

# California Institute of Technology

## HEARING CONSERVATION PROGRAM



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# HEARING CONSERVATION PROGRAM

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## **1.0 INTRODUCTION**

### **1.1 PURPOSE**

This Hearing Conservation Program (HCP) is designed to ensure that the campus community does not suffer noise related health effects from excessive noise exposure. Some operations may expose faculty, staff, and/or students to high noise levels. This Program is a part of the Institute's overall commitment toward a safe and healthy workplace.

### **1.2 PROGRAM DESCRIPTION**

The objective of Caltech's Hearing Conservation Program (HCP) is to prevent noise-induced hearing loss resulting from occupational noise exposure and to comply with Title 8 of the California Code of Regulations, Sections 5095-5100.

Caltech's Hearing Conservation Program includes:

- Noise Surveys
- Audiometric Testing
- Hearing Protection
- Employee Education and Training
- Record Keeping

### **1.3 SCOPE**

This Hearing Conservation Program applies whenever employee noise exposures equal or exceed an 8-hour time-weighted average (TWA) sound level of 85 decibels measured on the A-weighted scale (dBA).

## **2.0 RESPONSIBILITIES**

### **2.1 SUPERVISOR/DEPARTMENT**

- Notifying Environment, Health, and Safety (EH&S) of noise concerns / complaints or potential noise hazards.
- Ensuring that employees are provided with hearing protectors when required by this Program.

- Ensuring that employees properly use and care for their hearing protectors.
- Ensuring that noise hazards such as noisy equipment and areas are properly labeled and identified as required by this Program.
- Notifying Environment, Health, and Safety (EH&S) of process, materials or equipment changes that may alter noise exposures.
- Ensuring that employees who may be exposed to noise at or above 85 dBA for an 8-hour TWA are provided with a baseline audiometric test prior to their initial work assignment and then annually thereafter. High noise exposure must be avoided for fourteen (14) hours prior to an audiometric test.
- Enforcing the use of hearing protectors in the designated areas/assignments.
- Ensuring new employee HCP orientation/training and annual refresher HCP training is provided to all employees required to be in the Program.

## 2.2 ENVIRONMENT, HEALTH, AND SAFETY (EH&S)

- Administering the Hearing Conservation Program.
- Performing workplace and employee noise evaluations:
  - Conducting noise assessments to determine if administrative and engineering controls are feasible to reduce noise levels.
  - Identifying all areas or processes that may require noise abatement and/or postings.
  - Evaluating and periodically re-evaluating employees' exposure, by job classification, to determine which job titles need to be included in the HCP.
- Maintaining records of employee exposure measurements.
- Maintaining audiometric test records.
- Ensuring annual training on HCP.

## **2.3 EMPLOYEES**

- Wearing hearing protection devices and following any noise reduction procedures as required.
- Storing and maintaining hearing protection devices in a clean and sanitary manner.
- Reporting noise hazards and hearing protector problems to their Supervisor.
- Attending required training sessions on the HCP.

## **2.4 CALTECH'S OCCUPATIONAL HEALTH PROVIDER AND MOBILE TEST VAN (Industrial Hearing and Pulmonary Management)**

- Providing baseline and annual audiometric testing.
- Performing audiogram evaluations.
- Communicate any standard threshold shifts to Caltech's EH&S Office.
- Maintaining audiometric test records.

## **2.5 CALTECH'S DISABILITY AND LEAVE**

- Shall record cases of occupational hearing loss if an employee's current audiogram reveals a work-related Standard Threshold Shift (STS) of 25 decibels or more (averaged at 2000, 3000, and 4000 Hz) above audiometric zero in the same ear on the Cal/OSHA Form 300 (or equivalent). [Title 8 CCR 14300.10].

## 3.0 PROGRAM COMPONENTS

### 3.1 NOISE SURVEYS/MONITORING

The Environment, Health, and Safety (EH&S) Office surveys work areas where noise levels may equal or exceed 85 dBA. Noise monitoring is used to confirm noise levels and to identify workers to participate in the Hearing Conservation Program. Noise monitoring also allows for the proper selection of hearing protection. In circumstances such as high worker mobility, significant variations in sound level, or a significant component of impulse noise make area monitoring generally inappropriate, Caltech will use representative personnel sampling to determine employees' noise exposure. All noise monitoring at Caltech is performed according to Cal-OSHA guidelines.

The EH&S Office can initiate sound level surveys and campus community can contact the EH&S Office to request a sound level survey:

- If they suspect exposure to excessive noise on the job;
- If previously monitored areas may have changed;
- If the assigned hearing protectors are suspected of providing inadequate protection.

EH&S performs additional sound level surveys whenever a change in process, equipment, or controls increases noise exposures such that:

- Additional employees may be exposed to at or above 85 dBA; or
- The hearing protection being used may no longer provide adequate protection for the noise exposure.

Affected employees may observe any occupational noise monitoring which is conducted at Caltech.

#### 3.1.1 RESULTS

EH&S will provide the results of these surveys to the area Supervisor. Supervisors will notify each employee exposed at or above the action level of the results of the monitoring. Records of monitoring

are kept on file at EH&S.

Employees exposed to noise at an 8-hour time-weighted average at or above 85 dBA will be placed in the Hearing Conservation Program.

## **3.2 AUDIOMETRIC TESTING**

The Institute provides audiograms to employees in the Hearing Conservation Program. A baseline audiogram can be used to determine if a person has suffered a significant hearing loss, also called a Standard Threshold Shift (STS).

EH&S schedules audiograms for employees. EH&S will notify the department when it is time for annual audiograms. Audiometric tests are performed by a mobile testing unit. Participants of the Hearing Conservation Program who are not present for audiometric testing when the mobile unit is onsite are sent to Caltech's occupational health clinic for their annual audiometric testing.

The employee's department will pay for the cost of initial tests. Any additional tests or examinations to determine the cause of any hearing loss will be paid through Workers' Compensation.

### **3.2.1 BASELINE**

New employees will be offered a baseline test within six months of employment in an environment requiring hearing protection. It is necessary that employees not be exposed to noise levels at or above 80 dBA for at least 14 hours prior to the test. Hearing protectors can be used to attenuate noise levels below 80 dBA.

### **3.2.2 ANNUAL**

All workers in the Program are offered annual audiograms. These tests will be made available to employees during their normal work shift. Each employee's audiogram will be compared to that employee's baseline to determine if the audiogram is valid and if a standard threshold shift has occurred.

Audiograms detecting a threshold shift will be repeated within 30 days.

### **3.2.3 RESULTS**

If the final test results confirm that an employee has suffered a standard threshold shift, the employee shall be informed of this fact, in writing, within twenty-one (21) days of the determination.

A physician will determine whether a standard threshold shift is work related or may have been aggravated by occupational noise exposure. When a standard threshold shift occurs, the following steps will be taken:

- If an employee is not using hearing protection he/she will be fitted with hearing protectors; trained in their use and care, and required to use them; or
- If the employee is already using hearing protection he/she will be refitted and retrained in their proper use, and if necessary, be provided with hearing protectors offering greater protection.

## **3.3 HEARING PROTECTION**

Hearing protection is required for all employees exposed to an 8-hour time-weighted average of 85 decibels or greater. Where hearing protection is to be used, it must attenuate noise exposures to less than an 8-hour time-weighted average of 85 decibels.

The Institute has a variety of hearing protection types available to employees. EH&S determines appropriate hearing protectors based on measured noise levels and will ensure proper initial fitting. Departmental Supervisors will supervise the correct use of all hearing protectors. Hearing protection is to be replaced as necessary.

If there is any change in a process or operation, noise levels and hearing protection will be re-evaluated by EH&S as necessary.

## **3.4 EMPLOYEE EDUCATION AND TRAINING**

Annual training is provided to employees who participate in the Hearing Conservation Program.



The training covers the following subjects:

- The effects of noise on hearing loss;
- The responsibilities of the Institute and workers in preventing noise-induced hearing loss;
- The purpose of hearing protection; the advantages, disadvantages, and attenuation of various types; and instructions on selection, fitting, use, and care;
- The purpose of audiometric testing, and an explanation of the test procedures;
- The findings of any work area monitoring.

### 3.5 RECORDKEEPING

All records relating to this Program including the results of all surveys, audiograms, and training will be retained for the following periods:

- All area and personnel noise monitoring records will be retained by EH&S per the terms of the California Institute of Technology Records Retention Schedule.
- Audiometric test records will be retained by EH&S for the duration of the affected employee's employment plus thirty (30) years after termination.
- EH&S maintains hearing conservation training records.

All records will be provided upon request to employees, former employees, designated representatives, and to any authorized Cal-OSHA representative.

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