

# Hearing Conservation: Hazard Recognition Requirements

Department: Chemical and General Safety

Program: Hearing Conservation

Owner: Program Manager, John Shepardson

Authority: ES&H Manual, Chapter 18, Hearing Conservation

Proper implementation of the hearing conservation program protects personnel from the hazards of over-exposure to high noise levels. An initial step in the program is hazard recognition.

## ***Identifying High Noise Areas***

The following conditions may indicate the presence of a hazardous noise level:

- It is difficult to hear someone speak when they are less than three feet away from you.
- You must raise your voice considerably to be heard due to noise interference.
- Impact noises (at intervals greater than 1 second) cause discomfort when heard
- Ordinary noises sound muffled to you after you have finished a work shift.

Personnel must inform their manager or supervisor if they suspect that a noise level is hazardous.

Managers and supervisors must contact the hearing conservation program manager when

- Personnel inform them of a possible noise hazard.
- They suspect that a noise in their area may be hazardous.
- There is a change in production, process, equipment, or controls that may increase noise levels in their area.

Upon notification, an industrial hygienist will conduct a noise survey of the affected area. As a part of the survey, the industrial hygienist may request that personnel working in the area wear a noise dosimeter (see Hearing Conservation: Noise Survey Guidelines<sup>1</sup>)

If survey results indicate a noise hazard, the industrial hygienist will notify the manager or supervisor, recommend appropriate protective measures for personnel in the area, and require their enrollment in the SLAC hearing conservation training course and audiometric testing.

## ***Recognizing Hazards***

Industrial hygienists identify potential noise hazards by

- Maintaining familiarity with SLAC processes

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1 Hearing Conservation: Noise Survey Guidelines (SLAC-I-730-0A09T-021), <http://www-group.slac.stanford.edu/esh/eshmanual/references/hearingGuideSurvey.pdf>

## Hearing Conservation: Hazard Recognition Requirements

- Reviewing pre-work hazard analysis (PWHA) and job hazard analysis and mitigation (JHAM) documents as needed to identify activities generating high noise levels<sup>2</sup>
- Surveying existing conditions
- Conducting individual and work area noise surveys in locations where noise-producing equipment operates

### **Standards for Occupational Noise Exposure**

The standards for occupational noise exposure adopted by the DOE state that personnel without hearing protection must not be exposed to an intensity of noise exceeding 85 dBA based on an eight-hour time-weighted average (TWA) as measured on the A-weighted scale. This means that if personnel are working in an area where the intensity of noise exceeds an average of 85 dBA over eight hours, the amount of time that they may work in the area without hearing protection must be reduced in relation to the amount that the noise exceeds 85 dBA.

For example, if the noise in an area is measured at an average of 88 dBA over an eight-hour period, personnel may only work in that area without wearing hearing protection for a maximum of four hours. According to this standard, personnel may work a full eight-hour shift without hearing protection in an area where the noise level does not exceed an eight-hour TWA of 85 dBA.

SLAC policy is more protective than this standard, and requires that all personnel who routinely work in an area where there is continuous noise above 85 dBA wear hearing protection at all times. SLAC is required to inform personnel of the standards shown in Table 1 below.

Table 1 Maximum Number of Hours of Exposure Allowed\*

Noise Level (dBA)	Duration (Hours)
80	24
82	16
85	8
88	4
91	2
94	1
97	1/2
100	1/4
103	1/8

\* Includes impact noise

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2 “Hazard Analysis Programs”, <http://www-group.slac.stanford.edu/esh/general/hazanalysis/>