



Central Washington University

Hearing Conservation Program

Plan prepared by:
Central Washington University
Office of Environmental Health & Safety
400 East University Way
Ellensburg, WA 98926
P: 509-963-2252

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1.0 Policy Statement

It is the policy of Central Washington University (CWU) to protect employee hearing and effectively manage or eliminate hazardous noise exposures. In those areas where engineering controls cannot reduce noise below harmful levels or until engineering controls can be implemented, employees will take part in a Hearing Conservation Program (HCP). Environmental Health & Safety (EH&S) has been designated to administer the overall HCP.

Employees are required to fully participate in the program outlined in this policy as a condition of employment. Employees must wear the provided hearing protection devices when working in posted noise areas.

Each employee exposed to sound levels in excess of 85 dBA, in the normal responsibilities of their position, will be:

- Given a baseline audiogram prior to assignment, and a follow-up audiogram after one year, provided at no cost to the employee.
- Provided with a choice of suitable hearing protectors, fitted, and encouraged to use them.
- Required to wear suitable hearing protection when working in areas where noise exposure exceeds 85 dBA (8hr TWA).
- Notified of any abnormal audiogram indicating a standard threshold shift.

Each employee exposed to 85 dBA or greater as an eight-hour time-weighted average, or who have a documented standard threshold shift, will be:

- Notified of noise exposure monitoring results when their exposure is 85 dBA or greater (8hr TWA).
- Notified of any abnormal audiogram indicating a standard threshold shift.
- Provided with annual audiograms at no cost to the employee.
- Required to wear hearing protection in environments with noise > 85 dBA, regardless of the duration of exposure.
- Provided annual training.

2.0 Responsibilities

While EH&S is charged with the overall responsibility to develop and implement the CWU program, individual departments are still ultimately responsible for ensuring that affected employees are appropriately informed and trained.

1. EH&S will:

- Perform or coordinate noise exposure monitoring.
- Identify employees to be included in the HCP.
- Supervise hearing protector selection, and provide assistance for employees who have problems with hearing protector fit.
- Develop policies relating to the use of hearing protectors.
- Supervise employee training programs.
- Coordinate and supervise recordkeeping.
- Evaluate the overall program at least annually.
- Review suggested options for noise control, and work with the Purchasing department

to ensure noise levels are considered for new equipment purchases.

2. Supervisors will:

- Monitor and ensure the wearing of hearing protection in all posted areas.
- Wear and maintain hearing protection in all posted areas.
- Check the fit and condition of hearing protection and ensure replacement when necessary.
- Ensure workers attend safety meetings/talks on hearing protection.
- Ensure workers attend annual audiometric tests.
- Notify EH&S if any additional high-noise areas are suspected.
- Contact EH&S if new procedures are implemented which may affect noise levels.

3. Workers will:

- Wear and maintain hearing protection in all posted areas.
- Attend safety meetings/talks on hearing protection.
- Participate in annual audiometric testing.
- Bring any hearing protection or noise-related problems to the attention of management.
- Report to their supervisor any changing conditions which may impact personnel noise exposures.

4. Student Health Services- Occupational Medicine Group will:

- Perform audiometric testing for employees.
- Keep occupational medicine records for employees in the HCP.
- Coordinate with other occupational medicine providers for employees in remote sites for testing and recordkeeping.

Exposure Control

Employees incur risk of infection and illness each time they are exposed to blood or other potentially infectious materials. The goal of the bloodborne pathogen standard is to reduce the risk of infection by:

- Eliminating or minimizing occupational exposure to blood and other potentially infectious material
- Providing the Hepatitis B vaccine
- Providing post exposure medical evaluation and follow-up

Identifying the tasks and procedures where occupational exposure may occur and the positions whose duties include those tasks and procedures is a critical element of exposure control. All personnel in positions determined to have occupational exposure are entitled to the protection afforded by the standard.

3.0 Program Requirements

1. Noise Monitoring

- Noise levels in some areas at CWU exceed 85 dBA. The noise exposure levels for areas and sources that have been measured are available through EH&S.
- Additional noise monitoring will be conducted whenever employee exposures are expected to change (equipment changes, plant modifications,

engineering control installations, etc.). For employees having fixed working locations near steady and continuously operating noise sources, a sound level measurement made for a representative period at the employee’s position will indicate his or her exposure level. The measurement interval should be of sufficient duration to encompass a reasonable number of operating cycles for the task or machinery being considered.

- Where work activities and resulting noise levels are variable, and particularly where individuals do not have fixed working locations, employee exposure levels are most accurately determined by means of a personal noise dosimeter.
- Affected employees or employee representatives will be notified of planned monitoring by EH&S and permitted to observe. Employees will also be notified of monitoring results.
- Employees in the following areas or performing the following jobs will be included in the Hearing Conservation Program.

Carpentry and maintenance – power tools (stationary and portable)	Tree Operation - Chain Saws
Emergency power generators - maintenance	Power Plant
Landscape – power tools	Mechanical Rooms

2. Audiometric Testing

- Baseline and one follow-up audiometric testing will be performed for all employees working in areas with sound levels in excess of 85 dBA.
- Subsequent annual audiometric testing will be performed for employees with Time Weighted Average exposures that exceed 85 dBA.
- An independent audiology service will perform audiometric evaluations unless previous arrangements have been made for equivalent testing in-house.
- Audiometric tests shall be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist, or physician.
- Audiometric testing results provided by SHS will be reviewed to ensure that appropriate follow-up actions are taken. If a Standard Threshold Shift (STS) is identified (an average shift in either ear of 10 dB or more at 2,000, 3,000 or 4,000 Hz), the employee will be re-tested within 30 days, and the results of the re-

test will be used as the annual audiogram.

- If STS is indicated, the employee will:
- Be notified of the threshold shift within 21 days of this determination.
- Be informed of the need for further evaluation or retesting if a medical problem is suspected.
- Be required to wear hearing protection if exposures equal or exceed 85 dBA.
- Be refitted or retrained in the use of hearing protection.
- Be referred for additional audiology or medical testing, if appropriate, and informed of the need for this testing.

3. Hearing Protection

- Until engineering and/or administrative controls reduce the amount of noise exposure to or below the allowed limits, appropriate personal hearing protective devices are made available and issued to employees working in jobs or areas where exposure may exceed a TWA of 85 dBA. It is recognized that the use of these devices is considered a temporary solution to the problem of overexposure until feasible controls are provided. The wearing of hearing protection in the following areas or jobs is mandatory:

Wood shops	Air powered tools
Landscape management – power tools	Boiler Plant
Gas-powered hand tools	Mechanical Rooms

- In addition, hearing protection is mandatory for any employee who has incurred a standard threshold shift as reported by EH&S. All supervisors will properly enforce hearing protection requirements. The continuing failure of an employee to properly wear the protection provided could result in the termination of employment with the company.
- All visitors, management, or employees who may enter or pass through a hearing protection required area will also be expected to wear hearing protection.
- A variety of hearing protection options, including ear plugs and muffs, will be made available so that employees can choose the type which is most comfortable for them.
- The procedure in Appendix A will be used to ensure that selected hearing protection devices reduce noise exposures to an acceptable level.

4. Noise Signs

- All work areas where noise exposures may routinely exceed 85 dBA will be posted with noise warning signs at entrances to these areas. All employees in the HCP will wear hearing protection when working in posted areas. All other employees or visitors passing through these areas will be

recommended to wear hearing protection.

- Tools that generate sound levels in excess of 95 dBA should be labeled. Hearing protection must be used by the operator when this equipment is used. The following equipment should be labeled:

Circular saws	Chop (miter) saws
Chain saws	Air tools – staplers, nailers, grinders
Mowers	Rock saws
Gas-powered hand tools	

5. Employee Training

- Participation in an annual training program is required for employees exposed to noise at or above 85 dBA. The training will include information on:
 - Purpose and use of hearing protectors, advantages, and disadvantages of various types.
 - Instructions in the selection, fitting, use, and care of hearing protectors.
 - Purpose of audiometric testing and an explanation of test procedures.
 - Contents of OR-OSHA’s Occupational Noise Exposure standard (29 CFR 1910.95).
 - A copy of the noise standard and the written training and instructional materials are available to employees upon request.
 - Records of training will be maintained.

6. Record Keeping

- Audiometric program records are maintained in the employee’s personnel file and will be provided to employees upon request. Records applicable to employee monitoring and exposure records will be retained as follows:
 - Employee audiometric test records (baseline and annual audiogram, retests, test room background levels, and audiometer calibration records) are maintained for the duration of affected employees' employment plus 30 years.
 - Noise exposure measurement records are maintained for 30 years.
 - Program audit records will be maintained for 3 years.

7. Program Evaluation

- The success of the hearing conservation program with regard to each individual employee is evaluated by comparing annual audiograms to the baseline audiogram. This procedure, among others, helps to determine the

effectiveness of the hearing protection program, and, as a result, ensures the protection of employees' hearing.

- EH&S is responsible for reviewing the recommendations of the audiologist or physician.
- CWU will make an effort to address employee concerns about hearing protection fit, comfort, or overprotection. However, it is the responsibility of the employee to bring those concerns to the attention of supervisors.
- If an employee experiences an STS, that employee's workstation or work area will be specifically evaluated to determine if feasible engineering controls can decrease the noise levels. A checklist to be used is in **Appendix B**.

8. Engineering and Administrative Controls

- CWU recognizes the desirability of controlling the existing noise levels by engineering and/or administrative controls. Therefore, the feasibility of such controls is carefully considered including a possible redesign of existing machinery, the building of partial or total enclosures, and other engineering noise control procedures for reducing the existing noise levels.
- Due to the complexity of some machinery used at CWU and in view of economic limitations, some noise levels cannot be reduced to below acceptable limits. Within the limitation of work schedules and employee skills, administrative controls have also been considered. On a continuing basis, engineering and administrative controls will be considered and implemented where feasible.
- CWU also recognizes the desirability of considering noise levels prior to the purchase of new or rebuilt equipment. It is our policy to evaluate noise levels prior to equipment purchase.

Appendix A

Computation of Actual Noise Reduction Ratings (NRR)

- The degree of protection that a hearing protection device provides is referred to as the Noise Reduction Rating or NRR. Because the listed NRR is established for C-weighted noise measurements, and our measurements have been collected using an A-scale, 7 dB will be subtracted from the NRR to take this into account.
- NRRs for hearing protection equipment are established in laboratory settings under ideal conditions, and it is unlikely that the noise reduction in industrial areas will be as substantial as that recorded in the lab. Because of these differences between laboratory and "real world" performance, the following NIOSH derating scale will be used when calculating noise reduction:

Hearing Protection Device	Derating scale
Ear muffs	25% reduction
Formable earplugs	25% reduction
All other earplugs or semi-aural devices	25% reduction

- Using this method, a formable earplug with an NRR of 30 dB actually provides:
 - 30 dB (listed NRR) - 7 (A-scale to C-scale adjustment) = 23 dBA reduction - laboratory measurement
 - 23 dBA x 75% = 17.3 dB of "real-world" noise reduction.
- Products with the highest NRR are not always the best choice for hearing protection. Too much noise reduction, when not necessary, can lead to degradation of communication, especially in individuals who have some degree of hearing loss.
- Communication problems associated with maximum NRR devices may lead to accidents and poor employee acceptance of the hearing conservation program.
- The following general guide to protection levels will be used:

If the device reduces the noise to:	Then the protection is:
> 85 dB	Too high
80 - 85 dB	Acceptable
75 - 80 dB	Good
70 - 75 dB	Acceptable
<70 dB	Insufficient

Appendix B

Employee Standard Threshold Shift Checklist

The Employee Standard Threshold Shift Checklist (PDF document) must be completed whenever an employee has suffered a confirmed Significant Threshold Shift (STS).