

# A Guide to Hearing Safety



## SECTION 1:

### Introduction

Approximately 30 million American workers are exposed to hazardous levels of noise in the workplace. Exposure to hazardous levels of noise can cause noise-induced hearing loss (NIHL) by damaging the ear. Initially, the noise exposure may cause a temporary hearing loss. Repeated exposures may lead to permanent damage to the ear and permanent and irreversible hearing loss. Exposure to high levels of noise can also cause other harmful health effects as well, such as stress, chronic ringing in the ears, and high blood pressure. In addition, unprotected workers in high noise environments have more lost time accidents, are less productive, have higher absenteeism rates, and have more discipline problems.

If your workplace has high noise levels, your business is required by the California Occupational Safety and Health Administration (Cal/OSHA) to have a "Hearing Conservation Program (HCP)." You may also be required to lower the noise level.

This product is designed to help you:

- Find out whether your business needs a HCP and noise controls.
- Start up your HCP, if needed.

## SECTION 2:

### Do I Need Noise Monitoring

Signs that you may need noise monitoring:

- People in your workplace need to raise their voices to be heard by someone standing at arm's length.
- Workers are experiencing ringing or buzzing (tinnitus) in the ears or temporary hearing loss after leaving the work area.
- Workers have evidence of permanent hearing loss.
- Workers are complaining about the noise level.

### Regulatory Requirements

Cal/OSHA Action Level (AL): The average employee noise exposure for an 8 hour day, which when reached or exceeded requires the implementation of activities (the HCP) to reduce the risk of noise-induced hearing loss. The Cal/OSHA Action Level (AL) for noise is 85 dBA.

Cal/OSHA Permissible Exposure Limit: Permissible Exposure Limit: The average employee noise exposure for an 8 hour day, 40 hour work week at which nearly all employees may be exposed without adverse health effects. The Cal/OSHA Permissible Exposure Limit (PEL) is 90 dBA.

NOTE: (1) Type 2 sound level meters are typically used for occupational noise evaluations. Cal/OSHA recognizes an error factor of plus or minus 2 dBA with this equipment, something that should be kept in mind when determining if the AL or PEL is being exceeded. (2) The AL and PEL are intended to protect most, not all exposed employees.(3) Adjustments are made where employees work shifts greater than 8 hours.

### DEFINITION

Noise Dosimetry: A type of sound level monitoring where specialized equipment (noise dosimeters) are placed on a representative number of employees for the entire shift. These instruments measure the sound level and will give an average sound level for the time sampled (TWA) and are designed to calculate whether the sound level will meet or exceed the AL or the PEL of 90 dBA, 8-hour TWA.

## Taking Noise Measurements

Start with a sound level meter (a Type 1 or Type 2 – Type 2 is most common and less expensive) survey of various areas throughout your facility during the busiest, noisiest shifts. Be sure to follow the equipment's instructions on proper use for occupational noise evaluations, and calibration. Don't forget to include the equipment that repair and maintenance personnel work on, such as compressors, boilers, and machine shop equipment. (Use Form I – Sound Level Meter Survey Record to help you document the noise levels.) Use the sound level meter to take instantaneous readings to identify individuals that could be exposed to high levels of noise, and areas where high levels of noise exist.

If you get any sound level readings near or exceeding 85 decibels measured on the A-scale (dBA), have a qualified health and safety professional conduct noise dosimetry. The Cal/OSHA "Action Level" is an 8-hour time-weighted average (TWA) of 85 dBA. Peak sound levels from impulsive or impact noise should not exceed 140 dB, so be sure to make a special note of sound levels that approach this number – noise controls may be necessary. Peak/impulse sound levels are measured a little differently, so be sure to follow the equipment's instructions accordingly.

Once a particular job or area is identified as having a TWA at or above 85 dBA, all employees who perform that job or work in that area must be in a HCP. The employees that are monitored are representative of other employees in their department, job, or location.

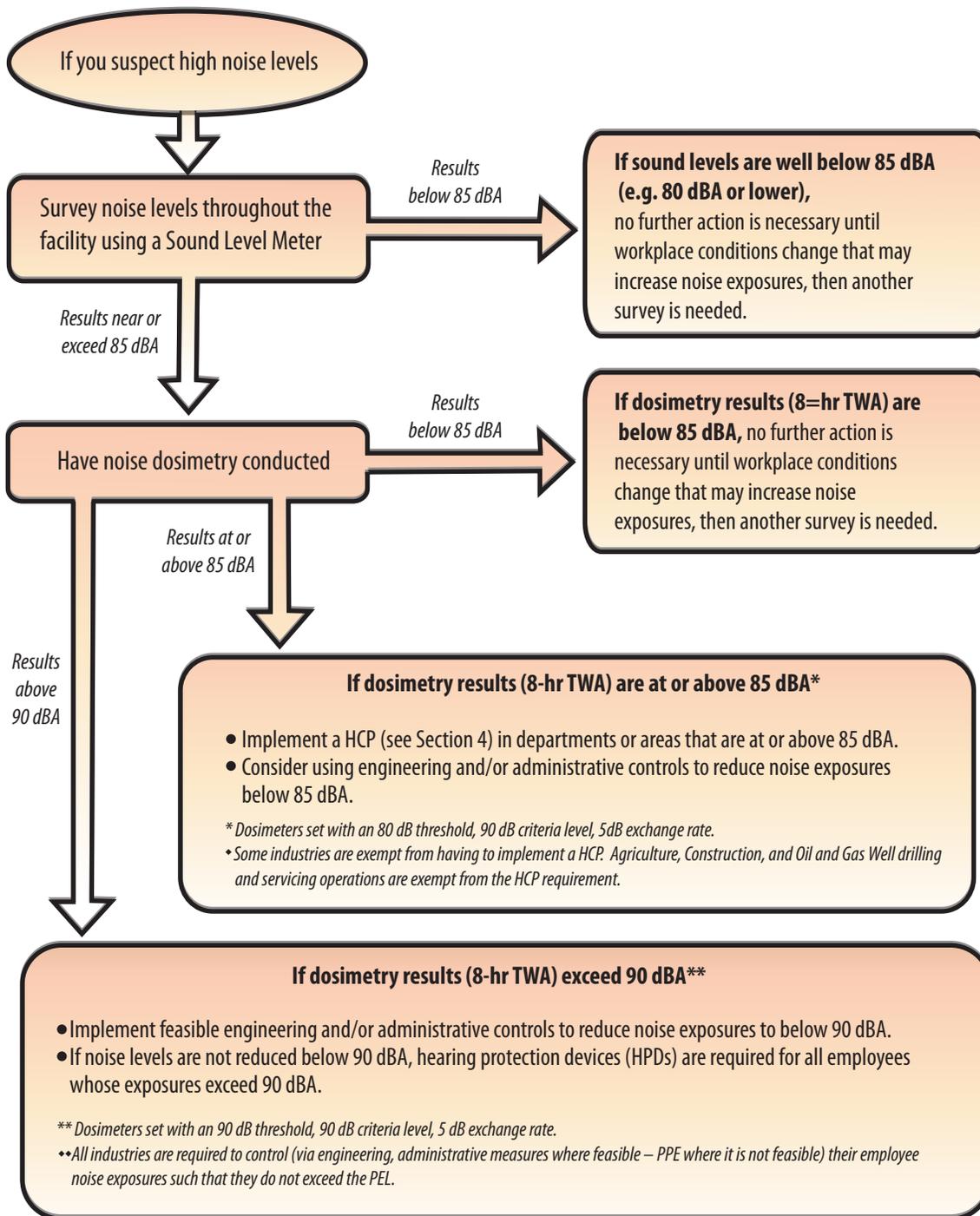
Some industries are exempt from having to implement a HCP. Agriculture, Construction, and Oil and Gas Well drilling and servicing operations are exempt from the HCP requirement. All industries are required to control their employee noise exposures so that they do not exceed the PEL.

Be sure to document all surveys well and notify all affected employees of monitoring results. (Form II – Noise Dosimetry Survey Record can be used to help you document noise monitoring.) See the recordkeeping portion for details about keeping records.

This booklet contains forms and information to help you comply with Cal/OSHA requirements. You can avoid the need for a HCP by reducing your workplace noise so that your employees' noise exposure does not exceed 85 dBA on an 8-hour time weighted average. It is recommended that you contact an acoustical engineer or consultant and implement control measures to reduce your employees' exposure to less than 85 dBA. Acoustical engineers can be found by typing **acoustical engineer** followed by the location, or typing **directory of acoustical consultants** into a computer search engine.

**SECTION 3:**

**Noise Monitoring Decision Chart**



## SECTION 4:

### Hearing Conservation Program Elements

Your business needs a HCP if employee 8-hour TWA noise exposures are equal to or greater than 85 dBA, and your business is not Agriculture, Construction, and Oil and Gas Well drilling and servicing operations which are exempt from the HCP requirement.

There are five main elements of HCPs:

<b>Noise Monitoring</b>	Sound level meter surveys or noise dosimetry surveys to identify jobs and areas that require controls and compliance
<b>Audiometry (Hearing Tests)</b>	A surveillance program of hearing tests to track whether employee hearing loss is being prevented
<b>Training</b>	At least annually, the employer must train employees on how hearing loss occurs and the proper way to wear and maintain HPDs
<b>Hearing Protection Devices</b>	A variety of HPDs must be supplied and maintained at the employer's expense
<b>Recordkeeping</b>	The employer must keep records of audiometry, noise monitoring, and employee training

In the add forms section of this product are the "Hearing Conservation Program Compliance Checklists." Filling these out will guide you through each program element. When these checklists are complete they can be integrated into your written Injury and Illness Prevention Program or safety program.

#### Noise Monitoring – When It May be Needed

When information indicates that any employee's exposure may equal or exceed an 8-hour TWA of 85 dBA, the employer shall develop and implement a monitoring program.

It is necessary to periodically update noise data because noise levels can change over time. Equipment that is out of balance or that needs a tune-up can become louder. Adding new equipment will add to the noise level. Replacing old equipment with new equipment can also change the noise level – sometimes lowering it. Also, changing job tasks can change employee noise exposure levels.

Cal/OSHA requires that monitoring be repeated whenever a change in production, process, equipment or controls increases noise exposures to levels where additional employees are exposed above the AL or where the hearing protectors used may no longer be adequate. However, it is a good idea to re-monitor when any changes are made to ensure that your program is just right.

#### Audiometry (Hearing Tests)

Audiometry is crucial to the success of the HCP. It is the only way to determine whether hearing loss is being prevented. Because hearing loss is gradual and not painful, the affected employee will not notice the change until a loss has occurred. Hearing loss due to noise overexposure is permanent. Employees who receive feedback from the audiologist about their hearing status are much more likely to assume responsibility for preserving their hearing.

The audiometric monitoring program:

- Educates and motivates the employee.
- Assesses overall program effectiveness.
- Provides a health screening benefit.

Cal/OSHA requires that employees who are in HCPs receive audiometric tests as follows:

A baseline (first) audiometric test within six months of the first exposure at or above the AL (Test must be preceded by 14 hours without workplace noise exposure - 80 dBA or less.) **OR** if a mobile test van is used, a baseline audiometric test within one year of the first exposure at or above the AL\*

**AND**

**Audiometric tests at least annually thereafter.**

*\* Be aware that if a mobile test van is used and employees will be working more than six months without a first (baseline) audiometric test, employers must require these employees to wear hearing protectors until the baseline audiogram is obtained.*

Annual audiograms are compared with the baseline audiogram to determine whether hearing loss has occurred. Cal/OSHA considers a Standard Threshold Shift (STS) to be an indication of hearing loss.

### **DEFINITION**

Standard Threshold Shift (STS): A change in the hearing threshold relative to the baseline audiogram of an average of 10 decibels or more at frequencies of 2000, 3000, and 4000 hertz in either ear.

In other words, if the audiologist must turn the audiometer volume up an average of 10 decibels so that the worker can hear these tones, it denotes a STS. Cal/OSHA allows some hearing loss from aging (presbycusis) to be factored into the calculation of the STS.

When an employee is found to have a STS (confirmed by a retest within 30 days) the employee must be:

- **Informed, in writing, within 21 days.**
- **Provided with and required to wear HPDs, if he or she doesn't already have them. Refitted and retrained in the use of HPDs and provided with hearing protectors offering greater protection if necessary.**
- **Employees with a STS must have HPDs that decrease their exposure to 85 dBA or below, instead of 90 dBA or below.**

Use Form IV – Audiometry Program Evaluation Checklist, to help you assess potential providers.

### **Training**

A HCP that overlooks the importance of education and motivation is not likely to be successful, because employees will not understand why it is in their best interest to cooperate and management will fail to show the necessary commitment.

A training program must be instituted for all employees who are exposed to noise at or above an 8-hour TWA of 85 dBA.

The training program must be repeated annually for each employee included in the HCP. Information provided in the training program shall be updated to be consistent with changes in protective equipment and work processes.

Training must include:

- **The effects of noise on hearing.**
- **The purpose of HPDs, 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 test procedures.**

You must also make copies of the Occupational Noise Regulation (California Code of Regulations, Title 8, General Industry Safety Orders, Occupational Noise, Control of Noise Exposures, Sections 5095 through 5100) available to affected employees or their representatives and post a copy in the workplace.

Thoroughly document all training. Use Form V – “Employee Training Record” to help you.

## Effective Training Strategies:

- Have current, relevant training.
- Train an individual employee before he or she is exposed to noise – don't just wait for the annual training.
- Limit content to short simple presentations of the most relevant facts.
- Focus on real-life losses employees may experience; use testimonials from well-respected peers.
- Have the audiologist explain audiometry results to individual employees.
- Refer to off-the-job exposures as well as on-the-job exposures.
- Tailor the training to the specific group and industry.
- Train in small groups to encourage interaction.
- Encourage questions from employees.
- Include hands-on practice with hearing protectors.
- Use films and pamphlets as supplemental reinforcement only; use current materials.
- Use opportunities other than the formal training sessions (e.g. the annual audiometric test).

## Hearing Protection Devices

Personal hearing protection devices (HPDs), or hearing protectors, can be worn to reduce the harmful effects of sound. Earplugs and earmuffs are the two most commonly used types of HPDs. Other important types are ear canal caps and helmets. Each employee reacts differently to the use of these devices and a successful HCP should be able to respond to the needs of each employee. It is important to ensure that HPDs are worn consistently and properly.

Cal/OSHA Requirements for HPDs:

- HPDs are required to be worn when:
  - > Controls have not decreased noise exposure levels to at or below 90 dBA.
  - > Baseline audiometric tests have not been done and noise levels are at or above than 85 dBA.
  - > There is a Standard Threshold Shift (STS) and noise levels are greater than 85 dBA.

HPDs must be made available to employees when:

- Noise exposure levels are at or above 85 dBA (8-hour time-weighted average).
  - > Employers must provide workers with a variety of HPD types to choose from.
  - > Employers must ensure proper initial fitting and provide training on the proper use and care of HPDs.
  - > Employers must ensure that the HPDs reduce employee exposures to an 8-hour TWA of 90 dBA or less and 85 dBA or less when an employee has experienced a STS.

To know how to comply with this last requirement you need to know what the Noise Reduction Rating (NRR) is and understand how it works.

### DEFINITION

Noise Reduction Rating (NRR): The NRR is a single-number rating method which attempts to describe a HPD based on how much the overall noise level is reduced by use of the HPD. When estimating A-weighted noise exposures (measured on the dBA scale) it is important to remember to first subtract 7 dB from the NRR and then subtract the remainder from the A-weighted noise level. (The Cal/OSHA Occupational Noise Regulation, Appendix E, lists four methods to estimate the adequacy of hearing protectors, the simplest of which is to subtract 7 dB from the stated NRR. You must adjust the NRR of the HPD used at your workplace by using one of the Cal/OSHA methods.)

In addition to this adjustment, you can factor in a margin of safety. Using a 50% safety factor is a standard approach. For example, for an earplug with a NRR of 29 dB: First subtract 7 to get 22 dB. Then divide 22 in half (50%) to get a final, adjusted NRR of 11 dB. This earplug is adequate to protect most workers exposed to sound levels up to 101 dBA. (101 dBA – 11 = 90 dBA) Earmuffs can be combined with earplugs to increase protection by 5 decibels over the higher of the two adjusted NRR ratings.

## Recordkeeping

Too many companies have found that their recordkeeping system was inadequate only when accurate information was most needed. Remember: if it isn't documented, it didn't happen.

Cal/OSHA regulations require that you must maintain accurate records of all:

- **Employee exposure measurements for at least 2 years.**
- **Audiometric tests for the duration of the worker's employment.**

The audiograms shall include:

- **The name and job classification of the employee.**
- **The date of the audiogram.**
- **The examiner's name.**
- **The date of the last audiometer calibration.**
- **The employee's most recent noise exposure assessment.**

You must also maintain accurate records of the background sound pressure levels in audiometric test rooms.

These records are to be provided, upon request, to employees, former employees, representatives of the employee, and to representatives of regulatory agencies.

If you sell your business the records must be transferred to the new employer.

In addition, you should also keep copies of all training records: sign-in sheets, training agenda or curriculum, list of materials used, and completed quizzes. (See Form V. Employee Training Record).

## SECTION 5: Benefits of a Good Hearing Conservation Program (HCP)

How Can You Develop a Good HCP?

- **Strive for excellence rather than just meeting minimal requirements.**
- **Ensure that management and supervisors support hearing conservation goals and actively contribute to a safety climate that encourages and enables employees to engage in good practices.**
- **Integrate the HCP into the company's overall written safety program.**
- **Educate and motivate employees so that hearing conservation practices become an integral part of their behavior on and off the job.**
- **Designate a key person as coordinator and implementer of the program.**
- **Strive for simplification and continuity of the program's operating procedures.**
- **Involve the employees in the process of developing and implementing HCPs.**
- **Establish quality assurance practices to make sure that all information used in the program is accurate and current.**
- **Review the program's effectiveness no less than annually and make modifications when needed.**

*From: A Practical Guide to Preventing Hearing Loss DHHS (NIOSH) Publication #96-110, National Institute for Occupational Safety & Health, Cincinnati, Ohio, June, 1996*

## SECTION 6: Who Needs Noise Control

You are required to install or implement feasible administrative or engineering controls to reduce employee exposure to noise if you have employees who are exposed to 8-hour TWA noise levels over 90 dBA\*. If noise levels are still over 90 dBA after these controls are in place, employees will need to be protected from noise exposure with HPDs.

When noise levels are decreased, workers are not only better protected from hearing loss, but they can communicate better and hear warnings and alarms more easily. Lower noise levels make for a safer, more productive workplace.

Consider the benefits of using administrative or engineering controls if noise levels are between 85 and 90 dBA. If you can decrease levels to below 85 dBA you are no longer required to have a HCP. When you weigh the ongoing time and costs of audiometry, training, HPDs, and recordkeeping against the costs of implementing noise controls, you may decide that implementing controls is a better idea.

*\*Dosimeters set with a 90 dB threshold*

## SECTION 7: Noise Control Information

There are two basic types of noise control – engineering and administrative.

### Engineering Control Information

Engineering controls are any engineering methods used to reduce or control the sound level of a noise source by modifying or replacing equipment or making any physical changes along the transmission path. Engineering controls address the root causes of noise and are the best long-term control measures. In order to work there must be a clear determination of the cause of the noise. HPDs are not a type of engineering control.

Examples of engineering noise controls:

- **Maintenance and repair of equipment (tune-ups, rebalancing, etc.).**
- **Enclosures (enclose the source or enclose the worker – sound shields, control rooms).**
- **Sound absorbing materials (thick, soft, porous, fuzzy materials are good sound absorbers).**
- **Modification of mechanical impacts (reduce driving force, reduce the distance between impacting parts).**
- **Reducing air or fluid velocity.**
- **Vibration damping.**
- **Vibration isolation.**
- **Noise cancellation technology.**
- **Silencers and mufflers.**
- **Replacement of machines with quieter equipment.**
- **Increasing the distance between the noise source and the employee.**

You should consult with an acoustical engineer or consultant to determine the best engineering control measure for your workplace. Acoustical engineers can be found by typing “acoustical engineer” followed by the location, or typing “directory of acoustical consultants” into a computer search engine.

## Administrative Control Information

Administrative controls are any managerial decisions that impact worker noise exposures. Examples of these are:

- **Job rotation** – modify jobs so employees are alternating quieter tasks with noisy tasks.
- **Work scheduling** – modify work schedules or production schedules so fewer employees are working when noisy machinery is operating.

To make administrative controls work, you must have a good characterization of noise exposure from different job tasks. Conduct further noise dosimetry to validate that job rotation or work scheduling have really decreased exposure levels for the targeted workers. You do not want to create a situation where you have more workers exposed above 85 dBA than when you started.

To assist employers in administratively controlling noise exposures, Cal/OSHA has published Table N-1 in Cal/OSHA regulations Title 8 Section 5096. Table N-1 lists the amount of time an employee can be exposed to various noise levels without exceeding the Permissible Exposure Limit for an 8 hour day exposure.

## Examples

- If an employee's exposure is 95 dBA for an 8-hour day from operating machinery, then the employee should only be exposed to the noise level of 95 dBA for 4 hours. The employer could possibly control the exposure by having 2 employees work 4 hours operating machinery, and 4 hours doing another task in a quiet area.
- You can be exposed for 30 minutes at 110 dBA or .5 of an hour without exceeding the 90 dBA PEL.

Table N-1 Permissible Noise Exposure<sup>1</sup> Permitted Duration Sound Per Workday per Workday Level

dBA	Hours/Minutes	Hour	dBA	Hours/Minutes	Hour
90	8-0	8.00	103	1-19	1.32
91	6-58	6.96	104	1-9	1.15
92	6-4	6.06	105	1-0	1.00
93	5-17	5.28	106	0-52	0.86
94	4-36	4.60	107	0-46	0.76
95	4-0	4.00	108	0-40	0.66
96	3-29	3.48	109	0-34	0.56
97	3-2	3.03	110	0-30	0.50
98	2-38	2.63	111	0-26	0.43
99	2-18	2.30	112	0-23	0.38
100	2-0.	2.00	113	0-20	0.33
101	1-44	1.73	114	0-17	0.28
102	1-31	1.52	115	0-15	0.25

<sup>1</sup> When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions:  $C_1/T_1 + C_2/T_2 + \dots + C_n/T_n$  exceeds unity, then, the mixed exposure should be considered to exceed the limit value.  $C_n$  indicates the total time of exposure at a specified noise level, and  $T_n$  indicates the total time of exposure permitted at that level.

**On the following pages are forms to assist in hearing safety compliance.**

This product was developed for you by State Fund, your partner in loss prevention. We recognize that your loss prevention efforts can affect the frequency and severity of illnesses and injuries in your work environment. Our experience shows that with informed planning and education, workplace injuries and illnesses can be reduced or eliminated. We are committed to the belief that a safe workplace can increase worker productivity and lower your workers' compensation costs. The safety and well-being of our insured employers and their employees is the primary concern of State Fund. We know you will find this information helpful in educating and encouraging your employees to establish and maintain a safe working environment.



# Form I

## SOUND LEVEL METER SURVEY RECORD

<b>COMPANY:</b>		<b>ADDRESS:</b>	
<b>DATE:</b>		<b>SURVEY PERFORMED BY:</b>	
<b>SOUND LEVEL METER MODEL:</b>	<i>(Attach relevant documentation from each)</i>	<b>SERIAL NUMBER:</b>	
<b>CALIBRATION DATE:</b>		<b>PAGE:</b>	<b>OF</b>

### LOCATION DIAGRAM



# Form III

## 1. NOISE MONITORING COMPLIANCE CHECKLIST

<b>DESIGNATED RESPONSIBLE PERSON:</b>	
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ACTION ITEM	TARGET DATE	DATE COMPLETED/ INITIAL	
1. Review Sections 2, 3, and 4 of A Guide to Hearing Safety.			
2. Determine whether a sound level meter survey is needed.			
3. Determine whether a noise dosimetry survey is needed.			
4. Using noise dosimetry results, determine which jobs, departments, and/or areas need a hearing conservation program (HCP), engineering and administrative noise controls, and hearing protection devices. List below.			
5. Notify each employee exposed at or above 85 dBA 8-hr TWA of the results of the monitoring.			
	<b>JOB/DEPT./AREA</b>	<b>SOUND LEVEL 8-HOUR TWA</b>	
		Before controls	After controls
<b>Jobs/Departments/Areas with noise levels greater than 90 dBA</b>			
• Implement feasible engineering and administrative controls (See Sections 6 & 7 of A Guide to Hearing Safety).			
• Implement interim hearing protection and HCP			
<b>If jobs are still above 90 dBA after controls are in place:</b>			
• Require hearing protection.			
• Implement a HCP.			
	<b>JOB/DEPT./AREA</b>	<b>SOUND LEVEL 8-HOUR TWA</b>	
		Before controls	After controls
<b>Jobs/Departments/Areas with noise levels equal to or greater than 85 dBA and less than or equal to 90 dBA.</b>			
• Implement a HCP.			
• Require hearing protection for employees who have incurred a Standard Threshold Shift or who have not had a baseline audiogram.			

# Form III

## 2. AUDIOMETRY COMPLIANCE CHECKLIST

<b>DESIGNATED RESPONSIBLE PERSON:</b>	
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ACTION ITEM	TARGET DATE	DATE COMPLETED/ INITIAL
1. Review Section 4 of A Guide to Hearing Safety.		
2. Establish procedures* to ensure that baseline and annual audiometry is conducted on all employees who are part of the HCP.		
3. Develop procedures* to review audiometry records periodically to evaluate the effectiveness of the HCP.		
4. Obtain relevant licenses, certifications, calibration records, and test booth background sound pressure levels records from the audiometry services provider.		
EVALUATION QUESTIONS	YES	NO
Has the Audiometry Program Evaluation Checklist form been used to determine the adequacy of your program?		

*\*Describe procedures here*

# Form III

## 3. EMPLOYEE TRAINING COMPLIANCE CHECKLIST

<b>DESIGNATED RESPONSIBLE PERSON:</b>	
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ACTION ITEM	TARGET DATE	DATE COMPLETED/ INITIAL
1. Review Section 4 of A Guide to Hearing Safety.		
2. Develop an appropriate training format to be used (e.g., classroom, computer-based, hands-on hearing protector fitting)*.		
3. Post a copy of the Cal/OSHA Occupational Noise Standard and make it available to employees.		
4. Develop procedures* to ensure employees are trained at the appropriate intervals: <ul style="list-style-type: none"> <li>• Upon issuance of hearing protectors.</li> <li>• At least annually.</li> </ul>		

*\*Describe procedures here*

# Form III

## 4. HEARING PROTECTION COMPLIANCE CHECKLIST

<b>DESIGNATED RESPONSIBLE PERSON:</b>	
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ACTION ITEM	TARGET DATE	DATE COMPLETED/ INITIAL	
1. Review Section 4 of A Guide to Hearing Protection.			
2. Based on noise exposure levels in each job, department, or area, determine the NRR level(s) necessary to ensure adequate hearing protection.			
3. Develop procedures* for issuing hearing protection devices (HPDs) and ensuring their use.			

	TYPE (EARMUFF, EARPLUG, CANAL CAP)	BRAND/MODEL	NRR	FOR USE IN (JOBS, DEPTS., OR AREAS)
<b>HPD List:</b>				

*\*Describe procedures here*

Locations HPDs are to be made available to employees

# Form III

## 5. RECORDKEEPING COMPLIANCE CHECKLIST

<b>DESIGNATED RESPONSIBLE PERSON:</b>	
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ACTION ITEM	TARGET DATE	DATE COMPLETED/ INITIAL	
1. Review Section 4 of A Guide to Hearing Protection.			
2. Set up a Sound Level Meter Survey/Noise Dosimetry Survey file. (Keep all records of noise monitoring.)			
3. Set up an Audiometry Services file. Keep all records pertaining to Audiometry Provider (e.g., licenses, certificates, calibration records, background sound pressure levels).			
4. Set up an Audiometric Test Results file. (Keep all audiograms here and copies in individual employee files.)			
5. Set up an Employee Training Records file.			
6. Establish procedures* to keep all files for the appropriate length of time: <ul style="list-style-type: none"> <li>• Sound level meter surveys/noise dosimetry surveys for at least 2 years.</li> <li>• Audiometric tests for duration of worker's employment.</li> <li>• Training records until next training takes place (one year).</li> </ul>			
Location(s) files are to be kept			
*Describe procedures here			

## Form IV

## AUDIOMETRY PROGRAM EVALUATION CHECKLIST

	YES	NO
<b>Questions for the Audiometry Services Provider</b>		
1. Has the audiometric technician been adequately trained, certified, and recertified as necessary? • The training of audiometric technicians, at a minimum, should meet the current requirements of the Council for Accreditation in Occupational Hearing Conservation or a similar accrediting organization. • Ask for a copy of the license or certificate when contracting for audiometric testing.		
2. Does the audiology service provider know Cal/OSHA regulations or requirements for audiometric testing?		
3. Is there documentation showing that the background sound levels in the audiometer room were low enough to permit valid testing? (Ask for copies.)*		
4. Is testing done under the supervision of an audiologist or physician?		
5. Is the same type of audiometer (and preferably the same instrument) used from year to year?		
<b>Company Program Evaluation Questions</b>		
1. 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?		
2. Are records complete?		
3. Do records show that appropriate audiometer calibration procedures have been followed?*		
4. Are follow-up actions documented?		
5. Are hearing threshold levels reasonably consistent from test to test?		
6. If not, are the reasons for inconsistencies investigated promptly?		
7. Are the annual test results compared to baseline to identify the presence of a Cal/OSHA standard threshold shift (STS)?		
8. Is the annual incidence of STS greater than a few percent?		
9. If so, are problem areas pinpointed and remedial steps taken?		
10. Are audiometric trends (deteriorations) being identified, both in individuals and in groups of employees?		
11. Are the results of audiometric tests being communicated to supervisors and managers as well as to employees?		
12. Has corrective action been taken if the rate of no-shows for audiometric test appointments is more than 5%?		
13. Are employees incurring STS notified in writing within at least 21 days?		

## AUDIOMETRY PROGRAM EVALUATION CHECKLIST (cont.)

	YES	NO
<b>Evaluation Questions If There are Incidences of STS</b>		
1. Have procedures been implemented to ensure that individuals who have incurred a STS are fitted with hearing protection devices (HPDs) that reduce their exposure to 85 dBA or below?		
2. Has the sound level meter survey and noise dosimetry survey data been re-evaluated to ensure it is up-to-date and adequate?		
3. Has the workplace been re-evaluated for the possibility of implementing noise controls?		
4. Has the adequacy of HPDs been evaluated?		
5. Are employees wearing HPDs when required?		
6. Have HPDs been made available to all employees whose daily average noise exposure are 85 dBA or above?		
7. Are employees thoroughly trained, not only initially, but at least once a year?		
<b>Referrals for Consultation and Treatment</b>		
1. Are referral procedures clearly specified?		
2. Have letters of agreement between the company and consulting physicians or audiologists been executed?		
3. Have mechanisms been established to ensure that employees needing evaluation or treatment actually receive the service (i.e., transportation, scheduling, reminders)?		
4. Are records properly transmitted to the physician or audiologist, and back to the company?		

\* The requirements for automatic equipment and test facilities are set forth in Appendices B, C, and D of the Occupational Noise Regulation in the General Industry Safety Orders, found in Title 8 of the California Code of Regulations, Article 105, Control of Noise Exposure.

Source: *A Practical Guide to Preventing Hearing Loss* DHHS (NIOSH) Publication #96-110, National Institute for Occupation Safety & Health, Cincinnati, Ohio, June, 1996.

Access at <http://www.cdc.gov/niosh/docs/96-110/pdfs/96-110.pdf>. Or call (800) CDC-INFO or (800) 232-4636 for a free copy. This publication has an excellent evaluation checklist for the entire Hearing Conservation Program.

# Form V

## HEARING CONSERVATION PROGRAM EMPLOYEE TRAINING RECORD

<b>EMPLOYEE:</b>		<b>EMPLOYEE NUMBER:</b>	
<b>SUPERVISOR:</b>		<b>8-HOUR TWA NOISE EXPOSURE:</b>	
<b>WORK AREA:</b>			

<b>SPECIFIC TOPICS COVERED:</b>	<input type="checkbox"/> Company Hearing Conservation Program. <input type="checkbox"/> Cal/OSHA Occupational Noise Regulations. <input type="checkbox"/> Worksite noise monitoring results. <input type="checkbox"/> Effects of noise on hearing. <input type="checkbox"/> Purpose and an explanation of hearing tests (audiometric testing). <input type="checkbox"/> The purpose of hearing protectors; the advantages, disadvantages, and attenuation of various types; and instructions on selection, fitting, use and care. <input type="checkbox"/> Other.
	<p>I understand that I am responsible for:</p> <ul style="list-style-type: none"> <li>• Use of hearing protection in areas where it is required.</li> <li>• Reporting for hearing tests as requested, during work time.</li> <li>• Wearing noise monitoring equipment for full shift as requested.</li> </ul> <p>I acknowledge that I have been trained in the above marked (X) areas.</p> <p>Signature _____ Date _____</p>

# Form VI

## WRITTEN HEARING CONSERVATION PROGRAM

<b>COMPANY:</b>		<b>LOCATION:</b>	
<b>PROGRAM EFFECTIVE DATE:</b>			

### HEARING CONSERVATION PROGRAM (HCP) COORDINATOR

<b>Program Coordinator's Responsibilities:</b>	<ul style="list-style-type: none"> <li>• Administer HCP.</li> <li>• Ensure noise monitoring is conducted.</li> <li>• Organize hearing test (audiometry) program.</li> <li>• Purchase and select hearing protection devices (HPDs).</li> <li>• Organize employee training.</li> <li>• Keep records.</li> </ul>
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### THE FOLLOWING PERSONNEL WILL SUPERVISE IN THE SPECIFIED AREAS

Supervisor	Area

### SUPERVISORS WILL BE RESPONSIBLE FOR ISSUING HPDs AND ENFORCING THEIR USE

Job Duty	8-HR TWA	HPD Required

### HPDs WILL BE AVAILABLE DURING ALL SHIFTS IN THE FOLLOWING LOCATIONS

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### ALL HPDs WILL HAVE A NOISE REDUCTION RATING (NRR) OF:

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## WRITTEN HEARING CONSERVATION PROGRAM (cont.)

TRAINING WILL BE CONDUCTED WHEN HPDs ARE FIRST ISSUED AND ANNUALLY THEREAFTER	
<b>Training will be conducted by:</b>	
<b>Using the following aids:</b>	
<b>Training will cover</b>	<ul style="list-style-type: none"> <li>• Company HCP.</li> <li>• Cal/OSHA Occupational Noise Regulations.</li> <li>• Worksite noise monitoring results.</li> <li>• Effects of noise on hearing.</li> <li>• Purpose and an explanation of audiometric testing.</li> <li>• The purpose of hearing protectors; the advantages, disadvantages, and attenuation of various types; and instructions on selection, fitting, use, and care.</li> <li>• Other _____</li> </ul>

*A record of training received by each employee, dated and signed, will be kept on file.*

Program effectiveness will be evaluated through regular inspections of each area where hearing protection is used and stored.	
<i>(Person/position)</i>	will be responsible for evaluation of the program.
<b>Records for the HCP will be kept in:</b>	by: _____
<b>The records will include</b>	<ul style="list-style-type: none"> <li>• Sound level meter surveys/noise dosimetry surveys (retained for at least 2 years).</li> <li>• Audiometric tests (retained for duration of worker's employment).</li> <li>• Training records (until next training takes place – one year).</li> </ul>