

I. Purpose

All workers exposed to 85 dBA Time Weighted-Average (TWA) are to be included in a hearing conservation program. It is important to note that for work shifts in excess of 8 hours, the 85 dBA TWA is reduced. An effective hearing conservation program is defined to include:

The key elements of the City's hearing conservation program are:

- Noise exposure measurements
- Education
- Engineering and administrative noise exposure control.
- Personal hearing protection
- Audiometric testing and follow-up annually
- Recordkeeping

Monitoring shall be repeated whenever a change in production, process, equipment or control increases noise exposure to the extent that: 1) Additional employees may be exposed at or above the action level or 2) the attenuation provided by the hearing protectors being used by the employees may be rendered inadequate." A sound survey is recommended at least every two years.

After determining the noise level, and if it is 85 dBA TWA, the City shall provide to the employees the following:

- Annual hearing tests
- Annual hearing conservation training
- Hearing protection (optional or mandatory)
- Posting of the OSHA Noise Standard (29 CFR 1910.95)
- Notification of the results of the sound survey

If the noise level exceeds 90 dBA, the OSHA Noise Standard requires that engineering and administrative control measures must be investigated, evaluated and where feasible, utilized to reduce employee exposures. It is important that any measure investigated, utilized, or evaluated to reduce the noise levels be documented.

II. Noise Exposure Measurement

The success of the City's hearing conservation program depends on accurate knowledge of the existing noise environment. Accurate surveys define areas within acceptable guidelines for noise exposure and those areas where potentially harmful noise exists. Effective noise exposure measurement prevents possible loss of hearing protectors and must be tested. Therefore, the City has conducted a noise survey using sound level meters that meet the appropriate ANSI standard and are calibrated acoustically before and after each survey. Noise exposure measurements are available for review.

Jobs listed in Appendix A shall be part of this Hearing Conservation Program.

III. Employee Education

Hearing Conservation Training is required annually for all employees with noise exposures of 85 dBA TWA or greater. The goal of the training is to orient employees to the purpose of hearing protection, the use of hearing protection and policy regarding the hearing conservation program.

The following topics will be included in the employee training of the hearing conservation program:

- A. The effects of noise on hearing. It can take many years to occur, and the employee may not realize the gradual hearing loss. The loss occurs without any pain and cannot be corrected by any known medical or surgical treatment. A good rule of thumb to remember is that if you have to raise your voice at a distance of three feet, you are in an area with a possible hazardous noise level. Repeated unprotected noise exposure will cause a permanent hearing loss. Engineering, administrative and equipment controls can help hearing loss from happening.
- B. The purpose of the annual hearing test and an explanation of the test procedures. The purpose of the annual hearing test is to monitor your hearing. Periodic audiometric testing provides an "early warning" of hearing disability. Factors such as noisy hobbies, ear infections, diseases of the ear as well as general illness may also cause hearing loss. All employees' whose jobs are listed in Appendix A shall have their hearing checked upon employment and once a year thereafter. You will be notified of any changes in your hearing. You cannot "fail" the test and you will not lose your job due to the results of the test.
- C. The purpose of hearing protectors, instructions on selection, the advantages, disadvantages, fitting use, and care. The proper use of hearing protection will prevent many types of hearing loss. You must wear the required hearing protection properly and regularly to reap the benefits of the protection.

IV. Engineering and Administrative Noise Controls

Here are some engineering measures to reduce noise.

- Contact with the manufacturer for noise abatement suggestions
- The purchase of quieter equipment or routine maintenance to reduce noise levels
- Reduction of noise level at the source with:
 - Substitution of materials (i.e., plastic for metal)
 - Dampening or reducing surface vibration
 - Increasing the distance between the employee and the noise source
 - Enclosures or sound insulation material
 - Relocation of job tasks which may be completed out of high noise areas

When engineering measures alone cannot reduce the noise below 90 dBA, administrative methods may be used to minimize employee exposure such as worker rotation from high noise levels to quiet areas.

V. Personal Hearing Protection

Until such time as engineering and/or administrative controls reduce the amount of noise exposure to or below the allowed limits, appropriate personal hearing protective devices are made available and

issued to noise - exposed employees.

As with all safety equipment, the wearing of hearing protection in required jobs is mandatory. All supervisors shall properly enforce hearing protection requirements. Continued failure of an employee, to properly wear the protection provided could result in the termination of employment with the City of Hendersonville.

The individual responsible for issuing and fitting hearing protection has been trained by and is under the supervision of an audiologist or physician. Fitting and issuing of hearing protective devices begin when the employee is hired.

VI. Audiometric Testing Program

The two types of hearing tests are annual hearing tests and baseline hearing tests.

Annual hearing testing is required for employees with 85 dBA 1WA or higher noise exposures as listed in Appendix A. Testing can be done anytime during the day.

Baseline hearing testing is done when an employee is initially hired. The baseline is extremely important because it is the reference against which future audiograms are compared to determine the extent to which an employee's hearing is deteriorating. It is required that the baseline audiogram be preceded by at least 14 hours without exposure to workplace noise. Time that hearing protection is worn may be included as part of the 14 hours without exposure to noise. The employer shall also notify the employee that they need to avoid non-occupational noise exposure during the 14 hours prior the audiometric test. To verify this, employees must complete the *Notification of Quiet Period Prior to Baseline Hearing Test*, Appendix B.

OSHA requires a baseline must be done within 6 months. However, the employee must wear protection as required by other employees in that job.

A retest audiogram can be conducted to verify or confirm a hearing threshold result. Times when a retest may be needed:

- If an employee has suffered a **Standard Threshold Shift**, the employer may obtain a retest within 30 days and use the results of the retest as the annual audiogram.

A **Standard Threshold Shift** is a change in hearing threshold relative to the baseline audiogram of an average of 10 or more dBA at 2000, 3000, and 4000 Hz. If a Standard Threshold Shift has occurred, the employee must be informed in writing within 21 days of the determination. Employees will be trained in using hearing protectors and in care of the hearing protectors. If the employee is already using hearing protectors, they will have to be retrained and refitted. If necessary, hearing protectors can be changed to a different type.

- The Audiologist or Physician can request a retest to confirm test results.

- When problems are suspected by the test administrator.

VII. Recordkeeping

A number of documents are required to be maintained under the OSHA Noise Standard once the "Action Level" had been initiated. Some of these records must be retained for specified periods as shown in the

following table. It is also required that these records be provided, upon request, to employees, former employees, representatives designated by the individual employee and the Assistant Secretary of Labor.

1. Sound Survey (retain at least two years)
2. Employee notification on the results of the sound survey
3. Posted OSHA Noise Standard
4. Hearing Testing (retain for at least the duration of employment)
 - Annual
 - Baseline
5. Audiogram Evaluation Requirements
 - Standard Threshold Shift Requirements
 - Physician Review
6. Hearing Protection
7. Hearing conservation Training
8. Audiometer
9. Acoustic calibration check
 - Exhaustive calibration check
 - Biological calibration check
 - Self-listening check
10. Booth (if testing is done on sites)
11. Recording hearing loss on the OSHA 300 log



John F. Connet



Date of Approval

Adopted by City Council 01.07.2004

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Appendix A to the Hearing Conservation Program

Job Classification Listing by Department of Occupational Exposures

<i>Department/ Facility</i>	<i>Job Definition</i>
Water Treatment Plant	Any employee who regularly works in the Chlorinator Room, Sludge/centrifuge Room, or finished Pump Room and Raw Water Pump.
Wastewater Treatment Plant	Any employee who regularly works in the Blower Building, Main Influent Building or RAS Building, the belt press and Thinner Building.
Public Works	Property/Grounds Maintenance Crew Street Maintenance Crew
Water & Sewer	Those employees who operate the Vacuum Truck, jackhammer/Pump Saw or work in the Pump/Lift Stations
Police	Firearms Instructors/Motorcycle Officers/Canine Officers

APPENDIX B

NOTIFICATION OF "QUIET PERIOD" PRIOR TO
BASELINE HEARING TEST
Hearing Conservation Program

It is an OSHA Noise Standard requirement that you be free from high noise exposure for 14 hours before your baseline test.

You should avoid the following types of noise prior to the hearing test:

WORKPLACE NOISE
LAWN MOWERS
LEAF LOWERS
WEED TRIMMERS
CHAINSAWS
POWER TOOLS
SMALL ENGINES
CAR RACES
SNOW MOBILES
SMALL AIRPLANES
POWER BOATS
ALL FIREARMS (hunting, target and skeet shooting)
LOUD MUSIC (concerts or other headset radio, radio/stereos)

Please wear hearing protection until your baseline hearing test is completed to minimize noise exposure on and off the job.

I have been notified of the need to avoid occupational and non-occupational noise prior to my test.

Employee Signature

Date

(Please return to Human Resources)

Appendix A to the Hearing Conservation Program
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