OPF HEARING CONSERVATION PROGRAM
(UH MANOA PLAN ADOPTED)
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1.0 Introduction

The University of Hawaii is committed to providing a safe and healthful environment for all employees. Consistent with this commitment, we have developed a Hearing Conservation Program.

This program is designed to provide the maximum protection for all employees who may be exposed to high noise levels as well as to ensure compliance with the State of Hawaii, Occupational Safety and Health Standards.

In addition, guidelines are provided for the selection, use and purchase of hearing protectors that will adequately protect all employees who may be exposed to high noise levels.

This written program is available for review by any interested employee or representative of any employee. Any questions about this program should be addressed to the EHSO.

This program is monitored and audited by the EHSO to ensure that the policies are carried out and that the program is effective.

2.0 Program Administration

Each supervisor shall be responsible for implementing the provisions of this program. All training requirements under this program shall be provided at no cost to the employee.

The Industrial Hygienist from the UHM Environmental Health and Safety Office shall assist the departments with the implementation and maintenance of the Hearing Conservation Program.

3.0 General Requirements

When employees are exposed to sound levels exceeding those in Appendix A, administrative or engineering controls shall be utilized. If administrative or engineering controls are not available, personal protective equipment shall be used to reduce the sound levels to that in Appendix A or lower.

Exposure to impact or impulse noise shall not exceed 140 dBA peak sound pressure level. If the variations in peak of sound pressure levels are one second or less, the noise is to be considered continuous.

All employees whose noise exposure equals or exceed an 8-hour time weighted average (TWA) of 85 dBA slow response, shall be included in this program and are subject to all elements in Sections 4.0 through 9.0. This level shall be computed
without regard to attenuation factors provided by the use of personal protective equipment.

4.0 Monitoring

A monitoring strategy shall be developed to identify those work areas with a sound pressure level of 85 dBA slow response or greater. This monitor strategy shall be designed to identify all employees to be covered by this program and to enable them to select the proper hearing protectors.

Monitoring shall be conducted whenever a change in production, process, equipment, or controls may cause an increase in sound pressure levels so that the additional employees are affected or the attenuation provided by the hearing protection may become ineffective.

After the completion of monitoring, all employees exposed to a time weighted average of 85 dBA or greater shall be notified of the results.

Affected employees or their representatives will be allowed to observe all noise measurements taken for compliance with this program.

All instruments used to measure sound levels and employee noise exposure shall be calibrated to ensure accuracy with a tolerance of no more than +/- 2 dB.

5.0 Audiometric Testing Program

An audiometric examination shall be provided to employees whose noise exposure equals a time weighted average of 85 dBA or greater at no cost to the employee. The audiometric test shall be conducted by a licensed or certified audiologist, otolaryngologist, or another physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation (CAOHC).

Within 6 months of an employee’s first exposure to sound levels of 85 dBA slow response or greater, a baseline audiogram shall be taken against which subsequent audiograms may be compared.

Baseline audiograms must be preceded by 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.

The employee shall endeavor to avoid high levels of non-occupational noise 14 hours before the audiometric examination.

Where baseline audiograms are given more than 6 months after an employee’s initial exposure, the employee shall wear hearing protectors until the baseline audiogram is obtained.
After a baseline audiogram has been taken, each employee exposed to noise at the 85 dBA time weighted average level or above shall have an annual examination.

6.0 Audiometric Examination Evaluation

Each employee’s audiogram shall be compared with their baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred.

A standard threshold shift is defined as a change in the hearing threshold of an average of 10 decibels or more at 2000, 3000 and 4000 hertz in either ear when compared to the original audiogram.

If a standard threshold shift has occurred, the employee may be retested within 30 days and the results of the retest may be considered the annual audiogram. A physician, audiologist, or otolaryngologist shall review the problem audiograms and determine if there is a need for further evaluation.

The employee shall be notified in writing within 21 days of the determination of a standard threshold shift.

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 upon discovering a standard threshold shift:

A. Employees not using hearing protectors shall be fitted with hearing protectors, trained in their use, and required to use them;

B. Those employees already using hearing protectors shall be refitted with protectors offering greater attenuation if necessary and retained in their use;

C. The employee shall be referred for a clinical examination or evaluation if the use of hearing protectors causes or aggravates a medical pathology of the ear; and

D. The employee shall be informed of the need for an otological examination if the medical pathology of the ear is unrelated to the use of hearing protectors.

The employee shall be informed if subsequent audiometric testing indicates that the standard threshold shift is not persistent. If the employee works in areas subject to a time weighted average of less than 90 decibels, the required use of hearing protectors may be discontinued.

An annual audiogram shall be substituted for the baseline audiogram when the standard threshold shift is determined to be persistent by the audiologist, otolaryngologist, or physician.
An annual audiogram shall also be substituted for the baseline audiogram when it shows significant improvement over the baseline.

7.0 Hearing Protectors

Hearing protectors shall be made available and shall be worn by all employees exposed to an 8-hour time weighted average of 85 dBA or greater. This includes those employees who have experiences a standard threshold shift and those who have not yet had a baseline audiogram.

Each employee required to use hearing protectors shall select the protector from a variety of hearing protectors provided and shall be properly fitted.

The protector selected must provide attenuation to at least an 8-hour time weighted average of 90 dBA.

For those employees who have experienced a standard threshold shift, the attenuation shall be at least an 8-hour time weighted average of 85 dBA or below.

8.0 Training

All employees exposed to noise at a time weighted average of 85 dBA or greater shall participate in a hearing conservation training program that shall include:

A. The effects of noise upon hearing

B. The fitting, use, care, and purpose of hearing protectors; and

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

This training program shall be repeated annually for all employees included in the Hearing Conservation Program.

9.0 Recordkeeping

Each supervisor shall maintain an accurate record of all employee exposure measurements required by section 4.0.

A. Audiometric Tests

The employer shall retain all employee audiometric test records. This record shall 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; and
• Employee’s most recent noise exposure assessment

B. Each supervisor shall retain accurate records of the measurements of the background sound pressure levels in audiometric test rooms.

C. Each supervisor shall retain records required in this section for at least the following periods.

• Noise exposure measurement records shall be retained for 2 years.
• Audiometric test records shall be retained for the duration of the affected employee’s employment.

D. All records required in this section shall be available upon request to employees, former employees, representatives designated by the individual employee, and representatives of the Hawaii Division of Occupational Safety and Health.

E. Each supervisor shall transfer to his successor all records required to be maintained by this section, and the successor shall retain them for the remainder of the period prescribed in (D) above.
APPENDIX A

PERMISSIBLE NOISE EXPOSURES*

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<th>Duration Per Day</th>
<th>Sound Level in Hours</th>
<th>Response</th>
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<tr>
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<td></td>
</tr>
<tr>
<td>0.25 (or less)</td>
<td>115</td>
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</table>

*When the daily noise exposure is composed of 2 or more periods of noise exposure of different levels, their combined effect shall be considered, rather than the individual effect of each.

If the sum of these fractions: C/T + C/T + ... C/T exceeds unity, then the mixed exposure shall be considered to exceed the limit.

“C” indicates the total time of exposure at a specified noise level, and “T” indicates the total time of exposure permitted at that level.

Exposure to impulsive or impact noise shall not exceed 140 dB peak sound pressure level.
APPENDIX B

Maximum Allowable Octave Band Sound Pressure Levels For Audiometric Test Rooms*

Octave Band Center Frequency (Hz) .... 500 1000 2000 4000 8000

Sound Pressure Level (dB) ....... 40 40 47 57 62

*Rooms used for audiometric testing shall not have background sound pressure levels exceeding those above when measured by equipment conforming at least to the type 2 requirements of ANSI S1.4 and to the Class II requirements of ANSI S1.11.
APPENDIX C
TYPES OF HEARING PROTECTORS

Ear Muffs
Ear muffs come in many styles. Most are attached to spring-loaded headbands, while others are attached directly to safety headgear. Specialized muffs are also available for persons who work in high voltage exposures, or who need to filter out hazardous noises while retaining acute hearing for normal sound ranges. Muffs cover the entire ear and can reduce noise by as much as 15-30 decibels. (Muffs are often used in conjunction with ear plugs when a worker is exposed to extremely high noise levels - 105 decibels and above.)

Ear Plugs
Like muffs, ear plugs come in many varieties-formable, custom molded, pre-molded, disposable, reusable-and may be made of different types of materials such as acoustical fiber, silicone, rubber, or plastic. Ear plugs are positioned in the outer part and may reduce noise by as much as 30 decibels.

Canal Caps
These hearing protectors cap off or close the ear canal at its opening. Like many muffs, canal caps are connected to a flexible headband that ensures a close fit. Canal caps are most commonly used when an individual is unable to use traditional ear plugs.
APPENDIX D
DISTRIBUTORS OF HEARING PROTECTORS

GASPRO
2305 Kamehameha Hwy.
P.O. Box 30707
Honolulu, Hawaii 96820
Telephone: 842-2222

SAFETY SYSTEMS HAWAII, INC.
633 Kakoi Street
Honolulu, Hawaii 96819
Telephone: 847-4017