Ensure that employees who work in areas with noise exposures in excess of an 85 dBA 8 hour time-weighted average are trained in the College's Noise Exposure and Hearing Conservation Plan
- Provide adequate hearing protection for employees
- Ensure that employees are wearing hearing protection when required
- Arrange and facilitate initial and annual hearing tests for their employees

Environmental Health & Safety:

- Conducts representative noise surveys
- Maintains noise exposure records
- Schedules employee training
- Oversees the College's Hearing Conservation Plan
- Ensures employees are following OR OSHA standards
- Assures employees' hearing is protected

Risk Services:

- Maintains incident reports involving noise exposure
- Maintains the College's OSHA 300 logs

Noise Exposed Employees:

- Correctly wear appropriate hearing protection
- Attend annual hearing protection training
- Undergo a baseline and annual audiometric examinations

IV. PROCEDURES

A. Noise Exposure Monitoring – Environmental Health & Safety (EH&S) conducts noise surveys on work operations in order to evaluate:

- Suspect or new equipment that may generate high levels of noise
- Those employees whose hearing may be at risk
- Levels of hearing protection needed to prevent hearing loss

A good indicator of whether noise levels from equipment are high is when one has to raise one's voice, or shout, in order to be heard while machinery or equipment is operating. Concerns regarding noise levels generated by equipment and machinery or employee noise exposures should be discussed with both management and EH&S.

EH&S conducts preliminary noise surveys on equipment in order to determine its associated noise level using a sound level meter. This type of survey involves taking readings at a single point in time and determines whether additional noise testing is necessary in order to protect employees' hearing. A more detailed survey, using a noise dosimeter, may be performed by EH&S to determine an employee's exposure to noise and to determine whether the employee will be included in the College's Hearing Conservation Program, and whether the employee is required to wear hearing protection when operating equipment generating high levels of noise. The results of noise surveys conducted on one employee may be used to determine protection requirements for other employees performing the same operations.

All employees whose noise exposure levels equal or exceeds 85 dBA averaged over 8 hours, are required to be part of the College's Hearing Conservation Program (HCP). Employees included in the HCP are required to receive training on a variety of topics in accordance with the training requirements of the Occupational Noise Exposure Standard in the OR OSHA regulations (*see Section V. Training*). Employees included in the HCP are also required to undergo an audiometric examination. Training and audiometric testing are to be repeated annually so long as the employee is included in the HCP. OR OSHA regulations require that the College make hearing protectors available to all employees in the HCP, at no cost to the employees.

When an employee's noise exposure level equals or exceeds one of the levels shown below, feasible engineering and/or administrative controls shall be implemented by the College to reduce noise levels.

<u>Duration (hrs/day)</u>	<u>Sound level (dBA slow response)</u>
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
≤ 0.25	115

Each of the noise-duration levels shown above represents a dose of 100%, i.e., an 8 hour exposure to noise at 90 dBA represents the OR OSHA permissible exposure limit (PEL) for noise. An exposure to 90 dBA for 8 hours is the equivalent of an exposure to 6 hours at 92 dBA or a 4 hour exposure at 95 dBA.

If feasible engineering and/or administrative controls fail to reduce noise levels within the levels shown above, personal protective equipment, in the form of hearing protectors shall be provided and used to reduce noise levels.

Noise exposure monitoring results are maintained by EH&S and are filed with the employee hearing test records. Monitoring results are available for review by an employee after making a request to management and EH&S. Each employee exposed to noise at or above 85 dBA averaged over 8 hours must be informed of the monitoring results and their inclusion in the College's HCP.

B. Hearing Protection – The College is required to provide at no cost hearing protectors to all employees whose noise exposure levels equal or exceed 85 dBA averaged over 8 hours. There are 3 recognized types of hearing protectors available to employees, each of which has its own advantages and disadvantages:

- Ear plugs – These inexpensive protectors are available in a variety of sizes and styles and must be inserted directly into the ear canal for a snug fit in order to be effective. Improperly fitted, dirty or worn-out ear plugs will not offer adequate protection and may irritate the ear canal. While not universal, ear plugs are often disposable after a single use.
- Ear caps – These protectors are not inserted directly into the ear canal but rather cover the ear canal. They may be more comfortable than ear plugs yet they may not be as effective in reducing noise exposures.

- Ear muffs – These protectors fit over the entire ear but may be impacted by eyeglasses or long hair. Ear muffs are adjustable and can be used over and over with minimal cleaning and maintenance.

The College is required to provide training to all employees enrolled in the Hearing Conservation Program (HCP), which includes detailed information about the types, styles and effectiveness of hearing protectors provided by the College as well as how to properly fit, wear and maintain the protectors.

All hearing protectors have an associated noise attenuation value associated with them known as the Noise Reduction Rating (NRR). EH&S will review employees' noise exposure levels and work with management to determine how much noise attenuation can be achieved by an employee wearing a particular make or style of hearing protector. It is important that the noise attenuation bring an employee's noise exposure to a level below an equivalent dose of 90 dBA averaged over 8 hours as shown in *Section A. Noise Exposure Monitoring*.

Hearing protection is required to be worn by all employees whose noise exposure levels equal or exceed 90 dBA averaged over 8 hours. Employees required to wear hearing protection will be notified of this requirement by management.

Employees are responsible for the maintenance of their assigned hearing protectors and must:

- Check ear muffs or plugs for defects prior to use;
- Check to ensure the head band on ear muffs is properly adjusted, snug and not torn, disfigured or does not properly seal;
- Discard disposable ear plugs at the end of a shift or when they become excessively soiled;
- Obtain a new hearing protectors when appropriate or necessary; and
- Follow the manufacturer's recommendations for maintenance

C. Audiometric (Hearing) Test – The College is required to provide all employees whose noise exposure levels equal or exceed 85 dBA averaged over 8 hours with an audiometric exam during working hours and at no cost to the employee. Audiometric examinations are performed, by a physician contracted by EH&S, in order to determine the effects of noise on the employee's hearing. A baseline test is established the first time an employee undergoes audiometric testing and serves as a point of comparison against future annual audiometric exams. Baseline tests shall take place within 6 months of the employee's first exposure to noise at or above 85 dBA averaged over 8 hours. Employees scheduled for audiometric testing should not be exposed to workplace noise for at least 14 hours prior to the audiometric exam and should also avoid high levels of non-occupational noise exposure during this same period.

During an audiometric exam, an employee's hearing is tested, at a minimum, to the following frequencies: 500, 1000, 2000, 3000, 4000 and 6000 Hz. Each ear is tested separately. After a baseline exam is conducted and established, it will serve as a reference against which future annual audiometric exams will be compared.

The physician reviewing the audiometric exams will compare the employee's annual tests to their baseline test and will document any evidence of a standard threshold shift (STS).

An STS represents a change in hearing thresholds relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000 and 4000 Hz in either ear. When an STS is noted by the contracted physician, the College has the option of retesting the employee within 30 days and considering the results of the retest to be the annual audiogram. If the STS persists, EH&S must notify the employee in writing of the results within 21 days (see *Reference Form 2 - Example STS Notification Letter to Employee*) and the employee's supervisor/manager must review the letter with the employee to ensure that the employee understands the letter's content. Unless the contracted physician determines that the STS is not work related or aggravated by occupational noise exposure, the following actions must occur:

- Employees not using hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them.
- Employees already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater noise attenuation if necessary.
- The employee shall be referred for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if the College suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.
- The employee is informed of the need for an otological examination if a medical pathology of the ear that is unrelated to the use of hearing protectors is suspected.
- The employee's hearing loss shall be recorded on the College's OSHA 300 Log by Risk Services.

A record of an employee's hearing loss must be entered on the OSHA 300 log if an annual audiogram shows a Standard Threshold Shift (STS) in either or both ears and the hearing level in the ear(s) is 25 decibels above audiometric zero – the lowest sound pressure level that a young adult can hear. Note: a recordable hearing loss is an average of 25 dBA in the 2000, 3000 and 4000 frequencies. If an employee's hearing shift is permanent it must be recorded on the College's OSHA 300 Log.

If a physician or other licensed health care professional determines that the hearing loss is not work-related or aggravated by workplace noise, then it does not need to be recorded.

V. TRAINING

EH&S offers training classes that conform to the requirements of the OR OSHA Occupational Noise Exposure Standard.

Each employee exposed to an occupational noise level of 85 dBA averaged over 8 hours must receive initial and annual training on the following topics:

- The effects of noise on hearing;
- The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use and care; and
- The purpose of audiometric testing and an explanation of the test procedures

New employees assigned to work in departments where there are known exposures at or above 85 dBA averaged over 8 hours must receive initial training at the time of initial assignment to a task that has such an exposure. Training should be initiated for employees when a new piece of equipment or operation is introduced to a department and a noise survey indicates that exposures will reach or exceed this value.

VI. RECORDKEEPING

EH&S is responsible for maintaining the following records associated with this Plan:

- Training records
- Noise exposure monitoring surveys
- Audiograms and correspondence from the College's contracted occupational physician
- Copies of contractual agreements related to work performed by PCC's contracted occupational physician
- Completed Supervisor's Incident Investigation Reports associated with employee exposure to noise and/or employees experiencing STSs

Risk Services is responsible for maintaining the following records associated with this Plan:

- Completed Injury or Property Incident Reports involving employee exposure to noise
- Completed Injury or Property Incident Reports documenting an employee's STS
- The College's OSHA 300 log