

New OSHA Rules for Recording Occupational Hearing Loss

By Ted K. Madison, M.A., CCC-A

Ted Madison is a certified audiologist with the 3M OH&ESD Laboratory. He is also the President-Elect of the National Hearing Conservation Association (NHCA).

Introduction

Revised Occupational Safety and Health Administration (OSHA) recordkeeping criteria may result in an increase in occupational hearing loss cases beginning in 2003. These new rules went into effect January 1, 2003. They are part of the revised OSHA recordkeeping rule, 29 CFR 1904, Occupational Injury and Illness Recording and Reporting Requirements.⁽¹⁾ The most significant change to the hearing loss provisions contained 1904.10 is the elimination of the 25 dB hearing threshold shift as the criterion for recording hearing loss. In its place is a new requirement that employers record cases in which both of two criteria are met: 1) There has been a 10 dB shift in hearing threshold, known as a Standard Threshold Shift (STS), and 2) The STS case also reflects a total hearing level of at least 25 dB from audiometric zero.

In a statement on December 17, 2002, OSHA acknowledged that, "Employers will experience an increase in recorded hearing loss cases in 2003 and future years. Caution must be used when comparing the 2003 and future data to prior years, when the 25 dB criteria for recordkeeping was used. OSHA recognizes this increase, and will take the changes in the recordkeeping rule into account when evaluating an employer's injury and illness experience."⁽²⁾

It should be noted that there has been no change to the OSHA Occupational Noise Exposure regulation, 29 CFR 1910.95. The noise exposure limits, action levels, and hearing conservation program requirements contained in 1910.95 remain the same.

Employers in any OSHA-regulated industry must record work-related hearing losses according to the rules in 1904.10 if those employers provide hearing tests for employees. This includes employers in general industry

who fall under the hearing conservation provisions of OSHA 1910.95. It also includes employers in OSHA-regulated industries that are not covered under 1910.95 such as construction, agriculture, and oil and gas drilling. Table 1 summarizes the previous and revised requirements

New Recording Criteria

Prior to 2003, OSHA required employers to record hearing loss cases when the average hearing level on the current hearing test (audiogram) had shifted 25 dB or more in either or both ears when compared with the employee's baseline audiogram.

Beginning in 2003, OSHA-regulated employers must use a new 2-part criterion. According to 1904.10 (a) the employer must record a work-related hearing loss if the employee has both an STS and a hearing level of 25 dB or higher.

(continued on page 2)

Inside this issue

Volume 21 Number 1 2003

New OSHA rules for recording occupational hearing loss.....	1-3
Fit testing as a requirement of NIOSH respirator certification.....	3-4
Research supports current fit testing methods.....	5-7
3M Training Courses for 2003/2004.....	8

Hearing Loss

(Continued from page 1)

Table 1. Summary of Hearing Loss Recording provisions from 29 CFR 1904 Occupational Injury and Illness Recording and Reporting Requirements.

	PREVIOUS REQUIREMENTS	REQUIREMENTS STARTING JANUARY 1, 2003
Criteria for recording hearing loss in either or both ears	25 dB Threshold Shift Average hearing threshold shift at 2000, 3000, & 4000 Hz is 25 dB or more relative to the employee's baseline hearing test (audiogram)	10 dB Standard Threshold Shift (STS) Average hearing threshold shift at 2000, 3000, & 4000 Hz is 10 dB or more relative to the employee's baseline audiogram AND 25 dB Hearing Level Average hearing level at the same 3 frequencies is 25 dB or higher relative to 0 dB Hearing Level (HL)
Form to be used for recording	OSHA form 200 (prior to 2002) OSHA form 300 (started in 2002)	OSHA form 300
Hearing Loss Column on 300 Log	No	Delayed until January 2004
How soon hearing loss must be recorded?	Within 6 working days	Within 7 calendar days of determination
Retesting allowed	Within 30 days from test date	Within 30 days from test date
Age correction allowed	Yes	Yes, for STS criterion No, for 25 dB hearing level criterion
Different criteria allowed for State Plan states	Yes	No

Definitions

Audiogram: A chart, graph, or table resulting from a hearing test showing an individual's hearing threshold levels as a function of frequency.

Audiometric zero: 0 dB Hearing Level (HL) on an audiogram.

Corresponds to the average hearing threshold level of young adults with no history of hearing loss or aural pathology.

Standard Threshold Shift (STS): defined in the OSHA noise standard 1910.95(g)(10)(i) as a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear.⁽³⁾

Total hearing level: defined in 1904.10 (b)(2)(ii) as the average hearing level at 2000, 3000, and 4000 Hz on the employee's current audiogram.

Implementation

Baseline Audiogram

The method for evaluating the current audiogram to determine whether an STS has occurred is described in 1904.10(b)(2)(i). In a clarification dated December 17, 2002, OSHA explained that the STS computation is to be made in accordance with the Occupational Noise Exposure Standard 1910.95⁽²⁾. Under 1910.95, the employee's current audiogram is compared to the employee's baseline audiogram. The baseline audiogram may be the original audiogram taken when the employee was first placed in a hearing conservation program, or the revised baseline audiogram allowed by the Occupational Noise Exposure standard. Paragraph 1910.95(g)(9) of the noise rule allows employers to substitute the current annual audiogram for the baseline audiogram when, in the judgment of the

audiologist, otolaryngologist, or physician who is evaluating the audiogram:

- (i) The standard threshold shift revealed by the audiogram is persistent, or
- (ii) The hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram. Using a revised baseline audiogram in the years after a recordable hearing shift occurs makes it easier for employers to identify any additional hearing loss that may occur in the future and to assist the employee to help prevent further hearing loss.

Work-Relatedness

To determine if a hearing loss is work-related, the rules in 1904.5 require the employer to consider each case individually. Work-relatedness cannot be presumed solely on the basis of occupational noise exposure. A hearing loss must be considered work-related, according to

(Continued on page 3)

1904.10(b)(5), if, "an event or exposure in the work environment either caused or contributed to the hearing loss, or significantly aggravated a pre-existing hearing loss." The audiologist, physician or other licensed health care professional who reviews the hearing test results can help the employer determine work-relatedness.

30 Day Retest Option

OSHA allows employers to repeat the hearing test within 30 days of the first hearing test in order to confirm recordable STS cases. If the retest confirms that a recordable STS has occurred in either or both ears, the employer must record the hearing loss on the OSHA 300 log within 7 calendar days following retest date. If the retest fails to confirm a recordable STS, the employer does not need to record hearing loss on the OSHA 300 log.

Age Correction of Audiograms

When determining whether an STS has occurred, employers may adjust the employee's current audiogram to account for age-related hearing loss. This is done by using Tables F-1 or F-2, as appropriate, in Appendix F of the OSHA noise regulation 1910.95. Employers may not use age correction when determining if the employee's total hearing level is 25 dB or more above audiometric zero.

Recording Hearing Loss

If an employer identifies a recordable hearing loss in either or both ears and does not plan to repeat the hearing test, the employer must record the hearing loss on the OSHA 300 log within 7 calendar days following the test date. During 2003, employers must record cases of occupational hearing loss on the OSHA 300 log as an "injury" (single event acoustic trauma) or "other illness" (long term noise exposure), as appropriate. A new column specifically for hearing loss will be added to the OSHA 300 log in 2004. OSHA's web site provides detailed

instructions on how to fill out the 300 log and associated forms at:

<http://www.osha.gov/recordkeeping/OSHArecordkeepingforms.pdf>

States' Recording Criteria

OSHA no longer allows states that operate their own safety and health enforcement programs to use more stringent hearing loss recording rules than Federal OSHA. The 26 "State Plan" states and territories were required to adopt a regulation comparable to OSHA 1904.10 before January 1, 2003. Employers in those states and territories may not see as large an increase or even experience a decrease in recordable hearing loss cases in 2003 and future years, depending on the previous recording criteria used in that state.

Learn More

For more information on the hearing loss recording provisions of 29 CFR 1904, visit the OSHA web site at: <http://www.osha.gov/recordkeeping/index.html>. Information is also available at 3M Occupational Health and Environmental Safety web site: <http://www.3m.com/occsafety> For guidelines on audiometric baseline revision, see the National Hearing Conservation Association (NHCA) web site at: http://www.hearingconservation.org/nhea/pos_audiometric.html

References

1. "Occupational Injury and Illness Recordkeeping and Reporting Requirements; Final Rule" Occupational Safety and Health Administration, Federal Register, Vol. 67, pp. 44037-44048, July 1, 2002.
2. "Occupational Injury and Illness Recordkeeping and Reporting Requirements; Final Amendments Supplementary Information," Occupational Safety and Health Administration, Federal Register, Vol. 67, No. 242, pp. 77165-77170, December 17, 2002.
3. "Occupational Noise Exposure," Code of Federal Regulations, Title 29, part 1910.95.

Fit testing as a requirement of NIOSH respirator certification

By Thomas J. Nelson, CIH

Tom Nelson is a consultant specializing in respiratory protection. He was secretary of the Z88.10 committee from 1995-2000.

Introduction

The previous respirator certification regulation, 30 CFR Part 11, required particulate respirator facepiece fit tests. The test used isoamyl acetate, an organic vapor, as the test agent. The test was required for high efficiency (HEPA) and dust, fume, and mist (DFM) respirators, but not dust/mist (DM) respirators. Since filtering facepiece respirators are not designed to remove organic vapors, these respirators required the addition of an activated charcoal layer for the required fit test. This charcoal layer was necessary so that isoamyl acetate would not pass through the filter.

The National Institute for Occupational Safety and Health (NIOSH) is the respirator approval authority in the U. S. NIOSH noted in the revised certification regulation 42 CFR Part 84, that successful fit testing in the certification process provides no assurance that the respirator will properly fit an individual when used in the workplace.⁽¹⁾ The only method available to assess the fit achieved on the worker is a respirator-to-face fit test conducted on that individual with the chosen respirator.

During review of 42 CFR Part 84, both the Occupational Safety and Health Administration (OSHA) and the Mine Safety and Health

(continued on page 4)