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## 437-004-0610 Ventilation.

(1) Agricultural employers that do abrasive blasting, grinding, polishing and buffing or spray finishing in any part of their operation must follow the standards in OAR 437-002-1910.94 and OAR 437-002-0081 found in Subdivision 2/G.

These paraphrased excerpts are from 1910.94, Ventilation, in the OR-OSHA General Industry Standards, Division 2/G. If the amount or duration of the covered work or processes you do could meet one of the criteria below, consult 437-002-1910.94 in Division 2/G.

### Grinding, polishing and buffing.

1910.94(b)(2) Application. You must use a mechanical local exhaust ventilation system to keep the 8-hour time-weighted average (TWA) exposures to substances in 437-004-9000 or other parts of this division, within required limits when dry grinding, dry polishing or buffing whether or not employees use a respirator.

### Spray finishing.

1910.94(c)(8) Scope. This paragraph (c) does not apply to exterior spraying of buildings, fixed tanks or similar structures nor to small portable spraying apparatus not used repeatedly in the same location.

### Open surface tanks.

1910.94(d)(13)(i) Scope. This paragraph (d) applies to all work involving the immersion of materials in liquids, or in the vapors of such liquids, for cleaning or altering their surfaces, or adding or imparting a finish or changing the character of the materials. It also applies to the subsequent removal from the liquids or vapors, draining, and drying. Such work includes washing, pickling, quenching, dyeing, dipping, bleaching, degreasing, alkaline cleaning, stripping, rinsing and similar processes. It does not include molten materials handling or surface coating.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).

**Stats. Implemented:** ORS 654.001 through 654.295.

**Hist:** OR-OSHA Admin. Order 4-1998, 1/8/28/98, ef. 10/1/98.

## 437-004-0630 Noise Exposure.

(1) You must have a noise monitoring program (see (3) below) when an employee's exposure equals or is more than an 8-hour time-weighted average (TWA) of 85 decibels (dB).

**NOTE:** Most large or older farm machines and tractors, especially those without cabs, have the potential to produce more than 85 decibels of noise. Audiologists often say that if you have to shout or significantly raise your voice to talk with somebody 2 feet away, the noise is probably at the action level of 85 decibels.

(2) Noise classified as impulse or impact noise cannot be more than 140 dB peak sound pressure level.

**NOTE:** These noises are sudden and sharp and include such things as the firing of a weapon and sudden release of pressurized air.

## Noise Monitoring

**(3)** Employers must use a noise sampling strategy that determines which employees need to be part of a hearing conservation program. This sampling will also determine their need for hearing protection or when to consider engineering controls.

**(a)** Use a sound level meter or a dosimeter to do noise level surveys over an 8-hour period to get a time-weighted average. When the employees are mobile or there are significant changes in the sound level or impulse noise components, you must use representative personal sampling unless area samples produce equal results.

**(b)** Repeat the noise surveys when there is a change in production, process, equipment or controls that increases noise levels or exposures to or above the action level. Also repeat the surveys if the increase in noise may require additional noise reduction from hearing protectors already in use.

**(c)** Notify each monitored employee of the noise monitoring results if the exposure was at or above the 85 decibel TWA.

**(d)** The employer must give affected employees or their representatives the opportunity to observe the noise survey process.

**WARNING:** Employer responsibilities in this standard require special knowledge and equipment to be done successfully. In most cases it is advisable and in some cases mandatory to have these tests done by a professional. See **OAR 437-004-0630(5)(c)**.

## Engineering Controls

**(4)** If the noise survey results are more than in Table 1 below, use administrative or engineering controls to reduce the noise, if feasible. If not feasible or if the engineering or administrative controls fail to reduce the noise to levels within Table 1 limits, provide appropriate training and enforce the use of hearing protection to reduce the noise to levels within the Table 1.

**(a)** You must provide all hearing protection equipment and devices without cost to the employee. Employees may voluntarily elect to use their own equipment but the employer is responsible to assure that it provides adequate protection.

**(b)** All hearing protection equipment and devices must be kept serviceable and clean according to the manufacturer's recommendations or accepted audiological practices.

**Table 1**  
**Permissible Noise Exposures <sup>1</sup>**

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

### Hearing Conservation Program

**(5)** Establish and maintain an effective hearing conservation program for employees whose noise exposure equals or is more than an 8-hour TWA of 85 decibels, or an equivalent dose, before attenuation by hearing protectors. The program must include an audiometric (hearing) testing program, employee training and personal hearing protection.

**(a)** All parts of the hearing conservation program must be without charge to employees.

**(b)** You must tell the employees to avoid high levels of non-occupational noise exposure during the 14-hour period before any hearing test. Also, you must assure that the employee uses hearing protection or avoids noise exposure on the job for 14 hours before getting a baseline hearing test.

**(c)** Only a technician certified by the Council of Accreditation in Occupational Hearing Conservation, a licensed or certified audiologist, otolaryngologist or other physician may do a hearing test. Certified technicians must be responsible to an audiologist, otolaryngologist or physician.

**NOTE:** Audiograms must meet the requirements of OAR 437-002-1910.95, Appendix C, Audiometric Measuring Instruments. The background noise in the test room must comply with OAR 437-002-1910.95, Appendix D, Audiometric Test Rooms. The audiometers used for the test and the methods must comply with the American National Standard Specifications for Audiometers, S3.6-1969. Oregon OSHA strongly suggests that employers hire a professional to provide services required by this standard.

**(6)** There are two types of hearing tests required by this standard.

**(a)** A baseline hearing test must be done within 6 months of the employees first exposure to noise at or above the action level. This test is the comparison base for future tests.

**(b)** After the baseline audiogram is done, each employee still exposed at or above the 8-hour TWA must have annual hearing tests. Compare the annual tests to the baseline tests to determine if there has been a standard threshold shift.

(c) The audiologist, otolaryngologist or physician evaluation of the audiogram may revise the baseline when the standard threshold shift in hearing revealed by the test is persistent or the hearing threshold shows an improvement over the baseline audiogram.

(7) For purposes of this standard a standard threshold shift of hearing compared to the baseline hearing test is called a standard threshold shift and is an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear. In Oregon there is no allowance from age correction charts for this calculation.

## Follow-Up

(8) The qualified person doing the hearing test will compare the results of the annual hearing test to the baseline audiogram to see if it is valid and if there has been a standard threshold shift change in hearing as in (7) above.

(a) The employer may retest to assure validity within 30 days and use that as the annual test.

(b) An audiologist, otolaryngologist or physician must review all problem audiograms to determine the need for more evaluation. This may include follow up as described below.

(c) The employer is responsible to pay for this evaluation.

(d) The employer must assure that the reviewing audiologist, otolaryngologist or physician has the following information:

(A) A copy of the requirements for hearing conservation in this section.

(B) The employees baseline and most recent audiogram.

(C) Measurements of the noise levels in the audiometric test room.

(D) Records of audiometer calibrations as required by this section.

(9) If an employee's hearing test reveals a standard threshold shift, the employer must do (a) through (d) below unless the physician determines that the shift is not work-related or aggravated by work-related noise exposure.

(a) Fit employees with hearing protection, train them in its use and care. Require them to use it.

(b) Refit and retrain employees already using hearing protectors. Give them hearing protectors that offer more noise reduction.

(c) Refer the employee for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary. Also refer the employee to the physician if the wearing of hearing protectors causes or aggravates a medical problem of the ear.

(d) Inform the employee of the need for an otological examination if a medical pathology of the ear could be unrelated to the use of hearing protectors.

(10) If future hearing tests show that the standard threshold shift of hearing is not persistent and the noise exposure is less than a 8-hour TWA of 90 decibels the employer must tell the employee of the new results and may end the required use of hearing protectors.

## Training

(11) All employees exposed at or above the 8-hour TWA of 85 decibels must receive initial and annual training. Update the training program if there are changes in the hearing protection or work processes. The training program must include:

(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.

(c) The purpose of the hearing test and an explanation of the test procedures.

## Hearing Protection

(12) Hearing protection must be available at no cost to all employees exposed to an 8-hour TWA of 85 dB. Wearing of hearing protection that offers adequate noise reduction is mandatory for employees exposed at 90 dB TWA. In addition, if an employee has had a standard threshold shift, they must wear hearing protection at 85 decibels or more.

(a) The employer must ensure proper initial fitting of the hearing protectors, supervise the correct use of them, and provide training in the use and care of the hearing protectors.

(b) The employees must have the chance to select the hearing protectors from a variety of appropriate hearing protectors and the hearing protectors must reduce the noise to at least an 8-hour TWA of 90 decibels.

(c) When noise exposure increases enough that the hearing protectors may no longer give proper protection, reevaluate the adequacy of the protectors noise reduction. Provide more effective hearing protection where necessary.

## Recordkeeping

(13) The employer must keep employees noise exposure records according to the Access to Employee Exposure and Medical Records standard OAR 437-004-0005. The records must be available to employees, former employees, representatives designated by the employee and Oregon OSHA. The test record must include:

(a) Name and job classification of the employee.

(b) Date of the audiogram.

(c) The examiner's name.

(d) Date of the last acoustic or exhaustive calibration of the audiometer.

(e) Employees most recent noise exposure assessment.

(14) If you sell your business, give the buyer all records required by this section.

**NOTE:** The professional who does your audiometric work will supply most of the records required by this section.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).

**Stats. Implemented:** ORS 654.001 through 654.295.

**Hist:** OR-OSHA Admin. Order 4-1998, f/8/28/98, ef. 10/1/98.  
OR-OSHA Admin. Order 9-2006, f. 9/22/06, ef. 9/22/06.

## 437-004-0650 Ionizing Radiation.

**NOTE:** The Oregon Department of Human Resources, Health Division, enforces 1910.96 Ionizing Radiation and 437-004-0650 in Oregon, under an Interagency Agreement with the Department of Consumer and Business Services, OR-OSHA Division. Copies are available from OR-OSHA and the Health Division.

In addition to and not instead of 1910.96, the rules and regulations in ORS 453.0605 to 453.0745, Control of Radiation, administered by the Department of Human Resources, Oregon Health Division, apply to all employees working with or near ionizing radiation sources.

**Stat. Auth.:** ORS 654.025(2) and 656.726(4).

**Stats. Implemented:** ORS 654.001 through 654.295.

**Hist:** OR-OSHA Admin. Order 4-1998, f/8/28/98, ef. 10/1/98.

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