HEARING CONSERVATION PROGRAM

Approval:

signature on file  2/23/09

Chair, Institution Safety Committee  Date

signature on file  2/20/09

Environmental, Health and Safety Director  Date
1.0 PURPOSE AND SCOPE

1.1 The purpose of this hearing conservation program is to prevent occupational hearing loss and comply with the OSHA Standard 29 CFR 1910.95 - Occupational Noise Exposure.

1.2 This program covers all WHOI personnel with potential for exposure to workplace noise. This program does not apply to Marine Operations that are addressed by applicable United States Coast Guard regulations.

2.0 ROLES AND RESPONSIBILITIES

2.1 Environmental Health and Safety (EH&S) Office

- Identifies and assesses work areas, processes or tasks that have potential for causing exposure to workplace noise above 85 decibels (dBA).
- Identifies employees to be included in the Hearing Conservation Program.
- Coordinates audiometric testing program and maintains contracts with audimetric service providers.
- Assists with hearing protection selection.
- Conducts employee training.
- Notifies employees of hearing loss (Significant Threshold Shift).
- Coordinates required recordkeeping.
- Periodically evaluates the overall program.

2.2 WHOI Personnel

- Complies with all applicable Hearing Conservation Program requirements, which include training, initial and annual audiometric examinations and proper use and maintenance of Personal Protective Equipment (PPE).
- Informs supervisor about new noise hazards or noise hazards that they feel have not been adequately addressed.

2.3 Supervisors

- Ensures that feasible engineering and other noise exposure controls are implemented.
- Identifies new or modified tasks or procedures that may increase or otherwise change employee noise exposure.
- Ensures that employees follow proper procedures, obtain audiometric examinations, and wear/maintain required PPE.
- Coordinates with EH&S to ensure that training is conducted, audiograms are taken, and exposures are evaluated.
- Pays for custom hearing protection PPE, if required.

2.4 Stockroom
2.5 Human Resources

- As required by OSHA, maintains the OSHA 300 Log for work related injuries and illnesses, including hearing loss.
- Manages Workers Compensation hearing loss cases.

2.6 Contractors

- On-site contractors will be responsible for minimizing their noise exposure and providing their own hearing protection (plugs and mufffs).

### 3.0 NOISE MONITORING

3.1 When information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 dBA, noise monitoring shall be conducted according to the current OSHA standard for occupational noise exposure.

- All continuous, intermittent and impulsive sound levels from 80 decibels to 130 decibels shall be integrated into the noise measurements.
- Employees who have an 8-hour time-weighted average exposure equal to or greater than 85 dBA shall be enrolled in the WHOI hearing conservation program.
- Monitoring shall be repeated whenever a change in production, process, equipment or controls increases noise exposures such that additional employees may be exposed at or above the action level and/or the attenuation provided by hearing protectors is inadequate.

3.2 Each employee exposed at or above an 8-hour time-weighted average of 85 dBA will be notified by EH&S of the results of the monitoring.

### 4.0 AUDIOMETRIC TESTING

4.1 Audiometric tests shall be performed by a licensed or certified audiologist, otolaryngologist, physician, or technician who meets the requirements of the current OSHA standard for occupational noise exposure; and is approved by EH&S.

4.2 A Baseline Audiogram shall be obtained within 6 months of an employee's first exposure at or above the action level.

4.3 Employees with potential for exposure at or above the action level shall wear hearing protectors until the baseline audiogram is obtained.

4.4 Testing to establish a baseline audiogram shall 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.

4.5 Supervisors shall notify employees of the need to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination.

4.6 Audiograms will be conducted at least annually after obtaining the baseline audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 dBA.

4.7 EH&S will maintain a record of all employee audiometric test records. This record will include:
   • Name and job classification of the employee.
   • Date of the audiogram.
   • The examiner's name.
   • Date of the last acoustic or exhaustive calibration of the audiometer.
   • Employee's most recent noise exposure assessment.

5.0 AUDIOMETRIC EVALUATION

5.1 Each employee's annual audiogram will be compared to his/her baseline audiogram by a qualified evaluator to determine if a Standard Threshold Shift (STS) has occurred.
   • A Standard Threshold Shift is defined by OSHA as a change in hearing threshold relative to the baseline of an average of 10dBA or more at 2000, 3000, and 4000 Hz in either ear.
   • In determining if a Standard Threshold Shift has occurred, an allowance can be made for the contribution of aging (presbycusis). The age correction values to be used are found in Appendix F of 1910.95.
   • The audiologist, otolaryngologist, or physician shall review problem audiograms and shall determine whether there is a need for further evaluation.

5.2 As needed, EH&S shall provide the person performing this evaluation with related information, including:
   • A copy of the requirements for hearing conservation as set forth in the OSHA standard for occupational noise exposure.
   • The baseline audiogram and most recent audiogram of the employee to be evaluated.
   • Measurements of background sound pressure levels in the audiometric test room as required in Appendix D: Audiometric Test Rooms.
   • Records of audiometer calibrations.
5.3 If the annual audiogram shows that an employee has suffered a standard threshold shift, EH&S may require a retest within 30 days and consider the results of the retest as the annual audiogram.

5.4 Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, the following steps will be taken when a standard threshold shift occurs:

- Employees not using hearing protectors will be trained, fitted, and required to use hearing protectors if they are exposed to an 8-hour TWA average sound level of 85 dBA or greater.
- Employees already using hearing protectors shall be retrained, refitted, and required to use hearing protectors and provided with hearing protectors offering greater attenuation if necessary.
- EH&S will inform the employee, in writing, within 21 days of this determination, of the existence of a permanent Standard Threshold Shift. A copy of the STS letter will also be sent to Human Resources and the employee’s supervisor (example letter attached).
- The employee’s supervisor or manager will counsel the employee on the importance of using hearing protectors.
- If determined to be work related, STSs that are persistent must be recorded on the OSHA 300 Log.

5.5 If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour TWA of 90 dBA indicates that a Standard Threshold Shift is not persistent, EH&S:

- Shall inform the employee of the new audiometric interpretation.
- May discontinue the required use of hearing protectors for that employee.

6.0 PERSONAL PROTECTION EQUIPMENT

6.1 Supervisors and Managers shall ensure that hearing protectors are worn:

- By any employee who is subjected to sound levels equal to or exceeding an 8-hour TWA of 90 dBA.
- By any employee who has experienced a persistent Standard Threshold Shift and who is exposed to 8-hour TWA of 85 dBA or greater.
- By any employee who has not had an initial baseline audiogram and who is exposed to 8-hour TWA of 85 dBA or greater.

6.2 Employees will be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors at no cost to them.

6.3 Employee training must include the use and care of all hearing protectors.
6.4 Supervisors will ensure employees are correctly using hearing protectors, including proper fit.

6.5 Employees are responsible for properly using and maintaining the equipment furnished.

6.6 Hearing Protection must meet the following requirements:

- If the 8-hour TWA is over 90 dBA, then the protector must attenuate the exposure to at least an 8-hour TWA of 90 dBA or below.
- If the protector is being worn because the employee experienced a Standard Threshold Shift, then the protector must attenuate the exposure to 8-hour TWA of 85 dBA or below.
- If employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation, the employee will be provided more effective hearing protectors.

7.0 EMPLOYEE EDUCATIONAL TRAINING

7.1 Initial and Annual training includes:

- The effects of noise on hearing.
- The purpose and use of hearing protectors.
- The advantages, disadvantages, and attenuation of various types of protection.
- Instruction in the selection, fitting, use and care of protectors.
- The purpose of audiometric testing and an explanation of the test procedures.

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

8.0 RECORDKEEPING

8.1 Noise exposure measurement records will be retained for two years.

8.2 Audiometric test records will be retained for the duration of the affected workers employment plus thirty years.

9.0 PROGRAM EVALUATION

9.1 The Hearing Conservation Program will be evaluated by EH&S on an annual basis and updated as needed.
Example Letter

January 1, 9999

SUBJECT: Standard Threshold Shift (STS)

Dear Mr. Smith,

Your most recent audiometric test result was compared to your baseline audiogram. This comparison indicates that your hearing has deteriorated to the point where your hearing impairment constitutes a “standard threshold shift.” This is defined by the Occupational Safety and Health Administration (OSHA) as a relative hearing loss of an average of 10 decibels in either ear at the frequencies of 2000, 3000 and 4,000Hz.

An audiogram cannot define why you have a hearing loss, but there are many possible reasons such as infection, wax buildup in your ear, and exposure to noise.

By taking the necessary action now, we can try to stop your hearing loss from getting worse.

Whenever you are in a work environment that would result in noise exposure that equals or exceeds an 8-hour Time Weighted Average (TWA) of 85 decibels, hearing protection must be used.

Please contact EH&S at x3347 if you have any questions or concerns.

Sincerely,

EH&S Director