HUMBOLDT STATE UNIVERSITY

HEARING CONSERVATION PROGRAM

PREPARED BY THE OFFICE OF
ENVIRONMENTAL HEALTH AND SAFETY
March 2009

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INTRODUCTION – SECTION 1.0

The purpose of this manual is to establish the acceptable limits of Noise Exposure at Humboldt State University. Title 8, Group 15, Article 105, Sections 5095-5099 of the California Code of Regulations (CCR) has established acceptable limits for the amount and duration of noise that employees can be exposed to (see Attachment 9.1). HSU employees exposed to the upper limits of noise exposure during an 8-hour shift are required by law to use hearing protection, unless the noise can be controlled by administrative or engineering controls. (Section 2.0 also details noise exposure limits.)

Protection against the effects of noise exposure will be provided to employees when the sound levels and duration exceed those shown in Table 1. Sound level will be measured on the A-scale of a standard sound level meter at slow response.

TABLE 1 Permissible Noise Exposure

Permissible Duration per Workday (Not to be exceeded)

Sound Level (dBA)	*Hours-Minutes*	*Hours*
90	8-0	8.00
92	6-4	6.06
94	4-36	4.60
96	3-29	3.48
98	2-38	2.63
100	2-0	2.00
102	1-31	1.52
104	1-9	1.15
106	0-52	0.86
108	0-40	0.66
110	0-30	0.50
112	0-23	0.38
114	0-17	0.28

EXPOSURE LIMITS FOR NOISE – SECTION 2.0

2.1 Protection

Protection against the effects of noise exposure will be provided when the sound levels and duration exceed those shown in Table 1 when measured on the A-scale of a standard sound level meter at slow response. When employees are subjected to sound levels exceeding those listed in Table 1, feasible administrative or engineering controls will be utilized. If controls fail to reduce sound levels within the levels of the Table, personal protective equipment will be provided by the employee's department to reduce sound levels to within the levels of the Table.

The employee's department will provide employees who are exposed to an 8-hour time-weighted average of 85 decibels or greater, with hearing protection. This will be provided at no cost to the employee. Employees will be given the choice of more than one type of ear protection, and the employees will be trained in the fitting and care of the equipment.

Hearing protectors must attenuate employee exposure at least to an 8-hour time-weighted average of 90 decibels as required by CCR Section 5096 (b). For employees who have experienced a standard threshold shift, hearing protectors must attenuate employee exposures to an 8-hour time-weighted average of 85 decibels or below.

The adequacy of hearing protector attenuation will be reevaluated whenever employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation.

2.2 Levels of Noise Exposure

When daily noise exposure is composed of two or more periods of noise exposure at different levels, their combined effects should be considered rather than the individual effect of each. If the sum of the following fractions: $C_1 / T_1 + C_2 / T_2 ... C_n / T_n$ exceeds unity, then the mixed exposure should be considered to exceed the limit value. C_n indicates the total time of exposure at a specified noise level. T_n indicates the total time of exposure permitted at that level. If the variation in noise level involves maxima at intervals of 1 second or less, the noise is to be considered continuous. Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level. Section 3.0 details noise exposure computation.

2.3 Measurement of Noise Levels

The EHS Office has the equipment necessary for measuring noise levels using a Sound Level Meter (SLM). If there is any suspicion of excess levels of noise, EHS will conduct tests to determine if the noise levels are permissible within the California Code of Regulations (CCR). Instruments used to measure employee noise exposure will be calibrated annually to ensure measurement accuracy. Noise level monitoring will be repeated whenever a change in production, process, equipment or controls increases noise exposure. Noise level tests will be recorded on a Noise Survey Form (see Attachment 9.2).

NOISE EXPOSURE COMPUTATION – SECTION 3.0

3.1 Computation of Employee Noise Exposure

Noise dose is computed using Table 2 as follows: When the sound level, L, is constant over the entire work shift, the noise dose, D, in percent, is given by: $D = 100\ C/T$ where C is the total length of the workday, in hours, and T is the reference duration corresponding to the measured sound level, L, as given in Table 2 or by the formula shown as a footnote to that Table.

When the workshift noise exposure is composed of two or more periods of noise at different levels, the total noise dose over the work day is given by: $D=100\ (C_1 / T_1 + C_2 / T_2 + ...+ C_n / T_n)$ where C_n indicates the total time of exposure at a specific noise level and T_n indicates the reference duration for that level as given by Table 2.

The 8-hour time-weighted average sound level (TWA), in decibels, may be computed from the dose, in percent, by means of the formula: $TWA= 16.61 \log_{10} (D/100) + 90$. For an 8-hour workshift with the noise level constant over the entire shift, the TWA is equal to the measured sound level.

TABLE 2 Workshift Noise Exposure

A-weighted Sound level, L (decibel)	*Reference Duration T (hours)*
80	32
85	16
90	8
95	4
100	2
105	1
110	0.5
115	0.25
120	0.125
125	0.063
130	0.031

In the Table, the reference duration, T, is computed by $T= 8 / 2^{(l-90) / 5}$ where L is the measured A-weighted sound level.

3.2 Conversion Between "Dose" and 8-Hour TWA Sound Level

Noise exposure is usually measured with an audiometer which gives a readout in terms of "dose." Dosimeter readings can be converted to an 8-hour time-weighted average sound level (TWA). In order to convert the reading of a dosimeter into TWA, use Table 3.

This Table applies to dosimeters that are set to calculate dose or percent exposure according to the relationship in Table 2.

TABLE 3 Conversion from "Percent Noise Exposure" or "Dose" to "8-Hour Time-Weighted Average Sound Level" (TWA)

Dose or Percent Noise Exposure	*TWA*
10	73.4
30	81.3
60	86.3
90	89.2
120	91.3
150	92.9
180	94.2
210	95.4
240	96.3
270	97.2
300	97.9
330	98.6
360	99.2
390	99.8
420	100.4
450	100.8
480	101.3
510	101.8
540	102.2
570	102.6
600	102.9
630	103.3
660	103.6
690	103.9
720	104.2
750	104.5
780	104.8
810	105.1
840	105.4
870	105.6
900	105.8
930	106.1
960	106.3
990	106.5

TRAINING PROGRAM – SECTION 4.0

After an evaluation of workplace noise levels determines affected employees, a training program will be initiated and repeated annually for each employee included in the hearing conservation program. Information provided in the training program will be updated to be consistent with changes in protective equipment and work processes. Some of the information made available through the training seminar includes:

- The effects of noise on hearing.

- The purpose and advantages of hearing protection, attenuation of various types, and instructions on selecting, fitting, use, and care.

- The purpose of audiometric testing, and an explanation of the test procedures.

Upon request, the EHS Office will provide employees with any informational materials related to the EHS hearing conservation program.

RECORDKEEPING – SECTION 5.0

The EHS Office maintains accurate records of all employee exposure measurements required by CCR Section 5097(b). The information regarding audiograms includes the following:

- Name and classification of the employee.

- Date of the audiogram.

- The examiner's name.

- Date of the last acoustic or exhaustive calibration of the audiometer.

- The employee's most recent noise exposure assessment.

The EHS Office will retain the noise exposure records for 2 years. Audiometric test records will be retained for the duration of the affected employee's employment.

All records on file will be provided upon request to the employee, former employee, representatives designated by the employee, and any authorized representative of the Chief of the Division of CAL/OSHA.

METHODS FOR ESTIMATING THE ADEQUACY OF HEARING PROTECTOR ATTENUATION – SECTION 6.0

For employees who have experienced a standard threshold shift, hearing protector attenuation must be sufficient to reduce employee exposure to a TWA of 85 dB. One of the methods in this Section must be used to estimate the adequacy of hearing protection attenuation.

7.1 The Noise Reduction Rating

The most convenient method is the Noise Reduction Rating (NRR) developed by the Environmental Protection Agency (EPA). According to EPA regulation, the NRR must be shown

on the hearing protector package. The NRR is then related to an individual worker's noise environment in order to assess the adequacy of the attenuation of a given hearing protector.

7.2 National Institute for Occupational Safety and Health

Instead of using the NRR, the EHS Office may evaluate the adequacy of hearing protector attenuation by using one of the three methods developed by the National Institute for Occupational Safety (NIOSH), which are described in the "List of Personal Hearing Protectors and Attenuation Data," HEW Publication No. 76-120, 1975, pages 21-37. These methods are known as NIOSH methods #1, #2, and #3.

The NRR described below is a simplification of NIOSH method #2. The most complex method is NIOSH method #1, which is probably the most accurate method since it uses the largest amount of spectral information from the individual employee's noise environment. As in the case of the NRR method described below, if one of the NIOSH methods is used, the selected method must be applied to an individual's noise environment to assess the adequacy of the attenuation. Employers should be careful to take a sufficient number of measurements in order to achieve a representative sample from each time segment. Also, calculated attenuation values reflect realistic values only to the extent that the protectors are properly fitted and worn.

7.3 Methods to be Used When Using the Noise Reduction Rating

When using a dosimeter that is capable of C-weighted measurements:

- Obtain the employee's C-weighted dose for the entire workshift and convert to TWA.
- Subtract the NRR from the C-weighted TWA to obtain the estimated A-weighted TWA under the ear protector.

When using a dosimeter that is not capable of C-weighted measurements, the following methods may be used:

- Convert the A-weighted dose to TWA.
- Subtract 7 dB from the NRR.
- Subtract the remainder from the A-weighted TWA to obtain the estimated A weighted TWA under the ear protector.

When using a sound level meter set to the A-weighting network:

- Obtain the employee's A-weighted TWA.
- Subtract 7 dB from the NRR, and subtract the remainder from the A-weighted TWA to obtain the estimated A-weighted TWA under the ear protector.

When using a sound level meter set on the C-weighting network:

- Obtain a representative sample of the C-weighted sound levels in the employee's environment.

- Subtract the NRR from the C-weighted average sound level to obtain the estimated A-weighted TWA under the ear protector.

GLOSSARY – SECTION 7.0

Action Level
An 8-hour time-weighted average of 85 decibels measured on the A-scale, slow response, or equivalently a dose of fifty percent.

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

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

Attenuation
To reduce in intensity. To weaken or lessen.

Baseline Audiogram
The audiogram against which future audiograms are compared.

Criterion Sound Level
A sound level of 90 decibels.

Decibel (dB)
Unit of measurement of sound level.

dBA (Decibels-A-Weighted)
A unit of measurement of sound level corrected to the A-weighted scale, as defined in ANSI S1.4-1971 (R1976), using a reference level of 20 micropascals (0.00002 Newton per square meter).

Hertz (Hz)
Unit of measurement of frequency numerically equal to cycles per second.

Medical Pathology
A disorder or disease. For purposes of this regulation, a condition or disease affecting the ear, which should be treated by a physician specialist.

Otolaryngologist
A physician specializing in diagnosis and treatment of disorders of the ear, nose, and throat.

Representative Exposure
Measurements of an employee's noise dose or 8-hour time-weighted average sound level that the employer deems to be representative of exposures of other employees in the workplace.

Sound Level
Ten times the common logarithm of the ratio of the standard reference pressure of 20 micropascals. Unit: decibels (dB). For use with this regulation, SLOW time response, in accordance with ANSI S1.4-1971 (R1976), is required.

Sound Level Meter
An instrument for the measurement of sound level.

ATTACHMENTS – SECTION 8.0

ATTACHMENT 8.1

CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTION 5095-5099

5095. General.

(a) Scope and Application. Article 105 establishes requirements for controlling occupational exposures to noise. Agriculture, construction, and oil and gas well drilling and servicing operations are exempt from the provisions of Sections 5097 through 5100.

(b) Definitions.

Action Level. An 8-hour time-weighted average of 85 decibels measured on the A-scale, slow response, or equivalently, a dose of fifty percent.

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

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

Baseline Audiogram. The audiogram against which future audiograms are compared.

Criterion Sound Level. A sound level of 90 decibels.

Decibel (dB). Unit of measurement of sound level.

dBA (Decibels-A-Weighted). A unit of measurement of sound level corrected to the A-weighted scale, as defined in ANSI S1.4-1971 (R1976), using a reference level of 20 micropascals (0.00002 Newton per square meter).

Hertz (Hz). Unit of measurement of frequency, numerically equal to cycles per second.

Medical Pathology. A disorder or disease. For purposes of this regulation, a condition or disease affecting the ear, which should be treated by a physician specialist.

Otolaryngologist. A physician specializing in diagnosis and treatment of disorders of the ear, nose and throat.

Representative Exposure. Measurements of an employee's noise dose or 8-hour time-weighted average sound level that the employer deems to be representative of exposures of other employees in the workplace.

Sound Level. Ten times the common logarithm of the ratio of the square of the measured A-weighted sound pressure to the square of the standard reference pressure of 20 micropascals. Unit: decibels (dB). For use with this regulation, SLOW time response, in accordance with ANSI S1.4-1971 (R1976), is required.

Sound Level Meter. An instrument for the measurement of sound level.

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NOTE: Authority and reference cited: Section 142.3, Labor Code.

HISTORY

1. Repealer of Group 15 (Article 105, Sections 5095-5099) and new Group 15 (Article 105, Sections 5095-5100 and Appendices A-E) filed 6-28-82; effective thirtieth day thereafter (Register 82, No. 27). For prior history, see Register 72, No. 6.

2. Amendment filed 10-3-83; effective thirtieth day thereafter (Register 83, No. 41).

3. Amendment of group heading filed 6-3-97; operative 7-3-97 (Register 97, No. 23).

§5096. Exposure Limits for Noise.

(a) Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in Table N-1 of this section when measured on the A-scale of a standard sound level meter at slow response.

(b) When employees are subjected to sound levels exceeding those listed in Table N-1 of this section, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of the table, personal protective equipment shall be provided and used to reduce sound levels within the levels of the table.

Table N-1 Permissible Noise Exposure1

Sound Level (dBA)	Permitted Duration Per Workday (hours-minutes)	hours	Sound Level (dBA)	Permitted Duration per Workday (hours-minutes)	hours
90	8-0	8.00	103	1-19	1.32
91	6-58	6.96	104	1-9	1.15
92	6-4	6.06	105	1-0	1.00
93	5-17	5.28	106	0-52	0.86
94	4-36	4.60	107	0-46	0.76
95	4-0	4.00	108	0-40	0.66
96	3-29	3.48	109	0-34	0.56
97	3-2	3.03	110	0-30	0.50
98	2-38	2.63	111	0-26	0.43
99	2-18	2.30	112	0-23	0.38
100	2-0	2.00	113	0-20	0.33
101	1-44	1.73	114	0-17	0.28
102	1-31	1.52	115	0-15	0.25

1 When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions: C1/T1 + C2/T2 . . . Cn/Tn exceeds unity, then, the mixed exposure should be considered to exceed the limit value. Cn indicates the total time of exposure at a specified noise level, and Tn indicates the total time of exposure permitted at that level.

(c) If the variations in noise level involve maxima at intervals of 1 second or less, the noise is to be considered continuous.

(d) Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

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NOTE: Authority and reference cited: Section 142.3, Labor Code.

§5097. Hearing Conservation Program.

(a) General. The employer shall administer a continuing, effective hearing conservation program, as described in this section, whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 85 decibels measured on the A-scale (slow response) or, equivalently, a dose of fifty percent. For purposes of the hearing conservation program, employee noise exposures shall be computed in accordance with Appendix A and Table A-1 and without regard to any attenuation provided by the use of personal protective equipment.

(b) Monitoring.

(1) When information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 decibels, the employer shall obtain measurements for employees who may be exposed at or above that level. Such determinations shall be made by December 1, 1982.

(2) The monitoring requirement shall be met by either area monitoring or personal monitoring that is representative of the employee's exposure.

(A) The sampling strategy shall be designed to identify employees for inclusion in the hearing conservation program and to enable the proper selection of hearing protectors.

(B) Where circumstances such as high worker mobility, significant variations in sound level, or a significant component of impulse noise make area monitoring generally inappropriate, the employer shall use representative personal sampling to comply with the monitoring requirements of this section unless the employer can show that area sampling produces equivalent results.

(C) All continuous, intermittent and impulsive sound levels from 80 dB to 130 dB shall be integrated into the computation.

(D) Instruments used to measure employee noise exposure shall be calibrated to ensure measurement accuracy.

(3) Monitoring shall be repeated whenever a change in production, process, equipment or controls increases noise exposures to the extent that:

(A) Additional employees may be exposed at or above the action level; or

(B) The attenuation provided by hearing protectors being used by employees may be rendered inadequate to meet the requirements of Section 5098(b).

(4) The employer shall provide affected employees or their representatives with an opportunity to observe any measurements of employee noise exposure which are conducted pursuant to this section.

(5) The employer shall notify each employee exposed at or above the action level of the results of the monitoring.

(c) Audiometric Testing Program.

(1) The employer shall establish and maintain an audiometric testing program as provided in this section by making audiometric testing available to all employees whose exposures equal or exceed the action level.

(2) The program shall be provided at no cost to employees.

(3) Audiometric tests shall be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation, or who has satisfactorily demonstrated competence in administering audiometric examinations, obtaining valid audiograms, and properly using, maintaining and checking calibration and proper functioning of the audiometers being used. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist or physician.

(4) All audiograms obtained pursuant to this section shall meet the requirements of Appendix B: Audiometric Measuring Instruments.

(5) The employer shall establish for each employee exposed at or above the action level a valid baseline audiogram against which subsequent audiograms can be compared.

(6) Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. This requirement may be met by wearing hearing protectors which will reduce the employee's exposure to a sound level of 80 dBA or below.

(7) The employer shall notify employees of the need to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination.

(8) Audiometric tests shall be made available to employees by June 1, 1983 or within 6 months of an employee's first exposure at or above the action level, except that where a mobile test van is used to conduct the audiometric test, the test shall be made available within one year of an employee's first exposure at or above the action level provided that all such employees are given an opportunity for testing.

NOTE: This requirement may be met by an audiogram available to the employer upon the effective date of this section provided the conditions under which the audiometric test was performed were the same as prescribed by this section.

(9) Where an employer chooses to have audiometric tests performed by a mobile test van in accordance with Section 5097(c)(8) and an employee's baseline audiogram has not been obtained within 6 months of the employee's first exposure at or above the action level, the employer shall make hearing protectors available to the employee in accordance with Section 5098 and require that the hearing protectors are worn by the employee until the baseline audiogram is obtained.

(10) At least annually after obtaining the baseline audiogram, the employer shall obtain a new audiogram for each employee exposed at or above the action level.

(d) Evaluation of Audiogram.

(1) Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift, as defined in Section 5097(d)(8), has occurred. This comparison may be done by a technician.

(2) If the annual audiogram shows that an employee has suffered a standard threshold shift, the employer may obtain a retest within 30 days and consider the results of the retest as the annual audiogram.

(3) An audiologist, otolaryngologist or physician shall review problem audiograms and shall determine whether there is a need for further evaluation. The employer shall provide to the person performing this evaluation the following information:

(A) A copy of the requirements for hearing conservation as set forth in Sections 5097, 5098, 5099 and 5100.

(B) The baseline audiogram and most recent audiogram of the employee to be evaluated.

(C) Measurements of background sound pressure levels in the audiometric test room as required in Appendix C, Audiometric Test Rooms.

(D) Records of audiometric calibrations required by paragraph (f) of this section.

(4) If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift as defined by Section 5097(d)(8), the employee shall be informed of this fact, in writing, within 21 days of the determination.

(5) Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, the employer shall ensure that the following steps are taken when a standard threshold shift occurs:

(A) An employee not using hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them; and

(B) An employee already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.

(C) Refer the employee for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if the employer suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.

(D) Inform the employee of the need for an otological examination if a medical pathology of the ear which is unrelated to the use of hearing protectors is suspected.

(6) If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour time-weighted average of 90 decibels indicates that a standard threshold shift is not persistent, the employer:

(A) Shall inform the employee of the new audiometric interpretation; and

(B) May discontinue the required use of hearing protectors for that employee.

(7) An annual audiogram may be substituted for the baseline audiogram when in the judgment of the audiologist, otolaryngologist or physician who is evaluating the audiogram:

(A) The standard threshold shift revealed by the audiogram is persistent; or

(B) The hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram.

(8) As used in this section, a standard threshold shift is 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.

(9) In determining whether a standard threshold shift has occurred, allowance may be made for the contribution of aging (presbycusis) to the change in hearing level by correcting the annual audiogram according to the procedure described in Appendix F: Determination and Application of Age Correction to Audiograms.

(e) Audiometric Test Requirements.

(1) Audiometric tests shall be pure tone, air conduction, hearing threshold examinations, with test frequencies including as a minimum 500, 1000, 2000, 3000, 4000 and 6000 Hz. Tests at each frequency shall be taken separately for each ear.

(2) Audiometric tests shall be conducted with audiometers (including microprocessor audiometers) that meet the specifications of, and are maintained and used in accordance with, ANSI S3.6-1969.

(3) Pulsed-tone and self-recording audiometers, if used, shall meet the requirements specified in Appendix B, Audiometric Measuring Instruments.

(4) Audiometric examinations shall be administered in a room meeting the requirements listed in Appendix C, Audiometric Test Rooms.

(f) Audiometer Calibration.

(1) The functional operation of the audiometer shall be checked before each day's use by testing a person with known, stable hearing thresholds, and by listening to the audiometer's output to make sure that the output is free from distorted or unwanted sounds. Deviations of 10 dB or greater shall require an acoustic calibration.

(2) Audiometer calibration shall be checked acoustically at least annually in accordance with Appendix D, Acoustic Calibration of Audiometers. Test frequencies below 500 Hz and above 6000 Hz may be omitted from this check. Deviations of 15 dB or greater necessitate an exhaustive calibration.

(3) An exhaustive calibration shall be performed at least every two years in accordance with Sections 4.1.2, 4.1.3, 4.1.4.3, 4.2, 4.4.1, 4.4.2, 4.4.3, and 4.5 of ANSI S3.6-1969. Test frequencies below 500 Hz and above 6000 Hz may be omitted from this calibration.

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NOTE: Authority and reference cited: Section 142.3, Labor Code.

§5098. Hearing Protectors.

(a) General.

(1) Employers shall make hearing protectors available to all employees exposed to an 8-hour time-weighted average of 85 decibels or greater at no cost to the employees. Hearing protectors shall be replaced as necessary.

(2) Employers shall ensure that hearing protectors are worn by all employees:

(A) Who are required by Section 5096(b) to wear personal protective equipment; or

(B) Who are exposed to an 8-hour time-weighted average of 85 decibels or greater, and who:

1. Are required by Section 5097(c)(9) to wear hearing protectors because baseline audiograms have not yet been established; or

2. Have experienced a standard threshold shift.

(3) Employees shall be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided by the employer.

(4) The employer shall provide training in the use and care of all hearing protectors provided to employees.

(5) The employer shall ensure proper initial fitting and supervise the correct use of all hearing protectors.

(b) Hearing Protector Attenuation.

(1) The employer shall evaluate hearing protector attenuation for the specific noise environments in which the protector will be used. The employer shall use one of the methods described in Appendix E, Methods for Estimating the Adequacy of Hearing Protector Attenuation.

(2) Hearing protectors must attenuate employee exposure at least to an 8-hour time-weighted average of 90 decibels as required by Section 5096(b).

(3) For employees who have experienced a standard threshold shift, hearing protectors must attenuate employee exposures to an 8-hour time-weighted average of 85 decibels or below.

(4) The adequacy of hearing protector attenuation shall be reevaluated whenever employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation. The employer shall provide more effective hearing protectors where necessary.

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NOTE: Authority and reference cited: Section 142.3, Labor Code.

HISTORY

1. Amendment filed 10-3-83; effective thirtieth day thereafter (Register 83, No. 41).

§5099. Training Program.

(a) General.

(1) The employer shall institute a training program for all employees who are exposed to noise at or above an 8-hour time-weighted average of 85 dBA, and shall ensure employee participation in such program.

(2) The training program shall be repeated annually for each employee included in the hearing conservation program. Information provided in the training program shall be updated to be consistent with changes in protective equipment and work processes.

(3) The employer shall ensure that each employee is informed of the following:

(A) The effects of noise on hearing;

(B) The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care; and

(C) The purpose of audiometric testing, and an explanation of the test procedures.

(b) Access to Information and Training Materials.

(1) The employer shall make available to affected employees or their representatives copies of Article 105 and shall also post a copy in the workplace.

(2) The employer shall provide to affected employees any informational materials pertaining to this standard that are supplied to the employer by U.S. Department of Labor, Occupational Safety and Health Administration.

(3) The employer shall provide, upon request, all materials related to the employer's training and education program pertaining to this standard to authorized representatives of the Chief of the Division and the Director, National Institute for Occupational Safety and Health.

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NOTE: Authority and reference cited: Section 142.3, Labor Code.

HISTORY

1. Amendment of subsection (a) filed 10-3-83; effective thirtieth day thereafter (Register 83, No. 41).

2. Editorial correction of subsection (b)(1) printing error (Register 90, No. 41).

ATTACHMENT 8.2

ENVIRONMENTAL HEALTH AND SAFETY

Noise Survey Form

LOCATION: _____ DATE: _____
NUMBER OF PERSONNEL EXPOSED: _____
WEARING EAR PROTECTION YES ☐ NO ☐

OPERATOR: _____ SIGNATURE: _____

DIAGRAM:
(Show measuring location)

NOTES: _____
_____

dB(A) MAX LEVEL EXPOSURE	TIME TOTAL PERMISSIBLE D/P DURATION
OVER 115	NONE
115	1/4
110	1/2
105	1
102	1 1/2
100	2
97	3
95	4
90	8
BELOW 90	ANY