

SECTION 20

HEARING CONSERVATION

1. PURPOSE

- 1.1. MAPP has established a Hearing Conservation Program to protect workers from the hazards of noise on the job. OSHA regulations require that each employer implement a hearing conservation program when workers are exposed to noise levels exceeding 85 dB.

2. INTRODUCTION

- 2.1. The OSHA Standard on Occupational Noise Exposure, 29 CFR 1910.95, established the permissible limit of noise as 85 dB(A) (decibels), expressed as an eight-hour (8-hours), time-weighted average, (TWA). This standard allows short-term unprotected noise exposure up to a maximum of 115dB (A), peak sound.
- 2.2. The noise standard requires the identification by personnel monitoring of employees who may be exposed above the 85 dB (A), 8-hour, TWA. Hearing protection is also required for specific activities or using certain types of equipment.

3. PROCEDURES

- 3.1. MAPP has addressed this area of hazard by establishing this program. The following elements establish the program:
 - 3.1.1. An Audiometric testing Program when required
 - 3.1.2. An Employee Education and Training Program
 - 3.1.3. Monitoring and Analysis of Workplace Noise Levels
 - 3.1.4. Providing Suitable Engineering Controls when appropriate
 - 3.1.5. Providing Hearing Protectors when required
 - 3.1.6. Maintaining required records for the above.

3.2. Audiometric Testing

- 3.2.1. Each employee whose work exposes them to noise levels above the "OSHA action level" will receive an Audiometric test by the company chosen medical facility to establish a baseline audiogram against which subsequent audiograms can be compared as requires by the OSHA Standard. This test shall be done within the first 6 months of employee's first exposure at or above the action level.
- 3.2.2. Annually, those employees who are exposed to noise levels exceeding the 85 dB standard will be given a follow-up Audiometric examination to monitor for any significant changes in their hearing ability. Employees will be formally notified if there is any change in their hearing as the result of the testing. The Standard has defined this shift as a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 200, 3000, and 4000 Hz in either ear. In determining whether a standard threshold shift has occurred, allowance

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may be made for the contribution of aging (presbycusis) to the change in hearing level by correcting the annual audiogram according to the procedure described in Appendix F: "Calculation and Application of Age Correction to Audiograms." When audiometric testing is required, each affected employee must not be exposed to any workplace noise for at least 14 hours prior to his/her test. This requirement may be met by wearing hearing protectors which will reduce the employee's exposure to a sound level of 80 dB (A) or below.

- 3.2.3. Audiometric tests shall be 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. A technician who operates a microprocessor audiometer does not need to be certified. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist or physician.
- 3.2.4. An audiologist, otolaryngologist or physician will review problem audiograms and shall determine whether there is a need for further evaluation. The company will provide to the person performing this evaluation the following information:
 - 3.2.4.1. A copy of the 29 CFR 1919.95 Hearing Conservation.
 - 3.2.4.2. The baseline audiogram and most recent audiogram of the employee to be evaluated.
 - 3.2.4.3. Measurement of background sound pressure in the audiometric test room as required in 29 CFR 1910.95 Appendix D.
 - 3.2.4.4. Records of audiometric calibrations as required by 29 CFR 1910.95 Appendix E.
- 3.2.5. If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift as defined by OSHA, the employee will be informed of this fact, in writing, by the company within 21 days of determination.
- 3.2.6. Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, the company will ensure that the following steps are taken when a standard threshold shift occurs:
 - 3.2.6.1. An employee not using hearing protectors will be fitted with hearing protectors, trained in their use and care, and required to use them; and
 - 3.2.6.2. An employee 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.
 - 3.2.6.3. Refer the employee for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if the

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company suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.

3.2.6.4. Inform the employee of the need for an otological examination if a medical pathology of the ear which is unrelated to the use of hearing protectors is suspected.

3.2.7. If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour TWA average of 90 decibels indicates that a standard threshold shift is not persistent the company :

3.2.7.1. Will inform the employee of new audiometric interpretations; and

3.2.7.2. May stop the required use of hearing protectors for that employee

3.3. Employee Education and Training

3.3.1. MAPP employees must be trained on the use of personal hearing protection equipment. Also, each employee must know how to clean and maintain the hearing protection equipment. The training will cover the following:

3.3.1.1. Training will be for all employees who are exposed to occupational noise.

3.3.1.2. The training will be repeated annually for each employee included in the Hearing Conservation Program and any time hearing devices change.

3.3.1.3. The effects of noise on hearing

3.3.1.4. The purpose of hearing protectors, the advantages, disadvantages, and the attenuation of various types and instruction on selection, fitting, use and care.

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

3.3.1.6. Access to information and training materials.

3.4. Monitoring and Analysis of Workplace Noise Levels

3.4.1. MAPP will periodically or as necessary, conduct noise level surveys of the workplace. The results of these surveys will be made available to employees upon request.

3.4.2. Any job area, task, or company location found to be in excess of the allowable designated noise levels that cannot be brought into compliance with the noise standard will be designated as an area where hearing protectors are to be worn. When signs are posted employees must wear hearing protection. The signs may read as follows:

NOTICE EAR PROTECTION REQUIRED IN THIS AREA **Provide Suitable Engineering Controls**

3.4.3. Where appropriate, MAPP will provide engineering controls to reduce noise exposure. Due to the complexity of most job sites, it is difficult if possible to institute effective engineering controls for most noise exposures. Should this

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be the case, then employees will be required to wear suitable hearing protection.

3.5. Provide Hearing Protectors Where Required

- 3.5.1. MAPP will provide any required employees with hearing protectors if his/her 8 hour TWA is above the 85dB (A). MAPP will also make hearing protectors available to all employees exposed to a TWA above 85dB (A) at no cost to the employee. Any employee who may have a significant threshold shift of hearing level will be required to wear hearing protection if they are exposed to noise of TWA of 85dB.

4. RESPONSIBILITIES

4.1. Job Site Supervision Will:

- 4.1.1. Require hearing protection in all areas with noise levels at or above 85 dB(A) and for all tasks which generate such noise levels (e.g. grinding, hammering). Ear plugs shall be required in any area and/or on tasks with sound levels exceeding 105 dB.
 - 4.1.2. To alert employees to possible hazardous noise exposures, signs shall be posted in work areas in which the sound levels may exceed 85 dB.
 - 4.1.3. Evaluate the need for engineering and/or administrative controls to reduce the noise levels below the 85 dB and, where feasible, develop a plan to reduce all personnel exposures to less than the OSHA allowable.
 - 4.1.4. Make hearing protection available and enforce its use by all employees with TWA exposures at or above the OSHA allowable and/or by those who must enter or work in areas where the noise level is 85 dB or above.
- 4.2. **REMEMBER:** The client determines if a unit or work area within their control is classified as a high noise area. After the determination is made, MAPP employees will be instructed to wear the appropriate hearing protection.

5. RECORDKEEPING

- 5.1. All recordkeeping for this program will be maintained in the MAPP Corporate Office. Records will include:
 - 5.1.1. Audiometric tests
 - 5.1.2. Noise surveys
 - 5.1.3. Employee training
 - 5.1.4. Engineering controls implemented
 - 5.1.5. Record of purchase of hearing protectors

6. WORK REQUIRING HEARING PROTECTORS

- 6.1. There are many jobs or types of work that generally produce noise levels that intermittently or for short durations exceed the permissible TWA. It is the policy of

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MAPP to require all workers who are engaged in these jobs to wear hearing protectors. See attached list for examples.

6.1.1. Hearing Protectors

6.1.1.1. Employees may choose the type of hearing protection that best suits their particular assignment and personal preference for among those listed below. Each employee required to wear hearing protection is responsible for carrying hearing protection on his/her person. Hearing protection is furnished at no cost to employees.

6.1.1.1.1. **EAR PLUGS-** Most ear plugs, when worn properly, have a noise reduction rating (NRR) on the package. Most ear plugs have NRR of about 30.

6.1.1.1.2. **EAR MUFFS-** Adjustable muffs can be worn in three positions:

POSITION	NRR
Over the head	24 (this depends on the NRR of the Ear muff)
Under the chin	20
Behind the head	20

6.1.2. Computing the Hearing Protection Level

6.1.2.1. To compute the actual hearing protection level under the protector, subtract 7 dB(A) from the Noise Reduction Rating, divide the number by 2, and subtract the remainder from the measured noise level dB (A).

6.1.2.1.1. Example: $NRR\ of\ 29 - 7 = 22\ dB(A) \div 2 = 11\ dB(A) - 11 = 84dB(A)$
Therefore, this device offers a protection level of 11 dB (A).

SECTION 20**HEARING CONSERVATION****ATTACHMENT**

The following list represents some work activities and equipment which will require the use of hearing protection:

Activities and/or Equipment	Estimated Average Typically Resulting in High Noise Level (Noise Level dB (A))
Air Arc Gouging	115
Air Compressor	95
Chain saw	107
Electric Disc Grinder	100
Forklift inside a trailer	98
Impact tools	108
Pneumatic chipping hammer	110
Abrasive blasting	100
Welding machines	95