

OCCUPATIONAL NOISE EXPOSURE PROGRAM
(EHS- 52017)
FOR



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TABLE OF CONTENTS

PURPOSE.....	3
DOCUMENT CONTROL.....	3
DEFINITIONS.....	4
SCOPE.....	5
HAZARD CONTROL.....	5
PERSONAL PROTECTIVE EQUIPMENT.....	6
PROCEDURES.....	6
AUDIOMETRIC TESTING.....	7
HEARING PROTECTORS.....	8
RECORDKEEPING.....	8

1.0 PURPOSE

- 1.1 During the course of normal working activities, Kent State University faculty, staff and student employees may encounter excessive occupational noise. For that reason, the university shall administer a continuing, effective hearing conservation program for those employees subject to noise exposures that equal or exceed an 8-hour time weighted average of 85 decibels, measured on the A scale.
- 1.2 The purpose of this program is to identify and control occupational noise hazards, in addition, to identify and protect employees exposed to excessive noise. Whenever feasible, engineering controls or work practice controls will be the primary means of protection before placing university employees into the Kent State University Hearing Conservation Program.

2.0 DOCUMENT CONTROL

- 2.1 The Director Environmental Health and Safety (DEHS) must approve this procedure.

Approved By: _____ Date: _____
Director Environmental Health and Safety

2.2 Responsibilities

- 2.2.1 The administrator of this procedure is the DEHS. This includes updating and revising the procedure, arranging for typing and providing revised copies to the Master Copy Holder for distribution. The Administrator will establish a review schedule to assure current information relevant to occupational noise is included in this document.
- 2.2.2 The Master Copy Holder for this procedure is the DEHS. He is responsible for ensuring compliance with relevant elements of quality control, governing policies, procedures and checklists.

3.0 DEFINITIONS

A-Weighted: Electronic circuitry in a sound level meter that responds to frequency changes in the same way as a human ear.

Action Level: An 8-hour, time-weighted average of 85 decibels measured on the A scale.

Attenuate: To weaken, or reduce in force, intensity, effect, quantity or value.

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, certified by the American Speech-Language-Hearing association or licensed by a state board of examiners and specializes in the study and rehabilitation of hearing,

Baseline Audiogram: The audiogram used as a comparison for all future audiograms.

Decibel (dB): A unit of measurement of sound pressure level.

Employee: A Kent State University faculty member, staff member, student worker or contract employee.

Hertz (Hz): Unit of measurement of frequency, equal to cycles per second.

Impact Noise: Sound that is less than one second in duration, occurring less frequently than one sound per second.

Medical Pathology: A disorder or disease. For purposes of this policy, a condition or disease affecting the ear, which should be treated by a physician specialist.

Noise Dosimeter: An instrument that integrates a function of sound pressure over time in such a way it indicates a noise dose.

Noise: Any unwanted sound.

Otolaryngologist: A physician specializing in diagnosis and treatment of disorders of the ear, nose and throat.

Permissible Exposure Limit (PEL): Exposure guidelines believed to represent conditions under which nearly all workers may be exposed repeatedly, without adverse effects.

Sound Level Meter: an instrument for measuring sound pressure level.

Sound Pressure Level (SPL): The fundamental measure of sound pressure, as described in units of decibels (dB).

Sound: The sensation produced through the hearing organs, usually transmitted by vibrations in air.

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

Temporary Threshold Shift: A temporary change in hearing relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000 and 4000 Hz in either ear.

Time Weighted Average (TWA): Average concentration for a normal 8-hour workday on a 40-hour workweek, to which nearly all workers may be subject to exposure without adverse effects.

4.0 SCOPE

This program applies to all employees who work in noise hazard areas, or who have the potential to develop noise-induced hearing loss because of their occupation.

5.0 HAZARD CONTROLS

5.1 Engineering Controls

5.1.1 In noise hazard areas, the department of Environmental Health and Safety, along with the Office of University Architect, will conduct a feasibility study of engineering controls to reduce the noise levels.

5.1.2 Where engineering controls are feasible, those controls may include barriers, vibration damping, source isolation and sound absorbing enclosures

5.2 Administrative Controls

5.2.1 Implement administrative controls when engineering controls are not possible. Administrative controls include:

- 5.2.1.1 Changes in work procedures
- 5.2.1.2 Rescheduling noisy activities
- 5.2.1.3 Decreasing the duration of exposure

6.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

6.1 If engineering controls or administrative controls are not feasible, the use of hearing protection devices are required where sound levels regularly exceed 85 dBA for an 8-hour TWA. For regular noise exposures between 80-85 dBA, hearing protection is optional, but is available upon request.

6.2 All employees exposed to 85 dBA TWA must have hearing protection available at no cost to them. It is the supervisors' responsibility to ensure employees whose exposure to occupational noise exceeds 85 dBA over an 8 hour TWA wear hearing protection correctly.

6.3 Employees may select their hearing protection from a variety of suitable types.

6.4 The office of Environmental Health and Safety will provide a training program to all employees who are at, or above the 8-hour TWA of 85 dBA. The training will occur annually and updated to reflect changes in protective equipment and work processes.

6.4.1 The office of Environmental Health and Safety will maintain the training records.

6.4.2 The Speech and Hearing Clinic, as part of the employees' medical record, will maintain records of employee audiometric testing.

7.0 PROCEDURES

7.1 The office of Environmental Health and Safety will identify high noise areas through inspections and in response to employee concerns.

7.2 When information indicates employees' exposure may equal or exceed an 8-hour TWA of 85 dBs, the office of Environmental Health and Safety will conduct exposure monitoring. The sampling aids in identifying employees for inclusion in the hearing conservation program.

7.3 The Speech and Hearing Clinic will conduct audiometric testing at no cost for employees identified as having exposures equal to, or exceeding an 8-hour TWA of 85 dB. The audiometric tests repeat annually thereafter.

7.4 Within six months of the employee's first exposure at or above the action level, it is necessary to complete the initial audiometric tests.

7.5 Fourteen hours without exposure to workplace noise must precede the audiometric testing. Hearing protectors are a suitable substitute for this requirement.

7.5.1 The university will notify employees of the need to avoid high levels of non-occupational noise during the fourteen-hour period preceding the audiogram.

8.0 AUDIOMETRIC TESTING

8.1 A comparison is made of each employee's audiogram test results against the baseline audiogram to determine if the employee has experienced a standard threshold shift

8.2 If the audiogram indicates a standard threshold shift has occurred, the university may retest within 30 days and consider the results of the retest as the annual audiogram.

8.3 If a comparison of the baseline audiogram reveals a standard threshold shift has occurred, the university will inform the employee of this fact, in writing, within 21 days of the determination.

8.4 Unless a physician determines the standard threshold shift is not work related, or aggravated by occupational noise, follow these steps:

8.4.1 Employees not using hearing protection will be fitted with hearing protectors, trained in their use and care and are required to use the hearing protectors each time they are exposed to occupational noise in excess of 85 dB over an 8-hour TWA.

8.4.2 Employees already using hearing protectors will be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater noise attenuation, if needed.

8.4.3 The employee will be referred for a clinical audiological evaluation if additional testing is necessary, or if the university suspects medical pathology of the ear is caused by wearing the hearing protectors.

8.4.4 Forward to Environmental Health and Safety the results of the audiometric testing.

9.0 HEARING PROTECTORS

9.1 Kent State University will provide, at no cost, hearing protectors to all employees exposed to an 8-hour TWA of 85 dB or greater.

9.2 The employee's supervisors will ensure employees are wearing the hearing protectors every time the employee is exposed to an 8-hour TWA of 85 dB or greater, or who has not yet had a baseline audiogram.

9.3 The university offers employees the opportunity to select hearing protectors from a variety of suitable hearing protectors.

9.4 Kent State University will provide appropriate training in the use and care of all hearing protection devices. This is an annual requirement for each employee in the hearing protection program.

10.0 RECORDKEEPING

10.1 The university will maintain records of the audiometric testing, which will include:

- 10.1.1 Name and job classification of the employee
- 10.1.2 Date of the audiogram
- 10.1.3 Examiner's name
- 10.1.4 Date of the last calibration of the audiometer
- 10.1.5 Employee's most recent noise exposure assessment

10.2 Record Retention

- 10.2.1 Noise exposure measurements for two years
- 10.2.2 Audiometric test records for the duration of the employee's employment.