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# PURPOSE

This document establishes the minimum requirements for implementing TI’s hearing conservation process at each site.

Note: Typical occupational noise measurements are collected using A-weighted scale on slow response. Time weighted averages (TWA) referenced in this standard are based on OSHA’s exchange rate of 5-dB, criterion level of 90 dBA and threshold level of 80 dBA.

# SCOPE

This standard applies to high noise areas or operations at TI sites worldwide and to personnel working in those areas including TI employees, suppliers, vendors, and visitors.

# REferences

## 3.1 TI Standard Policy and Procedure (SP&P) 04-04-01: “Environmental, Health and Safety”

## 3.2 TI ESH Standard 01.01: “Personal Protective Equipment”

## 3.3 American National Standards Institute: Specification for Octave-Band and Fractional-Octave Band Analog and Digital Filters S1.11-2004 (R2009)

# Definitions

[TI ESH Standards Glossary of Definitions](https://sps01.itg.ti.com/sites/wwf/esh/standards/Knowledge_Bank/00.01.xlsx)

# SITE REQUIREMENTS

## Engineering & Administrative Controls

### Sites shall use engineering controls on existing equipment, where feasible, to reduce area noise levels to below the action level based on the amount of time employees are expected to work in the area (85 dBA for an 8-hour shift or 82 dBA for a 12-hour shift).

### Where engineering controls are not feasible, sites shall use administrative controls to limit exposure for affected personnel (e.g., minimize time in area, work schedule changes).

## Elevated (≥82 dBA) and High (≥85 dBA) Noise Areas

Sites shall establish a process to identify areas of elevated (≥82 dBA) and high (≥85 dBA)noise levels. The process shall include the following:

### Performing and documenting a noise survey of elevated and high noise areas using calibrated instrumentation to identify those areas that have noise levels greater than 82 dBA.

#### Sites shall re-survey elevated and high noise areas annually and when process or equipment changes can potentially increase the noise levels in these areas.

### Evaluating (initially and annually thereafter) the feasibility of eliminating identified high noise areas (≥85 dBA) through the use of engineering or administrative controls.

### Posting area signs in the local language and/or display symbols indicating the presence of high noise areas (≥85 dBA).

### Ensuring that adequate hearing protection devices (ear plugs and/or ear muffs) are available and worn in all areas where hearing protection is required.

### Maintaining a record of the locations of elevated and high noise areas for the duration that the facility is owned (or leased) by TI.

## Identification of Affected Personnel

### Sites shall identify affected personnel by:

#### Determining Similar Exposure Groups (SEG) that perform work in identified high noise areas;

### If a SEG could be exposed to a time weighted average exceeding 85 dBA (8 hour shift) or 82 dBA (12 hour shift) or whose activities could be reasonably expected to exceed these noise exposure thresholds, the SEG shall be included in a Hearing Conservation Program.

#### The use of dosimetry or other calculated methods must be used to exclude a SEG that works in a high noise area from the Hearing Conservation Program.

### Sites shall establish a process for communicating the results of the survey to those affected employees in the Hearing Conservation Program.

## Hearing Conservation Program for Affected Personnel

### Affected personnel shall be trained prior to working in high noise areas and annually thereafter. Training shall, at a minimum, consist of the following:

#### Noise hazards and its effects on human hearing;

#### Specific area hearing protection requirements;

#### Proper selection, use (e.g., putting on, taking off, adjusting) and limitations of hearing protection devices, and

### Affected personnel shall receive audiograms (that conform to local requirements) from a site approved medical source (e.g., TI’s approved Occupational Health Clinics).

#### An initial (baseline) audiogram shall be performed within six months of identification of an employee as an affected person.

#### Subsequent audiograms shall be performed annually.

#### Site occupational health nurse or local equivalent shall review the audiograms and associated medical data to identify hearing threshold shifts, communicate the results of the audiogram to the affected employees in writing within 21 days of the testing, and document results in accordance with local requirements.

#### Sites shall notify the local occupation health personnel, the WWESH Medical Surveillance Program Administrator and the TI Medical Director when an individual is said to have experienced a hearing threshold shift. Notification shall be made to medicalsurveillance@list.ti.com within 2 working days from receipt of the results.

#### Sites shall have a means to identify the names of employees under the medical surveillance program for hearing conservation and document the reasons (e.g. may work in areas above the action level) for placing the individuals into the surveillance program.

#### Sites shall designate individuals responsible for implementing the medical surveillance requirements at the site.

## Suppliers Working in High Noise Areas

### Sites shall require that supplemental suppliers follow required training, annual audiograms, usage requirements, and proper record keeping when a supplier’s employees are identified as affected personnel.

### Turnkey suppliers shall be responsible for providing and ensuring that proper hearing protection is utilized by their employees.

## Provisions for calibration of instruments

### Noise measurement instrumentation shall be calibrated before and after each use according to the manufacturer’s instructions.

### Calibration equipment must be certified by a qualified third party at least annually or as specified by the manufacturer.

## Provisions for record keeping

### Sites shall maintain hearing conservation records as required by local regulations and in accordance with TI’s ESH Record Retention Matrix.

### The records to be retained shall include, at a minimum, the following:

#### Affected person’s name and employee identification number;

#### Job title;

#### Personal dosimetry data (if applicable);

#### Dates of audiograms and training, and;

#### Calibration records.

# standard Approval

This standard has been approved by David Thomas, TI Vice President.

# reference documents

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Revision #** |  | **Comment** | **Editor** | **Approver** |
| A | 10/08/2003 | Major periodic review | Gene Schaefers |  |
| B | 12/29/2006 | Major periodic review; Modified 3.3 (d)(1) for annual exposure sampling | Gene Schaefers |  |
| C | 5/22/2013 | Formatting change; removal of written program requirement and requirement for noise dosimetry | Mike Alton |  |
| D | 7/13/2014 | Corrected typo for 12-hr TWA threshold (83 to 82 dBa) | Mike Alton |  |
| E | 11/30/2016 | Reviewed – no changes | Hayden Baker | ELC |
| F | 9/25/2019 | Add notification requirements for threshold shift; changed requirement for identification of elevated noise areas from 85 dBA to 82 dBA; Added medical surveillance requirements | Hayden Baker | ELC |