HEARING CONSERVATION PROGRAM

Introduction

On March 8, 1983, after many years of research, the Occupational Health and Safety Administration (OSHA) promulgated an amendment to 29 CFR §1910.95 entitled *Occupational Noise Exposure.* The implementation date of this amended standard was effective April 7, 1983.

The purpose of this regulation is to protect workers from the effects of excessive noise which may result in noise induced hearing loss while on the job. It is estimated by OSHA that there are 2.9 million workers in America who may experience noise levels above the permissible exposure levels. Therefore, this standard requires employers to develop a comprehensive Hearing Conservation Program (HCP) which will assure that their workers are protected from the effects of excessive occupational noises which may result in occupational noise induced hearing loss.

This manual was specifically developed by Youngstown State University for the purpose of protecting employees from the hazards associated with exposure to excessive noise while on the job. However, it is our hope that the training provided to employees concerning the effects of excessive noise on hearing will also provide them with the information needed to protect themselves while off the job as well. This manual depicts the policies and procedures of Youngstown State University for administering a Hearing Conservation Program as mandated by OSHA in 29 CFR §1910.95.

1.0 Policy Statement

It is the intention of Youngstown State University to comply with the Public Employees Risk Reduction Act (PERRA) by implementing a Hearing Conservation Program (HCP) as described in 29 CFR §1910.95. In our attempt to comply with PERRA, it is our policy to establish protocols and procedures which will ensure worker safety by implementing acceptable standards which will:

a. identify and document all equipment, areas, or jobs where the hazards of excessive noise which might result in noise induced hearing loss may occur.

b. implement a training program for employees who are identified as being at risk of exposure to excessive noise which might result in occupational noise induced hearing loss as described in 29 CFR §1910.95(c)(1).

c. provide whenever possible the necessary administrative and/or engineering controls to minimize excessive noise as described 29 CFR §1910.95 (b)(2) Table G-16.

d. provide employees with the proper personal protective equipment whenever they are required to work in areas or on jobs where their permissible noise exposures might exceed those described in 29 CFR §1910.95 (b)(2).

e. provide employees who have been identified as being at risk of occupational noise induced hearing loss with baseline and annual audiograms as described in 29 CFR §1910.95(c-h).

2.0 Scope of Program

All employees identified as having an occupational noise exposure at or above 85 dB(A) (decibel A scale weighting) based on an eight (8) hour time weighted average will be included in Youngstown State University’s Hearing Conservation Program (HCP). Employees included in the HCP will be provided with the proper training, exposure monitoring and audiometric testing as required by the standard.

2.1 Training

Annual training will be required for all employees included in the HCP. Training will consist of the following topics:

a. How noise damages hearing

b. Consequences of hearing loss in everyday life

c. Noise exposures that are hazardous

d. Effective use of administrative controls

e. Effective use of engineering controls

f. Effective use of hearing protective devices (HPD's)

g. The purpose and procedures used in audiometric testing

h. Methods that can be used to protect your hearing

i. Review of the university's HCP

j. Questions and answers

The above mentioned topics may be supplemented by the use of audiovisual aids as deemed appropriate.

2.2 Noise Exposure Monitoring

All employees of Youngstown State University will be evaluated to determine individual noise exposures and their potential for occupational noise induced hearing loss.

2.2.1 Monitoring Method

An initial sound level survey will be performed to screen equipment and the areas for the potential of high noise exposures. "Worst Possible Scenario" conditions will be created to assure that the survey accurately represents the highest possible noise exposure for a particular area or activity. In the event that the area, equipment, or condition produces a sound level equal to or greater than 80 dB(A) under any operating condition, personal monitoring will be performed. Individual exposures will be based on eight (8) hour time weighted averages.

Sound level surveys will be performed initially and any time thereafter when new equipment or changes in procedures could result in an increase in the sound level which would differ from the initial survey.

Sound maps will be generated after a sound level survey is performed. These sound maps will consist of simple floor plan drawings which indicate the maximum sound levels that may be attained in various areas throughout the facility. These sound maps will be posted in areas where it is expected that employees might have a noise exposure equal to or greater than 85 dB(A).

2.2.2 Survey Instrumentation

a. **Sound Level Meters**

Sound level meters used to perform surveys must conform to the ANSI S1.4-1971 (R1976) standard. All metering equipment used to perform sound level surveys must be properly calibrated before each use according to manufacturer's instructions and set on the "A" weighting scale.

b. **Personal Dosimeters**

Instrumentation used in personal dosimetry will conform the ANSI S1.4-1971 (R1976) standard and will be capable of providing data that can be converted to an eight (8) hour Time Weighted Average (TWA) noise exposure. All instrumentation will be properly maintained and calibrated according to manufacturer's instructions. Measurements will be taken using the "A" weighting measurement scale. All employees evaluated by personal dosimetry will be notified in writing of the results of their dosimeter results.

2.3 Audiometric Testing

Audiometric testing will be provided to all employees with occupational noise exposures equal to or greater than 85 dB(A) over an eight (8) hour TWA. All testing will be at no cost to the employees.

2.3.1 Baseline Audiogram

Baseline Audiograms will be performed on all employees within six (6) months after the first exposure to noise at or above the 85 dB(A) action level. If, however, mobile vans are used to determine the baseline audiogram, testing must be performed within one (1) year from the employee’s first exposure to noise at or above the 85 dB(A) action level.

If a mobile van is used to determine baseline audiograms, hearing protection will be used for any period exceeding six (6) months after the first exposure until the baseline audiogram is obtained.

2.3.2 Annual Audiograms

At least annually after obtaining the baseline audiogram, the employer shall obtain a new audiogram for each employee exposed at or above an eight (8) hour TWA of 85 dB(A).

2.3.3 Audiometric Testing Parameters.

Testing to establish a baseline audiogram must be preceded by at least fourteen (14) hours without exposure to workplace noise. Hearing protection may be substituted for this requirement. The employer will notify the employee of the need to avoid high levels of **non-occupational noises** such as lawn mowers, chain saws, dirt bikes, etc. for a fourteen (14) hour period immediately preceding the baseline audiogram. Audiometric tests will be:

a. conducted with audiometers that meet the specifications of the American National Standards Specifications for Audiometers, S3.6-1969.

b. 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, or who has satisfactorily demonstrated competence in

administering audiometric examinations, obtaining valid audiograms, and properly using and maintaining and checking calibration and proper functioning of the audiometers being used. A technician who operates microprocessor audiometers does not need to be certified. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist, or physician.

c. at no cost to employees.

d. performed in accordance with 29 CFR 1910.95(h)(1-5) which is included in Appendix A of this document.

2.3.4 Evaluation of Audiograms

Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred.

A Standard Threshold Shift (STS) is defined 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. In determining whether a standard threshold shift has occurred, allowance may be made of the contribution of aging (presbycusis) to the change in hearing level by correcting the annual audiogram according to the procedure describe in Appendix F of the standard. If it has been determined that a standard threshold shift has occurred, the employee will be examined by a physician provided by Youngstown State University who may require that another audiogram be taken within thirty (30) days and consider the results of the retest as the annual audiogram. All audiograms will be evaluated as described in 29 CFR 1910.95(g)(7). After reviewing the annual audiogram or the retest audiogram the physician may:

a. determine that the STS is not work related or aggravated by noise exposure and approve the employee for continued work in the particular job area in question.

b. determine that the STS is occupationally related and require that the employee wear proper hearing protection at all times while working in the specific job area in question.

c. require that the employee be refitted with proper hearing protection if the employee had been wearing hearing protection prior to the detection of the STS.

d. recommend that the employee be removed from the job area if in the physician's professional opinion further exposure to the noise generated in the work area would further aggravate the hearing loss or put the employee at risk of personal injury.

e. recommend that further examinations be performed by an audiologist, otolaryngologist or other appropriate health professional as required.

In addition, Youngstown State University will:

a. notify the employee within twenty-one (21) days if it is determined that an STS has occurred.

b. inform the employee via the physician performing the examination of any pathology that may be unrelated to occupational noise exposure.

c. fit the employee with proper hearing protection that will attenuate the noise level below the PEL. If the employee is already wearing hearing protection he/she must be re-fitted with hearing protection that will provide them greater attenuation.

d. train the employee in the proper use and care of hearing protection as per Section 2.1 of this document.

3.0 Hearing Protection

Hearing protection is mandatory for all employees of Youngstown State University that have been identified as part of the HCP as per Section 2.0 of this document, that have not had a baseline audiogram, or who have experienced a STS. Hearing protection will be provided to employees at no charge.

3.1 Types of Hearing Protection

Employees will be provided with a choice of different types of hearing protection. These types will include the following general categories of protectors.

a. aural inserts

b. superaural protectors

c. circumaural protectors

3.2 Hearing Protector Attenuation

All hearing protection that is used as part of the HCP will be evaluated to assure that the attenuation is adequate for the specific noise environment for which the hearing protection will be used.

Hearing protectors must attenuate the employee’s exposure to an eight (8) hour TWA of at least 90 dB or lower. Employees who have experienced a STS hearing protection must attenuate employee exposure to an eight (8) hour TWA of a least 85 dB or lower.

3.2.1 Calculation of Attenuation

The method used to determine hearing protection attenuation may consist of any method outlined in 29 CFR §1910.95 App B. The method chosen will depend upon the type of equipment available at the time. In most instances, however, the following method for determining attenuation will be appropriate.

Determine the Noise Reduction Rating (NRR) of the hearing protector in question. According to Environmental Protection Agency (EPA) regulations the NRR must be shown on the hearing protector package. Subtract seven (7) from the NRR rating of the hearing protector. Then subtract this value from employees "A" weighted TWA. The remainder will be the employees "A" weighted TWA under the protectors. In other words:

[Employees TWA exposure in dB(A)]-[NRR-7]=Estimated Exposure with Hearing Protection

4.0 Record Keeping

Youngstown State University will maintain all records on employee audiometric testing and training as required in 29 CFR 1910.95(m)(1). This information will include the following:

a. Name and job classification of employee.

b. Date of audiograms and examiner's name.

c. Date of calibration of audiometer.

d. Date of most recent noise exposure assessment.

e. Dates of training.

4.1 Record Retention

4.1.1 Noise Exposure Measurement

Records on noise exposure will be kept for a minimum of two (2) years.

4.1.2 Audiometric Testing

Records of audiometric tests will be kept for the duration of the employee's employment

4.1.3 Training Records

Training records will be kept for the duration of the employee's employment

4.2 Access to Records

All records shall be provided upon request to employees, former employees, representatives designated by individual employees and representatives of the Public Employees Risk Reduction Commission.

Appendices (Available upon request 330-941-3700)

A. Employees Participating in the Hearing Conservation Program

B. Work Areas Requiring Hearing Protection

C. Equipment Required Hearing Protection

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