National Institute of Standards and Technology • U.S. Department of Commerce

HEARING PROTECTION

NIST S 7101.55
Document Approval Date[1]: 01/07/2021
Effective Date: 04/01/2015

1. PURPOSE

The purpose of the NIST Hearing Protection Program (HPP) is to reduce the risk of occupational hearing loss through recognition, evaluation, and control of workplace noise-related hazards**.**

2. BACKGROUND

a. NIST must meet or exceed the requirements established by OSHA in 29 Code of Federal Regulations (CFR) 1910.95, Occupational Noise Exposure. Implementation of this suborder through the requirements in Section 6 and the roles and responsibilities in Section 9 exceeds those requirements.

b. This suborder supersedes NIST Health and Safety Instruction (HSI) 4, Hearing Conservation Program, March 1992.

3. APPLICABILITY

This suborder applies to NIST employees and associates who, in the conduct of their official duties, could receive noise doses that equal or exceed NIST noise dose limits, defined in Section 6a. It also addresses nuisance noise, defined in Section 7.

4. REFERENCES

a. 29 CFR 1910.95, Occupational Noise Exposure

b. 29 CFR 1904.10, Recording of Cases Involving Occupational Hearing Loss

[1] The revision history for this document can be found in Appendix A.

c. American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values: Documentation of the Threshold Limit Values for Physical Agents, 2001, 7th Ed.

d. Criteria for a Recommended Standard, Occupational Noise Exposure; Department of Health and Human Services [National Institute for Occupational Safety and Health (NIOSH)] Publication Number 98-126

e. American National Standard, Acoustical Terminology, American National Standards Institute (ANSI) S1.1-1994 (R2004)

f. American National Standard, Specification for Sound-Level Meters, ANSI S1.4-1983 (R2006)/ANSI S1.4A-1985 (R2006)

g. OSHA Publication 3074, "Hearing Conservation," revised edition, 2002

5. APPLICABLE NIST DIRECTIVES

a. NIST S 7101.20: *Work and Worker Authorization Based on Hazard Reviews*

b. NIST S 7101.21: *Personal Protective Equipment*

c. NIST S 7101.23: *Safety Education and Training*

d. NIST S 7101.22: *Hazard Signage*

6. REQUIREMENTS[2]

Requirements include the specification of NIST noise dose limits; hazard identification; hazard assessment; control methods, including hearing protection devices (HPDs) selected by competent persons; use of HPDs; audiometric testing; re-review of activity hazard reviews; training; noise-monitoring records; communication; and buy-quiet initiative, all implemented to ensure that employees and associates do not receive noise doses that equal or exceed NIST noise dose limits. In essence, if potential noise doses equal or exceed NIST noise dose limits, engineering or administrative controls must be implemented. If such controls fail to reduce potential noise doses to less than NIST noise dose limits, HPDs must be provided and used to reduce potential noise doses to less than NIST noise dose limits.[3]

[2] The requirements in this section apply to employees and associates who, in the conduct of their official duties, could receive noise doses that equal or exceed NIST noise dose limits, and their management.

[3] The requirements delineated below for noise doses that equal or exceed NIST noise dose limits, augmented by the responsibilities in Section 9, constitute NIST's Hearing Conservation Program. NIST's Hearing Conservation Program is more protective than that specified by OSHA in 29 CFR 1910.95(c), Hearing Conservation Program.

a. NIST Noise Dose Limits

(1) Unprotected employees and associates shall not be exposed, during a work day, to noise levels above 80 dBA for durations that would result in their receiving noise doses, D, that equal or exceed 100%, where D is calculated from:

$$D = [(C_1/T_1) + (C_2/T_2) + \ldots + (C_n/T_n)] \times 100\%.$$

Here, C_i is the total exposure time, during a work day, at a specified noise level L_i (≥ 80 dBA), and T_i is the time exposure limit at that noise level calculated from the following equations:

$$T = 8 / 2^{(L-85)/5} \text{ for } 80 \leq L < 85$$

$$T = 8 / 2^{(L-85)/3} \text{ for } L \geq 85,$$

with L measured on the A-scale of a standard sound-level meter set at SLOW response and T measured in hours.[4] Use of these equations yields the following time exposure limits, T, at different sounds levels, L:

L (dBA)	T (h)
80	16
81	13.93
82	12.13
83	10.56
84	9.19
85	8
86	6.35
87	5.04
88	4
89	3.17
90	2.52
91	2
92	1.59
93	1.26
94	1

[4] The equation for L > 85 dBA corresponds to that for the time exposure limits established by ACGIH. The equation for 80 dBA ≤ L < 85 dBA corresponds to that for the action levels established by OSHA in 29 CFR 1910.95(c). Its use in that range, rather than the equation for L ≥ 85 dBA, is necessary to ensure compliance by NIST with the requirements of 29 CFR 1910.95(c) for exposure times greater than 8 hours.

97	0.5
100	0.25
103	0.13
106	0.06
109	0.03
112	0.02
…	…

(2) Protected employees and associates shall not be exposed to noise levels that would result in their receiving noise doses that equal or exceed 100%, taking into account the attenuation provided by the use of HPDs.

b. Hazard Identification

(1) If a concern arises[5] regarding potential noise hazards in an already ongoing activity, a consultation shall be scheduled as soon as possible with a competent person to determine if noise doses could equal or exceed 100%.[6]

(2) If the hazard review of a new activity identifies potential noise hazards, a consultation shall be scheduled with a competent person to determine if noise doses could equal or exceed 100%.

(3) If the hazard review of a change in an existing activity identifies new noise hazards or potential increases in previously identified noise hazards, a consultation shall be scheduled with a competent person to reevaluate potential noise doses.

c. Hazard Assessment

(1) If consultation with a competent person indicates that noise doses could equal or exceed 100%, arrangements shall be made for a competent person to conduct noise monitoring to determine the noise dose.

[5] Such a concern could be raised by any individual, e.g., a worker, a coworker, a supervisor, a Division Safety Representative, or a competent person.

[6] For definitions of "Potential Noise Hazard," "Noise Hazard," and "Competent Person," see Section 7.

d. Control Methods

(1) Noise Doses that Equal or Exceed 100%

(a) Feasible[7] engineering or administrative controls (such as noise-attenuating devices, worker relocation, and reduced exposure times) shall be implemented in an effort to reduce noise doses to less than 100%.

(b) If feasible engineering and administrative controls fail to reduce noise doses to less than 100%, HPDs identified by a competent person as providing sufficient noise attenuation shall be provided and used to reduce noise doses to less than 100%.

(3) Nuisance Noise

(a) If practicable, engineering and administrative controls should be implemented to reduce nuisance noise or exposure to nuisance noise.

(b) HPDs may be used to reduce exposure to nuisance noise provided that their use does not impede the ability of employees and associates to engage in necessary communications or to hear alarms or other notifications. Decisions to wear HPDs to reduce nuisance noise should be made on a case-by-case basis.

e. Use of HPDs

(1) HPDs other than ear muffs shall not be traded or shared in work areas in which unprotected employees and associates would receive noise doses that equal or exceed 100%.

(2) Ear muffs traded or shared in work areas in which unprotected employees and associates would receive noise doses that equal or exceed 100% shall be sanitized between uses.

(3) The use of audio headphones or ear buds in place of, or in conjunction with, HPDs is prohibited.[8]

[7] OSHA currently considers feasible engineering and administrative controls to be those for which the costs of such controls are less than the cost of an effective Hearing Conservation Program.

[8] OSHE may waive this requirement on a case-by-case basis, e.g., in the case of headphones which have been rated by ANSI for noise reduction and which have been determined by a competent person to provide sufficient noise attenuation.

f. Audiometric Testing

(1) All employees and associates required to wear HPDs to reduce noise doses to less than 100% shall be subject to the following audiometric testing requirements:

(a) Within 30 days of it being determined that an employee must wear HPDs, the employee must receive an audiogram administered by the Health Unit and to be used as the baseline against which subsequent audiograms are compared.

(b) Employees and associates required to wear HPDs must receive annual audiograms administered or arranged by the Health Unit.

(c) All baseline and repeat annual audiograms shall be preceded by at least 14 hours without exposure to workplace noise at levels above 80 dBA and should be preceded by at least 14 hours without exposure to non-workplace noise at levels above 80 dBA.[9]

(d) If an employee's annual audiogram shows a NIOSH significant threshold shift (NSTS) or an OSHA standard threshold shift (OSTS), the employee must receive a repeat audiogram administered by the Health Unit within 30 days.

g. Re-Review of Activity Hazard Reviews

(1) Upon determination by the Health Unit that an OSTS has occurred, the applicable activity hazard review shall be re-reviewed in accordance with the requirements of the Hazard Review suborder.

(2) As part of the re-review of the hazard review, a consultation shall be scheduled with a competent person to re-evaluate the noise exposures of affected employees and associates.

h. Training

(1) Training provided by OSHE on the NIST HPP shall be completed annually by employees and associates required to wear HPDs to reduce noise doses to less than 100%.

[9] When at least 14 hours without exposure to workplace noise cannot be achieved, HPDs identified previously by a competent person may be used as a substitute during that period for the requirement that baseline audiograms be preceded by at least 14 hours without exposure to workplace noise.

(2) Retraining provided by OSHE on the NIST HPP, including refitting of HPDs, should be completed by each employee who has been notified by the Health Unit that he or she has suffered a NSTS.

(3) Retraining provided by OSHE on the NIST HPP, including refitting of HPDs, shall be completed by each employee who has been notified by the Health Unit that he or she has suffered an OSTS.

(4) One-time-only training provided by OSHE on the NIST HPP shall be completed by Official First-Level Supervisors of employees and associates required to wear HPDs to reduce noise doses to less than 100%.

(5) One-time training provided by OSHE on the NIST HPP should be completed by employees and associates exposed to nuisance noise who elect, or who are mandated by their management, to wear HPDs.

(6) Training shall be recorded in accordance with the requirements of the NIST Safety Education and Training Program, and training records made available to affected employees and associates upon request.

i. Noise-Monitoring Records

(1) The results of hazard assessments, i.e., the results of consultations, including the results of sound-level-meter screening surveys, noise monitoring, identified engineering and administrative controls, and required HPDs, shall be noted, referenced, or included as part of the activity-hazard-review documentation.

(2) Noise-monitoring results requiring employees and associates to wear HPDs to reduce noise doses to less than 100% shall be provided to the Health Unit for inclusion in employee medical files.

j. Communication

(1) Hazard signage shall be posted at entrances to areas in which administrative controls or HPDs are required to reduce noise doses to less than 100%. Hazard signage shall clearly indicate the noise hazard and state the required administrative controls and HPDs. Appendix B provides an example of hazard signage meeting these requirements.

(2) Electronic or hard copies of this suborder and of 29 CFR 1910.95 shall be made available to affected employees and associates or their representatives.

k. Buy-Quiet Initiative

(1) Manufacturers' noise specifications should be evaluated by a competent person prior to the purchase of equipment capable of producing noise hazards. If a quieter alternative is available, it should be considered; if not, the use of noise-attenuating devices should be considered.

7. DEFINITIONS

a. Audibility Threshold – The sound intensity at a given frequency which is the minimum perceptible by a normal human ear under specified standard conditions.

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

c. Audiologist – A professional specializing in the study and rehabilitation of hearing, and certified by the American Speech-Language-Hearing Association or licensed by a state board of examiners.

d. Audiometric Test – A clinical evaluation of a person's hearing capacity using a calibrated, pure-tone audiometer and performed in accordance with OSHA 29 CFR 1910.95(g) and (h).

e. Baseline Audiogram – An audiogram that is preceded by a 14-hour period of quiet and obtained from an audiometric examination administered before employment or within the first 30 days of employment.

f. Certified Industrial Hygienist (CIH) – An individual who is board certified by the American Board of Industrial Hygiene and has met the minimum requirements for education, experience, and through examination has demonstrated a minimum level of knowledge in occupational health subject areas such as hearing protection.

g. Certified Safety Professional (CSP) – An individual who is board certified by the Board of Certified Safety Professionals and has met the professional challenge of demonstrating competency through education, experience, and examination.

h. Competent Person – A CIH or CSP in the NIST Office of Safety, Health and Environment (OSHE) or another NIST Organizational Unit (OU), a consultant CIH or CSP, or an individual directed by a CIH or CSP, who is capable of recognizing, controlling, and evaluating potential occupational hazards.

i. dB – Decibel. See Sound Pressure Level.

j. dBA – Unit representing the sound level measured in dB on the A-weighted scale of a sound-level meter. The A-weighted scale closely resembles how the human ear perceives common sounds.

k. dBC – Unit representing the sound level measured in dB on the C-weighted scale of a sound-level meter. The C-weighted scale represents how the human ear perceives sound at high sound levels.

l. Frequency – The number of cycles of a periodic motion per unit time. The SI unit of frequency is Hertz (Hz).

m. Hearing Protection Device (HPD) - A type of personal protective equipment specifically designed to prevent hearing damage. Earplugs and earmuffs are the most common hearing protection devices.

n. Hertz (Hz) – Unit of measurement of frequency, numerically equal to cycles/second (c/s).

o. Intermittent Noise – Noise levels that are interrupted by intervals of relatively low sound levels.

p. NIOSH Significant Threshold Shift (NSTS) – An increase in an individual's audibility threshold value of 15 dB or more at any of the frequencies 500, 1000, 2000, 3000, 4000, or 6000 Hz, in either ear, from the baseline audiogram to the current audiogram.

q. Noise Dosimeter – An instrument that integrates cumulative noise exposure over time and directly indicates noise dose. Noise dosimeters are used to conduct noise monitoring during a work day or monitoring period.

r. Noise Hazard – Sound within the audible frequency range heard by the human ear (20 – 20,000 Hertz) at levels that, without controls, would result in employees and associates receiving noise doses that equal or exceed NIST noise dose limits (see Section 6a).

s. Noise Monitoring – Process or method of measuring a person's individual exposure to noise levels over a given time period.

t. Nuisance Noise – Noise which would not result in employees and associates receiving noise doses that equal or exceed NIST noise dose limits (see Section 6a) but which is capable of causing discomfort.

u. Octave Band Analyzer – A type of sound-level meter that can separate monitored noise levels into specific frequency bands.

v. OSHA-Recordable Standard Threshold Shift – An OSTS in an individual with an overall hearing level of 25 dB or more above audiometric zero, averaged at the frequencies 2000, 3000, and 4000 Hz in the same ear as the OSTS, that has been determined by an audiologist or physician to be workplace-noise induced.

w. OSHA Standard Threshold Shift (OSTS) – An increase of 10 dB or more in the average of an individual's audibility threshold values at the frequencies 2000, 3000, and 4000 Hz, in either ear, from the baseline audiogram to the current audiogram.

x. Peak Noise Level – The highest instantaneous sound pressure level recorded during a measurement interval. Peak measurements are independent of noise dosimeter settings for response rate or weighting. According to 29 CFR 1910.95, unprotected employees and associates may not be exposed to peak noise levels greater than 140 dBC.

y. Potential Noise Hazard – Sound within the audible frequency range heard by the human ear (20 – 20000 Hertz) that makes it difficult to have a conversation with someone three feet away, or has resulted in a complaint by one or more employees and associates, and to which there is a reasonable likelihood that employees and associates could be exposed.

z. Sound-Level Meter – An instrument used to measure noise levels. A Type 1 sound-level meter is used for precision measurements in the field, and a Type 2 sound level-meter is used for general-purpose measurements.

aa. Sound Pressure – The root-mean-square instantaneous sound pressure at a point during a given time interval.

bb. Sound Pressure Level (dB) – Ten times the logarithm to the base ten of the ratio of the time-mean-square sound pressure, in a stated frequency band, to the square of the reference sound pressure in gases of 20 µPa.

cc. Temporary Threshold Shift – A temporary shift in an ear's audibility threshold possibly caused by exposure to high-intensity acoustic stimuli. It also may be caused by the use of aspirin or other drugs.

dd. Unprotected Employee – An employee not wearing hearing protection devices.

8. ACRONYMS

a. ACGIH – American Conference of Governmental Industrial Hygienists

b. ANSI – American National Standards Institute

c. CFR – Code of Federal Regulations

d. CIH – Certified Industrial Hygienist

e. CSP – Certified Safety Professional

f. HPD – Hearing Protection Device

g. HPP – Hearing Protection Program

h. NIOSH – National Institute of Occupational Safety and Health

i. NIST – National Institute of Standards and Technology

j. NSTS – NIOSH Significant Threshold Shift

k. OSHE – Office of Safety, Health, and Environment

l. OU – Organizational Unit

m. STS – Standard Threshold Shift

9. ROLES AND RESPONSIBILITIES

a. Employees and Associates Engaged in Activities that Could Result in Their Receiving Noise Doses that Equal or Exceed 100%:

(1) If a concern arises regarding potential noise hazards in an already ongoing activity, schedule a consultation with a competent person as soon as possible to determine if noise doses could equal or exceed 100%;

(2) If the hazard review of a new activity identifies potential noise hazards, schedule a consultation with a competent person to determine if noise doses could equal or exceed 100%;

(3) If the hazard review of a change in an existing activity identifies new noise hazards or potential increases in previously identified noise hazards, schedule a consultation with a competent person to reevaluate potential noise doses;

(4) Inform Official First-Level Supervisors of any consultations scheduled with competent persons and of the results of those consultations;

(5) If consultation with a competent person indicates that noise dose could equal or exceed 100%, arrange for a competent person to conduct noise monitoring to determine the noise dose;

(6) If the noise dose equals or exceeds 100%, implement feasible engineering or administrative controls (such as noise-attenuating devices, worker relocation and reduced exposure times) in an effort to reduce noise doses to less than 100%;

(7) If feasible engineering and administrative controls fail to reduce noise doses to less than 100%, use HPDs identified by a competent person to reduce noise doses to less than 100%; and

(8) Ensure that the results of hazard assessments, i.e., the results of consultations, including the results of sound-level-meter screening surveys, noise monitoring, identified engineering and administrative controls, and required HPDs, are noted, referenced, or included as part of the activity-hazard-documentation.

b. Employees and Associates Required to Wear HPDs to Reduce Noise Doses to Less than 100% (in addition to the responsibilities of above):

(1) Use their HPDs in accordance with the requirements of the activity hazard review and their training on HPD fit, use, and care;

(2) Participate in audiometric testing as specified in Section 9f;

(3) Complete the annual training provided by OSHE on the NIST HPP;

(4) Upon being notified by the Health Unit that they have suffered a NSTS, strongly consider completing the retraining provided by OSHE on the NIST HPP, including refitting of their HPDs, or complete this training if it is assigned to them by their official first-level supervisors; and

(5) Upon being notified by the Health Unit that they have suffered an OSTS, complete the retraining provided by OSHE on the NIST HPP, including refitting of their HPDs.

c. Official First-Level Supervisors of Any of the Above Employees and Associates:

(1) Ensure that competent persons from outside of OSHE engaged by the OU to conduct hazard assessments and specify HPDs understand the responsibilities delineated below for competent persons;

(2) Provide the results of hazard assessments resulting in employees and associates being required to use HPDs to all such affected employees and associates, the OSHE Hearing Program Protection Manager, and the Health Unit for inclusion in employee medical files;

(3) Ensure that the results of hazard assessments are noted, referenced, or included as part of the activity-hazard-review documentation;

(4) Make electronic or hard copies of this suborder and of 29 CFR 1910.95 available to those employees and associates who are required to wear HPDs, or their representatives;

(5) Provide affected employees and associates with HPDs identified by competent persons as providing sufficient noise attenuation, at no cost to affected employees and associates;

(6) Provide affected employees and associates the opportunity to select HPDs from a variety of suitable HPDs;

(7) Assign training to affected employees and associates in accordance with the requirements in Section 6h;

(8) When employees and associates they supervise are required to wear HPDs, complete the one-time only training provided by OSHE on the NIST HPP;

(9) Make training records available to affected employees and associates upon request;

(10) Ensure that hazard signage meeting the requirements of Section 9j is posted at entrances to areas in which administrative controls or HPDs are required; And

(11) Upon being notified by the Health Unit that employees and associates they supervise have suffered workplace-noise-induced OSTSs, ensure that all applicable activity hazard

reviews are re-reviewed in accordance with the requirements of the Hazard Review suborder, and, as part of the re-reviews, that consultations with competent persons are scheduled to re-evaluate the noise exposures of affected employees and associates.

d. Employees and Associates Exposed to Nuisance Noise:

(1) Strongly consider completing the one-time-only training prescribed by OSHE on the NIST HPP.

e. OSHE Hearing Protection Program Manager:

(1) Ensure that training provided by OSHE on the HPP is available and includes, at a minimum:

(a) An overview of the NIST HPP;

(b) Physical and psychological effects of noise and hearing loss;

(c) Recognition of noise hazards;

(d) Noise control principles:

i. Engineering controls;

ii. Administrative controls, including hazard signage; and

iii. HPDs, including selection, fit, use, and care; and

(e) Overview of audiometric-testing requirements;

(2) Ensure that training provided by OSHE on the HPP is documented in NIST's electronic safety training application;

(3) Ensure that non-web-based training provided by OSHE on the HPP and completed by affected employees and associates is recorded in NIST's electronic safety training application;

(4) Ensure that all OSHA-recordable OSTSs are recorded on the OSHA 300 log maintained by OSHE in accordance with the requirements of 29 CFR 1904.10, Recording of Cases Involving Occupational Hearing Loss; and

(5) Assist NIST staff in the development of signage that complies with the requirements of this suborder and the NIST Hazard Signage Program.

f. Competent Persons:

(1) Consult with potentially affected employees and associates to determine if noise doses could equal or exceed 100%;

(2) When it has been determined that noise doses could equal or exceed 100%, conduct noise monitoring, document the results in writing, and provide those results to the employee who scheduled the assessment and his or her Official First-Level Supervisor;

(3) When conducting noise monitoring, inform affected employees and associates in areas being monitored, along with any designated employee representatives, of the purpose of the noise monitoring and provide them with the opportunity to observe noise-monitoring activities;

(4) When employees and associates are required to wear HPDs to reduce noise doses to less than 100%, specify the necessary protection in accordance with 29 CFR 1910.95, Appendix B: "Methods for Estimating the Adequacy of Hearing Protection Attenuation;

(5) Recommend a variety of suitable HPDs for selection and proper fit; and

(6) If noise monitoring identifies a potential noise hazard or a potential increase in a previously identified noise hazard, work with affected employees and associates to ensure that noise doses do not equal or exceed 100%;

(7) Ensure that:

(a) Noise screening and octave-band analysis is conducted using ANSI Type 1 or Type 2 sound-level meters;

(b) Noise monitoring is conducted using ANSI Type 2 noise dosimeters;

(c) Noise dosimeters used for noise monitoring integrate all sound levels between 80 dBA and 130 dBA and measure peak sound levels up to and including 140 dB; and

(d) Sound-level meters and noise dosimeters are calibrated at least annually and according to manufacturers' specifications; and

(8) Re-evaluate the noise exposures of employees and associates who have suffered workplace-noise-induced OSTSs.

g. Each Health Unit:

(1) Maintain an audiometric testing program in accordance with 29 CFR 1910.95(g), Audiometric Testing Program;[10]

(a) Notify employees and associates that during the 14-hour period immediately preceding a baseline or repeat annual audiometric examination, they must avoid exposure to workplace noise at levels above 80 dBA and should avoid exposure to non-workplace noise at levels above 80 dBA;

(2) Conduct audiometric tests in accordance with 29 CFR 1910.95(h), Audiometric Test Requirements;

(3) Determine whether NSTSs and OSTSs have occurred, and upon determining that they have, notify affected employees and associates, affected employees' and associates' Official First-Level Supervisors, OU Safety Coordinators, and the OSHE Hearing Protection Program Manager in writing within 21 days;

(4) Upon determining that OSTSs have occurred, arrange for audiological evaluations as necessary to assist in determining whether the OSTSs are workplace-noise induced;

(5) Upon determining that OSTSs are workplace-noise induced, notify affected employees and associates, affected employees and associates' Official First-Level Supervisors, OU Safety Coordinators, and the OSHE Hearing Protection Program Manager; and

(6) Maintain audiometric test records in accordance with 29 CFR 1910.95(m), Recordkeeping.

10. AUTHORITIES

There are no authorities specific to this suborder alone.

[10] NIST does not use age correction to attempt to differentiate between hearing losses caused by age-related factors and those caused by noise exposures.

11. DIRECTIVE OWNER

Chief Safety Officer

12. APPENDICES

a. Appendix A. Revision History
b. Appendix B. Hazard Signage

Appendix A. Revision History

Revision	Date	Responsible Person	Description of Change
0	03/20/2014	Amber Carlberg	None – Initial suborder approval
1	02/06/2015	Richard Kayser	1. Addition of Revision History in Appendices. 2. Revisions throughout to include NIST associates. 3. Addition of NIOSH Significant Threshold Shift. 4. Inclusion of statement that it is NIST policy not to use age-correction factors. 5. Addition of audiological evaluations to assist in making determinations of work-relatedness.
2	01/07/2021	April Camenisch	Updated suborder links.

APPENDIX B: HAZARD SIGNAGE