



MNOSHA Instruction **CPL 2-2.1C**

October 20, 2020

SUBJECT: Noise Measurements and Citations in General Industry

Purpose:

To provide guidelines to Investigators for determining noise exposures, issuing citations and making referrals for comprehensive health investigator evaluations.

Scope:

This instruction applies Division-wide

Cancellation:

This instruction supersedes MNOSHA instruction CPL 2-2.1, Noise Measurements and Citations in General Industry, dated July 22, 2014.

Background:

29 CFR 1910.95 requires that a hearing conservation program be provided whenever noise exposures exceed 85 dBA 8-hr TWA and that engineering or administrative controls be used where feasible to reduce noise levels whenever noise exposures exceed 90 dBA 8-hr TWA. 29 CFR 1910.95 also prohibits employees from being exposed to impact or impulse noises greater than 140 dB. Minnesota Rules 5206.0700, subps. 1 and 3 require that Right-to-Know training be provided whenever noise exposures may be expected to approximate or exceed the action level of 85 dBA. Noise at construction sites is addressed in MNOSHA Instruction STD 3-2.1.

ACTION:

A. Determination of noise exposures

1. Noise exposures can be determined by the OSHI using either a sound level meter (SLM) or dosimeter, with the exception of impulse or impact noise. Impulse or impact noise must be measured with a peak meter. The SLMs must be set on the A scale and slow response when making measurements to compare with the noise exposure limits in 1910.95 (Table G-16A). If noise dosimeters are used, the hearing conservation program determination is based on the 80 dB threshold scale and overexposure determination is based on the 90 dB scale.
2. The OSHI should screen the work area using the SLM to determine areas where noise exposures exceed 85 dBA in employee work areas. If such areas are found:
 - a. Describe or sketch the work area and record readings taken in the hearing zone (two-foot diameter sphere around head of an employee), at control panels for the equipment, at workstations, or any other areas where employees may be positioned during the work shift.
 - b. Note the time workers spend in each area and also if the noise level is continuous or intermittent. Determine how long each employee is exposed to each noise level if possible.
 - c. If areas are found where noise levels exceed 90 dBA, note or take pictures of equipment that produces the excessive noise. Determine how long the noise-producing equipment is run and any adjacent noise sources.
 - d. Interview enough employees to determine if this is a typical day and to determine if there are any tasks which may produce higher noise exposures not occurring that day.
 - e. If OSHI determines that 8-hour time weighted average employee exposure to noise over 85 dBA is likely and the employer does not already have a program that meets requirements (see part D below), full shift monitoring should be conducted.

B. Guidelines for Referrals to Health Investigators

Where the conditions of A.2.e. exist, a referral to a health investigator is appropriate. In addition, do not cite for topics which are related to the subject of the referral (any noise related topics including signage and Right to Know training). OSHIs should include as much information about the process and noise levels as possible in the referral (as described in A.2.a-e).

C. Evaluation of Engineering Controls by Health Investigators

1. Engineering controls are required when exposures exceed 92 dBA as an 8-hour average and controls are feasible. Administrative controls (employee rotation) will rarely be required. The primary

control emphasis will be engineering control. OSHIs should recognize technical feasibility and encourage the employer to seek outside technical knowledge as well. Operations known to be difficult to control at their source include work with portable hand grinding tools and certain welding operations. The OSHI should review any existing engineering or administrative controls currently in place to limit employee exposure to noise.

2. Minnesota OSHA does not rely on personal protective equipment as a control when noise exposures exceed 92 dBA and engineering controls may be feasible. (NOTE: the discussion in the federal OSHA Tech Manual concerning derating the NRR of hearing protectors by 50% is not applicable to MNOSHA enforcement).
3. While some operations may not be feasible to control at the source, if co-workers are exposed to noise exposures exceeding 92 dBA, controls such as barriers or booths may be feasible to protect the co-workers while the operator must wear hearing protection.
4. Measurements should include all portions of a work cycle and contributions made from adjacent equipment. Include measurements on the dBC scale to assist in characterizing and isolating the noise source(s) and to help define feasible engineering controls.
5. The OSHI should review available literature and resources for possible control options to suggest to an employer. These include materials from OTI courses, technical journal articles, reference books and technical reports currently in the MNOSHA offices. At no time should the OSHI direct the employer to any specific control method or prepare written designs.
6. Extended Work Shifts. Exposure determinations shall be based on exposures exceeding 92 dBA without adjustment of the PEL. Exposures will be based on the highest eight hours of exposure-

D. Evaluation of hearing conservation program.

1. All noise exposure during shift should be included, even if it is over 8 hours.
2. The OSHI should review the use of personal protective equipment and the Noise Reduction Rating (NRR) for the type of hearing protection provided. Employees must be provided with a choice from a variety of styles (at least three to choose from). Note if employees are using the PPE properly. Determine if the hearing protection provides adequate protection by subtracting 7 dB from the NRR label on the hearing protection packaging.
3. The OSHI should note training on noise and review the hearing conservation program (HCP), if present. Review any noise surveys previously done by the employer.
4. The OSHI should review audiogram records and ensure that comparisons have been done annually with the oldest available baseline audiogram (or revised baseline per standard), and that any STS

shifts which include a hearing level of 25 dB or more-above audiometric zero have been recorded on the OSHA 300 log (see STD 5-4.1). Employee participation in audiometric testing is not required by OSHA. However, employers may make this a condition of employment.

If a clinic provides poor information, such as inaccurate comparisons leading to reports of no STS when STS did occur, issue a citation. Since it is the employer's responsibility to implement a hearing conservation program, the employer will be cited for deficiencies.

5. The OSHI should review the employee notification procedures to ensure that they are timely and any necessary follow-up testing is being done (see Appendix A).
6. If an employer includes employees who are not required to be included in their HCP, and there are problems with the HCP or audiometric program for these employees, the employer shall not be issued citations. These employees are not exposed above 85 dBA, and therefore are not required to be included in the hearing conservation program. The employer should be notified of the deficiencies.

E. Citation Guidelines for Health Investigators

Noise measurements shall be done to support the following citations. SLMs and dosimeter instruments used by OSHIs have a 2 dBA error therefore measurements must exceed 87 dBA (66% dose) or 92 dBA (132% dose) before citations may be proposed for a hearing conservation program or engineering controls (exception: monitoring).

1. When exposures exceed 85 dBA but are less than 87 dBA as an 8-hour TWA:
 - a. Cite 1910.95(d)(1) when the average exposure over the entire work shift may exceed 85 dBA (dose of 50% or above), and the employer has not developed and implemented a monitoring program for noise.
 - b. Cite Minnesota Rules 5206.0700 subpart 1 & 3 if the employer has not included noise in its Right-to-Know training program. The employer must include those elements described in the RTK standard, and include the elements required in 1910.95(k)(3).
 - c. Cite Minnesota Rules 5206.1100 if the employer has not installed signs or other labels to warn of high noise areas.
2. When exposures exceed an 8-hour TWA of 87 dBA but are less than 92 dBA:
 - a. Cite 1910.95(c)(1) if the average exposure over the entire work shift would exceed 87 dBA (dose of 66%), and there is not an adequate hearing conservation program.
 - b. Cite Minnesota Rules 5206.1100 if the employer has not installed signs or other labels to warn of high noise areas.

- c. Cite 1910.95(g)(8)(i) if an employee was not notified in writing of their STS within 21 days from the time the employer received the results.
3. When exposures exceed an 8-hour TWA of 92 dBA (132% dose):
 - a. If necessary, cite everything in part 2 above, and
 - b. Cite 1910.95(b)(1) if the employer did not implement feasible administrative or engineering controls. Consideration must be given to the feasibility of possible controls (technical and economic) and whether the employer has conducted a feasibility study by a qualified individual. Suggested control methods must be documented in the citation.
 - c. Cite 1910.95(i)(2)(i) when hearing protection is not used, whether or not the employer has a hearing conservation program. Classify as serious.
4. When an employee had a recordable standard threshold shift and it was not reported on the company's OSHA 300 log and conditions of CPL 2-0.135 Recordkeeping are met, cite 1904.10(a). Review the audiogram to confirm that a work-related standard threshold shift has occurred in one or both ears and that the employee's total hearing level is 25 dB or more above audiometric zero in the same ear(s) as the STS. Use same penalty as for any recordable injury/illness not reported on log.

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Attachments: Appendix A, Guidelines for Evaluating Employee Notification of Audiogram Results

NOTICE: Minnesota OSHA Directives are used exclusively by MNOSHA personnel to assist in the administration of the OSHA program and in the proper interpretation and application of occupational safety and health statutes, regulations, and standards. They are not legally binding declarations and they are subject to revision or deletion at any time without notice.



Appendix A: Guidelines for Evaluating Employee Notification of Audiogram Results

Employee Identity	Date of baseline (age at time of baseline)	Date of audiogram (age at time of audiogram)	Was STS identified correctly? see STD 5-4.1 for proper determination if no STS, STOP	Date of Retest, if done (see Note 1 below)	Date EE notified of STS (21 days to notify from time ER receives results)	Date of retraining, or initial use of PPE	Date of referral for audiological eval (see Note 2 below)	Date EE is informed of need for otological exam (see Note 3 below)	Date EE informed that STS is not persistent

Note 1: If the results indicate a STS, a retest may be done within 30 days of the first test.

Note 2: If the employer suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors, a referral for clinical audiological evaluation or otological exam is necessary.

Note 3: If a medical pathology of the ear that is unrelated to the use of hearing protectors is suspected, the employee must be informed of the need for an otological examination.