

Dutchess Community College

Hearing Conservation Program

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Introduction:

In accordance with 29CFR1910.95 Dutchess Community College will administer a continuing, effective hearing conservation program, whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 85 decibels measured on the A scale (slow response) or, equivalently, a dose of fifty percent without regard to any attenuation provided by the use of personal protective equipment.

When employees are subjected to sound exceeding those listed in the following table, feasible administrative or engineering controls will be utilized. If such controls fail to reduce sound levels within the levels of the table, personal protective equipment shall be provided and used to reduce sound levels within the levels of the table.

For purposes of this program, an 8-hour time-weighted average of 85 decibels or a dose of fifty percent will also be referred to as the action level. When information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 decibels, Dutchess Community College will develop and implement a monitoring program.

PERMISSIBLE NOISE EXPOSURES (1)

Duration per day, hours	Sound level dBA slow response
8.....	90
6.....	92
4.....	95
3.....	97
2.....	100
1 1/2.....	102
1.....	105
1/2.....	110
1/4 or less.....	115

Footnote(1) When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions: $C(1)/T(1) + C(2)/T(2) + \dots + C(n)/T(n)$ exceeds unity, then, the mixed exposure should be considered to exceed the limit value. C_n indicates the total time of exposure at a specified noise level, and T_n indicates the total time of exposure permitted at that level. Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

Definitions:

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.

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

Medical pathology - A disorder or disease. For purposes of 29CFR1910.95, 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.

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

Representative exposure - Measurements of an employee's noise dose or 8-hour time-weighted average sound level that the employers deem to be representative of the exposures of other employees in the workplace.

Sound level - Ten times the common logarithm of the ratio of the square of the measured A-weighted sound pressure to the square of the standard reference pressure of 20 micropascals. Unit: decibels (dB). For use with 29CFR1910.95, SLOW time response, in accordance with ANSI S1.4-1971 (R1976), is required.

Sound level meter - An instrument for the measurement of sound level.

Time-weighted average sound level - That sound level, which if constant over an 8-hour exposure, would result in the same noise dose as is measured.

Monitoring:

Noise level sampling strategy will be designed to identify employees for inclusion in the hearing conservation program and to enable the proper selection of hearing protectors. Instruments used to measure employee noise exposure will be calibrated to ensure measurement accuracy. Monitoring will be repeated whenever a change in production, process, equipment or controls increases noise exposures to the extent that:

Additional employees may be exposed at or above the action level; or

The attenuation provided by hearing protectors being used by employees may be rendered inadequate to meet the requirements of the standard.

Dutchess Community College will notify each employee exposed at or above an 8-hour time-weighted average of 85 decibels of the results of the monitoring.

Audiometric Testing Program:

Dutchess Community College has established and maintains an audiometric testing program by making audiometric testing available to all employees whose exposures equal or exceed an 8-hour time-weighted

average of 85 decibels. The program is provided at no cost to employees. Audiometric tests are performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation, or who has satisfactorily demonstrated competence in administering audiometric examinations, obtaining valid audiograms, and properly using, maintaining and checking calibration and proper functioning of the audiometers being used.

Baseline Audiogram:

Within 6 months of an employee's first exposure at or above the action level, a valid baseline audiogram against which subsequent audiograms can be compared will be established.

When mobile test vans are used to meet this audiometric testing obligation, Dutchess Community College will obtain a valid baseline audiogram within 1 year of an employee's first exposure at or above the action level. Where baseline audiograms are obtained more than 6 months after the employee's first exposure at or above the action level, employees shall wear hearing protectors for any period exceeding six months after first exposure until the baseline audiogram is obtained.

Testing to establish a baseline audiogram must be preceded by at least 14 hours without exposure to workplace noise. Hearing protectors may be used as a substitute for the requirement that baseline audiograms be preceded by 14 hours without exposure to workplace noise.

Dutchess Community College will notify employees of the need to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination.

Annual Audiogram:

At least annually after obtaining the baseline audiogram, Dutchess Community College will obtain a new audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels.

Evaluation of Audiogram:

Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred.

If the annual audiogram shows that an employee has suffered a standard threshold shift, Dutchess Community College may obtain a retest within 30 days and consider the results of the retest as the annual audiogram.

The audiologist, otolaryngologist, or physician shall review problem audiograms and shall determine whether there is a need for further evaluation.

Follow-up Procedures:

If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift has occurred, the employee shall be informed of this fact in writing, within 21 days of the determination.

Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, Dutchess Community College will 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 that is unrelated to the use of hearing protectors is suspected.

If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour TWA of 90 decibels indicates that a standard threshold shift is not persistent, Dutchess Community College:

Will inform the employee of the new audiometric interpretation; and

May discontinue the required use of hearing protectors for that employee.

Revised Baseline:

An annual audiogram may be substituted for the baseline audiogram when, in the judgment of the audiologist, otolaryngologist or physician who is evaluating the audiogram:

The standard threshold shift revealed by the audiogram is persistent;
or

The hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram.

Standard Threshold Shift:

As defined by OSHA, 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 to the change in hearing level by correcting the annual audiogram according to the procedure described in Appendix F of 29CFR1910.95.

Hearing Protectors:

Dutchess Community College will make hearing protectors 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.

Supervisors will ensure that hearing protectors are worn.

Dutchess Community College will evaluate hearing protector attenuation for the specific noise environments in which the protector will be used.

The adequacy of hearing protector attenuation will be re-evaluated whenever employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation. Dutchess Community College will provide more effective hearing protectors where necessary.

Employee Responsibility:

Hearing protectors must be worn by any employee who is exposed to an 8-hour time-weighted average of 85 decibels or greater, and who:

- Has not yet had a baseline audiogram established; or

- Has experienced a standard threshold shift.

Training Program:

Dutchess Community College will train each employee who is exposed to noise at or above an 8-hour time weighted average of 85 decibels in accordance with the requirements of 29CFR1910.95. The training program will be repeated annually for each employee included in the hearing conservation program. Information provided in the training program will be updated to be consistent with changes in protective equipment and work processes. The training program will include:

- The effects of noise on hearing;

- The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care; and

- The purpose of audiometric testing, and an explanation of the test procedures.

Recordkeeping:

Dutchess Community College will retain records for at least the following periods:

Noise exposure measurement records shall be retained for two years.

The employer shall maintain an accurate record of all employee exposure measurements required by: 29CFR1910.95(d) Monitoring.

Audiometric test records shall be retained for the duration of the affected employee's employment.

All records required by 29CFR1910.95 shall be provided upon request to employees, former employees, and representatives designated by the individual employee.

Reference Appendices:

The following OSHA Appendices are mandatory:

1910.95 Appendix A Noise Exposure Computation

1910.95 Appendix B Methods for Estimating the Adequacy of Hearing Attenuation

1910.95 Appendix C Audiometric Measuring Instruments

1910.95 Appendix D Audiometric Test Rooms

1910.95 Appendix E Acoustic Calibration of Audiometers

The following OSHA Appendices are non-mandatory:

1910.95 Appendix F Calculations and Application of Age Corrections to Audiograms

1910.95 Appendix G Monitoring Noise Levels

Appendices can be viewed at: <https://www.osha.gov/>

