OREGON DEPARTMENT OF FISH AND WILDLIFE POLICY
Human Resources Division

Title:	**Respiratory Protection Program**	**HR_480_15**
Supersedes:	**HR_480_15, dated** September 1, 2004	
Applicability:	All employees who wear respiratory protection for protection against airborne contaminants	
Reference:	OAR 437-2/I - 1910.134, NIOSH Respirator Certification Standard Title 2, Part 84 of the Code of Federal Regulations	
Effective Date:	May 15, 2012	**Approved:** 

I. PURPOSE

To ensure that employees are properly protected against airborne contaminants while working in hazardous or potentially hazardous atmospheres.

II. DEFINITIONS

A. **Air-purifying respirator**: A respirator with an air-purifying filter or cartridge that removes specific air contaminants.

B. **Cartridge**: A container with a filter, sorbent, or combination of the two, that can remove specific air contaminants.

C. **End-of-Service-Life Indicator (ESLI)**: An indicator on the cartridge that warns the user that the cartridge sorbent is approaching saturation.

D. **Filter**: A cartridge that removes solid or liquid aerosols not vapors or gases.

E. **Filtering facepiece (dust mask)**: An air-purifying respirator where the entire facepiece is composed of the filtering element.

F. **Immediately Dangerous to Life and Health (IDLH)**: An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

G. **Oxygen deficient atmosphere**: An atmosphere with less than 19.5% oxygen by volume.

H. **Qualitative Fit Test (QLFT)**: A pass/fail test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

I. **Service life**: The period of time a respirator, filter, or sorbent provides adequate protection to the worker.

J. **Supplied Air Respirator (SAR)**: Also called an airline respirator. An atmosphere-supplying respirator where the source of breathing air is from a compressor or compressed gas cylinders not carried by the user.

III. POLICY

A. General Provisions

1. Where feasible, effective engineering controls shall be implemented to eliminate or reduce employee exposure to airborne contaminants to safe levels. Where these controls are not effective, appropriate respiratory protection shall be provided by ODFW at no cost to the employee.

2. Maintenance, care and use of respiratory protective equipment shall be in accordance with the provisions of this policy.

3. Use of respiratory protective equipment because of potential exposure to toxic materials is a condition of employment. Failure to use the equipment in accordance with the instructions and training received may result in disciplinary action. Employees shall guard against damage to the equipment and report any malfunction to the supervisor.

4. Training and instructions for respirator wearers to ensure familiarity with the hazards and the equipment shall be provided. Training will include an understanding of respirators, as well as the specific needs of the respirator program requirements for a given activity. Specific respirator use procedures for a given worksite and/or operation will be maintained at that site.

5. When respirators are required, fit testing and medical surveillance shall be conducted to determine the wearer's ability to safely use the selected equipment. Any respirator equipped with a tight-fitting facepiece, including air-purifying respirators and supplied air respirators, shall not be worn if facial hair comes between the sealing surface of the facepiece and the face, or if facial hair interferes with valve function. Employees required to use respiratory protection equipment shall ensure that facial hair does not interfere with any function of the respirator facepiece.

6. If spectacles, goggles, face shields, or a welding helmet must be worn with a facepiece, they shall be worn so as not to adversely affect the facepiece seal. Glasses with standard temple bars cannot be worn with full facepiece respirators. The temple bars break the contact of the face seal, resulting in leakage. Full facepiece respirators are available with prescription glass inserts.

7. Contact lenses may be worn with respirators provided the contact lenses do not cause discomfort to the wearer. Excessively dusty atmospheres and/or the use of irritating chemicals are examples of situations that may cause discomfort to contact lens wearers.

8. Dentures, either partial of full, can be worn with respirators, subject to certain restrictions. Full dentures generally present few problems other than some possible discomfort to the wearer when wearing tight-fitting respirators. It is recommended that full dentures not be removed because the distortion of the jaw area may allow leakage. If there is a possibility that partial dentures could be dislodged and swallowed, they should be removed.

9. When protective headgear is needed with respirators, certain precautions shall be followed. The additional headgear shall not interfere with the normal method of wearing the respirator. The respirator head straps or harness must lie next to the head in their normal positions, with the protective headgear over them. Surgeons' caps used for protection against contamination may be worn under the head straps of the harness, but care must be taken to ensure that the front of the cap does not intrude under the sealing surface of a full facepiece in the forehead area.

10. The use of respirators in low temperatures can result in freezing of the exhalation valves and fogging of the lenses in full facepieces. Anti-fogging compounds may be effective if temperatures are above freezing. An insert for full-facepiece respirators, which covers the nose and mouth and directs exhaled air away from the facepiece, can prevent fogging at much lower temperatures.

11. Use of respirators in high temperatures causes added stress and discomfort to the individual. Respirator wearers will be instructed on how to deal with heat stress issues including recognizing signs and symptoms of heat stress.

B. Program Administrator

The Safety and Health Manager will be the Respiratory Protection Program Administrator for the department. He/she will oversee the department-wide program and implement a program for the evaluation of program effectiveness. This program includes auditing activities to ensure that:

1. Provisions of this written program are being effectively implemented;

2. Program procedures reflect the requirements of current applicable regulations and industry-accepted standards; and

3. Employees are consulted to assess their views on program effectiveness and to identify any problems. Areas to be covered include:

   a. Respirator fit;

   b. Respirator selection appropriate to the hazard;

   c. Proper respirator use under workplace conditions; and

   d. Proper respirator maintenance.

C. Medical Surveillance

1. ODFW employees required to use a respirator shall receive a medical evaluation to determine their ability to use a respirator. The medical evaluation shall be performed by a physician or other licensed health care professional (PLHCP) and shall initially consist of a Respirator Medical Evaluation Questionnaire (Attachment A). A follow-up medical evaluation shall be provided for any employee whose responses on the questionnaire demonstrate the need for a follow-up.

2. In order to maintain confidentiality, the following procedure shall be observed for employees completing the Respirator Medical Evaluation Questionnaire:

a. The supervisor shall distribute the Respirator Medical Evaluation Questionnaire to employees.

b. The employee shall complete the questionnaire and send it directly to the ODFW contract physician. The ODFW contract physician shall review the information and, if satisfactory, shall issue a written respirator clearance. When indicated, the ODFW contract physician shall inform the Program Administrator that an employee should undergo further evaluation prior to wearing a respirator.

c. Following the review, a copy of the written respirator clearance shall be returned to the employee and supervisor. The clearance shall notify the employee and supervisor as to the type(s) of respirator the employee is cleared to wear.

d. The ODFW contract physician shall maintain the original Respirator Medical Evaluation Questionnaire, the results of any tests performed, and respirator clearance forms in an individual employee's medical file. This file is available for review by the employee or their authorized representative.

3. In addition to completing the Respirator Medical Evaluation Questionnaire, each employee shall provide the ODFW contract physician with the following information regarding their use of respirators:

   a. The type and weight of the respirator to be used;

   b. The duration and frequency of the respirator use;

   c. The expected physical work effort;

   d. Additional protective clothing and equipment to be worn; and

   e. Temperature and humidity extremes that may be encountered.

4. This information will be provided on a form supplied by the contract physician and shall be sent to the contract physician along with the questionnaire.

5. The Program Administrator shall provide a copy of the ODFW respiratory protection program and OSHA Respiratory Protection standard to the ODFW contract physician.

6. The Program Administrator is responsible for ensuring that the ODFW contract physician provides a written recommendation regarding the employee's ability to use a respirator. The recommendation shall provide the following information:

   a. The need, if any, for follow-up medical evaluations; and

   b. A statement that the ODFW contract physician has provided the employee with a copy of the written recommendation.

7. Respirator users will undergo medical surveillance prior to using a respirator, and at a schedule based upon the recommendation of the ODFW contract physician. Additional medical surveillance will be undertaken if:

a. An employee reports signs/symptoms related to the ability to use a respirator;

b. The ODFW contract physician, supervisor, or Program Administrator determines that the employee needs to be reevaluated;

c. Information from this program, such as observations made during fit testing or program evaluation, indicate the need for medical reevaluation; or

d. A change occurs in the workplace that may result in a substantial increase in the physiological burden placed upon the employee.

D. Respirator Selection Criteria

1. Each worksite shall maintain a list of operations that require respirator use.

2. Procedures and guidelines for these operations will be reviewed at least annually and revised as necessary to ensure an accurate reference for the respirator user and supervisor. Any changes in operation, procedure, or materials which may affect the safe performance of the selected respirator should be referred to the Program Administrator. The conditions and limitations of use specified in the procedures must be observed for proper respirator use.

3. In selecting respirators, the following guidelines will be taken into account:

a. Characteristics of the contaminant (e.g., airborne concentrations, toxicity);

b. Characteristics of the job task; and

c. Worker activities.

4. Any modification in the job task shall be taken into account, since this may change the hazard and hence require the selection of a different respirator.

E. Cartridge Replacement Schedule

1. Chemical Cartridge Replacement

This section applies to chemical cartridges (e.g., formaldehyde, organic vapors) but not particulate cartridges. Odor (chemical breakthrough) may no longer be used as the primary indicator of the need for cartridge replacement. Respirator cartridges will be replaced using one of the following strategies:

a. End-of-Service-Life Indicator (ESLI)

For those respirator cartridges equipped with an ESLI, the cartridges shall be replaced when the end-of-service-life indicator indicates the need.

b. Scheduled Replacement

1) Respirator cartridges without an ESLI will be replaced based upon service life expectations provided by the manufacturer. In all cases, cartridges will not be used for longer than 8 hours, either

continuous or intermittent. Factors that must be taken into account when determining the service life of the cartridge include:

a) Contaminant(s) and their concentrations;

b) Workplace temperature and humidity levels; and

c) Employee work rate or physical activity level.

2) The manufacturer for the specific brand/model of respirator used at the site may have to be contacted to determine the cartridge service life.

3) Contact the vendor for the specific respirator used at the site to determine the service life of the cartridges used when working with formalin. In any event when working with formalin, cartridges may not be used for a period of longer than three hours, either continuous or intermittent. See HR Policy 480_12, Formalin Handling.

2. Particulate Cartridge Replacement

Particulate cartridges may be used until they are grossly contaminated and/or the resistance to breathing becomes difficult.

F. Fit Testing

1. General Provisions

a. All employees required to wear tight-fitting respirators shall be fit tested before the issuance of the respirator. The employee shall be fit tested with the same make, model, style, and size of respirator that he/she will use. Fit testing shall be accomplished at least annually. Respirator training and fit testing shall be documented using the form in Attachment B. Attachment G, Fit Test Brochure, is provided for employee information and use as a training aid.

b. The purpose of fit testing will be to demonstrate the effectiveness of the respirator to the wearer and promote confidence in its use. When a given respirator does not fit a worker, reasonable efforts will be made to provide a respirator style that can be used effectively. If such efforts are not successful, modification of, or responsibility to perform, duties requiring respirator use will be discussed with the employee's supervisor.

2. Qualitative Fit Testing (QLFT)

Because the airborne concentrations of contaminants is not expected to exceed 10 times the OR-OSHA Permissible Exposure Limit for contaminants in the workplace, qualitative fit testing will be used to fit test tight-fitting respirators. The qualitative fit test shall be administered using an OSHA-accepted protocol such as that included as Attachment B. Qualitative fit testing may be performed by site personnel.

3. Quantitative Fit Testing (QNFT)

Quantitative fit testing may be necessary in some instances. Supervisors must notify the Program Administrator if excessively high airborne concentrations of contaminants may be expected. Quantitative fit testing will then be arranged.

4. Fit Testing PAPRs and SARs

Fit testing of tight-fitting supplied air respirators (SARs) and tight-fitting powered air-purifying respirators (PAPRs) shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode.

5. Fit Testing Frequency

Fit testing will be repeated and documented annually. Fit testing will be repeated immediately when the employee has:

a. A weight change of 20 pounds or more;

b. Significant facial scarring in the area of the facepiece seal;

c. Significant dental changes, (e.g., multiple extractions without prosthesis, or acquiring dentures);

d. Reconstructive or cosmetic surgery; or

e. Any other condition that may interfere with facepiece sealing.

G. User Seal Checks

In addition to the fit tests, tight-fitting respirator wearers shall perform user seal checks each time they put on or adjust the respirator. User seal checks are either negative or positive pressure checks. Attachment C gives the OSHA-required User Seal Check Procedures.

1. Positive Pressure Check

Close off the exhalation valve and exhale normally into the facepiece. The fit is satisfactory if a slight positive pressure builds up in the facepiece without any signs of outward leakage at the facepiece seal.

2. Negative Pressure Check

Cover the cartridges and inhale. The fit is satisfactory if the facepiece remains slightly collapsed with no inward leakage of air detected.

H. Respirator Care and Maintenance

1. Routine respirator maintenance will be conducted to ensure a clean and properly functioning respirator. Maintenance responsibility will be a supervisory decision based on the logistics and the respirator use. Respirators may be cleaned, repaired, and stored by the individual wearer or by a designated individual at the worksite. All reusable respirators require routine inspection and maintenance before each use. Manufacturer's maintenance instructions and parts listings will be included as needed.

Typically, maintenance will include:

a. Washing, disinfecting, rinsing, and drying;

b. Inspection for defects;

c. Proper storage.

2. As an absolute minimum, the respirator facepiece must be cleaned with an alcohol wipe immediately after use. This minimum cleaning is acceptable only if the respirator was worn for ten minutes or less, and there is no gross contamination on or in the facepiece. This will typically only be applicable when respirators are worn for fit testing or checking the comfort of the respirator.

3. Respirators are cleaned after each day's use in accordance with the following procedure:

a. Remove cartridges and all gaskets not affixed to seats. Do not wash or disinfect spent cartridges. Dispose of cartridges as contaminated waste.

b. Remove all elastic headbands.

c. Immerse respirator in a warm soap and water solution. Swish the respirator in the solution or gently scrub the respirator with a cloth or soft brush. Remove all foreign matter from all surfaces of the rubber exhalation valve flap and plastic exhalation valve seats. For supplied air respirators, hold the air supply hose higher than the demand valve assembly to limit the entry of water into the hose.

d. Disinfect with a commercial solution or a solution of two tablespoons of bleach per gallon of water. Note that for individually assigned respirators the disinfection step need not be performed after each use.

e. Thoroughly rinse the respirator and parts with warm water.

f. Hand wipe the respirator with a clean cloth to remove any water residue.

g. Allow the respirator to air dry.

4. In addition to the above steps, the respirator facepieces should be disassembled periodically for a more thorough cleaning and disinfecting. Cleaning procedures outlined in the OSHA Respiratory Protection standard are in Attachment D.

5. Respirator Inspection

The extent of inspection that is needed for each type of respirator will vary. The respirators should be inspected after cleaning and before each use. Generally, an inspection should include the following items:

a. Rubber facepiece - Check for:

- Excessive dirt (clean all dirt from facepiece);

- Cracks, tears, or holes (obtain new facepiece);
- Distortion (allow facepiece to "sit" free from any constraints and see if distortion disappears, if not, obtain new facepiece);
- Cracked, scratched, or loose-fitting lenses; and/or
- Missing or worn gaskets.

b. Head straps - Inspect for:

- Breaks or tears,
- Loss of elasticity, and/or
- Broken or malfunctioning buckles or attachments.

c. Inhalation and exhalation valves - Inspect for:

- Cracks, tears, or distortion in the valve material or valve seat missing or defective valve cover; and/or
- Pin damage or corrosion (supplied air respirator).

d. Air purifying filters - Inspect for:

- Proper cartridge to protect against the hazard;
- Worn threads - both filter and facepiece threads; and/or
- Cracks or dents in filter housing.

e. Supplied air (airline) respirators - Inspect for:

- Breaks or kinks in air supply hose and fitting attachments;
- Tightness of connections;
- Proper setting of regulators and valves according to manufacturer's recommendations;
- Loose hose clamps (replace hose and/or fitting);
- Breathing air quality (Grade D as specified by 29 CFR 1910.134[d]);
- Correct operation of air-purifying elements and carbon monoxide (CO) and high-temperature alarms. The carbon monoxide alarm must be set to go off at or below 10 ppm and must be calibrated at least monthly; and/or

- Rubber facepiece, head straps and inhalation and exhalation valves (referenced above).

6. Respirator Storage

   a. Any time a respirator is not being worn, it shall be stored in a closed container such as a zip-lock bag or clean coffee can with a tight-fitting lid. Store in a clean area to protect the respirator against dust, sunlight, excessive heat, extreme cold, moisture, chemicals, and physical damage.

   b. Stretching and manipulating rubber or elastomer parts with a massaging action will keep them pliable and flexible and will prevent them from taking a set configuration during storage.

7. Respirator Repair

   Any defects found during the inspection procedures should be immediately reported to the supervisor.

   a. If the defects are in parts that are easily replaced (e.g., valves, straps), obtain identical parts from the respirator manufacturer and replace the damaged parts.

   b. If the defects are not easily repaired, attach a tag documenting the defect to the respirator and give it to the supervisor. The respirator will be returned to the vendor for repair or replacement. Only manufacturer-trained personnel may make repairs on supplied air respirators. Under no circumstances should untrained personnel make repairs or adjustments to these respirators.

   c. Report any malfunction of the respirator during use to the supervisor.

I. Breathing Air Quality

1. This section applies to supplied air respirators (SARs). All SARs will utilize Grade D breathing air. The criteria for Grade D breathing air are:

   a. Oxygen content between 19.5 and 23.5 percent;

   b. Condensed hydrocarbon (i.e., oil mist) content less than 5 mg/m^3;

   c. Carbon monoxide (CO) content less than 10 ppm;

   d. Carbon dioxide (CO2) content less than 1000 ppm; and

   e. Lack of noticeable odor.

2. The quality of breathing air from compressors will be checked at least annually. Cylinders of breathing air, if supplied from an outside vendor (e.g., a dive shop or fire department), must be certified by the vendor that it meets Grade D requirements. Documentation of a breathing air test conducted within the last twelve months should be obtained from the vendor. If documentation cannot be obtained, the air must be tested to ensure it meets Grade D requirements.

3. Breathing Air Compressors

Compressors used to supply breathing air shall meet the following criteria:

a. Be located so that entry of contaminated air into the air-supply system is minimized.

b. Be located so that the moisture content of the supplied air is minimized.

c. Have in-line air-purifying elements such as mechanical filters and activated charcoal absorbent beds. The air-purifying elements will be maintained and replaced following the manufacturer's instructions. A tag indicating the most recent change-out date of the elements will be maintained at each compressor.

d. All compressors will be equipped with a carbon monoxide alarm.

e. All couplings for supplied-air respirator airlines shall be incompatible with outlets for other non-respirable breathing air gas sources.

f. The amount of air supplied by the compressor (airflow) will be checked at least annually to assure adequate airflow to supplied air respirators. The amount of airflow will be adjusted to correspond to the requirements of the supplied air respirator.

J. Procedures for Use if IDLH Atmospheres

1. Employees working in atmospheres that are immediately dangerous to life and health (IDLH) must follow special procedures. An atmosphere may be IDLH due to a high concentration of hazardous materials in the atmosphere, or due to an oxygen-deficient atmosphere. ODFW prohibits employees from entering any oxygen-deficient (below 19.5%) atmosphere at any time. Prior to making any planned entry into an IDLH atmosphere, the Safety and Health Manager must be consulted to assist in the respiratory protection decision-making process. As a minimum, the following guidelines will be followed:

a. A full facepiece pressure demand supplied-air respirator (SAR) with an auxiliary 5-minute (minimum) emergency self-contained breathing apparatus (SCBA) will be used for all entries into IDLH atmospheres.

b. At least one employee will remain outside of the IDLH atmosphere. These employees will be trained and equipped to provide emergency rescue. This equipment will consist of:

1) A full facepiece pressure demand SAR with an auxiliary 5-minute (minimum) emergency SCBA; and

2) Appropriate retrieval equipment to remove employees from the IDLH atmosphere; or

3) Some other appropriate means of rescue if retrieval equipment is not feasible.

c. Visual, voice, or signal line communication will be maintained between the employees in the IDLH atmosphere and those outside of it.

2. If emergency entry for purposes of rescue into an IDLH atmosphere is necessary, the supervisor or designee will be notified before the employees outside the IDLH atmosphere enter into the IDLH atmosphere. Upon notification, the supervisor or designee will alert local rescue and ambulance to the emergency and will provide necessary assistance to effect the rescue.

K. Training

Respirators will only be issued to employees who have received appropriate respirator training, medical clearance, and who have passed a respirator fit test. Trained employees will have the knowledge and proficiency with respect to the use, limitations, and maintenance of the respirator to be worn.

1. The respirator training shall include and be reflected on the roster sheet and i-Learn:

a. The characteristics of airborne contaminants;

b. The health hazards of the contaminants, including the nature of diseases, routes of exposure, and dose-response relationship;

c. Processes/activities which require the use of respirators;

d. The classes and characteristics of respirator types;

e. Limitations of respirators;

f. Proper selection, inspection, donning, use, maintenance and storage procedures;

g. Medical signs/symptoms which may affect the ability of an employee to wear a respirator;

h. Methods for field checking of the facepiece-to-face seal (positive and negative pressure user seal checks);

i. Qualitative and quantitative fit testing procedures;

j. Factors that alter respirator fit (e.g., eyeglasses and facial hair);

k. The components of the ODFW respiratory protection program;

l. Responsibilities of the Program Administrator; and

m. Emergency procedures, including situations in which the respirator malfunctions.

The training should be recorded on i-Learn.

2. Refresher Training

All employees required to use a respirator shall have refresher training at least annually and should touch on all topics covered in the initial training. The training should be recorded on i-Learn.

L. Respirator Use Monitoring

The use of the respirators is monitored by the supervisor or Program Administrator to ensure that the correct respirators are being used, that they are worn properly, and that they are in good working condition. Personal air monitoring will also be performed to ensure the adequacy of respiratory protection against contaminants.

M. Voluntary Use of Dust Masks or Respirators

1. In some situations employees may wish to wear a dust mask or respirator for personal comfort, even though its use is not required for a given location or operation. In most instances, respirators used in these situations will be disposable dust masks (also known as filtering masks).

2. Employees who choose to use dust masks on a voluntary basis are not covered under this respiratory protection program.

   a. The supervisor or Program Administrator shall review the circumstances under which the dust masks are used to ensure that the use of these dust masks does not create additional hazards to the employees.

   b. The supervisor or Program Administrator shall:

      1) Provide voluntary users of dust masks with Attachment E, Voluntary Use of Dust Masks;

      2) Instruct the user on the proper use, care, and limitations of the dust mask; and

      3) Ensure that the dust masks are stored properly to prevent contamination of the dust mask.

3. Employees who use respirators, other than dust masks, on a voluntary basis shall be included in all components of this respiratory protection program.

   a. The employee shall also be provided with Attachment F, "Voluntary Use of Respirators.

   b. The supervisor or Program Administrator shall review requests for voluntary use of respirators on a case-by-case basis.

N. Responsibilities

1. Employees shall:

   a. Be familiar with the use and limitations of respirators;

   b. Complete medical surveillance requirements as directed; and

c. Only use those respirators they are authorized to wear.

2. Supervisors shall:

a. Ensure training, medical surveillance and fit testing are performed;

b. Develop worksite specific procedures for respirator use;

c. Monitor use of respirators at their worksite; and

d. Be responsible for the day-to-day implementation and operation of the Respiratory Protection Program for their respective sites.

3. The Safety and Health Manager shall:

a. Assist sites in developing worksite specific procedures;

b. Help sites in performing training, fit testing and selecting respirators; and

c. Act as the department's Respirator Program Administrator.

Attachment A OSHA Respiratory Protection Standard Appendix C: Respirator Medical Evaluation Questionnaire
Attachment B Qualitative Fit Test Procedure (Irritant Smoke Fit Test Agent)
Attachment C OSHA Respiratory Protection Standard Appendix B-1: User Seal Check Procedures
Attachment D OSHA Respiratory Protection Standard Appendix B-2: Respirator Cleaning Procedures
Attachment E Voluntary Use of Dust Mask Brochure
Attachment F Voluntary Use of Respirators Brochure
Attachment G Fit Testing Brochure