



Hearing Conservation

1. Purpose:

The purpose of the Hearing Conservation Program (HCP) is the prevention of hearing loss to Innovative Machining LLC (IM) team members as a result of exposure to excessive noise at work.

2. Scope:

Whenever a team member’s occupational exposure to noise is equal to or exceeds the equivalent of an eight-hour time weighted average (TWA) of eighty-five (85) dBa or a dose of fifty percent (50%) for shifts lasting longer than eight (8) hours, a continuing, effective HCP is required.

Most areas of the plant do not require hearing protection use and most team members will not be in the HCP. See Appendix A for a list of departments/tasks which are included in the HCP.

3. Definitions:

- 3.1 *Audiogram*: A graphic record of the results of a team member’s hearing test showing the variations of hearing acuity of an individual over a specified frequency range, as indicated by a hearing test.
- 3.2 *dBa (decibels, a-weighted)*: This is the measurement scale used to evaluate sound levels and personal noise exposures for the purposes of hearing conservation.
- 3.3 *Dosimeter*: A device that measures the intensity of sound, storing and integrating the sound level measurements over time to provide an average noise exposure for a set time period, such as an eight-hour shift.
- 3.4 *Hearing test*: The measurement of hearing acuity through a range of frequencies.
- 3.5 *Noise*: Unwanted sound.
- 3.6 *Sound Level Meter*: A device that measures the intensity of sound at a given moment.
- 3.7 *Standard Threshold Shift (STS)*: A change in hearing threshold relative to the baseline audiogram of an average of 10 decibels or more at 2000 Hz, 3000 Hz and 4000 HZ in either ear.
- 3.8 *Threshold Limit Value (TLV)*: A voluntary exposure limit developed by the American Conference of Governmental Industrial Hygienists (ACGIH). The TLV for noise is an eight-hour time weighted average of 85 dBA when measured with a threshold of 80 dBA doubling.
- 3.9 *Time Weighted Average (TWA)*: The average value of exposure over the course of an 8-hour work shift.

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4. Responsibilities:

- 4.1 The President and Management Team
 - 4.1.1 Providing the resources necessary to implement this program, including delegating responsibility and authority to managers and supervisors.
- 4.2 Program Administrator (Human Resources)
 - 4.2.1 Ensuring team members are trained prior to being asked to perform work that requires the use of hearing protectors.
 - 4.2.2 Ensuring that team members receive a baseline and annual audiogram.
 - 4.2.3 Conducting or coordinating noise monitoring.
 - 4.2.4 Ensuring training for new hires and annual refresher training.
- 4.3 Department Managers and Supervisors:
 - 4.3.1 Ensuring that team members wear hearing protectors as required.
 - 4.3.2 Ensuring that affected team members attend training.
 - 4.3.3 Ensuring that affected team members receive audiograms.
- 4.4 Team Members (Affected):
 - 4.4.1 Wear hearing protection as required.
 - 4.4.2 Attending training.
 - 4.4.3 Receiving audiograms.

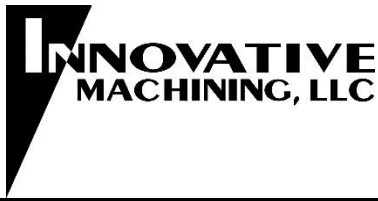
5. Equipment:

- 5.1 Reusable Ear Plugs
- 5.2 Disposable Ear Plugs
- 5.3 Earmuffs

6. Procedure:

- 6.1 General
 - 6.1.1 The purpose of an HCP is the prevention of hearing loss to team members as a result of exposure to excessive noise at work. This goal can be accomplished by developing a program that incorporates multiple approaches.
 - 6.1.1.1 When feasible, engineering controls can be used to reduce the sound levels at the source.
 - 6.1.1.2 When engineering controls are not feasible, administrative controls can be used to reduce the time an employee is exposed to high noise levels.

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6.1.1.3 When these methods are not effective, protective hearing devices can be used to reduce an employee’s noise exposure.

6.2 Noise Monitoring

6.2.1 The noise sampling strategy shall be designed to identify team members for inclusion in the Hearing Conservation Program. Monitoring will be repeated as necessary after a change in production, processes, or equipment controls.

6.2.2 When information indicates that team member’s exposure may equal or exceed an eight (8) hour time-weighted average of eighty-five (85) dBa, IM shall develop and implement a hearing conservation program including noise monitoring.

6.3 Audiometric Testing Program

6.3.1 IM shall establish and maintain an audiometric testing program for team members who will be in the HCP. The audiometric testing shall be provided at no cost to team members.

6.3.2 Audiometric tests will 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. Audiometric tests are provided by ThedaCare, IM’s occupational medical provider.

6.3.3 Prior to conducting a baseline audiogram, team members must be free of exposure to workplace noise for at least fourteen (14) hours. Hearing protection may be used to fulfill the requirement of avoiding workplace noise for at least fourteen (14) hours. IM shall notify team members of the need to avoid high levels of non-occupational noise exposure during the fourteen (14) hour period immediately preceding the audiometric examination.

6.4 Audiometric Test Requirements

6.4.1 Audiometric tests shall be pure tone, air conduction, hearing threshold examinations with test frequencies including as a minimum 500, 1,000, 2,000, 3,000, 4,000 and 6,000 Hz. Tests at each frequency shall be taken separately for each ear.

6.4.2 Audiometric tests shall be conducted with audiometers (including microprocessor audiometers) that meet the specifications of and are maintained and used in accordance with, American National Standard Specification for audiometers, S3.6-1969, which is incorporated by reference as specified in Sec. 1910.6 in the Code of Federal Regulations.

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6.5 Baseline Audiogram

6.5.1 Upon hire, IM shall establish a baseline audiogram against which subsequent audiograms can be compared. The baseline must be given within six (6) months of a team member’s first exposure to noise levels above eighty-five (85) dBA.

6.6 Annual Audiogram

6.6.1 At least annually after obtaining the baseline audiogram, IM shall obtain a new audiogram for each team member exposed at or above an eight (8) hour time-weighted average of eighty-five (85) decibels.

6.6.2 Each team member’s annual audiogram shall be compared to the team member’s baseline audiogram to determine if the audiogram is valid and if a standard threshold shift (STS) has occurred. This comparison will be completed by IM’s occupational medical provider, ThedaCare.

6.6.3 If the annual audiogram shows that a team member has suffered an STS, IM may obtain a retest within thirty (30) days and consider the results of the retest as the annual audiogram.

6.6.4 The audiologist, otolaryngologist, or physician shall review problem audiograms and shall determine whether there is a need for further evaluation. IM shall provide to the person performing this evaluation the following information:

6.6.4.1 A copy of the requirements for hearing conservation.

6.6.4.2 The baseline audiogram and most recent audiogram of the team members to be evaluated.

6.6.4.3 Records of audiometric calibrations.

6.7 Audiogram Follow-up Procedures

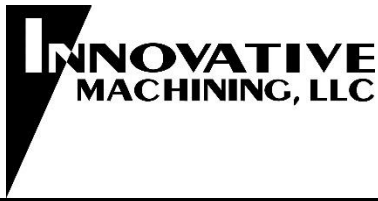
6.7.1 If a comparison of the annual audiogram to the baseline indicates an STS has occurred, the team member shall be informed of this fact in writing, within twenty-one (21) days of the determination.

6.7.2 Unless a physician determines that the STS is not work related or aggravated by occupational noise, IM shall ensure that the following steps are taken when an STS occurs.

6.7.2.1 Team members not using hearing protection shall be fitted with hearing protection, trained in their use and care and required to use them.

6.7.2.2 Team members already using hearing protection shall be refitted and retrained in the use of hearing protection and provided with hearing

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protection offering greater attenuation if necessary.

6.7.2.3 If additional testing is necessary or if IM suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protection, the team member shall be referred for a clinical audiological evaluation or an otological examination.

6.8 Revised Baseline

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

6.8.1.1 The STS revealed by the audiogram is persistent

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

6.9 Standard Threshold Shift (STS)

6.9.1 A standard threshold shift (STS) is a change in hearing threshold relative to the baseline audiogram of an average ten (10) dB or more at 2,000, 3,000 and 4,000 Hz in either ear.

6.9.2 In determining whether an STS has occurred, allowance may be made for the contribution of aging (presbycusis) to the change in hearing level correcting the annual audiogram accordingly.

6.10 Hearing Protection

6.10.1 IM shall make hearing protection available at no cost to the team members. Hearing protection shall be replaced as necessary.

6.10.2 Team members may use hearing protection on a comfort basis.

6.10.3 Team members shall be given the opportunity to select their hearing protection from a variety of suitable hearing protection.

6.10.4 IM shall provide training in the use and care of all hearing protection provided to team members.

6.10.5 IM shall ensure proper initial fitting and supervise the correct use of all hearing protection.

6.10.6 Hearing protective attenuation evaluation will be determined by the Noise Reduction Rating (NRR) shown on the hearing protective package and then related to the noise environment to determine whether adequate protection is provided.

6.10.7 IM will install signs indicating hearing protection is required at entrances to or on the periphery of work areas where team members are exposed to TWA of 85 decibels or

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above.

6.10.8 IM shall ensure that hearing protection is worn by team members:

6.10.8.1 Required to wear personal protective equipment.

6.10.8.2 Any team member who is exposed to an eight (8) hour time-weighted average of eight-five (85) decibels or greater.

6.10.8.3 Any team member that has experienced a standard threshold shift of an average ten (10) dB or more at 2,000, 3,000 and 4,000 Hz in either ear.

7. TRAINING:

7.1 Initial and Refresher Training

7.1.1 IM shall provide training to team members who are exposed to noise at or above an eight (8) hour time-weighted average of eight-five (85) decibels.

7.1.2 The training program shall be repeated annually for each team member included in the hearing conservation program.

7.2 Training Content

7.2.1 Information provided in the training program shall be updated to be consistent with changes on protective equipment and work processes.

7.2.2 The effects of noise on hearing.

7.2.3 The purpose of hearing protection, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care.

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

7.3 IM shall make available to affected team members or their representative copies of the OSHA 29 CFR 1910.95 Hearing Conservation Standard. In addition, it shall be posted in the workplace.

8. RECORDKEEPING:

<u>Topic</u>	<u>Duration</u>	<u>Location</u>
Audiometric Test Records	Length of Employment	HR Department
Noise measurement records	Two (2) years	HR Department
Training Records	Length of Employment	HR Department

END OF WRITTEN PROCEDURE.

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Appendix A, Mandatory Hearing Protection Areas

Department/Task:

- Water Jet Area

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