

Lake County

Department of Utilities

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Title: Hearing Conservation Program

PURPOSE:

It is the policy of the Lake County Department of Utilities to protect its employees from the hazards of excessive noise exposure on the job. The primary goal of the Hearing Conservation Program is to eliminate hearing loss due to workplace noise exposures. The Department has instituted a Hearing Conservation Program to ensure compliance with the OSHA standards regarding occupational noise exposure (29 CFR 1910. 95, 29 CFR 1926. 52). The general objectives of this policy are as follows:

- To identify a population of noise "exposed" employees, i.e., those whose typical exposure to workplace noise equals or exceeds the action level as set by OSHA, or a level equivalent to a continuous 8-hour exposure to 85 dB(A). These employees are enrolled in the Hearing Conservation Program.
- To identify and label work areas and/or portable equipment in which the sound level is substantially high and at an exposure level described above.
- To reduce workplace exposure to noise through the use of hearing protection devices (ear plugs or ear muffs).
- To assess annually the hearing results of "exposed" employees in order to detect early noise-induced hearing loss, so that the progressive loss can be halted.
- To ensure that all "exposed" employees are trained in the effects of excess noise on human hearing and that each employee is informed on the correct use of hearing protection devices.

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SCOPE:

Employees exposed to noise levels equal to or exceeding an 8-hour time weighted average of 85 decibels will be included in the Hearing Conservation Program.

RESPONSIBILITIES:

It is the responsibility of all Department employees to understand the hearing conservation program. It is also the responsibility of all employees to wear provided hearing protection devices in areas or where equipment is identified and labeled as such. Each employee in the hearing conservation program is responsible for scheduling their annual audiometric exam and returning the test results to their supervisor. Employees are also responsible for wearing and maintaining hearing protective devices.

Supervisors are responsible for enforcing the proper use of hearing protection devices and engineering and administrative controls in the designated hazardous noise areas.

Superintendents are responsible for coordinating the resurveying of noise levels whenever new equipment is purchased, relocated or conditions change that might affect noise levels. Superintendents are also responsible for completing noise control measures (including engineering and administrative controls) and recommendations.

DEFINITIONS:

- 1.1 ACGIH – American Conference of Governmental Industrial Hygienists.
- 1.2 Audiogram – A chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.
- 1.3 Baseline audiogram – The audiogram against which future audiograms are compared.
- 1.4 Decibel (dB) – Unit of measurement of sound level.
- 1.5 Grab Sample – A measurement of sound level taken at one point in time.
- 1.6 Hertz (Hz) – Unit of measurement of frequency, numerically equal to cycles per second.
- 1.7 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.
- 1.8 Sound level meter – An instrument for the measurement of sound level.
- 1.9 Time-weighted average (TWA) – The sound level, which if constant over an 8-hour exposure, would result in the same noise dose as is measured.

PROCEDURE:

- I. Administration of the hearing conservation program.
 - A. The safety manager is responsible for administering this program for the Department.
- II. Use of engineering controls.

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- A. Where employee noise exposure exceeds the OSHA Permissible Exposure Limit (PEL) of 90 decibels on an eight hour time-weighted average, engineering or administrative controls will be used to reduce exposure.
 - 1. If such controls are not feasible, hearing protection devices will be provided and used to reduce employee exposure below 85 decibels.
- III. Inclusion of employees into the program.
 - A. Appendix A contains a list of employees currently in the Department's hearing conservation program.
- IV. Noise monitoring.
 - A. Noise measurements will be conducted to determine employee exposure to noise and to identify those work areas and/or equipment that could contribute to noise exposure.
 - 1. Areas exceeding 85 dBA will be re-evaluated every three years.
 - B. The Department's safety manager will maintain exposure and noise measurement records.
 - C. A completed noise map, identifying all areas of each site with grab sample data, will be posted at each facility.
- V. Labeling of Areas/Equipment.
 - A. All areas with noise levels exceeding 85 decibels will be labeled, "Caution – Hearing Protection Must Be Worn In This Area" to warn employees and visitors entering of the need for hearing protection.
 - B. Stationary sources exceeding 85 dBA which are activated periodically, such as table saws, will be labeled as, "Caution – Ear Protection Required When This Equipment Is Operating."
 - C. Small, mobile, high noise sources (exceeding 85 dBA) such as weed trimmers and circular saws will be affixed with small stickers that warn the user to wear hearing protection.
 - D. An inventory of high noise areas and equipment is listed in Appendix B.
- VI. Audiometric Testing
 - A. All employees assigned to jobs that require inclusion in the hearing conservation program will receive a baseline audiogram within six (6) months of their first high noise exposure (see Appendix A).
 - 1. All audiometric testing will be conducted by the professionals at Lake Hospital System, 7956 Tyler Blvd., Mentor, Ohio 44060, (440) 255-4455.
 - B. Audiograms will then be given at least annually and compared to the baseline audiogram to determine if a standard threshold shift (STS) has occurred.
 - 1. An STS is defined as a change in the hearing threshold of an average of 10 dB or more in either ear, measured at 2000, 3000 and 4000 Hz.
 - 2. The Lake County Utilities' Safety Manager will read and compare audiograms to determine if an STS has occurred.
 - C. If an STS occurs, the affected employee will be notified and retested.
 - D. Employees in the program must have a termination audiogram upon leaving employment.

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- E. All audiogram records will be kept in each employee's medical files.
- VII. Hearing Protection
 - A. Hearing protection will be worn:
 - 1. By all employees with noise exposures exceeding an eight hour time-weighted average (TWA) of 85 dBA.
 - 2. When employees operate equipment that produces noise exceeding 85 dBA.
 - 3. When employees or visitors enter areas where the noise level exceeds 85 dBA.
 - B. Hearing protection devices will provide adequate protection so as to reduce exposures to below 85 dBA.
 - 1. Employees may select to wear ear plugs and/or ear muffs.
 - 2. Only hearing protection devices with a Noise Reduction Rating (NRR) of 31 or greater will be purchased and supplied to employees and/or visitors.
- VIII. Maintenance of Hearing Protective Devices
 - A. It is the employees responsibility to properly maintain their hearing protection.
 - B. Reusable earplugs should be washed in lukewarm water using hand soap, rinsed clean with water, and dried thoroughly before each use.
 - 1. When cleaning earmuffs, the inside of the muff should not get wet.
 - C. Damp or wet earplugs should not be placed in their containers.
 - D. Cleaning should be performed as needed.
- IX. Training
 - A. All employees in the hearing conservation program will receive training annually.
 - 1. At a minimum, the training program will cover the following topics:
 - a) The effects of noise on hearing;
 - b) The purpose, advantages, disadvantages and protection ratings of various types of hearing protectors;
 - c) Instructions on selection, fitting, use, and care of hearing protectors, and;
 - d) The purpose of audiometric testing and an explanation of the test procedures.
 - B. Training will be conducted by the Department safety manager and/or designee.
 - C. Employee training records will be kept on file at each employee's respective facility.

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APPENDIX A

Employees participating in the Lake County Department of Utilities Hearing Conservation Program include:

1. All East End Service Center Employees (excluding administrative personnel)
2. All West End Service Center Employees (excluding administrative and meter reader personnel)
3. All Solid Waste Employees (excluding scale personnel)

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APPENDIX B

High Noise Areas and Equipment Inventory

1. Aquarius Water Plant
 - Dehumidifier Room
 - Activated Carbon Storage
 - High Service Pump Room
 - Generator Room
2. Aquarius Raw Station
 - No Areas Identified
3. Bacon Road Water Plant
 - Chlorine Feed Room
 - High Service Room – Main Level
 - High Service Pump Room – Chemical Building
4. Bacon Road Raw Station
 - No Areas Identified
5. East End Service Center
 - Compactor
 - Cement Saw
 - Jackhammer
 - Table Saw
 - Circular Saw
 - Air Compressor
 - Compressed Air Tools
6. Gary L. Kron Water Reclamation Facility (Mentor)
 - Compost Building
 - Compost Blower Building
 - Effluent Pump Building – Upper Level
 - Generator Building
 - Influent Building – Lower Blower Area
 - Intermediate Building – Lower Level
 - Sludge Thickening Room
 - Weed Whacker
 - Snow Blower
 - Lawn Mower
 - Compressed Air Tools and Compressor
 - Grinder
7. Madison Waste Water Plant

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- Unit Control Building
 - Cell Room
 - Circular Saw
 - Hand Grinder
 - Ford Tractor
 - John Deere Lawn Mower
 - Weed Whacker
8. Solid Waste
- Cat Dozer
9. West End Service Center
- Lawn Mower
 - Weed Whacker
 - Compressed Air Tools
 - Air Compressor
 - Jackhammer
 - Cement Saw
 - Bench Grinder