HEARING CONSERVATION PROGRAM

Rose-Hulman Institute of Technology
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HEARING CONSERVATION PROGRAM

1.0 Purpose

The purpose of Rose-Hulman Institute of Technology (Rose-Hulman) Hearing Conservation Program is to:

- Protect employees from hearing loss associated with exposure to occupational noise
- Inform employees of the risk for hearing damage associated with excessively noisy activities
- Comply with OSHA regulations and other appropriate federal and state regulations.

2.0 Regulatory Reference

OSHA 29 CFR 1910.95

3.0 Scope

This program is applicable to all employees of Rose-Hulman, who are potentially exposed to work place noise at or above the OSHA Permissible Exposure Limit (PEL) of 90 decibel A-weighted (dBA) and / or the OSHA Action Level of 85 dBA.

4.0 Responsibility

The Rose-Hulman Office of Environmental Health & Safety (EH&S) is responsible for the establishment, implementation, and review of this program. EH&S is responsible for developing and updating this program as appropriate, makes the written program available in written format and on the EH&S website. EH&S will provide employee training to meet the requirements of the program when requested by departments, managers or supervisors.

Employees shall participate in the audiometric testing, shall follow administrative controls (standard work procedures), and shall use the hearing protection provided. It is the responsibility of the employee to take proper care of the provided hearing protectors, and to notify his/her supervisor of any damage that could make the hearing protectors ineffective.

5.0 Definitions

Action Level: An eight-hour time-weighted average (TWA) of 85 decibels (dB), measured on the A-scale, slow response that requires the implementation of a Hearing Conservation Program in accordance with the OSHA Occupational Noise Exposure Standard

Administrative Controls: efforts to change a work schedule or operations to reduce an employee’s noise exposure

Audiogram: A record of a person’s ability to hear at several different frequencies
Audiometric Testing: measurement of a person’s ability to hear at several different frequencies, usually 500 to 6,000 Hz

Baseline Audiogram: Initial, valid audiograms against which subsequent audiograms are compared to determine if hearing thresholds have changes.

Competent Person: For purposes of this program, a competent person is an audiologist, otolaryngologist, or physician trained to perform and interpret audio logic testing.

Continuous Noise: noise of a constant level as measured over at least one second using the “slow” setting on a sound level meter.

Decibel (dB): the unit used to measure sound pressure levels; a logarithmic scale ranging from 0 dB (threshold of hearing) through 140 dB (threshold for pain)

Decibel A-weighted (dBA): a sound level reading in decibels made on the A-weighted network of a sound level meter

Engineering Controls: use of engineering methods to reduce or control a noise source, usually by modifying or replacing equipment

Hearing Conservation Program (HCP): implementation of noise monitoring, employee audiometric testing and training to protect employees from work-related hearing loss

Noise Dosimeter: An instrument worn by personnel for a specified period of time, which measures the employee’s noise exposure during that time.

Noise-induced Hearing Loss: A sensory-neural hearing loss that is attributed to noise exposure only.

Permissible Exposure Limit (PEL): the maximum allowable noise exposure per OSHA. The current PEL for noise is 90dBA measured over an eight-hour period

Sensory-neural Hearing Loss: hearing loss resulting from damage to the inner ear.

Standard Threshold Shift: Relative to a baseline audiogram, a change in the hearing threshold of 10dB or more at 2000, 3000, and 4000 Hz.

Threshold Limit Value (TLV): the sound pressure levels and durations of exposure which workers may repeatedly be exposed without adverse affect to their hearing.

6.0 Training and Recordkeeping

Rose-Hulman employees who are exposed to noise at or above the 8-hour time-weighted average of 85 decibels shall participate in a training program regarding hearing protection. The training will be presented periodically to all affected employees.
The training will include the following:

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

All training and educational materials, as well as the Hearing Protection Standard, shall be available to the employee upon request from the Office of Environment Health and Safety.

Audiogram and noise exposure records will be maintained as a part of the employee’s permanent record in the Human Resource Department and shall be available to the employee.

Records of Noise Surveys/Monitoring, results of special noise studies, and records of special actions or engineering controls installed to control noise exposure will be maintained indefinitely in the Office of Environmental Health and Safety.

### 7.0 Permissible Exposure Limits (PEL’s)

<table>
<thead>
<tr>
<th>Duration (Hours)</th>
<th>Sound Level (dBA)</th>
<th>Sound Level (dBPA)</th>
<th>Permitted Impacts/Impulses per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>85</td>
<td>140</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>90</td>
<td>130</td>
<td>1000</td>
</tr>
<tr>
<td>2</td>
<td>95</td>
<td>120</td>
<td>10000</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.25</td>
<td>110</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.125 or less</td>
<td>115</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 8.0 Procedures

When employees are subjected to workplace sound levels exceeding the above, engineering controls shall be used to reduce the sound level. Administrative controls, including standard work procedures and schedules shall also be used. When such controls are not feasible, or fail to reduce the workplace sound level below the above-stated limits, Personal Protective Equipment, i.e., earplugs or earmuffs shall be provided and used.
When sound measurement or other information indicates that an employee’s exposure may equal or exceed an 8-hour time-weighted average of 85 decibels, the employee shall be included in Rose-Hulman’s Hearing Conservation Program.

Employees who are included in the Hearing Conservation Program shall undergo periodic audiometric testing. This testing shall be done initially, i.e., within 6 months of the employee being hired or assigned to a job where sound levels exceed the OSHA Action Level, and repeated annually. All testing shall be in accord with the requirements of OSHA 29 CFR 1910.95.

If an employee’s audiogram indicates a change, i.e., a standard threshold shift, the employee will be retested within 30 days of the previous test.

If the audiogram indicates a standard threshold shift, the employee and employer will be informed of this in writing within 21 days of the determination. The written report shall be prepared by the competent person performing the audiogram.

Unless a physician determines that the standard threshold shift is not work-related, the employer shall review the efficacy of the hearing protection provided for that job. The review will include fitting or refitting the employee with hearing protectors, training the employee in the use and care of the hearing protectors, and informing the employee of the requirement to use the hearing protection.