



LP 4.21

Effective:
9/15/2025

Revised:

Policy Owner:
Board of Trustees

Policy Administrator:
VP for Finance and
Administration

Affected Parties:
Employees

Table of Contents:

- 1 Purpose
- 2 Scope
- 3 Responsibilities
- 4 Definitions
- 5 Noise Exposure Monitoring
- 6 Noise Control
- 7 Audiometric Testing
- 8 Employee Training
- 9 Recordkeeping
- 10 Compliance
- 11 Hearing Protection Devices
- 12 Audiometric Testing and Follow-up Procedures
- 13 Policy Revision History

Hearing Conservation

References: OSHA 29 CFR 1910.95

1 Purpose

- 1.1 This policy describes a hearing conversation program at Lander University that has been established to ensure a safe and healthful working environment and to act as a performance standard for all employees.

2 Scope

- 2.1 The guidelines contained in this policy are designed to protect employees from occupational hearing loss and to provide for audiologic assessments and hearing protection devices, when the need is determined.

3 Responsibilities

- 3.1 Safety and Regulatory Compliance Officer
The safety and regulatory compliance officer has the overall responsibility for maintaining the hearing conservation program, including:
 - 3.1.1 Ensuring implementation of the program across the campus.
 - 3.1.2 Confirming compliance with regulations.
 - 3.1.3 Ensuring the availability of appropriate types of hearing protection devices for employees.
 - 3.1.4 Ensuring that employees are trained in the use of hearing protection devices.
 - 3.1.5 Providing annual hearing conservation training.

- 3.1.6 Providing technical assistance in determining the need for a hearing conservation program.
- 3.1.7 Conducting, or causing to be conducted, noise surveys dosimetry measurement of time-weighted averages on employees who may be exposed at levels of, or exceeding, 85 dB(A).
- 3.1.8 Periodically evaluating the hearing conservation program.
- 3.1.9 Maintaining records of employees' audiograms.
- 3.2 Facilities Operations Manager
 - The facilities operations manager is responsible for:
 - 3.2.1 Ensuring that the program is implemented in their area of responsibility.
 - 3.2.2 Understanding the requirements of the program.
 - 3.2.3 Providing hearing protection devices to employees.
 - 3.2.4 Advising the safety and regulatory compliance officer when new equipment or processes are introduced into the work environment that may cause an employee to be overexposed to noise.
- 3.3 Supervisors
 - Supervisors are responsible for:
 - 3.3.1 Ensuring that hearing protection is used by all employees in designated areas.
 - 3.3.2 Ensuring the availability of hearing protection devices to employees.
 - 3.3.3 Ensuring that hearing protection training has been completed by employees prior to exposure above the action level.
- 3.4 Employees
 - Employees must:
 - 3.4.1 Observe rules concerning the use of hearing protection devices.
 - 3.4.2 Seek assistance from their supervisor regarding questions or concerns about hearing protection.

- 3.4.3 Attend the annual hearing conservation program training sessions.
- 3.4.4 Report any incidents at work that may contribute to noise-induced hearing loss.

4 Definitions

- 4.1 **Action level:** An 8-hour time-weighted average of 85 decibels measured on the A-scale, slow response, or equivalently, a dose of 50 percent. This means that when an employee's average noise exposure reaches this level over a standard workday, it equals one-half of OSHA's maximum allowable daily dose. It is the threshold, known as the Action Level, at which the employer must begin implementing a hearing conservation program, including monitoring, training, and providing hearing protection.
- 4.2 **Audiogram:** A chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.
- 4.3 **Baseline audiogram:** The audiogram against which future audiograms are compared.
- 4.4 **Criterion sound level:** A sound level of 90 decibels.
- 4.5 **Decibel (dB):** Unit of measurement of sound level.
- 4.6 **Hertz (Hz):** Unit of measurement of frequency, numerically equal to cycles per second.
- 4.7 **Noise dose:** The ratio, expressed as a percentage, of (1) the measured noise exposure over a stated period of time and (2) the allowable noise exposure for that same period, based on an 8-hour criterion duration at 90 dBA. In simpler terms, a noise dose compares how much noise a worker actually experiences to the maximum permitted level. A dose of 100% means the worker has reached the legal limit (equivalent to 90 dBA over 8 hours), while a dose of 50% means the worker has reached half that limit (equivalent to 85 dBA over 8 hours). The measurement uses the A-weighted scale (to approximate human hearing sensitivity) with a "slow" one-second averaging response to smooth out fluctuations.

(Mathematically, dose is calculated as the time integral, over the stated period, of the 0.6 power of the squared A-weighted sound pressure averaged with slow exponential response, divided by the product of the criterion duration (8 hours) and the 0.6 power of the squared sound pressure corresponding to the criterion sound level of 90 dB, expressed as a percentage.)
- 4.8 **Noise dosimeter:** An instrument that integrates a function of sound pressure over a period of time in such a manner that it directly indicates a noise dose.

- 4.9 **Permissible exposure level (PEL):** An 8-hour time-weighted average of 90 decibels or greater, measured on the A-scale, slow response, or equivalently, a dose of 100 percent. This represents OSHA's legal limit for occupational noise exposure during a standard workday. Exposure at this level is considered the maximum allowed without mandatory use of engineering or administrative controls to reduce noise. A reading of 90 dBA over 8 hours corresponds to continuous noise roughly equivalent to standing near heavy machinery or a lawnmower. Once exposures reach or exceed the PEL, employers are required to take immediate steps to lower noise levels, either by reducing the source of the noise, limiting the time of exposure, or providing effective hearing protection.
- 4.10 **Representative exposure:** Measurements of an employee's noise dose or 8-hour time-weighted average sound level that the employer deems to be representative of the exposures of other employees in the workplace.
- 4.11 **Sound level meter:** An instrument for the measurement of sound level detectable in dB.
- 4.12 **Standard threshold shift:** A change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear.
- 4.13 **Time-weighted average (TWA) sound level:** That sound level, which if constant over an 8-hour exposure, would result in the same noise dose as is measured.

5 Noise Exposure Monitoring

- 5.1 Sound level surveys shall be conducted at each work area where there is a risk of excessive noise levels.
- 5.2 If the sound level surveys indicate areas that have the potential to produce a time-weighted average (TWA) noise exposure of 85 dB(A) or greater, then personal dosimeter monitoring shall be used to determine the TWA exposure for employees working in that area.
- 5.3 The employee's TWA noise exposure will include all continuous, intermittent, and impulsive noise from 80 dB(A) to 130 dB(A).
- 5.4 An employee shall be notified by the safety and regulatory compliance officer if their TWA noise exposure is determined, by either noise surveys or personal noise dosimeter measurements, to be equal to or greater than 85 dB(A) and, therefore, that they are required to participate in the hearing conservation program.
- 5.5 Re-monitoring of noise exposures shall be conducted following an equipment or production change that may increase the noise exposure.

5.6 Monitoring may be conducted by:

5.6.1 A qualified employee;

5.6.2 An insurer representative; or

5.6.3 A third-party consultant or contractor.

6 Noise Control

6.1 In areas of noise equal to or greater than 85 dB(A), steps shall be taken to reduce sound levels to below 85 dB(A) TWA.

6.1.1 This reduction in sound level can be accomplished by engineering controls, administrative controls, and/or the use of personal hearing protection devices.

6.1.2 Lander University shall use a hierarchy of safety controls to reduce the noise exposure. Possible control procedures are as follows:

6.1.2.1 When technically and economically feasible, engineering controls shall be used to eliminate or reduce noise levels to acceptable levels.

6.1.2.2 Administrative controls shall be used when engineering controls are not feasible.

6.1.2.3 Administrative controls (e.g., production schedule changes, job rotation) are practices that may be used to reduce an employee's noise exposure time so that their TWA is within acceptable limits.

6.1.2.4 Hearing protection devices shall be used where engineering and administrative controls are not feasible, or while these controls are being implemented. The following procedures will apply:

6.1.2.4.1 The use of hearing protection devices shall be mandatory for any employee working in areas where the employee's TWA is 90 dB(A) or greater.

6.1.2.4.2 The use of hearing protection devices shall be mandatory for any employee who has experienced a standard threshold shift due to their present job, regardless of the noise levels in the employee's work area.

- 6.1.2.4.3 All employees, with at-risk exposure, shall be provided, free of charge, with an opportunity to select a hearing protection device from a variety of protectors provided by Lander University.
- 6.1.2.4.4 Hearing protection devices shall reduce employee noise exposure to below 85 dB(A).
- 6.1.2.4.5 Employees shall be properly fitted and instructed in the use and care of any hearing protection devices provided to them by Lander University.
- 6.1.2.4.6 Additional information about hearing protection devices is provided in the Hearing Protection Devices section of this policy (see Section 11, below).
- 6.1.2.4.7 Work areas with noise levels equal to or greater than 90 dB(A), must be posted with appropriate signs. As an example, signs could state: CAUTION! HEARING PROTECTION MUST BE WORN IN THIS AREA.

7 Audiometric Testing

- 7.1 An employee shall be provided with baseline and annual audiometric testing when the safety and regulatory compliance officer determines that the employee works in an area in which the noise action level exceeds 85 dBA.
- 7.2 Annual audiometric testing shall be mandatory for any employee deemed to operate in an at-risk location or under at-risk circumstance, participating in the hearing conservation program.
- 7.3 Audiometric testing and follow-up procedures are outlined in the Audiometric Testing and Follow-Up Procedures section of this policy (see Section 12, below).

8 Employee Training

- 8.1 Employees participating in the hearing conservation program will receive annual training. Topics to be covered in this training shall include:
 - 8.1.1 The effects of noise on hearing;
 - 8.1.2 An overview of hearing conservation policy and program;
 - 8.1.3 Identification of those work areas with excessive noise levels and where the use of hearing protection is mandatory or recommended;

- 8.1.4 The purpose, selection, fitting, use, and care of hearing protection devices and the advantages, limitations, and noise-reducing capabilities of the various types of devices;
- 8.1.5 An explanation of audiometric test procedures and their purposes.

9 Recordkeeping

- 9.1 The safety and regulatory compliance officer shall keep all sound level survey and personal dosimetry data for a minimum of five years. The data shall include:
 - 9.1.1 The employee's name and job description (if a personal dose exposure is taken).
 - 9.1.2 The date, location, and results of each measurement taken.
 - 9.1.3 A description of the noise measurement equipment used.
- 9.2 Employee audiometric test results will be kept in a central medical file for 30 years. These records shall include:
 - 9.2.1 The name and job description of the employee.
 - 9.2.2 The date of the audiogram.
 - 9.2.3 The examiner's name.
 - 9.2.4 The date of the last acoustic or exhaustive calibration of the audiometer.
 - 9.2.5 The employee's noise exposure assessments.
- 9.3 The provider of audiometric testing will maintain records of calibration and background noise for the audiometric test chamber.
- 9.4 If Lander University uses equipment owned by the university for sound level surveys, the calibration records of the equipment shall be maintained by the university.

10 Compliance

- 10.1 All employees whose TWA exposure is equal to or greater than 85 dB(A) shall comply with the requirements of the hearing conservation policy and program.

- 10.2 Employees shall wear hearing protection devices in posted areas.
- 10.3 All visitors and contract employees shall be required to wear hearing protection devices in posted areas.
- 10.4 When technically and economically feasible, engineering and/or administrative controls will be used to reduce employee noise exposure to levels below 85 dB(A) TWA.
 - 10.4.1 If these controls cannot be used, the following procedures will apply:
 - 10.4.1.1 Mandatory enrollment in the hearing conservation program.
 - 10.4.1.2 Mandatory annual audiometric testing.
 - 10.4.1.3 Mandatory employee participation in annual hearing conservation training.
 - 10.4.1.4 Posting of areas with continuous noise levels of 85 dB(A) or greater.
- 10.5 In addition to the above conditions that apply when the TWA noise exposure is 85 dB(A) or more, the following applies:
 - 10.5.1 Mandatory use of university-provided hearing protection devices in areas in which the continuous noise level is 90 dB(A) or greater, regardless of the duration of the exposure.

11 Hearing Protection Devices (HPD)

- 11.1 There are different types and various brands of hearing protection devices (HPD). Because of air leaks, vibration, material transmission, and bone and tissue conduction, no HPD is 100 percent effective.
- 11.2 For maximum protection, the HPD must form an airtight seal with the side of the head or the ear canal. Failure to achieve an airtight fit can reduce the HPD's effectiveness by 5 to 15 dB.
- 11.3 Hearing protection devices are rated by the number of decibels the device is able to reduce the noise level or its noise-reducing capabilities. The rating is designated as the noise reduction rating (NRR).
- 11.4 The NRR of the hearing protection device must be considered when choosing an HPD.

- 11.4.1 For noise reduction, the NRR must be at least equal to the difference between the surrounding noise level and the targeted noise level. For example, if the surrounding noise level is 92 dB and the targeted noise level is 80 dB, the HPD's NRR must be at least 12.
- 11.4.2 The manufacturer's NRR represents potential noise reduction under ideal conditions. For a work environment, add 7 dB to the calculated NRR to ensure proper protection. For the example above, the final calculation is $12 + 7 = 19$ NRR.
- 11.5 Although a combination of earplugs and earmuffs may be used for greater protection, the noise reduction will not be additive. For instance, ear plugs with an NRR of 30 and earmuffs with an NRR of 20 worn together will not provide an NRR of 50. The NRR will only be somewhat greater than 30.
- 11.6 Whichever type of HPD an employee chooses, it must be comfortable, fit correctly, and be worn consistently to be effective.
- 11.7 Hearing protection devices shall be chosen based on their effectiveness in the areas wherein they are required.

12 Audiometric Testing and Follow-up Procedures

- 12.1 Audiometric testing shall be preceded by a period of at least 14 hours without exposure to noise, either in or outside of the workplace.
 - 12.1.1 Hearing protection may be worn to prevent exposure so employees do not need to be removed physically from the exposure for the prescribed 14 hours.
- 12.2 Audiometric testing shall be performed by a licensed or certified audiologist, by an otolaryngologist (or other physician with appropriate training), or by an audiometric technician who is certified by the Council for Accreditation in Occupational Hearing Conservation (CAOHC) and who performs testing under the supervision of a licensed audiologist, otolaryngologist, or physician.
- 12.3 Audiometric test frequencies must include 500, 1000, 2000, 3000, 4000, 6000, and 8000 hertz levels.
- 12.4 Testing equipment should meet ANSI S3.6-1969 criteria for audiometers.
- 12.5 Employees shall complete an Employee Audiometric Test Form prior to testing.
 - 12.5.1 The audiometric test provider will complete the test results section.

12.6 A baseline audiogram shall be established for each employee whose noise exposure equals or exceeds the Action Level, no later than 180 days after the employee's first exposure at or above the action level.

12.6.1 Where a mobile test van is used for an audiologic examination, the test must be made available within one-year of the employee's first exposure at or above the action level.

12.7 Baseline audiograms will be used for comparative purposes with subsequent audiograms to determine whether standard threshold shifts have occurred.

12.8 An annual audiogram, after the baseline audiogram, shall be required for employees covered in the hearing conservation program.

12.9 A technician who is certified by the Council of Accreditation in Occupational Hearing Conservation will review each audiogram.

12.9.1 The technician shall compare the results of an employee's annual audiogram to the results of their baseline audiogram to determine whether a standard threshold shift has occurred.

12.10 An employee will be considered to have a standard threshold shift if the shift in the hearing threshold relative to the baseline audiogram is an average of 10 dB at 2000, 3000, and 4000 Hz.

12.11 Any audiogram that exhibits a standard threshold shift will be referred to an audiologist or otolaryngologist for interpretation.

12.12 The employee will receive a written notification of their audiometric test results.

13 Policy Revision History

- First draft of policy submitted for review by VP for Finance and Administration on 1/20/2025.
- Reviewed by Board of Trustees Policy Committee on 8/23/2025.
- Final review stakeholder review and approval of policy on 8/25/2025.
- Final revisions applied by Policy Coordinator on 8/26/2025.
- Approved by the Lander University Board of Trustees on 9/15/2025.

APPENDIX A: Standard Threshold Shift Follow-up Procedures

If a standard threshold shift (STS) has been determined, the following steps will be taken:

- A retest shall be performed within 30 days to determine whether the shift is permanent.
- Employees who are not using hearing protection shall be fitted with, trained in the use and care of, and required to wear hearing protection regardless of their measured TWA exposure.
- Employees already using hearing protection shall be refitted, retrained, and, if necessary, provided with hearing protectors that offer greater protection.
- If retesting reveals that the standard threshold shift was temporary, the use of hearing protectors by that employee may be discontinued, unless the employee is working in an area where hearing protection is required.
- If the STS is permanent, further follow-up is required, as follows:
 - The employee shall be notified, in writing, within 21 days of the determination of the existence of a permanent standard threshold shift;
 - The employee shall be referred for a clinical audiological evaluation or an otological examination if additional testing is necessary, or if the technician suspects that a medical problem of the ear is caused or aggravated by the wearing of hearing protectors; and
 - If the STS meets the definition of a recordable STS, the injury will be entered on the OSHA 300 log as a hearing loss.

APPENDIX B: Standard Threshold Shift Explanation

A **standard threshold shift**, or **STS**, is defined in the occupational noise exposure standard at 29 CFR 1910.95(g)(10)(i) as a change in hearing threshold, relative to the baseline audiogram for that employee, of an average of 10 decibels (dB) or more at 2000, 3000, and 4000 hertz (Hz) in one or both ears when above audiometric 0.

An STS is defined at 29 CFR 1910.95(g)(10) in the occupational noise exposure standard as "... a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear."

Employees shall be notified of their STS within 21 calendar days from the date that the determination is made that their audiometric test showed the STS.

Three question determination of a recordable STS

1. Has the employee experienced a standard threshold shift (STS)? The OSHA noise standard defines an STS as an average 10dB or more loss in one or both ears relative to the most current baseline audiogram averaged at 2000, 3000, and 4000 Hz.
 - No → Stop. This is not an OSHA recordable hearing loss.
 - Yes → Continue to question 2.
2. Is the employee's overall hearing level at 25dB or more above audiometric zero? Take this measurement for the affected ear(s) and average at 2000, 3000, and 4000 Hz.
 - No → Stop. This is not an OSHA recordable hearing loss.
 - Yes → Continue to question 3.
3. Is the hearing loss work-related? Remember that work-relatedness is assumed for hearing loss cases. Unless you can completely attribute the hearing loss to a non-work-related event or the employee's physical condition, you must record the case on your OSHA log.
 - No → Stop. This is not an OSHA recordable hearing loss.
 - Yes → Record this as a hearing loss case on your OSHA log. Check the appropriate category for the type of case (days away, restriction/transfer, or other recordable) and check Column M5: Hearing Loss.

Action procedures for an indicated STS

1. If a comparison of the annual audiogram to the baseline audiogram indicates an STS as defined in 1910.95(g)(10) has occurred, the employee shall be informed of this fact in writing, within 21 days of the determination.
2. If the annual audiogram indicates an STS, it must be recorded on the current year OSHA 300.
 - If it is later determined that the STS is not recordable, it may be erased or lined out.
3. If the annual audiogram shows that an employee has experienced an STS, the employer should obtain a retest within 30 days and consider the results of the retest as the annual audiogram.
4. Employees not already using hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them.
5. Employees already using hearing protectors shall be refitted and retrained (within 30 days) in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.

- For employees who have experienced an STS, hearing protectors must attenuate associate exposure to an 8-hour time-weighted average of 85 decibels or below.
6. The employee shall be referred for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if the employer suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.
 7. If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour TWA of 90 decibels indicates that an STS is not persistent, the employer:
 - Shall inform the employee of the new audiometric interpretation; and
 - May discontinue the required use of hearing protectors for that employee.

Recording criteria for cases involving occupational hearing loss

Basic requirement

If an employee's hearing test (audiogram) reveals that the employee has experienced a work-related standard threshold shift (STS) in hearing in one or both ears, and the employee's total hearing level is 25 decibels (dB) or more above audiometric zero (averaged at 2000, 3000, and 4000 Hz) in the same ear(s) as the STS, you must record the case on the OSHA 300 log.

What is a standard threshold shift?

A standard threshold shift, or STS, is defined in the occupational noise exposure standard at 29 CFR 1910.95(g)(10)(i) as a change in hearing threshold, relative to the baseline audiogram for that employee, of an average of 10 decibels (dB) or more at 2000, 3000, and 4000 hertz (Hz) in one or both ears.

How do I evaluate the current audiogram to determine whether an associate has an STS and a 25-dB hearing level?

If the employee has never previously experienced a recordable hearing loss, you must compare the employee's current audiogram with that employee's baseline audiogram. If the employee has previously experienced a recordable hearing loss, you must compare the employee's current audiogram with the employee's revised baseline audiogram (the audiogram reflecting the employee's previous recordable hearing loss case).

Audiometric test results reflect the employee's overall hearing ability in comparison to audiometric zero. Therefore, using the employee's current audiogram, you must use the average hearing level at 2000, 3000, and 4000 Hz to determine whether or not the employee's total hearing level is 25 dB or more.

May I adjust the current audiogram to reflect the effects of aging on hearing?

Yes. When you are determining whether an STS has occurred, you may age adjust the employee's current audiogram results by using Tables F-1 or F-2, as appropriate, in Appendix F of 29 CFR 1910.95. You may not use an age adjustment when determining whether the employee's total hearing level is 25 dB or more above audiometric zero.

Do I have to record the hearing loss if I am going to retest the associate's hearing?

No, if you retest the employee's hearing within 30 days of the first test, and the retest does not confirm the recordable STS, you are not required to record the hearing loss case on the OSHA 300 log. If the retest confirms the recordable STS, you must record the hearing loss illness within seven calendar days of the retest.

If subsequent audiometric testing performed under the testing requirements of the §1910.95 noise standard indicates that an STS is not persistent, you may erase or line-out the recorded entry.

Are there any special rules for determining whether a hearing loss case is work-related?

No. You must use the rules in §1904.5 to determine whether the hearing loss is work-related. If an event or exposure in the work environment either caused or contributed to the hearing loss, or significantly aggravated a pre-existing hearing loss, you must consider the case to be work-related.

If a physician or other licensed health care professional determines the hearing loss is not work-related, do I still need to record the case?

If a physician or other licensed health care professional determines that the hearing loss is not work-related or has not been significantly aggravated by occupational noise exposure, you are not required to consider the case work-related or to record the case on the OSHA 300 log.

How do I complete the 300 Log for a hearing loss case?

When you enter a recordable hearing loss case on the OSHA 300 log, you must check the 300 log column for hearing loss.

APPENDIX C: Standard Threshold & Reportable Shift Action Items

Affected Associate Name: _____

Date of Initial Audiogram: _____

Required Action	Responsible Individual	Date Completed	Notes
Retest affected employee within 30 days of annual audiogram that indicated a recordable STS			Arrangements should be made immediately after the test results indicate an STS
Notify employee within 21 working days of audiogram results			Have employee sign Employee Notification Graph from test and keep a copy
Retrain employee on all elements of the hearing conservation program within 30 calendar			Utilize the hearing conservation program retraining document
Review the effectiveness of any engineering and administrative controls to identify and correct any deficiencies			Utilize safety hierarchy of controls
Provide hearing protection devices that will provide an 8-hour TWA attenuation to 85 dBA or less			
Record on OSHA 300 within 7 calendar days of first notification of an STS			May be erased or lined out if the follow-up audiogram counters the initial results or if a professional health care provider indicates that it is not a work-related loss

Manager

Date

APPENDIX D: Associate Retraining Acknowledgement

ASSOCIATE RETRAINING ACKNOWLEDGEMENT AFTER A RECORDABLE STANDARD THRESHOLD SHIFT

I, _____, acknowledge that I have been retrained on the requirements
(Employee's Name)

of the hearing conservation program. I am familiar with all components of the retraining which includes:

- The effects of noise on hearing
- The purpose and value of hearing protection
- Advantages and disadvantages of hearing protection devices being offered and when to effectively use them
- The various types of hearing protection devices being offered and the care, fitting, and use of each type

Name: _____

Signature: _____

Date: _____

Witness: _____

Signature: _____

Date: _____

APPENDIX E: Hearing Loss Recordability Flow Chart

