Regulatory Compliance

7 Key Factors for Complying with OSHA's Hearing Conservation Standard

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What You Need to Know:

OSHA requires dosimetry tests to fully understand hazardous noise levels in an industrial setting.
Individual fit testing of hearing devices using one of the commercially available systems helps to make sure employees are wearing the right hearing protection.
Education and training are essential for OSHA standards, but motivating employees to wear the right protection with the right fit for them takes serious work.
Employers must provide an initial baseline hearing exam for new employees, and annual audiometric testing for workers exposed to noise above 85 dB, who therefore must be enrolled in a formal hearing conservation program.

Industrial noise can have a debilitating effect on workers' hearing. We talk to an expert audiologist for guidance on the standards and actions that can be taken to be in compliance and protect employees.

Safety managers often struggle to understand the details of standards—and how to help ***prevent hearing loss*** on the job. Whether at a loud, multishift manufacturing plant or a boisterous construction site, noise is a fact of industry. What's harder is understanding the damage the noise is having on valued employees.

In 1983, the Occupational Safety and Health Administration officially published its Hearing Conservation Standard (***29 CFR 1910.95***). For the past 34 years, research and ***hearing protection technologies*** have helped influence OSHA standards, as well as guidance from other workplace health and safety associations including the American Conference of Governmental Industrial Hygienists (***ACGIH***). According to audiologist Dr. Theresa Schulz, hearing conservation manager for Honeywell Industrial Safety, OSHA regulations for a hearing conservation program can be broken down into these seven basic elements that can guide you toward compliance and improve employee protection:

1. Monitor the Facility for Hazardous Industrial Noise

Safety managers must first determine whether the workplace contains hazardous noise. "You can get a general sense of whether the noise level is hazardous by using a smartphone app, but for regulatory

purposes, you will need some special dosimetry equipment," Schulz says.

2. Implement Noise Engineering Controls

If hazardous noise exists, OSHA focuses first on engineering out the noise with various types of noise barriers, Schulz says. She recommends visiting the ***Buy-Quiet Roadmap*** website, a resource originally provided by NASA that has free and low-cost methods, including low-noise-emission equipment, to help companies navigate requirements for noise engineering controls.

3. Use Hearing Protection Devices and Fit Tests

In 2016, OSHA provided clarifications to its regulations through its ***Standards Improvement Project – Phase IV*** to emphasize that hearing protection devices must fit the individual worker. "Every manufacturer has a wide assortment of ear protectors—different kinds of plugs, foam plugs, earmuffs, earmuffs with technology in them," Schulz says. "But the question is does it fit and does it meet the worker's needs?"

Individual fit testing of hearing devices using one of the commercially available systems helps to make sure employees are wearing the right hearing protection. This should be done from the beginning with new employees, and can be repeated annually as part of training and education, Schulz says.

The Nuance of Choosing the Right Hearing Protection

"If you're trying to choose the *right* hearing protection for employees, rather than just any hearing protection, there are several things to consider," says Dr. Theresa Schulz, hearing conservation manager for Honeywell Industrial Safety.

The first factor is the level of hazardous noise the person will be exposed to in the workplace. To determine this, representative noise monitoring should be done on people in similar exposure groups based on their tasks or job descriptions. That number can then be applied to every person in the SEG to estimate their exposure.

Another factor is the noise reduction ratio label on a specific hearing protector. However, because of the way an individual actually wears the hearing protection, the NRR can be quite variable from person to person, so it isn't always predictive of the protection that person will get, Schulz says.

A more important factor to consider is what type or style of HP the person should wear.

"If they're coming in and out of noise all day long, an earplug may not be a good solution—they may need an earmuff that's easier to get off and on," Schulz says. "If they've got dirty hands or need to wear gloves, they may need an earplug with a stem, which is easier to fit in without getting something like greasy motor oil on the foam."

Safety managers need to provide different sizes, types and shapes of earplugs, because every person's ear canals are different.

Finally, hearing protection should also be based on communication needs, Schulz says. If the person needs to hear what's going on around them—for example, in order to avoid getting run over by a forklift—or they need to get instructions through a headset, a new category of earmuffs with built-in wireless communications might be a solution.

"Safety managers should look at the total hearing requirements for that person, in addition to how much hearing protection they need," Schulz says.

4. Establish Hearing Conservation Training and Education

"You do need to train people how to wear their earplugs the right way to protect their hearing, but I think the biggest part of education is motivation," Schulz says. "You have to get people to value their hearing so that they will actually wear their hearing protection when they need to."

Schulz suggests contacting hearing protection equipment manufacturers for free training materials to use in yearly training and education programs. The training also should include information about the engineering controls in use for a machine, so that employees will understand they need to keep noise barriers in place.

Want a deeper dive on hearing loss on the job? Read our "*Guide to Industrial Noise, Hearing Loss, NRR and Ear Protection*."

5. Enact Audiometry Testing

Employers must provide an initial baseline hearing exam for new employees, and annual audiometric testing for workers exposed to noise above 85 dB, who therefore must be enrolled in a formal hearing conservation program. Some companies employ their own occupational health nurses or technicians for testing, while others use external providers to do mobile testing.

For the initial test, new employees should have been noise-free for 14 or more hours, to determine the person's best hearing level. Then for the annual retest Schulz recommends they be measured during or immediately after a noisy work shift.

"If you see a change in hearing compared to the baseline test, the regulations say you have to retest after being noise-free for 14 hours," Schulz says. "If an employee has suffered a temporary threshold shift (temporary hearing loss) the second retest should show recovery, but cumulative temporary threshold shifts over time turn into permanent threshold shifts. You want to detect it when it's only temporary, so you can stop it."

If you'd like some help finding the right hearing protection, use our easy, *interactive product selector* tool.

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6. Document Your Work, Keep Your Records Up to Date

If OSHA performs an audit of your company, employers must show they have done yearly audiometric testing and training, and provided a variety of hearing protectors. "If you've done fit testing, you can show that documentation," Schulz says. "Record keeping can be a very important part of a hearing conservation program."

7. Measure Your Hearing Conservation Program's Effectiveness

Safety managers need to look back regularly at their records and evaluate whether their hearing conservation program is actually achieving the goal of preventing employee hearing loss, or just monitoring hearing loss after it occurs.

By following each of these seven steps, with yearly testing, training and evaluation, safety managers should be able to meet the OSHA requirements for protecting employees from the dangers of hazardous noise.

Does the ear protection you wear on the job fit and is it comfortable? If not, would you be more inclined to wear it if it were? Share your experience.