Hearing Conservation Program

Version	Date	Comments
1	July 2023	Initial Hearing Conservation Program
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PURPOSE

The purpose of this program is to prevent noise-induced hearing loss in employees who are exposed to high levels of noise in the course of their work. Implementation of this program is in accordance with the requirements of the Virginia Occupational Safety and Health (VOSH) program administered by the Virginia Department of Labor and Industry under standard 1910.95. Copies of this program are available to employees upon request at the Environmental Health & Safety Office.

Requirements outlined in this program are mandatory in nature where the word "shall" is used and are advisory in nature where the word "should" is used.

Questions about this program should be directed to Environmental, Health, Safety and Risk Management.

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DEFINITIONS

Action Level: The sound level of 85 dBA, based on an 8 hour time weighted average, at which when reached or exceeded necessitates implementation of activities to reduce the risk of noise-induced hearing loss.

Audiogram: A chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.

Audiologist: A professional specializing in the study and rehabilitation of hearing, who is certified by the American Speech-Language-hearing Association or licensed by a state board of examiners.

A -Weighted: The A-weighting, expressed as dBA, is the scale used for most occupational noise measurements. The A-weighting approximates the range of human hearing as it filters out lower frequency noises, which are not as damaging as the higher frequencies.

Baseline Audiogram: The audiogram against which future audiograms are compared.

Decibels (dB): The unit used to express the intensity (loudness) of sound.

Dosimeter: An instrument that measures sound levels over a specific interval, stores the measures, and calculates the sound as a function of sound level and duration.

Employee: Any person hired by the university as a full or part time personnel, including administrators, faculty, staff, students, and work study students.

EHS&RM: Environmental, Health, Safety and Risk Management

Hearing Protective Devices (HPD's): Personal Protective equipment that is designed to be worn in the ear canal or over the ear to reduce the sound level reaching the ear drum.

Hertz: The unit of measurement of frequency, expressed as cycles per second.

Noise: Any unwanted sound.

Noise Induced Hearing Loss: A sensorineural hearing loss that is attributed to noise and for which no other etiology can be determined.

Noise Reduction Rating (NRR): A number rating assigned to a HPD that indicates the theoretical amount of reduction of noise levels that can be achieved if the HPD is worn correctly.

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Permissible Exposure Limit (PEL): The occupational exposure limit of 90 dBA, based on an 8 hour time weighted average, which is the maximum sound level that an employee can be exposed to.

Sound: A vibration or pressure oscillation that is detectable by the eardrum.

Sound Level Meter: An instrument for the measurement of sound.

Standard Threshold Shift: A change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, or 4000 hertz in either ear.

Supervisor: A person in charge of a particular department or unit.

Time Weighted Average (TWA): A value, usually expressed in dBA, which computed so that the resulting average would be equivalent to an exposure resulting from a constant noise level over an eight hour period.

Personal Protective Equipment: Specialized clothing or equipment worn by employees for protection against health and safety hazards.

RESPONSIBLITIES

Environmental Health, Safety & Risk Management Office (EHSRM) shall:

- Oversee the Hearing Conservation Program.
- Provide funding for audiometric testing.
- Administer this program in accordance with the Virginia Occupational Safety and Health (VOSH) 1910.95 standard.
- Develop training and instructional programs.
- Conduct training in accordance with requirements of this program.
- Provide technical assistance in the selection and application of control measures.
- Provide technical assistance in determining the need for hearing protection and in the selection of hearing protection.
- Monitor employee exposure to noise in the workplace and provide employees with monitoring results.
- Arrange for employee audiometric testing.
- Maintain records in accordance with the requirements of this program.
- Evaluate this program at least annually and revise this program as necessary to ensure the requirements of the VOSH standard 1910.95 are met.

Supervisors shall:

- Identify employees who perform tasks that may require the use of hearing protection.

- Notify EHS&RM an employee is hired into a position requiring the use of hearing protection.
- Notify EHS&RM of any changes in workplace conditions that may result in the need for hearing protection or the discontinuance of hearing protection.
- Notify EHS&RM when an employee who wears hearing protection leaves the University or changes jobs within the University and is no longer required to wear hearing protection.
- Purchase appropriate hearing protection as recommended by EHS&RM.
- Ensure a supply of hearing protection is maintained and available for employee use.
- Require employees to wear hearing protection during conditions that require such use.
- Attend training and demonstrate understanding of the training material.

Employees shall:

- Use hearing protection during conditions that require such use.
- Use and maintain hearing protection in a manner that complies with his/her instruction and training.
- Inform his/her supervisor of any personal health problems that could be aggravated by the use of hearing protection.
- Obtain audiometric testing in accordance with the requirements of this program.
- Attend training and demonstrate understanding of the training material.

NOISE MONITORING

Noise monitoring shall be conducted in any work area where it is difficult to communicate in normal tones. A preliminary noise survey shall be conducted to determine whether a potential noise problem exists and, if so, to indicate how serious it is. A detailed noise survey shall be conducted for any work area, as identified in the preliminary survey, in which an employee's exposure may equal or exceed an 8-hour time-weighted average (TWA) of 85 decibels (dB). The noise survey shall be made using a general-purpose sound level meter which meets the standards set by 29 CFR 1910.95. The sampling strategy used in the survey shall be designed to identify employees for inclusion in this program and to enable the proper selection of hearing protection.

Where circumstances such as high worker mobility, significant variations in sound level, or a significant component of impulse noise make area monitoring generally inappropriate, personal monitoring shall be conducted. Personal monitoring shall be made using a noise dosimeter.

All continuous, intermittent and impulsive noise from 80 dB to 130 dB shall be integrated into the noise measurements. Sound level meters and noise dosimeters used in noise surveys shall be calibrate before use and shall have a current manufacturer's calibration.

Noise monitoring shall be repeated whenever a significant change in work practices or equipment increase noise exposures to 85 dB or higher or when attenuation provided by hearing protection being used by employees is rendered inadequate. Monitoring shall also be conducted whenever

audiometric data concludes that an employee has experienced a standard threshold shift (STS).

EHS&RM shall provide noise monitoring results in writing to each employee exposed at or above an 8-hour TWA of 85 dB. Additionally, any noise measurements taken in a work area shall be made available to affected employees or their representatives.

CONTROL MEASURES

The application of engineering and/or administrative noise control measures will be given high priority. Hearing protection shall be used when controls are economically infeasible or impractical to University operations.

EHS&RM shall identify work areas where control measures are required and shall provide the affected department with recommendations for control measures to apply. Some noise conditions may require assessment by a contractor with specialized technical knowledge. University departments are responsible for any feasibility studies and/or design/construction costs associated with the control measures selected.

HEARING PROTECTION

EHS&RM shall assist department supervisors in the selection of appropriate hearing protection for employees. Supervisors shall ensure that an adequate supply and variety of hearing protection are provided to employees at no cost. Hearing protection shall be provided to employees exposed to an 8-hour TWA of 85 dB or greater and to employees exposed to an 8-hour TWA of 85 dB or greater who have not had a baseline audiogram or who have experienced a STS.

Employees exposed to an 8-hour TWA greater than 90 dB shall wear hearing protection. Employees exposed to an 8-hour TWA of 85 - 90 dB should use hearing protection. Supervisors shall ensure that employees receive hearing protection that fit properly and shall ensure the protection are used correctly.

EHS&RM shall provide training in the use and care of hearing protection to employees. Supervisors should periodically evaluate their employees to ensure hearing protection are being worn and maintained properly.

Hearing protection shall reduce an employee's noise exposure below an 8-hour TWA of 90 dB. For employees who have experienced a STS, hearing protection shall reduce their exposure below an 8-hour TWA of 85 dB. The adequacy of hearing protector attenuation shall be re-evaluated whenever employee noise exposure increases to the extent that the hearing protection provided may no longer provide adequate attenuation. Hearing protection that provides insufficient attenuation must either be replaced with a protector with a higher attenuation or supplemented with engineering controls.

The attenuation provided by hearing protection shall be calculated by subtracting seven from the protector's noise reduction rating (NRR).

AUDITOMETRIC TESTING

Audiometric testing shall be provided at no cost to employees whose exposures equal or exceed an 8-hour TWA of 85 dB. The University's contracted occupational health care provider shall conduct the testing in accordance with VOSH 1910.95 (h). Employees shall receive a baseline audiogram within six months of their first exposure at or above 85 dB and annually thereafter.

The health care provider shall evaluate annual audiograms to determine that the audiograms are valid and if a STS has occurred. Additionally, the health care provider shall determine when an annual audiogram may be substituted for the baseline audiogram.

Employees who suffer a STS may be sent for a retest within 30 days and the results from the retest may be considered as their annual audiogram. The health care provider shall notify EHS&RM when an employee has suffered a STS, and EHS&RM shall in turn notify the employee within 21 days of the determination. Unless the health care provider determines that the STS is not work related or aggravated by occupational noise exposure, the following steps shall be taken when a STS occurs:

- Affected employees not using hearing protection shall be fitted with hearing protection, trained in their proper use and care, and required to use them.
- Employees already using hearing protection shall be refitted and retrained in their proper use and care and shall be provided with hearing protection that offer greater attenuation if necessary.
- Employees shall be referred for a clinical audiologic evaluation or an otologic examination, as appropriate, if additional testing is necessary or if it suspected that a medical pathology of the ear is caused or aggravated by their use of hearing protection.

If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour TWA of 90 dB indicates that a STS is not persistent, EHS&RM shall inform the employee of the new audiometric interpretation and their use of hearing protection may be discontinued.

TRAINING AND INFORMATION

EHS&RM shall conduct training for employees exposed to noise at or above an 8-hour (TWA) of 85 dB and to employees who have suffered a STS. Supervisors shall contact EHS&RM to arrange for training of their employees. Employees shall demonstrate understanding of the training by successfully completing a written test with a score of 70 percent or better. An employee who does not successfully complete the written test shall attend a personal training session that focuses on the aspects of the training not understood by the employee.

The training shall cover at minimum the following:

- The effects of noise on hearing
- The purpose of hearing protection, the advantages, disadvantages, and attenuation of various types, and instruction on selection, fitting, use and care
- The purpose of audiometric testing, and an explanation of the test procedures
- Employee responsibilities as they pertain to this program

Upon request, EHS&RM shall make copies of VOSH standard 1910.95 and this program available to employees, their supervisors and their representatives. Supervisors shall post a copy of the standard in the workplace.

RECORDKEEPING

EHS&RM shall maintain written information regarding employee exposure monitoring, audiometric tests and other related medical evaluations and training. The records shall be kept at EHS&RM office and shall be made available in a reasonable time, place and manner upon request from an employee, former employee, and employee's representative.

Employee Exposure Monitoring Records

The following records shall be retained for at least two years:

- Employee noise exposure monitoring results
- Calibration Records for monitoring equipment

Audiometric Testing Records

Audiometric testing records shall be retained indefinitely. Records obtained from an employee's previous employer shall also be retained indefinitely regardless of whether or not the employee was placed in this program during their period of employment at Norfolk State University.

Audiometric testing records shall include:

- Name, age, gender, social security number and job classification of employee
- Employees most recent noise exposure assessment
- Date and time of audiogram
- Name and credentials of audiometric technician
- Audiometer make, model, serial number, and date of last acoustic or exhaustive calibration
- Measurements of the background sound pressure levels in audiometric test rooms
- Name and credentials of CAOHC-certified technicians, audiologists or physicians that review audiograms
- Reviewer's follow-up recommendations
- Documentation of employee's written notification of STS

Training Records:

- Outline of annual training program content
- Training rosters

Program Evaluation Records:

- Record of proposed changes and/or additions to this program

RELATED DOCUMENTS

Occupational noise exposure
https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.95

FORMS

Form 1 Included Employees
Form 2 Noise Exposure Measurement
Form 3 Hearing Protection Selection
Form 4 Standard Threshold Shift Letter

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FORM 1 – Included Employees

These employees are included in the Hearing Conservation Program:

Employee Name	Job Title	Inclusion Date

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FORM 2 – Noise Exposure Measurement

Location	Operation	Date	Exposure Level (dBA)

Appendix C – Hearing Protection Selection

Hearing Protection Equipment Summary		
Type (ear muff, ear plug)	**Name (brand and model)**	**Noise Reduction Rating (NRR)**

Record of Hearing Protection Needs				
Employee Name	**Department**	**Job Description/ Equipment Being Used**	**Type of Hearing Protection Issued**	**Date Issued**

Appendix D – Standard Threshold Shift Letter

<Date>
Dear <Employee Name>,

Your most recent audiometric test result was compared to your baseline audiogram. This comparison indicates that you have experienced a significant change in your hearing ability or hearing loss. An audiogram cannot define why you have a hearing loss, but there are many possible reasons such as infection, wax buildup in your ear and/or noise. By taking the necessary action now, we can try to stop your hearing loss from getting worse.

Please call <designated physician office and phone #> to arrange an appointment with <designated physician> for a medical evaluation to help determine the cause. Remember whenever you are in an identified noise work area, hearing protection **must** be used.

Please contact the Hearing Conservation Program Administrator <name, phone #, email address> if you have any questions.

Sincerely,

<Name>
<Signature>