HEARING CONSERVATION

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1 POLICY

Environmental Health and Safety shall ensure that no employee is subjected to noise that produces sound levels in excess of those established by the Occupational Safety and Health Administration (OSHA) without approved hearing protection.

2 AUTHORITY AND RESPONSIBILITY

2.1 Environmental Health and Safety Manager is responsible for:

- Conducting all personal and/or area noise monitoring;
- Notifying all employees exposed at or above an 8-hour time weighted average (TWA) of 85 decibels (dB) of the monitoring results;
- Ensuring proper initial fitting of all hearing protection devices;
- Conducting annual training for employees included in the Hearing Conservation Program; and
- Maintaining all exposure measurement records.

2.2 Departments are responsible for:

- Contacting Environmental Health and Safety regarding any potential overexposures;
- Implementing engineering and/or administrative controls as deemed necessary;
- Arranging audiometric evaluations for employees;
- Maintaining all audiometric test records;
-Providing hearing protection to employees; and
- Supervising and ensuring the correct use of hearing protection devices.

2.3 Employees are responsible for:

- Using hearing protection as required;
- Participating in annual audiometric evaluations;
- Participating in annual training;
- Inspecting and maintaining hearing protection devices; and
- Seeking replacement or repair of hearing protection devices when necessary.
3 SOUND SURVEYS AND EXPOSURE MONITORING

Employee and/or area monitoring shall be performed when exposure is suspect of being at or above the action level of an 8-hour TWA of 85 dB.

Factors which suggest that noise exposures in the workplace may be at or above 85 dB include employee complaints about the loudness of noise, indications that employees are losing their hearing, or noisy conditions which make normal conversation difficult.

All continuous, intermittent, and impulsive/impact sound levels from 80 dB to 130 dB shall be incorporated into the noise measurement survey.

The degree of noise reduction required shall be determined by comparing the measured levels with acceptable noise levels as presented in Table 1.

Monitoring shall be repeated whenever a change in processes, production, equipment, or controls increases noise exposure to the extent that additional employees may be exposed at or above the action level or the attenuation provided by hearing protection devices being used by employees may be rendered inadequate.

Affected employees or their representatives shall be provided an opportunity to observe any noise measurements.

Employees shall be removed from the Hearing Conservation Program once noise levels have been measured and determined to be at acceptable levels.

Table 1 indicates OSHA’s Permissible Noise Exposure Limits.

Duration (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

Note: Exposures to impulsive/impact noise shall not exceed 140 dB peak sound pressure level.
4 CONTROL MEASURES

When employees are subjected to sound exceeding those levels listed in Table 1, feasible engineering and administrative controls shall be utilized as the first step in noise control. If these controls fail to reduce sound to acceptable levels, hearing protection devices shall be used. During the implementation of administrative and/or engineering controls, affected employees shall be provided with hearing protection devices and trained in accordance with this program.

4.1 Administrative Controls

Administrative controls normally involve a change in work schedules or operations which reduce noise exposures. Examples include operating a noisy machine on the second or third shift when fewer people are exposed or shifting an employee to a less noisy job once a hazardous daily noise dose has been reached.

4.2 Engineering Controls

Engineering controls shall be used when any modification or replacement of equipment, or related physical change at the noise source or along the transmission path can be altered which reduces the noise level to the employee’s ear.

Typical engineering controls may involve the following:

- Reducing noise at the source;
- Interrupting the noise path;
- Reducing reverberation;
- Reducing structure-borne vibration;
- Employee/equipment isolation; and
- Equipment/process substitution.

5 HEARING PROTECTION DEVICES

Hearing protection devices shall be made available to all employees exposed to an 8-hour TWA of 85 dB or greater at no cost to the employees. Hearing protection devices shall be replaced as necessary.
Hearing protection devices shall be worn by employees required to wear personal protective equipment and by any employee who is exposed to an 8-hour TWA of 85 dB or greater, and who has not yet had a baseline audiogram or has experienced a standard threshold shift.

Employees shall be given the opportunity to select their hearing protection from a variety of suitable hearing protection devices.

5.1 Earplugs

There are four general classes of earplugs. These include: premolded, formable, custom molded and semi-insert.

- Premolded earplugs do not require the plug to be formed before it is inserted into the ear. This prevents the plugs from becoming soiled before insertion.

- Formable earplugs are made of a variety of substances. However, all each substance shares the common feature of being able to be shaped by the user prior to insertion. One drawback of this is the obvious need for the user to have clean hands while shaping the earplug. They do have the advantage of forming to the users ear, while many premolded earplugs do not accomplish this very well.

- Custom molded ear plugs are unique for each person, since they are cast from each user's own ear canals. Therefore, they provide a personalized fit for each individual.

- Semi-inserts are generally a soft earplug on the end of band. The band aides in maintaining the earplug in position. They are often useful since they can be quickly removed and inserted.

5.2 Earmuffs

Earmuffs are another type of HPD. The main difference between earmuffs and earplugs, is that earmuffs are not inserted inside the ear canal. Instead the muffs create a seal around the outside of the ear to prevent noise from reaching the inner ear. Earmuffs are easy to wear and often provide a more consistent fit than an earplug. There are earmuffs available that use the principle of active noise control to help reduce noise exposures. However, the protection earmuffs offer may be mitigated by large sideburns or glasses as the seal of the earmuffs may be broken by these objects.
6 Audiometric Evaluations

Audiometric evaluations shall be made available at no cost to all MBL employees whose exposure equals or exceeds an 8-hour TWA of 85 dB.

6.1 Baseline Audiograms

Baseline audiograms shall be obtained within six months of an employee’s first measured exposure at or above the action level to compare subsequent audiograms.

Prior to the audiometric evaluation, employees shall be informed to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric evaluation.

6.2 Annual Audiograms

Audiograms shall be performed at least annually after obtaining the baseline audiogram for each employee exposed at or above the 8-hour TWA of 85 dB. Each employee’s annual audiogram shall be compared to his/her 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, the employee may obtain a retest within 30 days and the retest results may be considered the annual audiogram. If a comparison of the annual audiogram to the baseline indicates a standard threshold shift, the employee shall be informed of this in writing within 21 days of the determination.

All audiometric tests and equipment calibration shall be performed in accordance with the criteria established by “OSHA’s Occupational Noise Exposure” Standard 29 CFR 1910.95.

7 INFORMATION AND TRAINING

Employees who are exposed to noise at or above an 8-hour TWA of 85 dB shall receive training on the following:

- Effects of noise on hearing;
- Purpose of hearing protection devices;
- Advantages and disadvantages of hearing protection devices;
- Attenuation of various types of hearing protection devices;
• Instructions on selection, fitting, use, and care of hearing protection devices; and
• The purpose of audiometric testing including an explanation of the test procedure.

Annual training for all employees included in the MBL’s Hearing Conservation Program will be performed by Environmental Health and Safety Manager. The EH&S Manager shall provide training or update program as necessary to ensure consistency with changes in protective equipment and work processes.

8 RECORDKEEPING

8.1 Exposure Measurements

Environmental Health and Safety shall maintain an accurate record of all employee exposure measurements for a period of two years.

8.2 Audiometric Tests

Records of all employee audiometric tests shall be retained for the duration of the affected employee’s employment and thirty years from the date of termination. These records shall include:

• Name and job classification of the employee;
• Date of the audiometric test;
• The examiner’s name;
• Date of last acoustic or exhaustive calibration of the audiometer;
• Employee’s most recent noise exposure assessment; and
• Background sound pressure level measurements in audiometric test rooms.

All records shall be made available upon written request to the employee or designee at any time without regard to employment status.