

PPE POLICY 4.750A

HEARING CONSERVATION PROGRAM

(See POL 4.700 & 4.750)



Lewis County
Revised (June 20th, 2005)

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SECTION 1 - INTRODUCTION

Exposure to excessive levels of noise can result in a permanent loss of hearing acuity, development of tinnitus (ringing of the ears), a possible increase in blood pressure, and stress-related problems. Noise may also cause annoyance or difficulty in communicating or working effectively and safely. Thus, Lewis County has instituted the Hearing Conservation Program to protect employees from harmful noise and its damaging effects.

1.1 PROGRAM OVERVIEW. The establishment of a successful Hearing Conservation Program requires the cooperative efforts of Risk Management and all Lewis County employees, including elected officials and department directors to:

- Identify and monitor potentially hazardous noise levels and personnel at risk.
- Implement noise-reducing engineering and administrative controls.
- Recommend appropriate usage of hearing protection devices.
- Maintain appropriate records.
- Coordinate and implement the employee-training program.
- Participate in a periodic review of the Program to assess its overall effectiveness.

1.2 APPLICABILITY. This Program applies to employees who work in the offices of elected officials, and to employees of departments, which report to the Board of County Commissioners, and is designed to meet the requirements of WAC 296-62-09015 -- 29662-09055.

1.3 IMPLEMENTATION. It is the intent of Lewis County to provide for all employees a work environment that is as free as possible from noise of such amplitude or frequency so as to constitute a health hazard. All employees whose tasks typically expose them to noise levels of 85 dBA or above will be enrolled in the Hearing Conservation Program. These employees will be provided the level of protection, training and, if necessary, such industrial insurance benefits as provided by law. Employees enrolled in the Hearing Conservation Program will also be provided a copy of this Program upon request.

SECTION 2 - RESPONSIBILITIES

2.1 RISK MANAGEMENT. Risk Management is responsible for:

- Evaluating employee concerns regarding noise levels in the workplace.
- Maintaining an adequate collection of noise-monitoring equipment.
- Conducting noise surveys to establish the noise levels at various work sites and posting the appropriate signs in specific areas, operations, or equipment that may expose employees to noise above 85 dBA.
- Notifying supervisors in writing of those employees found to be exposed to noise levels that exceed the permissible limits.
- Advising supervisors of those employees who must participate in the annual audiometric testing and training program offered by Risk Management.
- Assisting with the design of engineering, administrative and/or physical controls used to reduce employee exposure to noise.
- Maintain or arrange for the maintenance of all audiogram results.

2.2 ELECTED OFFICIALS. Elected officials are responsible for:

- Adopting this, or a similar, program in order to meet the requirements of WAC 296-62-09015--296-62-09055. Requiring all employees within their individual offices/departments to adhere to the contents of this, or a similar, program. Any elected official who publishes a policy regarding this topic will provide a copy to Risk Management.

2.3 MANAGERS AND SUPERVISORS. Managers and supervisors are responsible for:

- Informing Risk Management of personnel who are potentially exposed to hazardous level of noise.
- Ensuring that the noise level of equipment to be acquired is considered in the purchasing process.
- Enrolling employees found to be exposed to noise levels that exceed the permissible limits in the Hearing Conservation Program.
- Enforcing the necessary and required use of hearing protectors and requiring baseline and annual audiogram testing.
- Ensuring that engineering controls (e.g., enclosure and sound dampening) are used on equipment that generates potentially hazardous noise levels.

2.4 EMPLOYEES. Employees shall:

- Contact their supervisors and Risk Management if noise levels in the workplace are of concern.
- Use hearing protectors where required and comply with signs identifying noisy areas.
- Participate in audiometric testing and education programs as required.

SECTION 3 - NOISE EXPOSURE MEASUREMENTS

3.1 SOUND LEVEL SURVEYS AND EMPLOYEE MONITORING. A Risk Management Representative will arrange for personal noise exposure monitoring (dosimetry) or *sound level survey* of areas and activities that are (a) suspected of having high noise levels, or, (b) the result of an employee expressed concern.

A *sound level survey* is used to identify all employees required to be included in the Hearing Conservation Program and to enable the proper selection of hearing protectors (PPE). Personal sampling may be necessary if circumstances arise as high worker mobility shows significant variations in sound level.

A list of job descriptions, work areas and tasks subject to periodic sound level surveys are contained in Appendix B. Additional noise exposure measurements will be conducted whenever a change in equipment, production, process or controls are expected to change the noise levels (see Appendix 2 for the *Sound Level Survey Request* form).

3.2 METHOD OF NOISE MEASUREMENT. Noise measurement shall be conducted using instruments meeting current American National Standards Institute (ANSI) Standards, as a minimum. All continuous, intermittent, and impulsive sound levels from 80 to 130 dBA shall be integrated into the measurements. The calibration accuracy of all measurement instruments shall be checked both before and after each measurement session.

3.3 EMPLOYEE NOTIFICATION. Each employee exposed at or above an 8-hour time-weighted average (TWA) noise exposure level of 85 dBA shall be notified of the results of the noise monitoring. Affected employees shall be given the opportunity of observing their noise measurements as they are taken, if they request to do so.

3.4 POSTED WARNING SIGNS. Whenever noise exposure equals or exceeds an 8hours TWA of 90 dBA, feasible administrative or engineering controls shall be utilized. Warning signs must be posted at entrances to or at the periphery of all well-defined work areas in which persons may be exposed to 115 dBA or more.

SECTION 4 - AUDIOMETRIC TESTING

4.1 BASELINE. Mandatory audiometric testing upon initial hire (baseline) for all employees.

4.2 ANNUAL TESTING. Annual testing is required for employees enrolled in the Hearing Conservation Program (see appendix 1).

4.2.1 If it is determined that the audiometric test results show a Standard Threshold Shift (STS) of 10 dBA or more:

- the employee must be notified within 21 days from the time of the determination.
- the employee may be referred for further testing to determine the accuracy of the audiometric test.
- if the employee has an ear problem of a medical nature that is not related to wearing protectors, the employee must be informed that he/she should see a physician.

SECTION 5 - ENGINEERING, ADMINISTRATIVE AND PHYSICAL CONTROLS

5.1 ENGINEERING CONTROLS.

- Enclosure
- Substitution
- Maintenance
- Isolation

5.2 ADMINISTRATIVE CONTROLS.

- Reduce employee exposure
- Changing work processes and procedures to reduce employee noise exposure.
- Reassigning employees to less noisy areas or reducing time of the operation.

5.3 PHYSICAL CONTROLS.

- Hearing protection must be provided and available, and it is the employees and supervisors responsibility to ensure that they are worn.
- Any employee, who is exposed to an 8-hour TWA of 85 dBA or greater, *must have hearing protection available* and be included in the Hearing Conservation Program.
- Hearing protection is *required* in all areas where noise exposures are equal to or greater than 90 dBA for eight hours.

SECTION 6 - RECORD KEEPING

Risk Management will be responsible for maintaining the following:

- Work-site area and individual employee exposure monitoring and testing data.
- A copy of all employee audiograms, which shall remain in the employee's medical file, separate from the personnel file, for the duration of employment plus thirty (30) years.
- Hearing Conservation Program Training records.

All records required by this section shall be provided upon request to the affected employee or former employee and their supervisors.

SECTION 7 - TRAINING

7.1 Training responsibilities shall be delineated between Risk Management and each individual department/office. This is an attempt to ensure that training includes both a general and workplace-specific approach.

7.2 Risk Management shall provide annual, general training for all employees enrolled in the Hearing Conservation Program. This training shall include comprehensive training explaining hearing loss, hearing protective devices, use and care of PPE and the Lewis County's Hearing Conservation Program. Supervisors are responsible for providing workplace-specific training.

OCCUPATIONS INCLUDED IN THE HEARING CONSERVATION PROGRAM

- Central Transfer Station Employees
- Animal Shelter Division Employees
- Facilities Staff (including Fairground maintenance) Employees (excluding administrative staff)
- Public Works Road-Crew Employees
- Central Shop Employees
- Motor Pool Employees
- Communication Officers - “911” • Sheriff’s Office Deputies, Correction Officers and designated staff (excluding administrative staff)

POL 4.750A, APPENDIX - 1
SOUND LEVEL SURVEY
Request Form

Facility _____ Date _____

Equipment/Area Tested _____ Serial Number _____

Calibrator Used _____ Serial Number _____

DOSE _____ TWA _____

Survey Conducted By _____

OFFICE/DEPARTMENT OR PERSON	SOUND LEVEL	COMMENTS

NOISE LEVELS & FREQUENCY

LOUDNESS

The loudness of noise is measured in decibels (dBA). Each increase of 5 decibels doubles the loudness you hear. For example, 90 dBA for 8 minutes = to 95 dBA for 4 minutes.

A noise level above 125 dBA can be considered painful. However, 85 to 125 dBA's can cause "painless" hearing damage that you may not be aware of at the time, because you may not feel pain.

FREQUENCY

Frequency is another factor that contributes to hearing damage. This is the cycles per second of the sound wave, as measured in hertz (Hz). For example, the lowest note on a piano is 40 Hz and highest note is 4000 Hz. A healthy human ear can register frequencies from 20 to 20,000 Hz.

Whisper	20 dBA
Normal Conversation	65 dBA
Manual Machinery	80 dBA
Kitchen Blender	85 dBA
Spray Painting	90 dBA
Lawn Mower	95 dBA
Concert	105 dBA
Power Saw	110 dBA
Jet Taking Off	145 dBA
Firearm	150 dBA

AS A GENERAL RULE...

If you can't hear another person talking in a normal voice from three feet away, the area may require hearing protection.

POL 4.750A, APPENDIX - 3
HEARING CONSERVATION TRAINING
RECORD

Facility/Crew

Office/Department

Date

[illegible]

Name of Instructor Length of Training		Instructor's Signature
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POL 4.750A, APPENDIX - 4

HEARING CONSERVATION TRAINING TEST

APPENDIX - 5

1. The OSHA Standard requires hearing protection be made available to employees exposed to noise levels at or above 85 dBA in an 8-hour time-weighted average (TWA).
 - a) True
 - b) False

2. Noise is defined as any sound except conversation.
 - a) True
 - b) False

3. Hearing loss is caused by noise breaking the three small bones in the middle ear.
 - a) True
 - b) False

4. Damage to hair cells in the inner ear is permanent.
 - a) True
 - b) False

5. Constant ringing in the ear (known as “tinnitus”) or a constant hum can be a warning sign of hearing loss. List three other warning signs.
 - a) _____
 - b) _____

c) _____

6. The two major types of noise in the workplace are _____ and _____.

- a) continuous and steady.
- b) impulsive and continuous.
- c) continuous and loud.

7. Each increase of 5 dBA doubles the loudness you hear.

- a) True
- b) False

8. Noise monitoring only needs to be done _____. a)
once.

- b) each time a new hire is introduced to the work force.
- c) when any significant changes in equipment or process is completed.

9. The baseline audiogram serves as a comparison for future audiograms, helping determine hearing improvement or loss.

- a) True
- b) False

10. A standard threshold shift indicates one or more of the below.

- a) The employee is using hearing protection regularly.
- b) The length of time an incumbent should use hearing protection.
- c) Indicated hearing loss.
- d) Average shift greater than 10 decibels in either ear.

11. The only factors that matter in noise exposure are _____.

- a) loudness and continuity and impulse.
- b) loudness and length of exposure.
- c) duration, distance from source and loudness.

12. Eventually, you can get used to any continual and steady noise.

- a) True
- b) False

13. Earplugs fit into your ear canal, blocking excessive noise from reaching the inner ear and causing damage to the hair cells or auditory nerves.

- a) True
- b) False

14. Noise levels can be reduced by installing sound barriers between the employees and the source of the noise.
- a) True
 - b) False
15. Earmuffs may _____.
- a) always to be used with earplugs.
 - b) always to be worn.
 - c) be used with earplugs.

POL 4.750A, APPENDIX - 5 CONTINUED
HEARING CONSERVATION TRAINING TEST
ANSWERS
POL 4.750A, APPENDIX – 5A

1. The OSHA Standard requires hearing protection be made available to employees exposed to noise levels at or above 85 dBA in an 8-hour time-weighted average (TWA). a. True*
b. False
2. Noise is defined as any sound except conversation.
a. True
b. False* *Noise is defined as “unwanted, excessive or dangerous sound.”*
3. Hearing loss is caused by noise breaking the three small bones in the middle ear. a. True
b. False* *Hearing loss is caused by noise damage to the auditory nerves of the ear.*
4. Damage to hair cells in the inner ear is permanent.
a. True* *Some hair cells will return to normal after short exposure, but continual exposure to excessive noise could cause the hairs to break. (i.e., the path left by a dog running through tall grass.)*
b. False
5. Constant ringing in the ear (known as “tinnitus”) or a constant hum can be a warning sign of hearing loss. List three other warning signs:
a. *Difficulty in hearing S’s or T’s in normal conversation.*
b. *Difficulty in separating background noise from speech.*
c. *Volume of TV or radio is excessively high on your partner.*
d. *Difficulty hearing ringing telephones, whistles and other high frequencies.*
6. The two major types of noise in the workplace are _____ and _____. a. continuous and steady.

- b. impulsive and continuous.* *Grinders, lathes, powered equipment, sharp outburst of noise impact tool, etc.*
 - c. continuous and loud.
7. Each increase of 5 decibels doubles the loudness you hear.
- a. True*
 - b. False
8. Noise monitoring only needs to be done _____. a. once.
- b. each time a new hire is introduced to the work force.
 - c. when any significant changes in equipment or process is completed.* *Should be completed at least yearly in area and anytime equipment is changed or overhauled upgraded.*
9. The baseline audiogram serves as a comparison for future audiograms, helping determine hearing improvement or loss.
- a. True*
 - b. False
10. A standard threshold shift indicates one or more of the below:
- a. The employee is using hearing protection regularly.
 - b. The length of time an incumbent should use hearing protection.
 - c. Indicated hearing loss.
 - d. Average shift greater than 10 decibels in either ear.* *Specifically at frequencies of 2000, 3000 and 4000 Hz. The lowest decibel reading an individual is able to hear is 10 dBA more than in the previous audiogram.*
11. The only factors that matter in noise exposure are _____.
- a. loudness and continuity and impulse.
 - b. loudness and length of exposure.
 - c. duration and distance from source and loudness.*
12. Eventually, you can get used to any continual and steady noise.
- a. True
 - b. False* *Means you are suffering from hearing loss and can't hear it.*
13. Earplugs fit into your ear canal, blocking excessive noise from reaching the inner ear and causing damage to the hair cells or auditory nerves.
- a. True*
 - b. False
14. Noise level can be reduced by installing sound barriers between employees and the source of the noise.
- a. True* *Engineering Controls—see paragraph 5.1 above..*
 - b. False
15. Earmuffs may _____.

- a. always to be used with earplugs.
- b. always to be worn.
- c. be used with earplugs.* *You may use both earplugs and earmuffs. Highly recommended.*

POL 4.750A, APPENDIX – 5A CONTINUED