



## **Delaware State University**

**University Area Responsible:** Risk and Safety Management

**Policy Number and Name:** 7-09: Hearing Conservation Policy

**Approval Date:** 7/28/11

**Revisions:** 8/8/2013

**Reviewed:** 7/26/2013

**Related Policies and Procedures:** 7-29: Protective Equipment Hazard Assessment

### **1. Purpose**

There is plenty of medical evidence that worker exposure to noise of sufficient intensity and duration can result in permanent hearing damage. Noise-induced hearing loss rarely results from a single exposure; it can progress unnoticed over a period of years.

This Policy complies with the Occupational Safety and Health Administration (OSHA) Occupational Noise Exposure Standard (29 CFR 1910.95).

## 2. Policy

Delaware State University (DSU) will provide its employees with a safe and healthful working environment. The appropriate precautions and steps will be taken along with personal protective equipment to prevent employee exposure to noise over regulated or recommended levels.

The Delaware State University Hearing Conservation Program will be applied to all employees whose noise exposures meet or exceed the ACGIH criteria in terms of Threshold Limit Values.

The *Hearing Conservation Program's* effectiveness will be assessed on a yearly basis and updated when deemed necessary.

## 3. Scope and Hearing Conservation Classification

This Policy follows the Noise standard set by OSHA and applies to all employees that are exposed to noise at or above the limits specified in this Policy. The hearing protection requirements also apply to all employees, contract personnel, vendors, etc. if they are exposed to noise at or above the specified limits set in this policy.

All employees who may be exposed to noise levels of 83.0 dBA\* 8-hour TWA or higher by nature of their job will be classified as Hearing Conservation Priority and their names should be provided to the Medical Group contracted by DSU. **\*Decibel on the A Scale (dBA).**

## 4. Responsibilities

### 4.1 The Office Occupational Safety and Health and the Safety/Risk Manager will:

- 4.1.1 Create and implement the *Hearing Conservation Program*;
- 4.1.2 Identify work areas and equipment within DSU where noise levels equal or exceed 83 dBA;
- 4.1.3 Identify employees whose noise exposure levels equal or exceed an 8-hour Time-Weighted Average (TWA) of 83 dBA;
- 4.1.4 Resurvey work areas and equipment when notified that noise levels may have changed due to facility or equipment modifications;
- 4.1.5 Identify potential high noise areas or equipment during routine building activities and measure sound levels to determine need for additional monitoring or protective equipment;
- 4.1.6 Determine appropriate type(s) of hearing-protective devices necessary to protect employees' hearing;

- 4.1.7 Provide training on the mandatory elements of the DSU *Hearing Conservation Program*;
- 4.1.8 Post signs on doors to areas containing equipment consistently generating noise levels in excess of 83 dBA, and
- 4.1.9 Maintain records of noise measurements and employee training.

**4.2 The duties of Supervisors include:**

- 4.2.1 Assist the Safety/Risk Manager in identifying equipment and locations where high noise levels are suspected,
- 4.2.2 Identify all employees who are likely to be experiencing high noise exposures,
- 4.2.3 Make sure all employees with documented high noise exposures enroll in the medical surveillance program for noise,
- 4.2.4 Ensure affected employee participation in annual hearing conservation training,
- 4.2.5 Monitor and enforce the use of hearing protective devices when required,
- 4.2.6 Implement administrative controls and enforce the use of appropriate engineering controls when applicable, and
- 4.2.7 Contact the Safety/Risk Manager when new procedures are implemented or new equipment is utilized that may affect an employee's noise exposure.

**4.3 Those departments with employees exposed to TWA Noise Exposures at or Over 83 dBA will:**

- 4.3.1 Provide facilities and engineering controls where possible to reduce employee TWA noise exposure below 83 dBA.

**4.4 Employees exposed to TWA Noise exposures at or Over 83 dBA will:**

- 4.4.1 Wear and maintain hearing protective devices as instructed;
- 4.4.2 Participate in annual training;
- 4.4.3 Participate in annual audiometric testing, and
- 4.4.4 Report to their supervisor any changing conditions that may impact employee noise exposures.

**4.5 Those employees that may periodically be exposed to High Noise will:**

- 4.5.1 Wear and maintain hearing protective devices as instructed;

- 4.5.2 Participate in initial training, and
- 4.5.3 Report to their supervisor any changing conditions that may impact personal noise exposures.
- 4.5.4 Report to their supervisor any changing conditions that may impact personal noise exposures.

**4.6 The Office of Environmental Health and Safety shall:**

- 4.6.1 Arrange for an audiometric testing program for affected employees that meets the requirements specified by OSHA,
- 4.6.2 Provide information to employees, as requested, concerning the methods and requirements for audiometric testing.
- 4.6.3 Arrange for the interpretation of test results and report the results to employees tested.
- 4.6.4 Report hearing deficiencies (standard threshold shifts) to supervisors, and the employee for follow-up testing, examinations and/or recommendations as appropriate.
- 4.6.5 Maintain all employee medical records pertaining to the DSU Hearing Conservation Program.
- 4.6.6 Provide information to employees, as requested, concerning the effects of noise on hearing and interpretation of audiometric testing.

**4.7 Information** - Assistance will be provided by the Office of Environmental Health and Safety to any Department requesting guidance or training to satisfy implementation of this Policy.

**4.8 Exposure Monitoring** - In order to effectively control exposure to high levels of noise it is necessary to determine which areas, equipment, or tasks have noise levels of 83.0 dBA or higher.

- 4.8.1 If area noise levels approach or are above set limits, personal monitoring using dosimeters will be performed.
- 4.8.2 Area monitoring is conducted using a calibrated sound level meter set to the A scale, slow response.
- 4.8.3 If noise levels are below 80 dBA in the area, no further routine monitoring will be required for that area. Should any of the noise measurements equal or exceed 83 dBA, records shall be maintained as to the noise levels recorded, where they were taken, and the source(s) of the noise. These records shall be updated periodically to determine if any changes have occurred that would warrant re-monitoring of exposed personnel.

- 4.8.4 If any of the measurements taken approach or exceed a noise level of 83 dBA, employees who work in or near the high noise area or equipment shall have their noise exposure determined through personnel monitoring using dosimeters.
- 4.8.5 Employees monitored will have dosimeters placed on them at the beginning of their normal work shift with the microphone attached in the "hearing zone". The dosimeter will be worn for the duration of the work shift while the employee performs a normal work routine. At the end of the work shift, the dosimeter will be removed and information analyzed as soon as possible. Information such as job description, unusual job activities, etc., will be taken into account for the sample measurement. Those employees whose noise exposures equal or exceed 83 dBA as an 8-hour time-weighted average (TWA) will be identified for regular surveillance.
- 4.8.6 Department Supervisors will be responsible for informing the Safety/Risk Manager of any changes in production, processes, equipment or controls that might significantly affect the noise level to which employees are exposed.
- 4.8.7 Re-monitoring of Hazardous Noise Areas should be conducted periodically.

**4.9 Hearing Protection** - Employees are required to wear Hearing Protection in all areas where they may be exposed to noise levels of 83.0 dBA or higher regardless of duration or specific tasks.

- 4.9.1 All employees at DSU who are exposed to TWA noise levels of 83 dBA or greater will receive hearing protection at no cost. Hearing protection will also be provided to employees with routine periodic noise exposures over 83 dBA.
- 4.9.2 Hearing protection shall be replaced as necessary.
- 4.9.3 Employees shall be given an opportunity to select their hearing protection from a variety of suitable devices.
- 4.9.4 DES - IHU shall provide training in the use and care of all hearing protection devices provided to employees.
- 4.9.5 The supervisor shall monitor the correct use of all hearing protection.
- 4.9.6 Employees whose 8-hour TWA noise exposures do not meet or exceed 83 dBA will be provided hearing protection if their duties require entry into noise hazard areas with sound levels measured over 83 dBA.
- 4.9.7 Noise hazard areas that are not designed for extended work operations (e.g., mechanical rooms) will be placarded with signage advising entrants of the maximum noise levels measured in these

spaces. Entrants are strongly encouraged to utilize hearing protection when entering these spaces.

- 4.9.8** Any personnel experiencing difficulty in wearing assigned hearing protection (i.e., irritation of the canals, pain) will be advised during training to immediately report this to their supervisor to schedule an appointment with the UHC-OHU for evaluation as soon as possible.

#### **4.10 Medical Surveillance/Audiometric Testing**

- 4.10.1** A list of employees whose 8-hour TWA equals or exceeds 83 dBA should be created by the department supervisor and provided to the Safety/Risk Manager who will enroll them in the Hearing Conservation Medical Surveillance Program. It will include the employee's name, supervisor's name, work telephone number(s) and the noise levels recorded in the employee's work area, along with dosimetry data.
- 4.10.2** The Safety/Risk Manager will contact supervisors when audiometric testing is due. The supervisor is responsible for scheduling employee audiometric testing. Employees with exposure to TWA noise levels of 83 dBA or greater must have baseline audiometric testing performed within 6 months of initial noise exposure. Thereafter, audiometric testing must be performed at least annually until separation from employment or upon transfer to duties with noise exposures below 83 dBA.
- 4.10.3** The object of the audiometric testing program is to identify workers beginning to experience hearing loss to allow intervention before the hearing loss progresses. Audiometric testing will be provided to all employees with exposure to TWA noise levels of 83 dBA or greater. Annual retesting will be performed for all personnel enrolled in the UM Hearing Conservation Medical Surveillance Program.
- 4.10.4** Audiometric testing not only monitors the sharpness or acuity of an employee's hearing over time, but also provides an opportunity for employers to educate employees about their hearing and the need to protect it. The important elements of the audiometric testing program include baseline audiograms, annual audiograms, training, and follow-up procedures. Audiometric testing must be made available at no cost to employees exposed to TWA noise levels of 83 dBA or greater. Annual audiograms must be conducted within 1 year of the baseline. Annual audiograms must be routinely compared to baseline audiograms to determine if the employee has lost hearing ability (i.e., if a standard threshold shift (STS) has occurred). STS is defined as an average hearing loss in either ear of 10 dB or more at frequencies of 2000, 3000, and 4000 hertz.

**4.10.5** If the annual audiogram shows that an employee has experienced a standard threshold shift (STS), the Safety/Risk Manager will arrange for the employee to retest within 30 days, and the results of the retest will be used as the annual audiogram. If a STS is indicated, the employee shall be informed of this fact in writing as soon as possible. If a University physician determines the STS may be work-related or aggravated by occupational noise exposure, the employee will be referred for a follow-up clinical audio-logical evaluation. The employee's supervisor will also be notified of the STS and shall ensure that the employee has appropriate hearing protection, is trained in their use and care, and required to use them. Employees already using hearing protection shall be refitted (if necessary) and retrained in the use of hearing protection and provided hearing protection offering greater attenuation if necessary.

**4.11 Training** - Employees must understand the requirements of the Hearing Conservation Policy and the need to protect their hearing. The Safety/Risk Manager will annually train employees exposed to 8-hour TWA noise exposures of 83 dB and greater regarding:

**4.11.1** *Hearing Conservation Policy,*

**4.11.2** The effects of noise over time,

**4.11.3** The purpose, advantages, and disadvantages of various types of hearing protection,

**4.11.4** The selection, fit and care of hearing protection,

**4.11.5** The purpose and procedures of audiometric testing, and

**4.11.6** Noise hazard areas.

**4.11.7** Training will be documented on forms provided by the Safety/Risk Manager at the time of training.

**4.11.8** Workers who have exposures to noise at or above 83 dBA, but whose 8-hour TWAs do not meet or exceed this limit will be provided initial training concerning:

**4.11.8.1** Hearing Conservation Policy,

**4.11.8.2** The appropriate use of hearing protection,

**4.11.8.3** The effects of noise exposure, and

**4.11.8.4** Noise hazard areas.

**4.11.9** This training may be provided by Safety/Risk Manager or supervisory personnel knowledgeable of the requirements of the *Hearing Conservation Policy*.

**4.12 Record Keeping**

- 4.12.1 Noise exposure measurement records must be kept for 2 years. Audiometric test records must include the name and job classification of the employee, the date, the examiner's name, the date of the last acoustic or exhaustive calibration, measurements of the background sound pressure levels in audiometric test rooms, and the employee's most recent noise exposure measurement.
- 4.12.2 The Safety/Risk Manager shall maintain an accurate record of all employee exposure measurements. The Occupational Health Unit shall retain all employee audiometric testing records for the duration of employment. Employee records shall be provided upon request by the employee or designated representative.

4.13 **Warning Signage** - Signs shall be posted at the entrance where hearing protection is required. Two types of signage will be utilized:

- 4.13.1 Areas where dosimetry measurements for employee 8-hour TWA noise exposures meet or exceed 83 dBA will be posted with signage with dimensions of at least 10" X 14" identifying the space as a noise hazard warning of the need to use appropriate hearing protection. Signs should textually or graphically include:

**Warning!**

**Noise Area!**

**Hearing Hazard!**

**Use of Hearing Protectors Required!**

- 4.13.2 Areas that are not usually occupied such as those that house mechanical equipment that produces noise levels at or over 83 dBA will be posted with the a bright color sign of at least 6" X 4".
- 4.13.3 Employees entering these spaces are strongly encouraged to utilize hearing protection.