

HEARING CONSERVATION POLICY

Standard 29CFR §1910.95

The Office of Environmental Health & Safety



I. PURPOSE

The purpose of this Hearing Conservation Program is designed to protect employees from the effects of exposure to excessive noise at The University of Texas Southwestern Medical Center and to be consistent with OSHA's Occupational Noise Exposure Standard 29 CFR 1910.95.

The objective of this policy is to provide guidelines to protect the hearing of employees who may be exposed to potentially hazardous noise levels that equal or exceed 85 decibels (dB) on the job and to establish engineering and administrative control methods in order to reduce or eliminate those hazards.

II. SCOPE

Sound level monitoring will be provided at no cost to all employees in workplaces with noise exposure exceeding an 8-hour time-weighted average (TWA) of 85 dB or greater. The initial test results are the baseline results. Testing following these initial tests will be compared to previous test results for all employees who continue to work in high noise areas.

Supervisors/Managers will be provided with results of their employee's sound level testing. Sound level monitoring will be conducted by Environmental Health & Safety (EH&S) 214-648-2250.

III. Definitions

A-scale weighted: A-scale weighted decibels can be abbreviated as **dB(A)** or **dBA**. The A weighting, expressed as dBA, is the scale used for most occupational noise measurements. The A-scale weighting discriminates against very low frequencies, as does the human ear, and therefore is more appropriate for determining employee exposure to noise.

Continuous Noise: Noise levels that vary with intervals of one second or less.

Decibels (dB): A measure of the sound level (loudness).

Hearing Protection Devices (HPD's): Personal protective equipment that is designed to be worn in the ear canal or over the ear to reduce the sound level reaching the ear drum. Examples include ear muffs or plugs.

Impulse/Impact Noise : Noise that is a sharp burst of sound, generally less than one-half second in duration, that does not repeat itself more than once per second.

Noise: Unwanted sound.

Permissible Exposure Limit (PEL): 90 dBA TWA. Employees may be exposed to 90 dBA for an 8 hour time weighted average (TWA) exposure without experiencing serious hearing effects.

Sound: A vibration or pressure oscillation that is detectable by the ear drum.

Sound Level Meter: An instrument used for the measurement of noise in sound level surveys.

Time-Weighted Average(TWA) Sound Level: This is the level for which a normal 8-hour workday or 40-hour workweek, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect.

Threshold of Pain: is a noise level of 120 dBA or more that will cause pain.

IV. Permissible Noise Exposures

The word *noise* can often be described as an unpleasant sound that the listener does not want to hear. When employees are subjected to sound exceeding an 8-hour time weighted average (TWA) of 90 decibels measured on the A scale (slow response) then feasible administrative or engineering controls should be utilized.

If such controls fail to reduce sound levels within the levels of the Table 1, then personal protective equipment should be provided and used to reduce sound levels within the levels of the table.

Permissible Noise Exposures (Table 1)

Duration per day, hours	Sound level dBA on the A-scale
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115

V. Engineering and Administrative Controls

- * At most times, excessive or nuisance noise problems may be resolved by simply controlling noise at the source, along the path, or at the receiver (employee's ear.)
- * Excessive or nuisance noise sources should be controlled through the use of engineering and administrative controls wherever feasible.
- * In most cases sound levels will be measured at the employee's workstation. If the noise level never goes *below* 90 dBA, an *unsatisfactory* noise exposure is indicated. If the measured level is never *greater* than 85 dBA, the noise exposure to which the employee is subjected to can be regarded as *satisfactory*.
- * The most desirable method of controlling a noise problem is to minimize the noise at the source. This generally means modifying existing equipment and structures or possibly introducing noise-reduction measures at the design of new machinery and equipment. This process will isolate the highest contributing noise sources, and methods for controlling them can be evaluated and implemented.
- * Whenever equipment enclosures are not possible or feasible, shields or barriers may be utilized.
- * Reduction of noise by changes in path may include increasing the distance between the source of the noise and the receiver (employee)
- * Methods of reducing high levels of noise at the receiver (employee) include hearing protection devices (e.g. ear plugs or muffs.)
- * There are many operations in which the exposure of an employee to noise can be controlled administratively; for instance, production schedules can simply be changed or jobs rotated so that the employee exposure time will be limited.
- * If feasible, employees can be transferred from job locations with high noise levels to job locations with lower ones if this procedure would make their daily noise exposure acceptable.
- * Administrative controls during construction activities on campus may prove to be impractical. Therefore, the most common administrative noise control in such instances is to allow employees who are particularly susceptible to noise be transferred and allowed to work in a less noisy area.
- * Any and all administrative decision that results in lower noise exposure will be documented.

VI. Sound Level Testing

- * Sound level testing is an integral part of the hearing conservation program because it is the only true measure of the program's success.
- * The results of the sound metering will be used to determine if and what type of hearing protection is needed.

Sound Level Testing Cont.

- * Sound data records will be retained at Environmental Health & Safety.
- * Employees and Supervisors will receive written feedback from the reviewer that will include:
 1. The extent of the noise problem, and if a noise problem exists.
 2. If employees find it difficult to communicate in normal tones
 3. If necessary, recommendation for better hearing protection on the job

VII. Hearing Protection

- * Hearing protection is often the most simple and inexpensive method to prevent noise-induced hearing loss. Therefore, annual training is required for all employees who are exposed to noise at or above an 8-hour TWA of 85dBA
- * Information provided in the training program shall be updated to be consistent with protective equipment and work processes, and as OSHA standards are updated.
- * Employees needing hearing protectors shall be fitted with hearing protectors, and trained in their use. Supervisors/ Managers should provide the appropriate hearing device to employees.
- * Hearing protection device use in required areas shall be strictly and consistently enforced by the department's supervisor or manager.

VIII. Employee Training and Education

A complete hearing conservation training and education program is essential to the Hearing Conservation Program. Training will be provided to all employees exposed to noise above an 8-hour time weighted average (TWA) of 85dBA. Training will cover the following topics:

1. The effects of noise on hearing;
2. The purpose of hearing protectors, the advantage and disadvantage of various types, and instructions on how to use and care for them;
3. The purpose of sound level testing and how it is done.

IX. Areas Requiring Hearing Protection

Noise areas requiring hearing protection, shall have an adequate number of signs requiring the wearing of hearing protectors. Disposable hearing protectors shall be provided by the department.



Areas Requiring Hearing Protection Cont.

Examples of areas requiring hearing protection

- * Carpentry shop
- * Thermal Energy Plant (TEP)
- * Animal Resources Center (ARC)
- * Auto Shop
- * Labs
- * Key Shop

Examples of positions that have been included in this program

Department	Affected Positions
Buildings and Grounds	Grounds Workers and Grounds Supervisors
Buildings and Grounds	Maintenance Technicians and Supervisors
Warehouse	Shipping and Receiving
Animal Resources Center (ARC)	Employees handling cage washes, etc...
Boilers, Air Handler Units	Employees responsible for repairing belts, wheels, blades, etc...

X. Recordkeeping

Sound test records will be retained and maintained at EH&S. The record will include

1. Name, Person ID Number the test was performed for.
2. Job Title
3. Date of Testing
4. Examiner's name
5. Make of model and serial number of datalogging sound meter
6. Most recent noise exposure assessment (in accordance with 1910.95(m)(2)(ii)(E))

XI. Responsibilities

Department Heads, Managers, Supervisors, and Principal Investigators

- * Notify Environmental Health and Safety of noise complaints or potential noise hazards.
- * Ensure that employees are provided with hearing protectors when required.
- * Ensure that employees properly use and care for hearing protectors.
- * Ensure that noise-hazardous equipment/areas are properly labeled or posted (greater than or equal to 85 dBA operating noise level).
- * Notify Environmental Health and Safety of process, materials or equipment changes that may alter noise exposures.
- * Ensure potentially overexposed personnel attend EH&S training and annual refresher training.

Environmental Health and Safety (EH&S)

- * Administer the Hearing Conservation Program.
- * Workplace and employee noise evaluation:
 1. Conduct noise assessment to determine if administrative and engineering controls are needed, and how they will be implemented.
 2. Identify areas or processes that require noise abatement and/or posting.
 3. Evaluate and periodically reevaluate employees' exposure, by job classification, to determine which job titles need to be included in the Hearing Conservation Program.
- * Assist employees in selection of proper protective devices and provide instruction on their use.
- * Provide Hearing Conservation Program (HCP) training.
- * Maintain records of employee exposure measurements.

Faculty and Staff

- * Wear hearing protection devices as required in posted high noise areas.
- * Attend required training sessions on noise hazards.
- * Report noise hazards and hearing protector problems to the appropriate supervisor
- * Maintain hearing protectors in sanitary condition and proper working order

XII. Information and External References

Occupational Noise Exposure Standard 29 CFR 1910.95.
Fundamentals of Industrial Hygiene, National Safety Council Fourth Edition
Monroe T. Morgan, Environmental Health, Second Edition
University of California, Irvine Environmental Health & Safety

Issued Date: January 7, 2008	Institution Name: The University of Texas Southwestern Medical Center at Dallas, Dallas, TX
Revised Date(s):	Approval: Sylvia Revell, R.S.O., CHES/EH&S/Associate Director/Radiation & Occupational Safety Makesia Finley, M.S./EH&S/Occupational Safety Specialist II

