

# Sample Written Program

For

# ***HEARING CONSERVATION***



# **HEARING CONSERVATION PROGRAM**

Co Name \_\_\_\_\_

Prepared by \_\_\_\_\_ Date \_\_\_\_\_

## **I. PURPOSE**

This purpose of this hearing conservation program is to prevent occupational hearing loss and comply with the COMM/OSHA Standard 29 CFR 1910.95 - Occupational Noise Exposure.

## **II. AUTHORITY AND REFERENCE**

Occupational Safety and Health Administration (OSHA) 29 CFR 1910.95

Dept. of Commerce Chapter 32

## **III. APPLICATION**

The Occupational Safety and Health Administration (OSHA) Occupational Noise Exposure standard 29 CFR 1910.95 establishes a permissible exposure limit (PEL) for occupational noise exposure, and requirements for audiometric testing, hearing protection, and employee training if those sound levels are exceeded. This regulation defines an "action level" (AL) as a "dose" of 50%, which is equivalent to an eight-hour time weighted average of 85 dBA. When noise levels exceed this amount, an effective hearing conservation program is required, which includes as a minimum:

<b><u>Requirement</u></b>	<b><u>Section</u></b>
1. Noise monitoring	29 CFR 1910.95(d)(e)(f)
2. Audiometric testing	29 CFR 1910.95(g)(h)
3. Hearing protectors	29 CFR 1910.95(i)(j)
4. Education and training	29 CFR 1910.95(k)(1)
5. Recordkeeping	29 CFR 1910.95(m)

**Note:** The OSHA regulation only indicates a minimum level of hearing protection and focuses on permanent hearing loss. Short durations of noise, especially sharp bursts of noise at these levels can not only induce hearing loss but can also affect an employee's health and safety in other ways (See Table # 1 on page 15).

#### **IV. BACKGROUND**

Occupational noise can cause hearing loss, and increase the worker's susceptibility to other workplace problems including physical and psychological disorders, interference with speech and communication, and disruption of job performance associated with excessive noise intensities. This exposure to noise produces hearing loss of a neural type involving injury to the inner ear hair cells. The loss of hearing may be temporary or permanent. Brief exposure causes a temporary loss. Repeated exposure to high noise levels will cause a permanent loss.

Permanent hearing loss is preventable with the continued use of proper hearing protection and reduction of workplace noise levels to below 85 decibels. This will benefit not only employees who can listen and communicate well throughout their lifetimes, but also helps the employer in terms of reduced exposure to hearing loss compensation claims and a potential for increased general safety and job performance.

#### **V. RESPONSIBILITY FOR COMPLIANCE**

The administration of this program will be the responsibility of (Position designated). Administrative responsibilities include:

1. Coordination and supervision of noise exposure monitoring.
2. Identification of employees to be included in the Hearing Conservation Program.
3. Coordination and supervision of audiometric testing program.
4. Supervision of hearing protector selection.
5. Development of policies relating to the use of hearing protectors.
6. Supervision of employee training programs.
7. Coordination and supervision of required recordkeeping.

8. Periodic evaluation of overall program.
9. Coordination of required changes/improvements in the program.

## **VI. NOISE MONITORING**

1. When information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 decibels, the employer shall develop and implement a monitoring program.
2. Employers shall identify employees for inclusion in the hearing conservation program and to enable the proper selection of hearing protectors.
3. All continuous, intermittent and impulsive sound levels from 80 decibels to 130 decibels shall be integrated into the noise measurements.
4. Instruments used to measure employee noise exposure shall be calibrated to ensure measurement accuracy.
5. Monitoring shall be repeated whenever a change in production, process, equipment or controls increases noise exposures to the extent that:
  - i. Additional employees may be exposed at or above the action level; or
  - ii. The attenuation provided by hearing protectors being used by employees may be rendered inadequate to meet the requirements (explained in section IX).
6. The employer shall notify each employee exposed at or above an 8-hour time-weighted average of 85 decibels of the results of the monitoring.
7. The employer shall provide affected employees or their representatives with an opportunity to observe any noise measurements conducted.
8. Monitoring will be coordinated by (Position designated) with assistance from \_\_\_\_\_.
9. The results of the noise exposure measurements will be recorded on Form # 1.

## **I. AUDIOMETRIC TESTING**

The employer shall establish and maintain an audiometric testing by making audiometric testing available to all employees whose exposures equal or exceed an 8-hour time-weighted average of 85 decibels.

The program shall be provided at no cost to employees.

Audiometric tests shall be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation, or who has satisfactorily demonstrated competence in administering audiometric examinations, obtaining valid audiograms, and properly using, maintaining and checking calibration and proper functioning of the audiometers being used. A technician who operates microprocessor audiometers does not need to be certified. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist or physician.

### ***Baseline audiogram***

Within 6 months of an employee's first exposure at or above the action level, the employer shall establish a valid baseline audiogram against which subsequent audiograms can be compared.

### ***Mobile test van exception***

Where mobile test vans are used to meet the audiometric testing obligation, the employer shall obtain a valid baseline audiogram within 1 year of an employee's first exposure at or above the action level. Where baseline audiograms are obtained more than 6 months after the employee's first exposure at or above the action level, employees shall wearing hearing protectors for any period exceeding six months after first exposure until the baseline audiogram is obtained.

Testing to establish a baseline audiogram shall be preceded by at least 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 (Position designated) shall notify employees of the need to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination.

### ***Annual audiogram***

Audiograms will be conducted at least annually after obtaining the baseline audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels.

The (Position designated) will maintain a record of all employee audiometric test records. This record will include:

1. Name and job classification of the employee.

2. Date of the audiogram.
3. The examiner's name.
4. Date of the last acoustic or exhaustive calibration of the audiometer.
5. Employee's most recent noise exposure assessment.

## **VIII. AUDIOMETRIC EVALUATION**

1. Each employee's annual audiogram will be compared to his/her baseline audiogram by qualified evaluator to determine if a Standard Threshold Shift (STS) has occurred. This comparison may be done by a technician.
2. A Standard Threshold Shift is defined by OSHA as a change in hearing threshold relative to the baseline of an average of 10dB or more at 2000, 3000, and 4000 Hz either ear.
3. In determining if a Standard Threshold Shift has occurred, an allowance can be made for the contribution of aging (presbycusis). The age correction values to be used are found in Appendix F of 1910.95.
4. The audiologist, otolaryngologist, or physician shall review problem audiograms and shall determine whether there is a need for further evaluation. The employer shall provide to the person performing this evaluation the following information:
  - a. A copy of the requirements for hearing conservation as set forth in the standard.
  - b. The baseline audiogram and most recent audiogram of the employee to be evaluated.
  - c. Measurements of background sound pressure levels in the audiometric test room as required in Appendix D: Audiometric Test Rooms.
  - d. Records of audiometer calibrations
5. If the annual audiogram shows that an employee has suffered a standard threshold shift, the employer may obtain a retest within 30 days and consider the results of the retest as the annual audiogram.
6. Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, the employer shall ensure that the following steps are taken when a standard threshold shift occurs:

- a. Employees not using hearing protectors will be trained, fitted, and required to use hearing protectors if they are exposed to an 8 hour TWA average sound level of 85 decibels or greater.
  - b. Employees already using hearing protectors shall be retrained, refitted, and required to use hearing protectors and provided with hearing protectors offering greater attenuation if necessary.
  - c. The (Position designated) will inform the employee, in writing, within 21 days of this determination, of the existence of a permanent Standard Threshold Shift. (See Form # 2) A copy of the STS letter will also be sent to the employee's supervisor.
  - d. The (Position designated) will counsel the employee on the importance of using hearing protectors and refer the employee for further clinical evaluation if necessary.
7. Persistent significant threshold shifts must be entered on the OSHA 300 Log if determined to be work related.
8. If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour TWA of 90 decibels indicates that a Standard Threshold Shift is not persistent, the (Position designated):
- a. Shall inform the employee of the new audiometric interpretation.
  - b. May discontinue the required use of hearing protectors for that employee.

## **IX. PROTECTION EQUIPMENT**

- A. The (Position designated) shall ensure that hearing protectors are worn:
  - 1. By any employee who is subjected to sound levels equal to or exceeding an 8-hour TWA of 90 decibels.
  - 2. By any employee who has experienced a persistent Standard Threshold Shift and who is exposed to 8-hour TWA of 85 decibels or greater.
  - 3. By any employee who has not had an initial baseline audiogram and who is exposed to 8-hour TWA of 85 decibels or greater.
- B. Employees will be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors at no cost to them.

- C. The (Position designated) will provide training in the use and care of all hearing protectors.
- D. The (Position designated) will ensure proper initial fitting and supervise the correct use of all hearing protectors.
- E. Employees will be held accountable for not properly using and maintaining the equipment furnished.
- F. The (Position designated) will evaluate the attenuation characteristics of the hearing protectors to ensure that a given protector will reduce the individual's exposure to the required decibels. (See Form # 3)
  - 1. If the 8-hour TWA is over 90 decibels, then the protector must attenuate the exposure to at least an 8-hour TWA of 90 decibels or below.
  - 2. If the protector is being worn because the employee experienced a Standard Threshold Shift, then the protector must attenuate the exposure to an 8-hour TWA of 85 decibels or below.
  - 3. If employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation, the employee will be provided more effective hearing protectors.
- G. It is the responsibility of the supervisor to ensure that hearing protectors are worn by all employees who are exposed to noise levels at or above an eight hour TWA of 90 decibels or if the employee experienced a permanent STS or has not yet had a baseline audiogram.

## **X. EMPLOYEE EDUCATIONAL TRAINING**

An annual training program for each employee included in the hearing conservation program will be conducted by (Position designated) and will include information on:

- 1. The effects of noise on hearing.
- 2. The purpose and use of hearing protectors.
- 3. The advantages, disadvantages, and attenuation of various types of protection.
- 4. Instruction in the selection, fitting, use and care of protectors.
- 5. The purpose of audiometric testing and an explanation of the test procedures.

Form #4 will be used to record the training dates and the employees in attendance.

Information provided in the training program shall be updated to be consistent with changes in protective equipment and work processes.

## **XI. RECORDKEEPING**

Noise exposure measurement records will be retained for two years.

Audiometric test records will be retained for the duration of the affected workers employment plus thirty years.

**Access to records.** All records required by this section shall be provided upon request to employees, former employees, representatives designated by the individual employee, and the Assistant Secretary.

## **\*XII. PROGRAM EVALUATION**

At least annually, the Hearing Protection Program will be evaluated by (Position designated) using a Program Evaluation Checklist (See Form # 5). After the evaluation, the changes/revisions to the program deemed necessary will be made as soon as possible.

This written program may be adapted to fit the particular needs of your facility.

**NOTE: An asterisk (\*) indicates that that particular section is not required by the Hearing Conservation Standard.**

The information and suggestions contained in this material have been developed from sources believed to be reliable. However, Frankenmuth accepts no legal responsibility for the correctness or completeness of this material, or its application to specific factual situations.



## Sample Standard Threshold Shift (STS) Letter

Dear \_\_\_\_\_,

Your most recent audiometric test result was compared to your baseline audiogram. This comparison indicates that your hearing has deteriorated to the point where your hearing impairment constitutes a “standard threshold shift.” This is defined by the Occupational Safety and Health Administration (OSHA) as a relative hearing loss of an average of 10 decibels in either ear at the frequencies of 2000, 3000 and 4,000Hz.

An audiogram cannot define why you have a hearing loss, but there are many possible reasons such as infection, wax buildup in your ear and noise.

By taking the necessary action now, we can try to stop hearing loss from getting worse.

Consequently, we want to fit you with hearing protectors. Please call \_\_\_\_\_ to arrange an appointment with\_\_\_\_\_.

Whenever you are in a work environment that would result in noise exposure that equals or exceeds an 8 hour Time Weighted Average (TWA) of 85 decibels, hearing protection **must** be used.

Loss of hearing will affect you life. Preserve your hearing while you still have a chance.

Our \_\_\_\_\_ Department will attempt to answer any questions you may have.

Sincerely,





## Annual Hearing Conservation Program Evaluation

1. Noise exposure level monitoring has been completed in all areas and rechecked as necessary after any alterations which may have resulted in a change in noise levels.

Yes \_\_\_ No \_\_\_

If no, what action will be taken to complete the monitoring?

2. Baseline audiograms (if required) have been completed on all employees hired this year.

Yes \_\_\_ No \_\_\_

If no, what arrangements will be made to complete the audiograms?

3. Annual audiograms (if required) have been completed on all employees who are included in the hearing conservation program.

Yes \_\_\_ No \_\_\_

If no, what arrangements will be made to complete the audiograms?

4. All employees included in the hearing conservation program have been provided with hearing protection.

Yes \_\_\_ No \_\_\_

If no, what action will be taken to provide this protection?

5. All employees who are required to wear hearing protection are wearing them correctly.

Yes \_\_\_ No \_\_\_

If no, what action(s) will be taken to enforce this requirement?

6. All employees included in the Hearing Conservation Program have received initial and annual training in the use of hearing protection, the effects of noise on hearing and the purpose of audiometric testing if applicable.  
Yes \_\_\_\_\_ No \_\_\_\_\_

If no, what will be done to complete this training?

7. Standard Threshold Shifts (STS) have been identified.  
Yes \_\_\_\_\_ No \_\_\_\_\_

If no, what action will be taken with these employees?

8. Employees with STS's have been notified in writing and fitted with the proper hearing protectors.  
Yes \_\_\_\_\_ No \_\_\_\_\_

If no, what action will be taken to notify these employees?

Review Completed by: \_\_\_\_\_ Date:  
\_\_\_\_\_

Table # 1

**Permissible Noise Exposures**

**29 CFR 1910.95 Table G-16(a)**

<b>Duration (Hours)</b>		<b>Sound Level Slow Response</b>
32.0		80
27.9		81
24.3		82
21.1		83
18.4		84
16.0		As
13.9		86
12.1		87
10.6		88
9.2		89
8.0		90
7.0		91
6.2		92
5.3		93
4.6		94
4.0		95
3.5		96
3.0		97
2.6		98
2.3		99
2.0		100
1.7		101
1.5		102
1.4		103
1.3		104
1.0		105
0.87		106
0.76		107
0.66		108
0.57		109
0.5		110
0.44		111
0.38		112
0.33		113
0.29		114

0.25		115
0.22		116
0.19		117
0.16		118
0.14		119
0.125		120
0.11		121
0.095		122
0.082		123
0.072		124
0.063		125
0.054		126
0.047		127
0.041		128
0.036		129
0.031		130

# HEARING CONSERVATION PROGRAM EVALUATION CHECKLIST

## Training and Education

Failures or deficiencies in hearing conservation programs (hearing loss prevention programs) can often be traced to inadequacies in the training and education of noise-exposed employees and those who conduct elements of the program.

**Yes    No**

Has training been conducted at least once a year?		
Was the training provided by a qualified instructor?		
Was the success of each training program evaluated?		
Is the content revised periodically?		
Are managers and supervisors directly involved?		
Are posters, regulations, handouts, and employee newsletters used as supplements?		
Are personal counseling sessions conducted for employees having problems with hearing protection devices or showing hearing threshold shifts?		

## Supervisor Involvement

Data indicate that employees who refuse to wear hearing protectors or who fail to show up for hearing tests frequently work for supervisors who are not totally committed to the hearing loss prevention programs.

**Yes**  
**No**

Have supervisors been provided with the knowledge required to supervise the use and care of hearing protectors by subordinates?		
Do supervisors wear hearing protectors in appropriate areas?		
Have supervisors been counseled when employees resist wearing protectors or fail to show up for hearing tests?		
Are disciplinary actions enforced when employees repeatedly refuse to wear hearing protectors?		

## Noise Measurement

For noise measurements to be useful, they need to be related to noise exposure risks or the prioritization of noise control efforts, rather than merely filed away. In addition, the results need to be communicated to the appropriate personnel, especially when follow-up actions are required.

**Yes**  
**No**

Were the essential/critical noise studies performed?		
Was the purpose of each noise study clearly stated? Have noise-exposed employees been notified of their exposures and apprised of auditory risks?		
Are the results routinely transmitted to supervisors and other key individuals?		
Are results entered into health/medical records of noise exposed employees?		
Are results entered into shop folders?		
If noise maps exist, are they used by the proper staff?		
Are noise measurement results considered when contemplating procurement of new equipment? Modifying the facility? Relocating employees?		
Have there been changes in areas, equipment, or processes that have altered noise exposure? Have follow-up noise measurements been conducted?		
Are appropriate steps taken to include (or exclude) employees in the hearing loss prevention programs whose exposures have changed significantly?		

**Engineering and Administrative Controls**

Controlling noise by engineering and administrative methods is often the most effective means of reducing or eliminating the hazard. In some cases engineering controls will remove requirements for other components of the program, such as audiometric testing and the use of hearing protectors.

No	Yes
Have noise control needs been prioritized?	
Has the cost-effectiveness of various options been addressed?	
Are employees and supervisors apprised of plans for noise control measures? Are they consulted on various approaches?	
Will in-house resources or outside consultants perform the work?	
Have employees and supervisors been counseled on the operation and maintenance of noise control devices?	
Are noise control projects monitored to ensure timely completion?	
Has the full potential for administrative controls been evaluated?	
Are noisy processes conducted during shifts with fewer employees?	
Do employees have sound-treated lunch or break areas?	

**Monitoring Audiometry and Record Keeping**

The skills of audiometric technicians, the status of the audiometer, and the quality of audiometric test records are crucial to hearing loss prevention program success. Useful information may be ascertained from the audiometric records as well as from those who actually administer the tests.

Yes	No
Has the audiometric technician been adequately trained, certified, and recertified as necessary?	
Do on-the-job observations of the technicians indicate that they perform a thorough and valid audiometric test, instruct and consult the employee effectively, and keep appropriate records?	
Are records complete?	
Are follow-up actions documented?	
Are hearing threshold levels reasonably consistent from test to test? If not, are the reasons for inconsistencies investigated promptly?	
Are the annual test results compared to baseline to identify the presence of an OSHA standard threshold shift?	
Is the annual incidence of standard threshold shift greater than a few percent? If so, are problem areas pinpointed and remedial steps taken?	
Are audiometric trends (deteriorations) being identified, both in individuals and in groups of employees? (NIOSH recommends no more than 5% of workers showing 15 dB Significant Threshold Shift, same ear, same frequency.)	
Do records show that appropriate audiometer calibration procedures have been followed?	
Is there documentation showing that the background sound levels in the audiometer room were low enough to permit valid testing?	
Are the results of audiometric tests being communicated to supervisors and managers as well as to employees?	
Has corrective action been taken if the rate of no-shows for audiometric test appointments is more than about 5%?	
Are employees incurring STS notified in writing within at least 21 days? (NIOSH recommends immediate notification if retest shows 15 dB Significant Threshold Shift, same ear, same frequency.)	

**Referrals**

Referrals to outside sources for consultation or treatment are sometimes in order, but they can be an expensive element of the hearing loss prevention program, and should not be undertaken unnecessarily.

**Yes No**

Are referral procedures clearly specified?		
Have letters of agreement between the company and consulting physicians or audiologists been executed?		
Have mechanisms been established to ensure that employees needing evaluation or treatment actually receive the service (i.e., transportation, scheduling, reminders)?		
Are records properly transmitted to the physician or audiologist, and back to the company?		
If medical treatment is recommended, does the employee understand the condition requiring treatment, the recommendation, and methods of obtaining such treatment?		
Are employees being referred unnecessarily?		

**Hearing Protection Devices**

When noise control measures are infeasible, or until such time as they are installed, hearing protection devices are the only way to prevent hazardous levels of noise from damaging the inner ear. Making sure that these devices are worn effectively requires continuous attention on the part of supervisors and program implementers as well as noise-exposed employees.

**Yes No**

Have hearing protectors been made available to all employees whose daily average noise exposures are 85 dBA or above? (NIOSH recommends requiring HPD use if noises equal or exceed 85 dBA regardless of exposure time.)		
Are employees given the opportunity to select from a variety of appropriate protectors?		
Are employees fitted carefully with special attention to comfort?		
Are employees thoroughly trained, not only initially but at least once a year?		
Are the protectors checked regularly for wear or defects, and replaced immediately if necessary?		
If employees use disposable hearing protectors, are replacements readily available?		
Do employees understand the appropriate hygiene requirements?		
Have any employees developed ear infections or irritations associated with the use of hearing protectors?		
Are there any employees who are unable to wear these devices because of medical conditions?		
Have these conditions been treated promptly and successfully?		
Have alternative types of hearing protectors been considered when problems with current devices are experienced?		
Do employees who incur noise-induced hearing loss receive intensive counseling?		
Are those who fit and supervise the wearing of hearing protectors competent to deal with the many problems that can occur?		
Do workers complain that protectors interfere with their ability to do their jobs?		
Do they interfere with spoken instructions or warning signals?		
Are these complaints followed promptly with counseling, noise control, or other measures?		
Are employees encouraged to take their hearing protectors home if they engage in noisy non-occupational activities?		
Are new types of or potentially more effective protectors considered as they become available?		
Is the effectiveness of the hearing protector program evaluated regularly?		
Have at-the-ear protection levels been evaluated to ensure that either over or under protection has been adequately balanced according to the anticipated ambient noise levels?		
Is each hearing protector user required to demonstrate that he or she understands how to use and care for the protector?		
The results documented?		

**Administrative**

Keeping organized and current on administrative matters will help the program run smoothly.

**Yes No**

Have there been any changes in federal or state regulations?		
Have hearing loss prevention program's policies been modified to reflect these changes		
Are copies of company policies and guidelines regarding the hearing loss prevention program available in the offices that support the various program elements?		
Are those who implement the program elements aware of these policies?		
Do they comply?		
Are necessary materials and supplies being ordered with a minimum of delay?		
Are procurement officers overriding the hearing loss prevention program implementer's requests for specific hearing protectors or other hearing loss prevention equipment?		
If so, have corrective steps been taken?		
Is the performance of key personnel evaluated periodically?		
If such performance is found to be less than acceptable, are steps taken to correct the situation?		
Safety: Has the failure to hear warning shouts or alarms been tied to any accidents or injuries?		
If so, have remedial steps been taken?		

## Guide for Record Keeping

You can't control workplace noise without reliable information. Accurate records document what you have done to control noise and inform you when you may need to change your strategy to keep noise under control. Record keeping ties together critical information about all the other tools you use to eliminate or control workplace noise. The table below summarizes the critical record-keeping information for each noise-control tool.

<b>Noise-control tool</b>	<b>What it covers</b>	<b>Critical record-keeping information</b>	<b>Retention period</b>
<b><i>Exposure monitoring</i></b>	Sound survey	The date of survey, instruments used, areas surveyed, noise hazards identified, employees affected, employees with exposure levels exceeding 85 decibels over an eight-hour period	2 years
<b><i>Audiometric testing</i></b>	Baseline and annual audiograms	Name and job classification of each affected employee, employee test results, tester's name, test date, audiometer calibration date, test room background sound pressure level	Until the employee's termination date
<b><i>Education and training</i></b>	Hearing conservation concepts	Names of employees who received training, training dates, who presented the training	No minimum period
<b><i>Engineering controls</i></b>	Feasibility survey	Results of feasibility surveys, controls used, start date, noise reduction achieved	No minimum period
<b><i>Administrative controls</i></b>	Feasibility survey	Results of feasibility surveys, controls used, start date, noise reduction achieved, employees affected	No minimum period
<b><i>Hearing protectors</i></b>	Selection and fitting	Date of initial hearing protector fitting for each employee, size and brand of hearing protector selected, name of person who assisted with fitting	No minimum period

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