Amending the Cayuga County Buildings & Grounds, Highway & Parks Hearing Conservation Policies

BY: Christopher Petrus, Chair, Government Operations

WHEREAS, the County Legislature has adopted numerous policies and procedures for conducting County business and others which are mandated by Federal and State governments; and,

WHEREAS, the format was changed to be uniform with all county policies; and

WHEREAS, the County wishes to amend the Hearing Conservation policy, now therefore be it

RESOLVED, the Cayuga County Legislature does hereby amend the Cayuga County Building, Highway & Parks Policy; and be it further

RESOLVED, that the policy be posted to the County Website, and e-mailed to Department Heads by the clerk of the Legislature Office; and it is further

RESOLVED, that each Department will review their policies semi-annually; and be it further

RESOLVED, that this resolution will take effect immediately upon its adoption.

State of New York }
County of Cayuga }

I do hereby certify, that I have compared the forgoing copy of a Resolution duly passed and adopted by the Cayuga County Legislature at a meeting held on the 22nd day of November 2022 with the original Resolution, and that the same is a true and correct copy and transcript thereof, and the whole thereof.

Given under my hand and official seal November 23, 2022

Sheila Smith

Clerk, Cayuga County Legislature

DEPARTMENT: Buildings & Grounds, Highway, & Parks

POLICY TITLE: Hearing Conservation Policy

EFFECTIVE DATE:

RESOLUTION NO:

SUPERSEDES POLICY OF: May 28, 2013, Res # 191-13

Policy Statement for Occupational Noise Exposure

Cayuga County has implemented this policy to control employee exposure to noise levels in excess of the action levels as listed in 29 CFR 1910.95 – Occupational Noise Exposure. This Policy is applicable to all County employees, vendors/contractors, volunteers, and other individuals that are performing work for or on behalf of the County (examples: work crew, inmates, etc.). The following engineering controls and work practices will be enforced.

For the most part, County employees do not perform work in locations where noise exposure exceeds 85 decibels on an 8 hour time weighted average. Exceptions may exist, and it is important that Department Heads and their Supervisors that manage employees who exposure is anticipated or expected to exceed this threshold develop and implement a continuing Hearing Conservation Program. It is the responsibility of the Department Head and/or their Supervisors to implement a hearing conservation program (if required), and to enforce the use of hearing protection by their staff as necessary.

Employees are required to wear hearing protection in work areas whenever noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 85 decibels. As a general rule of thumb, employees are to wear hearing protection if background noise requires them to raise their voices during normal conversation conducted at arm's length distance.

Training

Upon initial hiring, employees will be trained in the hazards presented by excessive noise levels in the workplace, and the use and care of hearing protection devices. Training will be repeated annually and updated to reflect changes in personal protective equipment (PPE) and work requirements.

When a Hearing Conservation Program is Required

Audio monitoring will be implemented if it is believed noise levels in work areas are approaching or exceed action level limits. If monitoring results indicate that an employee's exposure exceeds the 85 decibel threshold (8 Hour TWA), the employee will be included in a hearing conservation program. A baseline audiogram will be done within 6 months of exposure with the employee required to cease work and avoid high noise levels for at least 14 hours prior to the test. An audiogram will be performed at least annually on employees in the hearing conservation program, and if comparison indicates a standard threshold shift, the employee will be notified of this fact, in writing, within 21 days of the finding.

If a standard threshold shift occurs, the following procedures will be implemented:

- If the employee is not using hearing protectors, he/she will be fitted with hearing protectors, trained in their use and care, will be and required to use them.

- If the employee is already using hearing protectors, he/she will be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.
- The employee will be referred for a clinical audiological evaluation or an ontological examination, as appropriate, if additional testing is necessary or if it is suspected that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.
- The employee will be informed of the need for an ontological examination if a medical pathology of the ear that is unrelated to the use of hearing protectors is suspected.

Audiometric evaluation and testing conducted by a licensed physician using the guidelines presented in 29 CFR 1910.95 (g), is available to employees whose work requirements equals or exceeds an 8 hr. time-weighted average 85 decibels **on a regular basis** at no cost to the employee.

If not already provided at the jobsite, hearing protection is available at no cost to employees upon request to the supervisor or Department Head.

If audio testing is deemed necessary, audio testing and monitoring will be maintained by the Department. Evaluations will be done for suitable hearing protection from the noise levels encountered in the workplace. These records, as well as information on these OSHA regulations and appendices will be available to employees and regulatory/PESH representatives upon request.

As part of its Hearing Conservation Program, The County will provide employees with noise exposure procedures and shall post those procedures at locations where noise exposure exceeds or is expected to exceed an 8 hour twa of 85 decibels.

Introduction

The following information is provided to help Department Heads and Supervisors control noise at workplaces that could damage an employee's hearing. The information is designed to help in the development of ***strategies*** to prevent or control workplace noise and is organized in four sections.

- **Sound and Noise** — provides basic information about sound and noise.
- **Controlling Workplace Noise** — describes noise-control tools and suggests how to use them to develop a noise-control strategy for your workplace.
- **Your Program for Success** — shows you how to fit a noise-control strategy into a successful workplace safety-and-health program
- **Rules to Work by** — gives you an overview of hearing conservation requirements under the occupational noise exposure standard.

Sound and Noise: Overview Sound

Sound is what you hear. Of course, a dog can hear sounds that you cannot and you can feel the sound of a jet as it prepares to take off. However, most of us, in our everyday lives, relate sound with what we hear.

Noise

Noise is sound that you do not want to hear. One person's noise may be another person's music, but there is a point at which noise becomes a problem for all of us: when it is so loud that it destroys our ability to hear sounds that we want to hear.

About this Section: This section tells you about the following topics:

- How is sound measured?

- How does hearing work?
- How loud is too loud?
- What happens when noise is too loud?
- How can I tell if my hearing is damaged?
- How can I tell when workplace noise is dangerous? **How is sound measured?**

Sound is measured in two ways: ***decibels*** and ***frequency.***

Decibels

Decibels indicate the pressure of sound. Sound waves transfer that pressure from place to place and are measured in units on a *logarithmic* scale, shown below.

Decibels	***Increase in Sound Intensity***
100	10 x 10 x 10 x 10 x 10 x 10 x 10 x 10 x 10 x 10 = 10,000,000,000
90	10 x 10 x 10 x 10 x 10 x 10 x 10 x 10 x 10 = 1,000,000,000
80	10 x 10 x 10 x 10 x 10 x 10 x 10 x 10 = 100,000,000
70	10 x 10 x 10 x 10 x 10 x 10 x 10 = 10,000,000
60	10 x 10 x 10 x 10 x 10 x 10 = 1,000,000
50	10 x 10 x 10 x 10 x 10 = 100,000
40	10 x 10 x 10 x 10 = 10,000
30	10 x 10 x 10 = 1,000
20	10 x 10 = 100
10	10 x 1 = 10
1	1

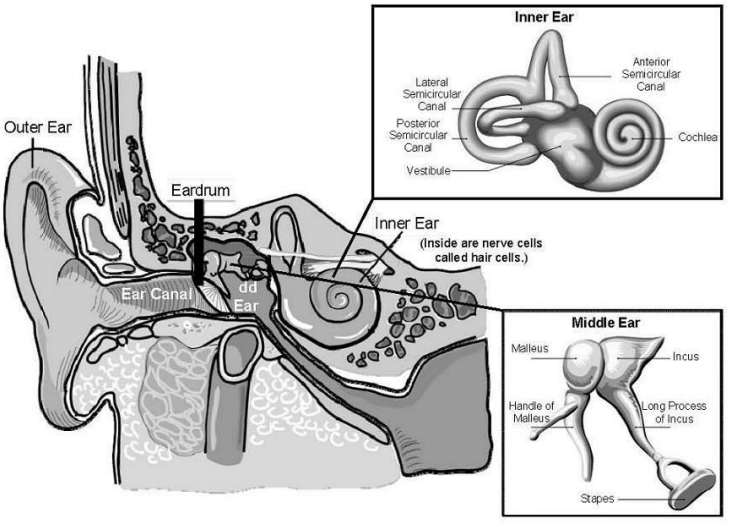
For each 10 decibel increase in sound level, you increase sound intensity by a factor of 10.

Frequency

Frequency is related to a sound's ***pitch*** and is measured in units called ***hertz (Hz),*** or cycles per second. The pitch of a sound - how high or low it seems - is how you perceive its frequency.

The higher a sound's pitch, the higher its frequency. Human hearing is most sensitive to frequencies between 3,000 to 4,000 Hz. That is why those with damaged hearing have difficulty understanding higher-pitched voices and other sounds in the 3,000- to 4,000-Hz range.

How does hearing work?



The ear has three main parts: ***the outer ear,*** ***middle ear,*** and ***inner ear.*** The outer ear opens to the ear canal. The ***eardrum*** separates the ear canal from the middle ear. Small bones in the middle ear transfer sound to the inner ear. The inner ear contains the nerve endings that lead to the brain.

Waves and Vibrations

All sounds produce waves. Sound waves, which funnel through the opening in your outer ear, travel down the ear canal, and strike your eardrum, causing it to vibrate. The vibrations pass the small bones of the middle ear, which transmit them to sensory cells called ***hair cells*** in the inner ear. The vibrations become nerve impulses and go directly to the brain, which interprets the impulses as sound.

How loud is too loud? Guidelines

People differ in their sensitivity to noise and there is no way to determine who is at risk for hearing damage. Factors such as sound pressure, frequency, and exposure time all play a role in determining whether noise is harmful or just annoying.

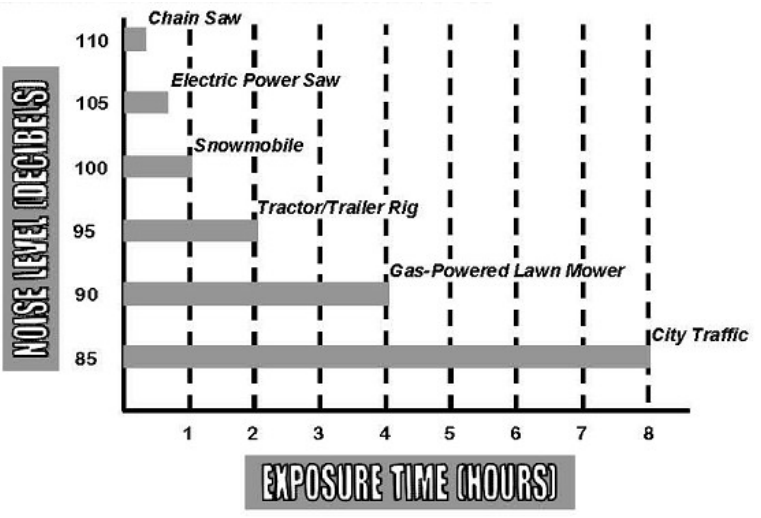
You should consider your hearing at risk if noise affects you in one of the following ways:

- You have to shout above noise to make yourself heard
- You have ringing in your ears for several hours after exposure to noise
- You have difficulty hearing normal sounds for several hours after exposure to noise

Exposure Times and Noise Levels

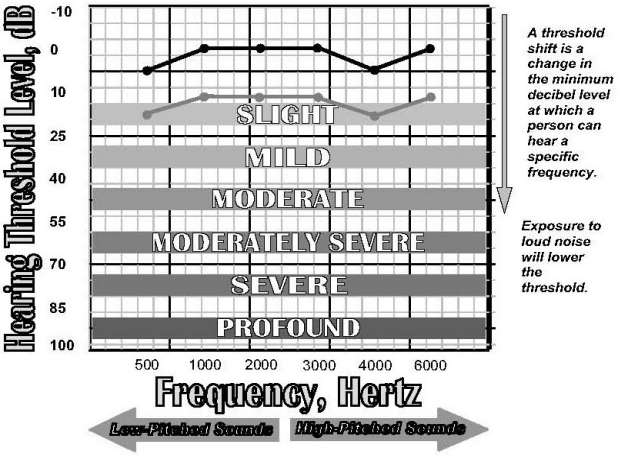
Most hearing specialists agree: You can damage your hearing if you are continually exposed to noise levels greater than 85 decibels over an eight-hour period. As noise levels rise above 85 decibels, the safe exposure time falls dramatically, as shown below.

Maximum Exposure Times, Without Hearing Protection for Common Noise Sources



What happens when noise is too loud?

Shifting Thresholds



When noise is too loud, it can damage the sensitive hair cells in your inner ear. Those hair cells are the foot soldiers for your hearing. As the number of damaged hair cells increases, your brain receives fewer impulses to interpret as sound. When you damage hair cells, you damage hearing.

While a single exposure to loud noise —such as a shotgun blast —can damage your hair cells, it probably will not destroy them. You may experience ringing in your ears and some sounds may be muffled, but your hair cells will recover and so will your hearing. This is called a temporary threshold shift.

On the other hand, repeated exposures to loud noise — hundreds of shotgun blasts; continuous work near a wood chipper or lawnmower — will damage hair cells to the point that they cannot recover. Because the damage is permanent, the result is called a permanent threshold shift. There is no treatment — no medicine, no surgery, not even a hearing aid — that will restore it. When you destroy hair cells, you destroy hearing.

How can I tell if my hearing is damaged?

Signs and Symptoms

Hearing loss is painless and gradual. It usually develops over several years — you might not even notice the loss during those years. Sometimes overexposure to loud noise can trigger ringing or other sounds in your ears, called tinnitus. While tinnitus may be a symptom of damaged hearing, it can also be caused by infections,

medications, and impacted ear wax. The only way to know for sure if noise has damaged your hearing is to have a hearing examination by a certified audiometric technician, audiologist, otolaryngologist, or physician.

If you can answer "yes" to any of the following questions, your hearing may be at risk.

- At your workplace, are you exposed to loud noise without hearing protection?
- Do you shout to a coworker at arm's length because of the noise around you?
- Off the job, are you exposed to noise from firearms, motorcycles, snowmobiles, power tools, or loud music without hearing protection?
- Do you need to turn up the television or radio volume to hear it? □ Do you ask people to repeat sentences?
- Do you feel your hearing is not as good as it was 10 years ago? □ Have family members noticed a problem with your hearing?

How can I tell when workplace noise is dangerous? Signs

and Symptoms

If you are not sure whether the noise in your workplace is dangerously loud, ask yourself: "Is normal conversation difficult because of the noise?" "Have coworkers also complained about the noise?" If the answer is yes, there may be a noise exposure problem.

Sound Surveys

There is really only one way to tell when workplace noise is dangerous. Have the noise evaluated by someone trained to do a sound survey (anyone trained to use a sound-level meter and a dosimeter should be able to conduct a survey). There are three types of sound surveys:

- ***Basic Survey*** - The surveyor uses a sound-level meter to identify areas in the workplace that may put workers' hearing at risk.
- ***Detailed Survey*** - The surveyor uses a sound-level meter and a dosimeter to monitor and estimate an individual worker‘s daily exposure to noise.
- ***Engineering Survey*** - The surveyor measures noise levels produced by machinery in different operating modes to find ways to eliminate or control excessive noise.

Survey Objectives

An effective noise survey should give you enough information to understand a noise problem — to identify it and to determine how to control it. It is important to narrow the survey's focus so that you are not overwhelmed with more information than you need to make a good decision. **Controlling Workplace Noise**

Overview

Though some people may tell you otherwise, there is more to noise control than buying products off the shelf at your local safety-supply store. Do you really need to spend money on noise-control products? This section describes what to consider before you decide.

Where to Control Noise

If you have a workplace noise problem, there are three points at which you can bring it under control:

- At the source. What is causing the noise?
- Along the sound path. How does sound move from the source to the listener?
- At the listener. Who is affected by the noise?

How to Control Noise

There are seven tools you can use to accomplish the task:

- Exposure Monitoring
- Audiometric Testing
- Education Controls
- Administrative Controls
- Hearing Protectors
- Record Keeping
- Developing a Strategy

This section describes each of the noise-control tools and suggests how you can use them to develop a noise-control strategy.

- What you should know about exposure monitoring
- What you should know about audiometric testing
- What you should know about education training
- Using engineering controls
- Using administrative controls
- Using hearing protectors
- What you should know about recordkeeping

What You Should Know About Exposure Monitoring
Exposure Monitoring as a Noise-Control Tool

If employees are exposed to noise levels that exceed 85 decibels averaged over an eight-hour period, then you must reduce their exposure. How do you know if the noise levels exceed 85 decibels? Exposure monitoring can help you answer the question; it can help you determine if noise in your workplace is too loud, where it is too loud, when it is too loud, and whose hearing may be at risk.

Anyone trained to use a dosimeter can monitor noise exposure levels for individual employees over a specific time period, such as an eight-hour day. This person can also use a sound-level meter to survey noise levels of work tasks and machines at specific times during the workday.

Strategy Overview

Exposure monitoring gives you the information to determine if individual employees are exposed to noise that exceeds 85 decibels averaged over an eight-hour period. It can help you identify the following:

- The location of the noise.

- The cause of the noise.
- The employee or employees affected by the noise. **What You Should Know About Audiometric Testing**

Audiometric Testing as a Noise-Control Tool

Audiometric testing determines whether an employee's hearing is stable or getting worse over time. The testing instrument is called an audiometer and the result of the test — the ***audiogram*** — is a graph showing an employee's hearing ability at different sound-frequency levels. An employee's baseline audiogram establishes a baseline or reference for comparing to the employee's future audiograms.

- Employees who are exposed to noise that exceed 85 decibels averaged over an eight- hour day must have baseline audiometric tests.
- At least annually, after the baseline test, employees must be re-tested if they are exposed above the 85decibel limit.
- The results of each employee's annual audiogram must be compared to the baseline audiogram to determine if the employee's hearing has changed.
- If the comparison indicates a change in the employee's hearing, the employee must be notified within 21 days of the finding.
- Only a certified audiometric technician, audiologist, otolaryngologist, or physician can perform an audiometric test.

Strategy Overview

Audiometric testing can tell you how effectively you are controlling workplace noise. If employees are overexposed, you will see the results as ***threshold shifts*** when you compare their baseline audiograms to their annual audiograms.

If employees are overexposed, you will need to determine how and why the overexposure is occurring.

What You Should Know About Education and Training
Education and Training as a Noise-Control Tool

Informed employees know about workplace hazards, how to recognize the hazards, and how to control their exposure. The best way to inform them — and to keep them informed — is through education and training.

Employees who are exposed to noise levels that exceed 85 decibels averaged over an eight-hour period must understand the following concepts:

- Why 85-decibel-level noise can damage their hearing.
- The purpose of audiometric testing.
- The purpose of hearing protectors and how to use them properly.

Strategy Overview

If your workplace has noise levels that exceed 85 decibels, education and training, exposure monitoring, and audiometric testing are probably the most important tools of your noise-control strategy.

Education and training inform employees about noise hazards, while exposure monitoring and audiometric testing identify the hazards. Together, these tools help you eliminate noise hazards or keep them under control.

Using Engineering Controls Advantages & Disadvantages

When you replace a noisy machine with a quiet one, modify it to make it quieter, or change the sound path so that dangerous noise never reaches the listener; you are using an engineering control.

Workplace safety-and-health specialists will tell you that engineering controls are the best way to control noise. That is true if the engineering control is effective, practical, and affordable for your workplace.

For example, if you have an old, noisy, electric hand drill, you can replace it with a newer, quieter one — a practical, affordable engineering control. If you have a large, noisy chipper/shredder, however, replacing it may not be practical. Instead, you might isolate the noise by enclosing the shredder or block the noise by constructing a barrier between the shredder and the listener.

- When you double the distance between the listener and the sound source, you decrease the sound pressure level by six decibels. For example, a hazardous 96- decibel noise source at five feet is a safe 84 decibels at 20 feet.
- When you reduce the dropping height of materials collected in bins and boxes, you can quiet noisy material conveying systems. Also, consider the following low-cost controls:
- Match the conveyer speed to the flow of materials to keep the material from vibrating.
- Use rigid containers or line them with damping materials such as plastic or rubber.
- Plates dropping off a roller belt onto a stacking platform can be noisy. Reduce the drop height and you will decrease the noise. **Strategy Overview**

Applying effective, practical, affordable engineering controls to a noise problem is challenging because there are no ready-to-order solutions — you have to tailor them to your workplace. You are more likely to find an engineering-control solution when you have accomplished the following:

- Understand what is causing the noise.
- Determine how the noise is reaching the listener.
- Identify the most appropriate point, or points, at which to control the noise: at the source, along the sound path, or at the listener.

Using Administrative Controls Advantages & Disadvantages

To administer an activity means to manage it. Unlike engineering controls — which prevent hazardous noise from reaching a worker — administrative controls manage worker's activities to reduce exposure. Closely related to administrative controls are work-practice controls, which emphasize safe work practices and procedures.

Administrative and work-practice controls are usually less expensive to carry out than engineering controls; that is because there are no significant capital costs involved in changing or modifying equipment. In some cases, administrative controls have reduced employee exposure to noise and increased productivity by rotating employees through a demanding, noisy task. Work-practice controls also improve employee performance by emphasizing safe work practices.

On the other hand, administrative controls and work-practice controls usually are not as effective as engineering controls because they do not control the noise source. Noisy machines are still noisy and the exposure hazard is still present.

Applying Administrative Controls: Examples

Examples of administrative and work-practice controls include the following:

- Reducing the time employees spend working in noisy areas — for example, rotating two or more employees so that each is exposed to noise levels less than 85 decibels, averaged over an eight-hour day.
- Shutting down noisy equipment when it is not needed for production.
- Ensuring that employees maintain their equipment to keep it running smoothly and quietly.
- Ensuring that employees know how to perform tasks and operate equipment at safe noise levels.
- Using warning signs to identify work areas where noise exceeds safe levels.
- Teaching employees appropriate methods for eliminating or controlling noise.
- Encouraging employees to report noise hazards to supervisors.

Strategy Overview

If you cannot eliminate or control dangerous noise at the source or along the sound path with an engineering control, you may be able to reduce it at the listener with an administrative control. However, if an administrative control will not reduce employee exposures to safe levels, you will need to consider another noise-control tool: hearing protectors.

Using Hearing Protectors

There are two types of hearing protectors: ear plugs and earmuffs. Both types decrease the pressure of sound that reaches the eardrum and are the next line of defense against noise when you cannot reduce exposures to safe levels with engineering or administrative controls.

Ear plugs fit in the outer ear canal. To be effective, they must totally block the ear canal with an airtight seal. They are available in different shapes and sizes and can be custom made. An earplug must be snugly fitted so that it seals the entire circumference of the ear canal. An improperly fitted, dirty, or worn-out plug will not seal and can irritate the ear canal.

Earmuffs fit over the entire outer ear to form an air seal — they will not seal around eyeglasses or long hair — and are held in place by an adjustable headband. The headband must hold earmuffs firmly around the ear.

How Effective are Hearing Protectors?

Properly fitted earplugs and muffs reduce noise levels 15 to 26 decibels. Better earplugs and muffs are approximately equal in sound reduction, though earplugs are more effective for reducing low-frequency noise and earmuffs for reducing high-frequency noise. Using earplugs and muffs together adds more protection against higher noise levels (above 105 decibels) than either used alone.

Hearing protectors are effective only when employers and employees understand how to select, wear, and care for them.

- Ensure that employees are properly fitted with appropriate hearing protectors.
- Have an adequate supply of hearing protectors available.
- Educate employees how to wear and care for hearing protectors.

- Respond promptly to employee' questions about hearing protectors. Replace protectors when they are damaged, dirty, or worn out.
- Remember that hearing protectors control noise, they do not eliminate it — they are effective only if you wear them for the entire time that you are exposed to hazardous noise.

How do I select hearing protectors?

Focus on the three C's: ***comfort, convenience,*** and ***compatibility***. Employees will be more likely to wear hearing protectors that are comfortable, easy to use, and that don't interfere with their work. Employees should decide, with the help of a person trained in fitting hearing protectors, which types and sizes are appropriate.

Most hearing protectors are labeled with a noise reduction rating (NRR) indicating a protection level in decibels. However, these ratings are not reliable outside of a laboratory, and should not be used solely as the deciding factor. More important are factors that favor comfort, convenience, and compatibility:

- Easy to place and remove
- Simple to care for
- Constructed with non-allergenic material
- Will not interfere with eyeglasses or hard hats

Do I have to provide hearing protectors to my employees?

If you are an employer, you must provide hearing protectors, at no cost, to employees exposed to workplace noise that exceeds 85 decibels, averaged over an eight-hour period. In addition, those who receive hearing protectors must have the opportunity to do the following:

- Select appropriate hearing protectors from a variety of types that are compatible with their work tasks.
- Be properly fitted with the hearing protectors they select.
- Be trained in the use and care of their hearing protectors.

Before you invest in hearing protectors, determine whether you can use engineering controls or administrative controls to lower noise levels below the 85-decibel limit. **What You Should Know About Recordkeeping**

Recordkeeping as a Noise-Control Tool

You cannot 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.

Strategy Overview

You might think of record keeping as a separate activity, but it 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.

Noise-Control Tool	What it Covers	Critical Recordkeeping Information	Retention Period

Exposure Monitoring	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
Audiometric Testing	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
Education and Training	Hearing conservation concepts	Names of employees who received training, training dates, who presented the training.	No minimum period
Engineering Controls	Feasibility survey	Results of feasibility surveys, controls used, start date, noise reduction achieved.	No minimum period
Administrative Controls	Feasibility survey	Results of feasibility surveys, controls used, start date, noise reduction achieved, employees affected.	No minimum period
Hearing Protectors	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

Developing a Program for Success

Workplace Safety-and-Health Program

A program is simply a means for achieving a goal. Your workplace program is what you and your employees do to achieve and maintain a safe, healthful workplace. A workplace program is just a concept, but it is an important one. Think for a moment about how you control injuries and illnesses at your workplace. Your workplace program reflects how you manage the safety and health of your employees.

Elements of a Successful Program

Look at any business that has a safe, healthful workplace and you will find the following elements:

- Managers are committed to making the program work.
- Employees are held accountable for following safe work practices.
- Employees are involved in the program.
- Employees know how to identify and control hazards.
- Employees know how to investigate near-miss incidents and accidents.
- Employees and managers are educated and trained in safe work practices.
- Managers review the program regularly to ensure that it stays effective.

Noise Control and Your Workplace Program

An effective workplace program covers all the bases: when you identify workplace hazards, control them effectively, investigate accidents and avoid repeating them, and train employees how to do their jobs safely, you are already complying with most workplace requirements. The following table shows how a noisecontrol strategy fits into a successful workplace safety program.

PROGAM for SUCCESS	
Safety Program Element	**Noise-Control Strategy**
Management Commitment	Be committed to achieving and maintaining a low-noise workplace — where noise exposure levels do not exceed 85 decibels averaged over a typical eight-hour work period.
Hazard Identification	Identify noise hazards by conducting sound surveys to monitor actual noise levels in the workplace and to determine the location of noise hazards, the cause of the hazards, and the employees affected.
Hazard Control	When noise levels exceed 85 decibels averaged over an 8-hour period, determine what method or methods — engineering controls, administrative controls, or hearing protectors — will reduce the noise to safe levels.
Accountability	Determine who should be responsible for identifying noise hazards, applying appropriate control methods, conducting monitoring and audiometric testing, and keeping accurate records of monitoring and testing results.
Accident Investigation	Keep accurate records of all employee exposures and audiometric tests. Review the records to determine if you are controlling noise hazards or if you need to strengthen the controls.
Education and Training	Educate employees about the purpose of audiometric testing, monitoring, and hearing protectors; train employees how to use and care for hearing protectors.
Employee Involvement	Require all employees exposed to noise levels exceeding 85 decibels, averaged over an eight-hour day to participate in training. Inform employees about their monitoring and audiometric test results. Encourage employees to report noise hazards and to offer solutions for controlling them.
Programs	Evaluate each of the above elements periodically to ensure that you‘re achieving and maintaining a low-noise workplace.

Review

Rules to Work By

If employees at your workplace are exposed to noise levels above an 8-hour time- weighted average of 85 decibels you must have a hearing conservation program.

The program must include monitoring, audiometric testing, and training, and must accomplish the following:

- Allow employees to observe the monitoring process.
- Inform affected employees about their monitoring results.

- Provide appropriate hearing protectors to affected employees.
- Maintain accurate monitoring, audiometric testing, and training records.
- Allow employees to review monitoring, audiometric testing, and training records.

The Rules by Topic and Number

The Occupational Noise Exposure Standard rules apply to general industry and construction employers. The table below identifies the rules by topic and number.

29 CFR 1910 Subpart G-Occupational Noise Exposure	
Topic	**Rule Number**
Monitoring	1910.95(d)
Employee Notification	1910.95(e)
Observation of Monitoring	1910.95(f)
Audiometric Testing	1910.95(g)-(h)
Hearing Protectors	1910.95(i)
Hearing Protector Attenuation	1910.95(j)
Training	1910.95(k)
Access to Information and Training	1910.95(l)
Record Keeping	1910.95(m)

Key Words Defined

Administrative	A method of controlling workplace hazards by managing workers' activities to reduce exposure.
AudiogramControl	A graph showing individual hearing ability as a function of frequency.
Decibel	A unit of sound-pressure level, abbreviated dB.
Dosimeter	A device worn by a worker for determining the worker‘s accumulated noise exposure based on sound level and time and calculated by a predetermined integration formula.
Earmuff	Personal protective equipment that fits over both ears and forms an air seal.
Earplug	Personal protective equipment that fits in the outer ear canal; to be effective they must totally block the ear canal with an air-tight seal.
Eardrum	A membrane in the ear canal between the external ear and the middle ear.
Engineering	A method of controlling a workplace hazard by modifying or eliminating the source of exposure so that it is no longer hazardous.
Control Frequency	The number of times per second that the sine wave of sound repeats itself, or that the sine waves of a vibrating object repeats itself. Now expressed in hertz (Hz), formerly in cycles per second (cps).
Hair cell	Sensory cells in the inner ear that transforms the mechanical energy of sound into nerve impulses.
Hearing	The subjective human response to sound.

Hearing Protectors	Personal protective equipment that decreases the pressure of sound that reaches the eardrum; includes earplugs and earmuffs.
Hertz	Unit of measurement of frequency, numerically equal to cycles per second, abbreviated Hz.
Inner Ear	The inner portion of the ear involved in hearing and balance.
Logarithm	The exponent that indicates the power to which a number must be raised to produce a given number. For example, for the base 10 logarithm, used in acoustics, 2 is the logarithm of 100.
Middle Ear	The middle portion of the ear consisting of the eardrum and an air- filled chamber lined with mucus membrane.
Noise	1. Sound that is noticeably unpleasant.
Noise-Induced Hearing Loss	2. Sound that is undesired or that interferes with one‘s hearing. Sounds of sufficient intensity and duration that damage one's hearing ability.
Outer Ear	The external portion of the ear including the canal leading to the eardrum.
Permanent Threshold Shift	A permanent decrease in hearing ability a specified frequency as compared to a previously established reference level.
Pitch	The property of a sound that is determined by the frequency of the waves producing it; the highness or lowness of sound.
Sound	1. The sensation perceived by the sense of hearing. 2. Mechanical radiant energy transmitted by waves in a material medium
Sound-Level Meter	such as air, and the objective cause of hearing.An instrument that uses a microphone, amplifier, and output meter to measure sound levels.
Sound Survey	Describes a variety of methods of measuring sound levels; including basic survey, detailed survey, and engineering survey; includes monitoring exposure levels at the listener over extended time periods,
Temporary Threshold Shift	such as an eightA temporary impairment of hearing ability.-hour work day.
Tinnitus	Ringing in the ear or noise sensed in the head. Onset may be due to an acoustic trauma and persist in the absence of acoustical stimulation (in which case it may indicate a lesion of the auditory system).
Work-Practice Control	A type of administrative control; emphasizes safe work practices and procedures.

NOTE: Policy shall be reviewed semi-annually by Buildings & Grounds, Highway & Parks. Revisions must bre in Resolution form, go through the Government Operations Committee and approved by the Legislature.