



- The attenuation provided by hearing protectors being used by employees may be rendered inadequate.
- Employees will be notified of the sampling results after completion of the evaluation.

### **Audiometric Testing**

- Audiomet opportunity to educate employees about their hearing and the need to protect it.
- Audiometric testing will be provided at no cost to all employees whose exposures equal or exceed an 8-hour time-weighted average of 85 decibels. See Appendix B for audiometric test requirements.
- Within six months of assignment, new employees assigned to affected job tasks will receive the initial baseline audiometric test against which subsequent audiograms can be compared.
- A new audiogram will be obtained at least annually while a part of the Hearing Conservation Program.

### **Standard threshold shift**

- A standard threshold shift is 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 for the contribution of aging (presbycusis) to the change in hearing level by correcting the annual au  
Appendix F: "Calculation and Application of Age Correction to Audiograms."

### **Engineering, Work Practice, and Administrative Controls**

- When levels that exceed 85 dBA TWA are found, all reasonable efforts will be made to use administrative and/or engineering controls to reduce exposure.

### **Hearing Protectors**

- Hearing protectors are available to all employees exposed to an 8-hour time-weighted average of 85 decibels or greater at no cost to the employees. Hearing protectors shall be replaced as necessary.
- Hearing protectors must be worn by all employees exposed:
  - At levels shown in Table 1, Permissible Noise Exposures, below.



**Access to Information and Training Materials**

- The Occupational Noise Standard, 29 CFR 1910.95 and its attachments A-I, are available in the following locations:
  - posted on bulletin boards in the affected departments
  - the OSHA website: <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.95>.
  - The EHS Department; contact them for a copy
  
- Material used for training will be available upon request, to personnel from regulatory agencies.

**Recordkeeping**

- Results of audiometric tests will be maintained for the duration of employment.
- Noise monitoring results will be maintained for at least two years.

## APPENDIX A GLOSSARY OF TERMS

- **A Weighting** The weighting scale that closely matches the perception of loudness by the human ear.
- **Action Level** - An 8-hour time-weighted average of 85 decibels measured on the A-scale, slow response, or equivalently, a dose of fifty percent.
- **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, specializing in the study and rehabilitation of hearing, who is certified by the American Speech-Language-Hearing Association or licensed by a state board of examiners.
- **Baseline Audiogram** - The audiogram against which future audiograms are compared.
- **Criterion Sound Level** - A sound level of 90 decibels.
- **Decibel (dB)** - Unit of measurement of sound level. Decibels are measured on a logarithmic scale which means that a small change in the number of decibels results in a huge change in the amount of noise and the potential damage to a person's hearing.
- **Exchange Rate, 5 dB** - When the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half.
- **Hertz (Hz)** - Unit of measurement of frequency, numerically equal to cycles per second.
- **Medical Pathology** - A disorder or disease. For purposes of this regulation, a condition or disease affecting the ear, which should be treated by a physician specialist.
- **Noise Dose** - The ratio, expressed as a percentage, of (1) the time integral, over a stated time or event, of the 0.6 power of the measured SLOW exponential time-averaged, squared A-weighted sound pressure and (2) the product of the criterion duration (8 hours) and the 0.6 power of the squared sound pressure corresponding to the criterion sound level (90 dB).
- **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.
- **OSHA Standard** 29 CFR 1910.95, Occupational Noise Exposure

- **Representative Exposure -**



- Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, the employer shall ensure that the following steps are taken when a standard threshold shift occurs:
  - Employees not using hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them.
  - Employees already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.
  - The employee shall be referred for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if the employer suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.
  - The employee is informed of the need for an otological examination if a medical pathology of the ear t



audiometer's output to make sure that the output is free from distorted or unwanted sounds. Deviations of 10 decibels or greater require an acoustic calibration.

- Audiometer calibration shall be checked acoustically at least annually in accordance with the Appendix E: "Acoustic Calibration of Audiometers." Test frequencies below 500 Hz and above 6000 Hz may be omitted from this check. Deviations of 15 decibels or greater require an exhaustive calibration.
- An exhaustive calibration shall be performed at least every two years in accordance with sections 4.1.2; 4.1.3.; 4.1.4.3; 4.2; 4.4.1; 4.4.2; 4.4.3; and 4.5 of the American National Standard Specification for Audiometers, S3.6-1969. Test frequencies below 500 Hz and above 6000 Hz may be omitted from this calibration.