

# Regency Machine, Inc.

◇ Health ◇

◇ Safety ◇

◇ Environment ◇

Guidebook

## **A MESSAGE FROM MANAGEMENT,**

**Regency Machine has no more important resource than its employees. While we all work around highly technical and very powerful machinery, the engine that moves our company is our personnel. In recognition of this fact, it is imperative that every employee at Regency Machine protect themselves and their co-workers. Therefore, in addition to the information contained in this safety guideline, the first operational consideration surrounding any task at Regency Machine MUST BE SAFETY!**

**Regency Machine enjoys a strong safety record that is contributable to the individual efforts of both past and current employees. The management and ownership at Regency Machine are grateful to the hard working men and women who have taken ownership of both individual and corporate safety and we hope and expect employees will continue their efforts toward establishing the safest habits and working environment possible.**

**Safety is not a task. It is not an issue that can be incentivized. It is, in fact, a virtue. Working safely is akin to honesty, integrity, and professionalism. Ensuring you work safely is an example of good character. This good character is the foundation upon which Regency Machine rests. This good character is a quality that benefits you, your employer, and your loved ones.**

**Thank you,**

**Sterlin Smith, General Manager  
Regency Machine, Inc.**

## 1. General Provisions

- a. This safety guidebook serves only as an outline and reference for employees. Not all safety issues can be anticipated, so the following general provisions shall apply:
  - i. Any employee, who encounters any unsafe situation of any manner, may, without the approval of a supervisor or manager, shutdown a work process until the situation can be evaluated and work can continue safely.
  - ii. Any visitor to or employee of Regency Machine may question any safety process or procedure and should expect a thorough explanation regarding their concerns.
  - iii. All employees shall participate in the safety program at Regency Machine. Employees may, without any retribution, offer opinions and recommendations with regard to workplace safety. Employees are encouraged to offer safety recommendations to management and management shall evaluate all recommendation(s).
  - iv. This HSE Guidebook will be revised one time per year (NLT end Q1). Any changes that occur between revisions, will be added to the back of the current Guidebook as a Safety Directive. At revision time, all Safety Directives will be incorporated into the Guidebook. Following each new revision, management will ensure all employees are familiar with the provisions of this Guidebook.
  - v. Management will ensure all prior copies of this Guidebook are removed from any media to guard against confusion.

## 2. General Safety Requirements

- a. While each piece of equipment has specific safety requirements (discussed later in this guidebook), the following safety guidelines apply in all situations.
  - i. Generally speaking, visitors will not be allowed on the machine shop floor. In the event a visitor does enter the shop floor, they must be accompanied by a member of management or the shop foreman.
    1. No person shall enter the shop floor without first signing in at the front office, receiving a thorough safety briefing, and donning all required Personal Protective Equipment (PPE).
  - ii. No persons under the age of 18 shall ever enter the shop floor. This includes, but is not limited to, family members of employees.
- b. No employee shall ever operate a machine for which the employee has not received training. This training shall include a reasonable test of the employee to ensure adequate competence.
- c. All employees or visitors to the shop floor shall wear, at a minimum, the following PPE:
  - i. Eye protection
    1. Eye protection must conform with OSHA standards outlined in 29 CFR 1910.133 to include prescription eye coverings. (App. A)

2. All employees shall be made aware of the location of eyewash stations and shall be made aware of eye emergency procedures.
- ii. Hearing protection
    1. In numerous past surveys, noise levels on the shop floor at Regency Machine have fallen well below regulated standards. However, should any specific job or task result in higher than normal noise levels, the standards set forth in 29 CFR 1910.95(a) shall be met. (App. B). If at any time an employee believes noise levels on the shop floor have increased for any reason, the employee shall immediately bring the issue to the attention of management who will arrange for a site noise level survey by a qualified person to ensure levels are acceptable or to initiate appropriate hearing protection measures in accordance with the above OSHA standards.
  - iii. Footwear
    1. All employees who enter the shop floor or any production or storage area, shall, at all times, wear close toe footwear.
    2. All employees whose primary work location is on the shop floor, shall wear shoes that offer good ankle support and toe protection in accordance with 29 CFR 1910.136(a) (App. C)
    3. Non-slip soles are required for all employees whose primary work location is the shop floor.
  - iv. Clothing/Personnel Hygiene/Other
    1. Employees shall not wear baggy clothing. Long sleeves, unless they fit sheer against the arms, are discouraged. Hoodies are not permitted.
    2. Gloves shall not be used near any rotating machine.
    3. Clothing with vulgar printing or images are not permitted.
    4. Pants shall be worn in a manner that does not allow undergarments to be visible at any time.
    5. Jewelry shall not be worn on fingers or wrists at any time while working around machinery.
    6. Long hair shall be secured tight to the head as to prevent hair entrapment in any machines.
    7. At no time will food be permitted around machinery. A closed container of water is permitted, but employees may only drink water when standing away from machinery as to prevent any shavings or contamination from entering the container.

### 3. Machine Specific Safety Requirements

#### a. Lathes and Turning Centers

##### i. Pre-Use Safety

1. Any operator of any lathe must be well education in its use. They shall read the user's manual, including all safety procedures

before beginning any work. They shall examine the lathe for any loose, damaged, or missing parts and be certain that all guards, shields, and interlocks are in place and working properly. They shall ensure all cutting tools and inserts are sharp and properly installed.

2. Any operator shall ensure they are wearing correct PPE as prescribed in this Guidebook to include eye, foot, hearing, and clothing safety.
- ii. Securing Work and Starting the Lathe
    1. Before beginning work on a lathe, all employees shall ensure the work piece is centered and tightly clamped to the lathe's chuck. Any adjustments to the work piece or cutting tools and inserts should be made prior to activating the lathe.
    2. When all safety precautions have been made, operators may apply power to the lathe and begin manual or computer controlled cutting.
    3. After each piece is completed, the operator shall follow the above steps before beginning another piece or job.
  - iii. Cutting Safety
    1. When cutting with a lathe, all operators shall follow the manufacturer's recommendations for rotational speed, feed rates, cut depths, and cooling requirements for the material being used.
    2. All employees shall keep hands and fingers away from rotational devices in the lathe and shall not reach across a rotating chuck or live tool device for any reason. Operators shall never use their hand to apply force to a rotational device in order to hasten its slowing.
  - iv. Clean Up Safety
    1. A clean workshop is a safe workshop. All employees shall use proper lockout tag out procedures to secure their lather prior to cleaning the work area.
    2. Once finished with a particular task or job, the operator shall thoroughly clean the lathe by removing excessive chips or debris from the work area. Additionally, the operator shall notify management of any operational issues noticed during use that might affect future users or jobs.
- b. Milling Machines
    - i. Pre-Use Safety
      1. Any operator of any milling machine must be well educated in its use. They shall read the user's manual, including all safety procedures before beginning any work. They shall examine the milling machine for any loose, damaged, or missing parts and be

certain that all guards, shields, and interlocks are in place and working properly.

ii. Securing Work and Starting the Milling Machine

1. Any work piece shall be secured properly with an adequate clamp to the milling machine's working bed prior to activation of the machine.
2. Operators shall ensure that the milling machine being utilized is adequate for the work piece being used. Attempting to mill a piece of material that is too large or too heavy can lead to catastrophic machine failure and possible injury.
3. Once the work piece is sufficiently secured to the work bed, the operator may activate the machine and begin manual or computer controlled machining.
4. After each piece is completed, the operator shall follow the above steps before beginning another piece or job.

iii. Cutting Safety

1. When cutting with a mill, all operators shall follow the manufacturer's recommendations for rotational speed, feed rates, cut depths, and cooling requirements for the material being used.
2. All employees shall keep hands and fingers away from rotational devices in the mill and shall not reach across a rotating chuck or live tool device for any reason. Operators shall never use their hand to apply force to a rotational device in order to hasten its slowing.

c. Metal Saws

i. Pre-Use Safety

1. Any operator of any metal saw must be well educated in its use. They shall read the user's manual, including all safety procedures before beginning any work. They shall examine the saw for any loose, damaged, or missing parts and be certain that all guards, shields, and interlocks are in place and working properly. They shall ensure all cutting blades are sharp and properly installed.

ii. Securing Work and Starting the Metal Saw

1. Where required, operators shall ensure all work objects are properly secured prior to cutting with a metal saw. Attempting to secure work by hand could result in a kick-back of material and lead to injury.
2. Operators shall ensure the cutting blade being utilized is appropriate for the material being cut. Operators may never improvise by using improper cutting blades for materials that require specific blades.
3. Once the work object is secured, the operator may activate the saw.

- iii. Cutting Safety
    1. When the cut(s) is complete, the operator should de-activate the saw and wait for the blade to come to a complete stop.
    2. Under no circumstances should the operator use any part of their body or any other object to press against the saw blade to hasten slowing.
  - d. Other Machinery
    - i. While lathes, milling machines, and saw represent the large majority of work conducted at Regency Machine, it may become necessary to utilize some other manner of machinery. As outlined in the sections above, no employee should utilize any equipment for which they have not received adequate training to ensure safe operation.
    - ii. If an employee is called upon to utilize a tool(s) with which they are not trained and familiar, they shall refuse to do the requested task and immediately contact a member of management.
    - iii. Management will ensure that any employee who is requested to complete a task that requires the use of machinery, has been adequately trained and is clear as to the proper operation of the machine to be used.
4. Hazardous Substances
- a. Generally speaking, only very limited quantities of hazardous fluids or solids are utilized at Regency Machine. They include, but are not limited to, lubricants, coolants, exotic metals, and cleaning solvents.
    - i. Anytime a hazardous substance is used at Regency Machine, it shall be packaged, stored, handled, and used in accordance with the standards contained in all applicable regulatory standards.
    - ii. As a general rule, where hazardous materials in the workplace are concerned, the following 11 rules shall apply:
      1. Follow all established procedures and perform the job duties as you've been trained. Absent proper training, employees shall not work with or around hazardous materials.
      2. Be cautious and plan ahead. Think about what could go wrong and pay close attention to what you're doing while you work.
      3. Always use the required PPE – and inspect it carefully before each use to make sure it's safe to use. Replace worn out or damaged PPE; it won't provide adequate protection if it's defective in any way.
      4. Make sure all containers are properly labeled and that the material is contained in an appropriate container. Don't use any material not contained or labeled properly. Report any damaged containers or illegible labels to management right away.
      5. Read labels and the Safety Data Sheet (SDS) before using any material to make sure you understand the hazards and precautions.

6. Use all materials solely for their intended purpose. Do not, for example, use solvents to clean your hands, or gasoline to wipe down equipment.
7. Never eat or drink while handling any materials, and if your hands become contaminated, wash them thoroughly as soon as possible.
8. Read the labels and refer to the SDS to identify properties and hazards of chemical products and materials.
9. Store all materials properly while paying close attention to proper chemical segregation.
10. Keep you and your work area clean. After handling any material, wash thoroughly with soap and water. Clean work surfaces frequently if handling hazardous substances.
11. Learn about emergency procedures and equipment.  
Understanding emergency procedures means knowing evacuation procedures, emergency reporting procedures, and procedures for dealing with fires and spills. It also means knowing what to do in a medical emergency if a co-worker is injured or overcome by chemicals.



## Appendix A

**1910.133(a)**

General requirements.

**1910.133(a)(1)**

The employer shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

**1910.133(a)(2)**

The employer shall ensure that each affected employee uses eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors (e.g. clip-on or slide-on side shields) meeting the pertinent requirements of this section are acceptable.

**1910.133(a)(3)**

The employer shall ensure that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards wears eye protection that incorporates the prescription in its design, or wears eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

**1910.133(a)(4)**

Eye and face PPE shall be distinctly marked to facilitate identification of the manufacturer.

**1910.133(a)(5)**

The employer shall ensure that each affected employee uses equipment with filter lenses that have a shade number appropriate for the work being performed for protection from injurious light radiation. The following is a listing of appropriate shade numbers for various operations.

<b>Table of Filter Lenses for Protection From Radiant Energy</b>			
<b>Type of Operation</b>	<b>Electric Size 1/32 in.</b>	<b>Arc Current (Amp)</b>	<b>Minimum Protective Shade <sup>(a)</sup></b>
Shield metal arc welding (SMAW)	Less than 3	Less than 60	7
	3 to 5	60 to 160	8
	5 to 8	160 to 250	10
	More than 8	250 to 500	11
Gas metal arc welding and flux cored arc welding (GMAW)		Less than 60	7
		60 to 160	10
		160 to 250	10
		250 to 500	10
Gas tungsten arc welding (GTAW)		Less than 50	8
		65 to 150	8
		150 to 500	10
Air carbon arc cutting (CAC-A)	(light)	Less than 500	10
	(heavy)	500 to 1000	11
Plasma arc welding (PAW)		Less than 20	6
		20 to 100	8
		100 to 400	10
		400 to 800	11
Plasma arc cutting (PAC)	Light <sup>(b)</sup>	Less than 300	8

	Medium <sup>(b)</sup>	300 to 400	9
	Heavy <sup>(b)</sup>	400 to 800	10
Torch brazing		NA	3
Torch soldering		NA	2
Carbon arc welding (CAW)		NA	14

Type of Operation	Plate Thickness		Minimum Protective Shade <sup>(a)</sup>	
	Inches	Mm		
Gas welding (OFW)	Light	Under 1/8	Under 3.2	4
	Medium	1/8 to 1/2	3.2 to 12.7	5
	Heavy	Over 1/2	Over 12.7	6
Oxygen Cutting (OC)	Light	Under 1	Under 25	3
	Medium	1 to 6	25 to 150	4
	Heavy	Over 6	Over 150	5

Source: OSHA 29 CFR 1910.133 Personal Protective Equipment, Eye and Face Protection

(a) As a rule of thumb, start with a shade that is too dark to see the weld zone. Then, go to a lighter shade that gives a sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light spectrum of the operation.

(b) These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the workpiece.

\* As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.

\*\* These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the workpiece.

### **1910.133(b)**

*Criteria for protective eye and face protection.*

#### **1910.133(b)(1)**

Protective eye and face protection devices must comply with any of the following consensus standards:

##### **1910.133(b)(1)(i)**

ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1910.6;

##### **1910.133(b)(1)(ii)**

ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1910.6; or

**1910.133(b)(1)(iii)**

ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, incorporated by reference in § 1910.6;

**1910.133(b)(2)**

Protective eye and face protection devices that the employer demonstrates are at least as effective as protective eye and face protection devices that are constructed in accordance with one of the above consensus standards will be deemed to be in compliance with the requirements of this section.

## Appendix B

**1910.95(a)**

Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in Table G-16 when measured on the A scale of a standard sound level meter at slow response. When noise levels are determined by octave band analysis, the equivalent A-weighted sound level may be determined as follows:

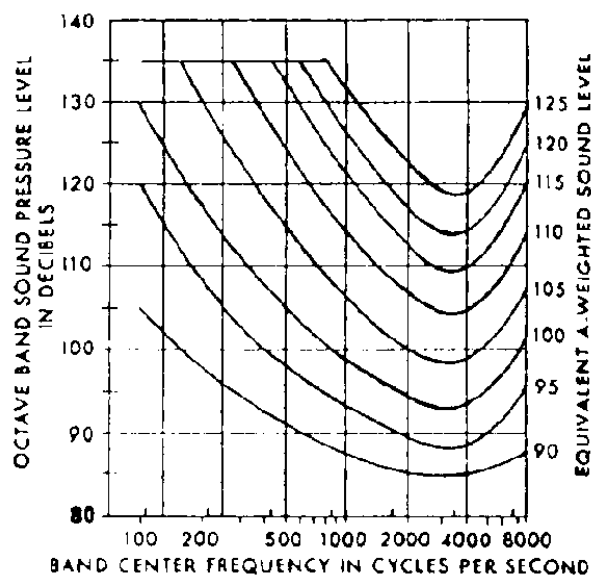


FIGURE G-9

Equivalent sound level contours. Octave band sound pressure levels may be converted to the equivalent A-weighted sound level by plotting them on this graph and noting the A-weighted sound level corresponding to the point of highest penetration into the sound level contours. This equivalent A-weighted sound level, which may differ from the actual A-weighted sound level of the noise, is used to determine exposure limits from Table 1.G-16.

**1910.95(b)(1)**

When employees are subjected to sound exceeding those listed in Table G-16, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of Table G-16, personal protective equipment shall be provided and used to reduce sound levels within the levels of the table.

**1910.95(b)(2)**

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

TABLE G-16 - PERMISSIBLE NOISE EXPOSURES (1)

Duration per day, hours	Sound level dBA slow response
8.....	90
6.....	92
4.....	95
3.....	97
2.....	100
1 1/2 .....	102
1.....	105
1/2 .....	110
1/4 or less.....	115

Footnote(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:  $C(1)/T(1) + C(2)/T(2) + \dots + C(n)/T(n)$  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, and  $T_n$  indicates the total time of exposure permitted at that level. Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

### **1910.95(c)**

"Hearing conservation program."

#### **1910.95(c)(1)**

The employer shall administer a continuing, effective hearing conservation program, as described in paragraphs (c) through (o) of 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 G-16a, and without regard to any attenuation provided by the use of personal protective equipment.

#### **1910.95(c)(2)**

For purposes of paragraphs (c) through (n) of this section, an 8-hour time-weighted average of 85 decibels or a dose of fifty percent shall also be referred to as the action level.

### **1910.95(d)**

"Monitoring."

#### **1910.95(d)(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 develop and implement a monitoring program.

**1910.95(d)(1)(i)**

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.

**1910.95(d)(1)(ii)**

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 paragraph unless the employer can show that area sampling produces equivalent results.

**1910.95(d)(2)(i)**

All continuous, intermittent and impulsive sound levels from 80 decibels to 130 decibels shall be integrated into the noise measurements.

**1910.95(d)(2)(ii)**

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

**1910.95(d)(3)**

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

**1910.95(d)(3)(i)**

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

**1910.95(d)(3)(ii)**

The attenuation provided by hearing protectors being used by employees may be rendered inadequate to meet the requirements of paragraph (j) of this section.

**1910.95(e)**

"Employee notification." The employer shall notify each employee exposed at or above an 8-hour time-weighted average of 85 decibels of the results of the monitoring.

**1910.95(f)**

"Observation of monitoring." The employer shall provide affected employees or their representatives with an opportunity to observe any noise measurements conducted pursuant to this section.

**1910.95(g)**

"Audiometric testing program."

**1910.95(g)(1)**

The employer shall establish and maintain an audiometric testing program as provided in this paragraph by making audiometric testing available to all employees whose exposures equal or exceed an 8-hour time-weighted average of 85 decibels.

**1910.95(g)(2)**

The program shall be provided at no cost to employees.

**1910.95(g)(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 operates microprocessor audiometers does not need to be certified. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist or physician.

**1910.95(g)(4)**

All audiograms obtained pursuant to this section shall meet the requirements of Appendix C: "Audiometric Measuring Instruments."

**1910.95(g)(5)**

"Baseline audiogram."

**1910.95(g)(5)(i)**

Within 6 months of an employee's first exposure at or above the action level, the employer shall establish a valid baseline audiogram against which subsequent audiograms can be compared.

**1910.95(g)(5)(ii)**

"Mobile test van exception." Where mobile test vans are used to meet the audiometric testing obligation, the employer shall obtain a valid baseline audiogram within 1 year of an employee's first exposure at or above the action level. Where baseline audiograms are obtained more than 6 months after the employee's first exposure at or above the action level, employees shall wear hearing protectors for any period exceeding six months after first exposure until the baseline audiogram is obtained.

**1910.95(g)(5)(iii)**

Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protectors may be used as a substitute for the requirement that baseline audiograms be preceded by 14 hours without exposure to workplace noise.

**1910.95(g)(5)(iv)**

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.

**1910.95(g)(6)**

"Annual audiogram." At least annually after obtaining the baseline audiogram, the employer shall obtain a new audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels.

**1910.95(g)(7)**

"Evaluation of audiogram."

**1910.95(g)(7)(i)**

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 paragraph (g)(10) of this section has occurred. This comparison may be done by a technician.

**1910.95(g)(7)(ii)**

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.

**1910.95(g)(7)(iii)**

The 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:

**1910.95(g)(7)(iii)(A)**

A copy of the requirements for hearing conservation as set forth in paragraphs (c) through (n) of this section;

**1910.95(g)(7)(iii)(B)**

The baseline audiogram and most recent audiogram of the employee to be evaluated;

**1910.95(g)(7)(iii)(C)**

Measurements of background sound pressure levels in the audiometric test room as required in Appendix D: Audiometric Test Rooms.

**1910.95(g)(7)(iii)(D)**

Records of audiometer calibrations required by paragraph (h)(5) of this section.

**1910.95(g)(8)**

"Follow-up procedures."

**1910.95(g)(8)(i)**

If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift as defined in paragraph (g)(10) of this section has occurred, the employee shall be informed of this fact in writing, within 21 days of the determination.

**1910.95(g)(8)(ii)**

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:

**1910.95(g)(8)(ii)(A)**

Employees not using hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them.

**1910.95(g)(8)(ii)(B)**

Employees 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.

**1910.95(g)(8)(ii)(C)**

The employee shall be referred 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.

**1910.95(g)(8)(ii)(D)**

The employee is informed of the need for an otological examination if a medical pathology of the ear that is unrelated to the use of hearing protectors is suspected.

**1910.95(g)(8)(iii)**

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

**1910.95(g)(8)(iii)(A)**

Shall inform the employee of the new audiometric interpretation; and

**1910.95(g)(8)(iii)(B)**



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

**1910.95(g)(9)**

"Revised baseline." 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:

**1910.95(g)(9)(i)**

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

**1910.95(g)(9)(ii)**

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

**1910.95(g)(10)**

"Standard threshold shift."

**1910.95(g)(10)(i)**

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.

**1910.95(g)(10)(ii)**

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: "Calculation and Application of Age Correction to Audiograms."

**1910.95(h)**

"Audiometric test requirements."

**1910.95(h)(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.

**1910.95(h)(2)**

Audiometric tests shall be conducted with audiometers (including microprocessor audiometers) that meet the specifications of, and are maintained and used in accordance with, American National Standard Specification for Audiometers, S3.6-1969, which is incorporated by reference as specified in Sec. 1910.6.

**1910.95(h)(3)**

Pulsed-tone and self-recording audiometers, if used, shall meet the requirements specified in Appendix C: "Audiometric Measuring Instruments."

**1910.95(h)(4)**

Audiometric examinations shall be administered in a room meeting the requirements listed in Appendix D: "Audiometric Test Rooms."

**1910.95(h)(5)**

"Audiometer calibration."

**1910.95(h)(5)(i)**

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 decibels or greater require an acoustic calibration.

**1910.95(h)(5)(ii)**

Audiometer calibration shall be checked acoustically at least annually in accordance with Appendix E: "Acoustic Calibration of Audiometers." Test frequencies below 500 Hz and above 6000 Hz may be omitted from this check. Deviations of 15 decibels or greater require an exhaustive calibration.

**1910.95(h)(5)(iii)**

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 the American National Standard Specification for Audiometers, S3.6-1969. Test frequencies below 500 Hz and above 6000 Hz may be omitted from this calibration.

**1910.95(i)**

"Hearing protectors."

**1910.95(i)(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.

**1910.95(i)(2)**

Employers shall ensure that hearing protectors are worn:

**1910.95(i)(2)(i)**

By an employee who is required by paragraph (b)(1) of this section to wear personal protective equipment; and

**1910.95(i)(2)(ii)**

By any employee who is exposed to an 8-hour time-weighted average of 85 decibels or greater, and who:

**1910.95(i)(2)(ii)(A)**

Has not yet had a baseline audiogram established pursuant to paragraph (g)(5)(ii); or

**1910.95(i)(2)(ii)(B)**

Has experienced a standard threshold shift.

**1910.95(i)(3)**

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

**1910.95(i)(4)**

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

**1910.95(i)(5)**

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

**1910.95(j)**

"Hearing protector attenuation."

**1910.95(j)(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 evaluation methods described in Appendix B: "Methods for Estimating the Adequacy of Hearing Protection Attenuation."

**1910.95(j)(2)**

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

**1910.95(j)(3)**

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

**1910.95(j)(4)**

The adequacy of hearing protector attenuation shall be re-evaluated 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.

**1910.95(k)**

"Training program."

**1910.95(k)(1)**

The employer shall train each employee who is exposed to noise at or above an 8-hour time weighted average of 85 decibels in accordance with the requirements of this section. The employer shall institute a training program and ensure employee participation in the program.

**1910.95(k)(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.

**1910.95(k)(3)**

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

**1910.95(k)(3)(i)**

The effects of noise on hearing;

**1910.95(k)(3)(ii)**

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

**1910.95(k)(3)(iii)**

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

**1910.95(l)**

"Access to information and training materials."

**1910.95(l)(1)**

The employer shall make available to affected employees or their representatives copies of this standard and shall also post a copy in the workplace.

**1910.95(l)(2)**

The employer shall provide to affected employees any informational materials pertaining to the standard that are supplied to the employer by the Assistant Secretary.

**1910.95(l)(3)**

The employer shall provide, upon request, all materials related to the employer's training and education program pertaining to this standard to the Assistant Secretary and the Director.

**1910.95(m)**

"Recordkeeping" -

**1910.95(m)(1)**

"Exposure measurements." The employer shall maintain an accurate record of all employee exposure measurements required by paragraph (d) of this section.

**1910.95(m)(2)**

"Audiometric tests."

**1910.95(m)(2)(i)**

The employer shall retain all employee audiometric test records obtained pursuant to paragraph (g) of this section:

**1910.95(m)(2)(ii)**

This record shall include:

**1910.95(m)(2)(ii)(A)**

Name and job classification of the employee;

**1910.95(m)(2)(ii)(B)**

Date of the audiogram;

**1910.95(m)(2)(ii)(C)**

The examiner's name;

**1910.95(m)(2)(ii)(D)**

Date of the last acoustic or exhaustive calibration of the audiometer; and

**1910.95(m)(2)(ii)(E)**

Employee's most recent noise exposure assessment.

**1910.95(m)(2)(ii)(F)**

The employer shall maintain accurate records of the measurements of the background sound pressure levels in audiometric test rooms.

**1910.95(m)(3)**

"Record retention." The employer shall retain records required in this paragraph (m) for at least the following periods.

**1910.95(m)(3)(i)**

Noise exposure measurement records shall be retained for two years.

**1910.95(m)(3)(ii)**

Audiometric test records shall be retained for the duration of the affected employee's employment.

**1910.95(m)(4)**

"Access to records." All records required by this section shall be provided upon request to employees, former employees, representatives designated by the individual employee, and the Assistant Secretary. The provisions of 29 CFR 1910.1020 (a)-(e) and (g)-(i) apply to access to records under this section.

**1910.95(m)(5)**

"Transfer of records." If the employer ceases to do business, the employer shall transfer to the successor employer all records required to be maintained by this section, and the successor employer shall retain them for the remainder of the period prescribed in paragraph (m)(3) of this section.

**1910.95(n)**

"Appendices."

**1910.95(n)(1)**

Appendices A, B, C, D, and E to this section are incorporated as part of this section and the contents of these appendices are mandatory.

**1910.95(n)(2)**

Appendices F and G to this section are informational and are not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

**1910.95(o)**

"Exemptions." Paragraphs (c) through (n) of this section shall not apply to employers engaged in oil and gas well drilling and servicing operations.

[39 FR 23502, June 27, 1974, as amended at 46 FR 4161, Jan. 16, 1981; 46 FR 62845, Dec. 29, 1981; 48 FR 9776, Mar. 8, 1983; 48 FR 29687, June 28, 1983; 54 FR 24333, June 7, 1989; 61 FR 5507, Feb. 13, 1996; 61 FR 9227, March 7, 1996; 71 FR 16672, April, 3, 2006; 73 FR 75584, Dec. 12, 2008]

## Appendix C

**1910.136(a)**

*General requirements.* The employer shall ensure that each affected employee uses protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, or when the use of protective footwear will protect the affected employee from an electrical hazard, such as a static-discharge or electric-shock hazard, that remains after the employer takes other necessary protective measures.

**1910.136(b)**

*Criteria for protective footwear.*

**1910.136(b)(1)**

Protective footwear must comply with any of the following consensus standards:

**1910.136(b)(1)(i)**

ASTM F-2412-2005, "Standard Test Methods for Foot Protection," and ASTM F-2413-2005, "Standard Specification for Performance Requirements for Protective Footwear," which are incorporated by reference in § 1910.6;

**1910.136(b)(1)(ii)**

ANSI Z41-1999, "American National Standard for Personal Protection -- Protective Footwear," which is incorporated by reference in § 1910.6; or

**1910.136(b)(1)(iii)**

ANSI Z41-1991, "American National Standard for Personal Protection -- Protective Footwear," which is incorporated by reference in § 1910.6.

**1910.136(b)(2)**

Protective footwear that the employer demonstrates is at least as effective as protective footwear that is constructed in accordance with one of the above consensus standards will be deemed to be in compliance with the requirements of this section.

[59 FR 16360, April 6, 1994; 59 FR 33910, July 1, 1994; 61 FR 9227, March 7, 1996; 61 FR 19547, May 2, 1996; 61 FR 21228, May 9, 1996; 74 FR 46356, Sept. 9, 2009; 79 FR 20629, July 10, 2014]