

<b>HOUSTON CONTROLS</b>	Houston Controls, Inc Safety Management System	Doc No:	HEARCONS
		Initial Issue Date:	3/07/2008
<i>Instrument, Electrical, Analytical Specialists</i>		Revision Date:	5/26/2011
		Revision No.:	2
<b>HEARING CONSERVATION</b>		Next Revision Date:	3/16/2012
Preparation: Safety Mgr	Authority: Dennis Johnston	Issuing Dept: Safety	Page: Page 1 of 4

## Purpose

---

The purpose of this program is to provide a process to minimize employee-hearing loss caused by excessive occupational exposure to noise.

## Scope

---

This program is applicable to all employees who may be exposed to noise in excess of 85 decibels (decibels). When work is performed on a non-owned or operated site, the operator's program shall take precedence, however, this document covers HOUSTON CONTROLS, INC employees and contractors and shall be used on owned premises, or when an operator's program doesn't exist or is less stringent.

## Definitions

---

Audiometric testing - means detection by the person being tested of a series of pure tones. For each tone, the person indicates the lowest level of intensity that they are able to perceive.

Decibels – means the sound energy measured by a sound level meter using the “A” scale. The “A” scale is electronically weighted to simulate the response of the human ear to high and low frequency noise.

Slow Response – means the setting on the sound level meter that averages out impulses of brief duration that would cause wide fluctuation in the sound level meter reading.

Standard Threshold Shift – means a change in hearing threshold relative to the baseline audiogram of an average of 10 dB (corrected for age) at 2000, 3000 and 4000 Hz in either ear.

## Key Responsibilities

---

### Managers and Supervisors

- Ensure requirements of this program are established and maintained.
- Ensure employees are trained and comply with the requirements of this program.

### Employees

- Wear hearing protection when required, attend the training, and cooperate with testing and sampling.

## Procedure

---

Occupational hearing loss is a cumulative result of repeated or continued absorption of sound energy by the ear; employee protection is based on reduction of the noise level at the ear or limiting the employee's exposure time. HOUSTON CONTROLS, INC shall offer hearing protection to all employees exposed to potential high noise levels in working areas and to those employees requesting hearing protection.

<b>HOUSTON CONTROLS</b>  <i>Instrument, Electrical, Analytical Specialists</i>	Houston Controls, Inc Safety Management System		Doc No:	HEARCONS
			Initial Issue Date:	3/07/2008
			Revision Date:	5/26/2011
<b>HEARING CONSERVATION</b>			Revision No.:	2
			Next Revision Date:	3/16/2012
Preparation: Safety Mgr	Authority: Dennis Johnston	Issuing Dept: Safety	Page:	Page 2 of 4

### Hearing Conservation Program

HOUSTON CONTROLS, INC shall administer a continuing effective hearing conservation program when employees, who work in areas where the exposure to noise levels are 85 decibels or greater for the 8 hour time-weighted average of 85 decibels, must wear hearing protection and HOUSTON CONTROLS, INC shall implement a monitoring program to identify employees to be included in the hearing conservation program. Employees will wear hearing protection in signed areas while on an owner client facility.

### Surveys

Surveys will be conducted by a qualified employee or third party.

To evaluate noise exposure in terms of possible hearing damage, it is necessary to know the overall sound level ("A" scale measurement), the exposure time of the individual in hours per day and the length of time the individual has worked in the area being surveyed. This data shall be supplemented by the following:

- Name of area and location
- Date and time of survey
- Name of person conducting survey
- Description of instrument used, model and serial number
- Environmental conditions
- Description of people exposed

HOUSTON CONTROLS, INC shall notify each employee of their monitoring results, or, if their job is exposed to noise 85 decibels or greater.

A plot of noise levels must be made for owned facilities. The plot must be filed or posted at the facility.

HOUSTON CONTROLS, INC shall evaluate hearing protector attenuation for the specific noise environments in which the protector will be used. The adequacy of hearing PPE shall be reevaluated whenever noise exposures increase to the point that the PPE provided may no longer provide adequate protection. HOUSTON CONTROLS, INC shall then provide more effective PPE where necessary.

All sound measuring equipment must be calibrated before and after each survey. Records of sound measuring equipment calibration and noise level surveys shall be kept for 20 years.

Noise Surveys must be repeated whenever changes in the workplace may expose additional personnel to high noise or hearing protection being used by employees may not be adequate to reduce the noise exposure to a level below 85 decibels.

#### Sound Level Surveys

- All owned facilities that are suspected of having noise levels exceeding 85 decibels must be screened.

#### Exposure Surveys:

- A representative sampling of employees shall be conducted to determine the exposure to noise over a period of time.

<b>HOUSTON CONTROLS</b>  <i>Instrument, Electrical, Analytical Specialists</i>	Houston Controls, Inc Safety Management System		Doc No:	HEARCONS
			Initial Issue Date	3/07/2008
			Revision Date:	5/26/2011
<b>HEARING CONSERVATION</b>			Revision No.	2
			Next Revision Date:	3/16/2012
Preparation: Safety Mgr	Authority: Dennis Johnston	Issuing Dept: Safety	Page:	Page 3 of 4

- Noise dosimeters must be capable of integrating all continuous, intermittent and impulsive sound levels from 80 dB to 130 dB and must be calibrated so a dose of 50% corresponds to a time weighted average of 85 dB.

### Signage

Clearly worded signs shall be posted at entrances to, or on the periphery of, areas where employees may be exposed to noise levels in excess of 85 decibels. These signs shall describe the hazards involved and the required protective actions.

### Audiometric Testing

HOUSTON CONTROLS, INC shall establish and maintain an audiometric testing program by making audiometric testing available to all employees whose exposure to noise 85 decibels (8 hr TWA) or greater and employees should take an audiogram annually. The program shall be provided at no cost to employees.

- HOUSTON CONTROLS, INC shall establish a valid baseline audiogram against which future audiograms can be compared. An employee must receive a baseline audiogram within six months of their first exposure to 85 decibels or greater for an eight hour period.
- When a mobile van is used the baseline shall be established within one year.
- An employee shall receive an annual audiogram every year they work in a position that is exposed to noise 85 decibels or greater.
- A qualified third party shall perform all audiometric testing, evaluation, reporting and retesting.
- Audiometric testing shall be preceded by a period of at least 14 hours during which there is no exposure to workplace sound levels in excess of 80 decibels. This requirement may be met by the use of hearing protectors that reduce the employee noise exposure level below 80 decibels and employees shall also be notified to avoid high levels of noise.
- An otoscopic exam is required before an audiogram is initiated. A qualified person shall examine the ear canal for any ear infections or canal irregularities that might affect the audiogram or rule out the use of earplugs.

At least annually after obtaining the baseline audiogram, HOUSTON CONTROLS, INC shall obtain a new audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels. Annual audiograms shall be evaluated as follows:

- Each audiogram shall be compared to the employees' baseline audiogram to ensure the test was valid and to determine if a standard threshold shift has occurred.
- If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift, the employee shall be informed of this fact in writing, within 21 days of the determination.
- If a standard threshold shift is determined, the employee will be retested within 30 days.
- The retest results will be considered as the annual audiogram.
- Employees shall be informed of their audiometric test results in writing within 21 days of determination.
- If the employee has sustained a standard threshold shift, after retesting, that employee shall be retrained and refitted for appropriate hearing protection.
- The employee shall be referred for additional medical evaluation if indicated.

<b>HOUSTON CONTROLS</b>  <i>Instrument, Electrical, Analytical Specialists</i>	Houston Controls, Inc Safety Management System		Doc No:	HEARCONS
			Initial Issue Date:	3/07/2008
			Revision Date:	5/26/2011
			Revision No.:	2
<b>HEARING CONSERVATION</b>			Next Revision Date:	3/16/2012
Preparation: Safety Mgr	Authority: Dennis Johnston	Issuing Dept: Safety	Page:	Page 4 of 4

### Records

HOUSTON CONTROLS, INC shall maintain accurate record of all employee exposure measurements and that all records are maintained as required by CFR 1910.95 (Occupational Noise Exposure).

Employee audiograms are considered medical/exposure records. These records must be kept for the length of employment plus 30 years.

### Hearing Protection Devices

Earmuffs and earplugs shall be made available to employees in sizes and configurations that will be comfortable to the employee. Hearing protection devices shall be made available to all employees exposed to an 8 hour time-weighted average of 85 db or greater at no cost to employees. Hearing protectors shall be replaced as necessary. Employees shall be instructed how to obtain the proper fit. HOUSTON CONTROLS, INC shall ensure that hearing protectors are worn.

Employees will be given an opportunity to select their hearing protection from HOUSTON CONTROLS, INC provided selection. Employees shall be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided by HOUSTON CONTROLS, INC.

### TRAINING

A training program shall be instituted for all employees who are exposed to a noise action level or work in high noise areas. Noise awareness training for employees shall be provided before initial assignment and on an annual basis. The training shall be repeated annually for each employee.

The training shall address the effect of noise on hearing; the purpose of hearing protectors, including the advantages, disadvantages and alternatives of various types, including instructions on selection, fitting, use and care of and the purpose of audiometric testing and an explanation of test procedures.

Training shall be updated to be consistent with changes in the work process, PPE requirements and the proper techniques of wearing hearing protection.

All staff shall have a copy of this program, noise exposure procedures and it shall be posted at the worksite and a copy made available to all employees, their representatives and regulatory agencies (Assistant Secretary and the Director will have access to records).

The training must be documented.