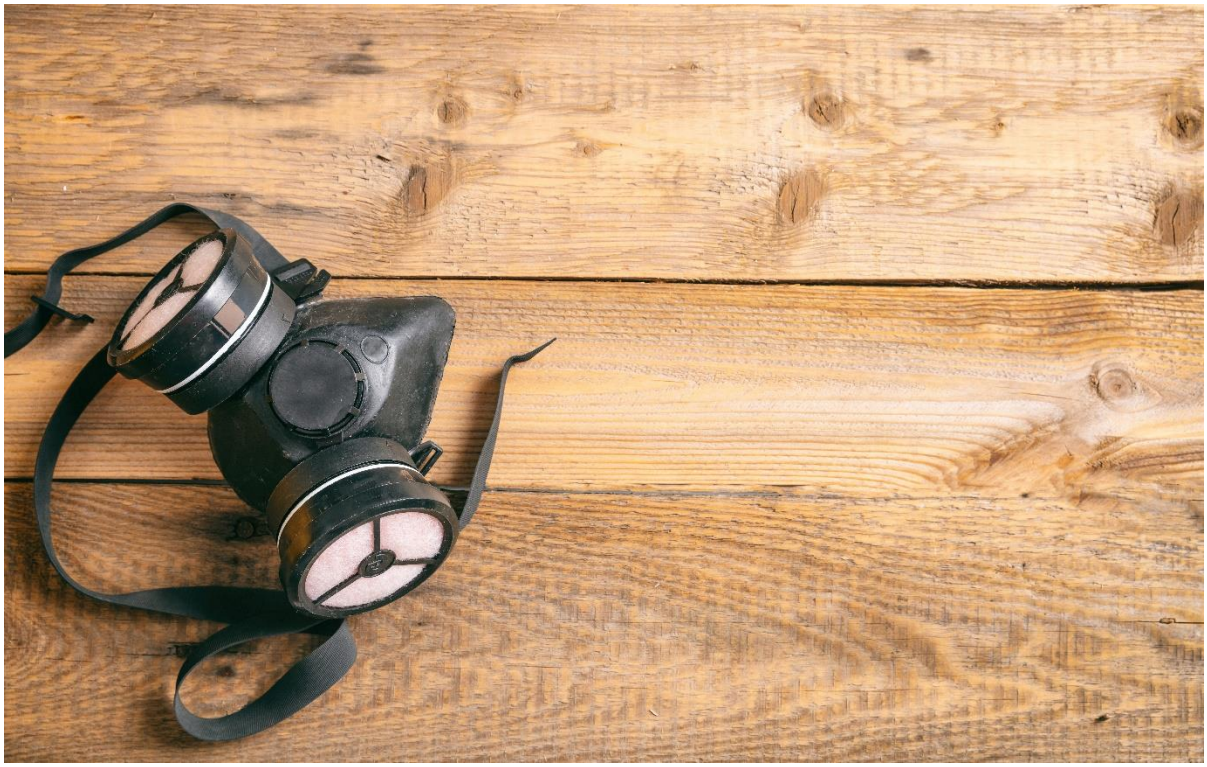
Respiratory Protection Best Practices



MAINE MUNICIPAL ASSOCIATION
RISK MANAGEMENT SERVICES

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Introduction

Air is one of the most basic elements of our world, and as humans we need oxygen provided in the air to breathe. Unfortunately, sometimes employees have to work in atmospheres that are not safe. This could be caused by lack of oxygen or because the air is contaminated by dusts, mists, vapors, fumes or various combinations. Breathing in contaminated or oxygen deficient air can cause serious illnesses, injuries and even death. In those situations, special equipment is needed to help employees breathe and protect their health. By understanding the hazards, selecting and maintaining the proper respiratory protection and training employees in its use, you can help to control the hazard and reduce the likelihood of costly injuries and illnesses.

Scope

This information was prepared as an outline to assist you in developing your Respiratory Protection Program. As is the case with all safety plans, to be effective they must relate to your operations, exposures and hazards. The sample program and other forms provided are just that – samples. They are intended as guidelines for your program development. There are several laws, rules, regulations, and standards that pertain to this topic. We suggest you consult and review them as well as local and state public safety officials for additional assistance.

OSHA Requirements

There are several OSHA standards that address this topic. We suggest you become familiar with all of them. OSHA 29 CFR 1910.134 is the General Industry Respiratory Protection Standard. Maine has adopted its own standard which is more comprehensive and applies to the Public Sector. The differences are outlined in Section 5 of the Medical Evaluation. It is known as State of Maine Respiratory Protection Standard Me 1910.134. OSHA has identified OSHA CFR 29 1910.139 as the standard for Respirator Protection for M. Tuberculosis.

This standard states that your first goal should be to prevent atmospheric contamination. It requires that when possible this should be accomplished through the use of accepted engineering and administrative controls (like all forms of personal protective equipment). When these efforts are not feasible or sufficient, or while they are being put into place, the OSHA and Maine standards require the use of appropriate respirators in order to keep employee exposure below Permissible Exposure Limits (PELs). *Respirators must be selected for the specific hazard* or hazards that are, or are expected to be, present. The OSHA and Maine standards require the development and maintenance of a written program. Your program must state clearly what the hazards are, how they will be controlled, and how respiratory equipment is selected, used and maintained. Other OSHA standards that you should be familiar with include:

- OSHA CFR 29 1926.55 Exposure Limits to Contaminants

- OSHA CFR 29 1910.1025 The Lead Standard & Fit Testing
- OSHA CFR 29 1910.1001 Asbestos Standard
- OSHA CFR 29 1926.58 Asbestos Standard
- OSHA CFR 29 1926. 1153 Respirable crystalline silica.

In addition, OSHA has issued standards for several specific chemicals. These address special respiratory needs as well as other protective requirements and should be consulted as you develop your plan. They include:

29CFR 1910.1001	29CFR 1910.1008	29CFR 1910.1013	29CFR 1910.1018	29CFR 1910.1044
29CFR 1910.1003	29CFR 1910.1009	29CFR 1910.1014	29CFR 1910.1025	29CFR 1910.1045
29CFR 1910.1004	29CFR 1910.1010	29CFR 1910.1015	29CFR 1910.1028	29CFR 1910.1047
29CFR 1910.1006	29CFR 1910.1011	29CFR 1910.1016	29CFR 1910.1029	29CFR 1910.1048
29CFR 1910.1007	29CFR 1910.1012	29CFR 1910.1017	29CFR 1910.1043	

Steps to Develop Your Program

1. **Identify Your Respiratory Hazards -** The first step is to understand and identify the respiratory hazards that exist (or might exist) in your workplace. There are a few major types of respiratory hazards you must consider:
   - Oxygen deficiency
   - Air contaminants
   - Gasses, Vapors or toxic Chemicals
   - Silica exposure

   Oxygen deficiency means that there is too little oxygen in the air. This can result in illness, injury or even death to employees. Normal air contains 20.9% oxygen. If the oxygen level falls below 19.5%, it is oxygen deficient, and appropriate respiratory protection is required.

   Oxygen Enriched Environments meaning oxygen levels that are above 23.5%. This can cause extremely volatile environment and has a high explosive factor to it. This can become an IDLH environment and the need for emergency evacuation respirators may be needed.

   Air contaminants are substances in the air that can cause immediate (acute) or long term (chronic) health problems. OSHA has established Permissible Exposure Limits (PELs) that are the maximum allowable concentrations that an employee can be exposed to without harmful effects during an eight hour time period. If a

contaminant is present in the air at concentrations above the PEL, proper respirators are required. Some PELs can be found in the OSHA 'Z' table 1910.1000. SDS's in the workplace may be used to determine what the PEL's are as well.

Gasses, Vapors and Toxic Chemicals need to be identified to see if proper engineering controls are needed, and if respirators are able to protect against them. In many cases a SAR (Supplied Air Respirator) style maybe needed for these environments.

Silica Crystalline exposure if one of the most predominant exposures in the construction and municipal public works sectors. The dust from power brooms or sweeping sand and dirt becomes airborne and can be very harmful to respiratory systems in the body. Appropriate controls and respirators may be needed to reduce and minimize the hazard to your workers.

2. **Identify How to Control the Hazard Development** - First you identify a respiratory hazard where exposure is at or above the PEL or the oxygen level is too low. The next step is to identify the best method for controlling the hazard and reducing exposure to below the PEL, or in the case of oxygen, increase the concentration in air.

   To determine if a contaminant is above the PEL, may require the aid of a safety professional or Industrial Hygienist to conduct air sampling. After, the sampling results can be compared to the PEL listed on the SDS to determine if respiratory protection is required if engineering controls are not feasible.

   There are three basic methods for controlling hazards:
   - Engineering controls
   - Administrative controls
   - Respirators
   - These should always be your first choice to reduce or improve exposure levels when possible.
   - Some common controls include:
     - Enclosure (barriers)
     - Dust collection
     - Substitution
     - Process or equipment modification
     - Wet cutting vs dry cutting
     - Ventilation (Fresh air exchange, Positive/ Negative Pressure)
     - Various combinations

   Administrative controls
   - *Administrative controls are never an acceptable solution where one has oxygen deficient atmospheres.*

- If exposure levels cannot be reduced to below PELs with engineering controls, administrative controls can be used.
- Administrative controls are used to control employee exposure by scheduling reduced work times in contaminant areas.

Respirators

- In situations where engineering and administrative controls do not sufficiently reduce exposure levels to below PELs, approved respirators are required to protect employees. An approved respirator has a label identifying the type of hazard it will provide protection against. The label also contains important information about the respirator's limitations and component parts that are approved for use with the basic unit.
- There are many different types of respirators, but most fall into two major categories:
  1. Air-purifying – These use filters and cartridges to remove contaminants from the breathing air before it is inhaled.
  2. Air-supplied – These provide uncontaminated breathing air to the user from a source other than the surrounding atmosphere.
- The use of respirators can put an additional load (stress) on an employee's respiratory system.
- *Employees need to be medically cleared to wear respirators before use. Refer to the section on Medical Evaluation for more information.*

3. **Select the Proper Respiratory Protection -** Selecting the right respirator for the hazards in each workplace is a critical part of your program. **Wearing the wrong kind of respiratory protection is the same as wearing none at all.**

   Your safety equipment supplier is an excellent source of information on respirators. Consult them for help in choosing the proper equipment for your needs. Also refer to the SDS when applicable.

   Selection of the proper equipment for your hazards involves these steps:
   - Determine if there is an airborne hazard.
   - Determine the physical and chemical properties of the hazard.
   - Review the warning properties of the hazard.
   - What type of work operations will be done while wearing the respirator.
   - Match the hazard and concentration level to the proper type of respirator.
   - Continue to monitor the hazard and employee's health.

4. **Create Written Procedures for Respiratory Protection -** Respiratory protection is most effective when every employee knows exactly what to do when it comes to using respirators. The best way to ensure this is to have a written set of procedures that govern the use of respirators in your workplace. Written procedures with step-by-step instructions will allow all employees to perform an operation repeatedly with a consistent, positive end result. In addition to being important for employee safety, *written procedures are a requirement of the OSHA Respiratory Protection Standard.*

Your written procedures must include detailed instructions on the following respirator topics:

- Medical evaluations (*See Maine specific requirements.)*
- Procedures for selecting a respirator
- Fit-testing
- Proper use: Inspection, cleaning and maintenance
- Storage
- Training on the hazards & Emergency procedures
- Training on proper use
- Procedures for auditing your written program

Note: This standard makes provisions for voluntary usage. Refer to Appendix D in the OSHA standard.

5. **Medical Evaluation** - All respirators place a burden on the employee. Negative pressure respirators restrict breathing. Respirators can cause claustrophobia and self-contained breathing apparatuses are heavy. These conditions may adversely affect the health of some employees who wear respirators. A physician or licensed health care professional (PLHCP) operating within the scope of his/ her practice needs to medically evaluate employees to determine under what conditions they can safely wear respirators.

   A medical evaluation includes these steps:

   - Selection by the employer of a physician or other licensed health care professional
   - **Confidential administration** of a medical questionnaire. Sections 1 and 2, Part A of Appendix C of the standard.
   - The employer shall ensure that a follow-up medical evaluation is provided for anyone who answers positively to questions 1 through 8 in Section 2, Part A, or whose initial medical examination demonstrates the need for a follow-up medical examination.
   - The employer shall receive from the medical professional a written recommendation regarding the employee's ability to wear a respirator.

   Maine specific requirements:

   - Periodic medical evaluations will be conducted as follows: The medical evaluation will include questions 1- 15, Part A section II. Any "yes" answers to these questions require a medical follow-up. Part "B" of the medical questionnaire is optional at the discretion of the PLHCP.
   - Periodic medical evaluation shall be administered according to the following schedule:

Employees:	up through 35 years of age -	at least every 5 years
	36 to 40 years of age -	at least every 2 years
	over 40 years old -	at least annually

   - The employer, at the written request of the employee, shall forward a copy of the written recommendation of the PLHCP to another employer. Employers are NOT required to accept the transfer medical evaluation.

The employer must provide to the medical professional the following information:

- The type and weight of the respirator to be used by the employee.
- The duration and frequency of respirator use.
- The expected physical work effort.
- Additional protective clothing and equipment to be worn.
- Temperature and humidity extremes that may be encountered.
- A copy of the written respiratory protection program and a copy of the medical section from the standard.

6. **Fit-Testing** - Once an employee has been determined by the medical professional to be able to wear a respirator, and the proper respirator has been selected, then the employee must be fit-tested. For a respirator to work properly, it must create an air-tight seal against his/her face. A respirator that does not fit properly will allow contaminated, unfiltered air to seep in. Fit-testing either qualitatively or quantitatively will ensure that the respirator fits properly and will not allow contaminants in to the employee's breathing zone. The protocol must be OSHA approved. Appendix A of the standard outlines the approved fit-testing protocols.

   Fit testing is required prior to initial use, when a different respirator face piece is used, and at least annually thereafter. An additional fit test is required when the employee reports, or the employer or PLHCP makes visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

7. **Provide Training -** The best way to make sure employees avoid respiratory hazards in your workplace is by conducting effective training. The OSHA and Maine standards require that everyone who will be exposed to respiratory hazards and use a respirator must be trained. This training must cover:
   - The type, concentrations and PEL of the hazard and what may happen if the respirator is not used properly.
   - The engineering and administrative controls being used and the need for the respirator as added protection.
   - Why the particular type of respirator has been selected.
   - How to put on and remove the respirator and how to test its fit and operation
   - How to wear the respirator when working
   - Respirator maintenance and storage
   - The proper procedures for handling emergency situations
   - Recognition of medical signs and symptoms that may limit or prevent effective use
   - What limitations and capabilities the respirator has
   - General introduction to Maine 1910.134 standard

   You must train your employees:
   - Annually (more often if indicated)

- When work conditions change,
- New types of respirators are used, or
- Inadequacies in the employee's knowledge or use indicates need.
- The basic advisory information in Appendix D of the standard shall be provided to employees who wear respirators when their use is not required.

8. **Recordkeeping** - The employer must establish and retain written information regarding medical evaluations, fit testing, training, and the respirator program.
    - Records of medical evaluations must be retained and made available in accordance with 29CFR 1910.1020 (30 years post the last date of employment.)
    - A record of the qualitative or quantitative fit test administered, including name of employee, type of fit test, respirator, date of test, and results. These records must be retained until the next fit test is performed.
    - A written copy of the current respirator program**.**
    - Employee training records**.**

9. **Inspect and Evaluate Your Program** - To make sure your employees are being adequately protected from respiratory hazards, conduct regular inspection and evaluation of the effectiveness of your program. In order to continue to provide adequate protection, your program may need to be changed if any of the following factors change:
    - Work areas
    - Operations
    - Processes
    - Atmospheric conditions
    - Equipment
    - Personnel
    - Materials
    - New standards for hazardous chemicals

Key Elements

To be effective, *your* program needs to clearly identify the following:

- Who is involved for the program, and their roles and responsibilities.
- Who is the Assigned Program Administrator
- All other persons with roles.
- What equipment is used, how it is used, where it is purchased, who is responsible for the purchase process, where is it stored and how is it issued to employees.
- Inspection process and documentation of it

Sample Program

The sample program and other forms attached are intended to help you develop Your program. It is designed to take you section by section through the process.

- **Purpose** - This part is intended to indicate what the program is expected to accomplish and the employees, departments, operations and facilities to which the program applies, including visitors.
- **Definitions -** This section defines the terms used in your program.
- **Responsibilities -** Identifies who is responsible for specific tasks within the program to ensure success. When expectations of the program are clearly written, each individual's accountability can be clearly established.
- **Program Activities** - Describes the specific management practices that establish organization, responsibility, authority and standards, all of which are necessary to implement the program. Practices provide guidance on how given matters should be handled and must therefore be specific and factual, not procedural.
- **Attachments** - Include forms and reports that document important program information or specific procedures affecting operations.

Sources of Additional Help

Maine 1910-134 - Available from the Maine Bureau of Labor – 624-6400
MMA Training - Please call your Loss Control Consultant @ 1-800-452-8786
Safety equipment suppliers
Industry trade groups

Sample Respiratory Protection Plan

Purpose:

This respiratory protection program is designed to provide a standard operating policy for the _____ Department. This policy is designed to insure that all employees engaged in operations identified as needing a respirator will be provided personal protection equipment to eliminate respiratory hazards. These hazards include, but are not limited to, oxygen deficiency, which presents a working environment that is Immediately Dangerous to Life and Health (IDLH), dust, and hazardous chemicals. This policy establishes when respiratory protection shall be used and shall meet the intent of the Maine Department of Labor, Bureau of Labor Standards Respiratory Protection Standard, 29 CFR 1910.134 and amendments.

The use of appropriate respirators shall be used in all identified respiratory hazard areas. Engineering controls may be used when the Program Administrator_____ is able to determine, by metering and while performing usual operations, that no respiratory hazard exists. Metering must be specific and the employer must be certain that no respiratory hazard exists before respiratory protection can be removed. Ventilation shall NOT be considered as a substitute for the use of respiratory protection.

Scope and Application:

This program shall apply to all employees who may be or are required to wear respiratory protection during identified job tasks or emergency operations where an IDLH or other respiratory hazard exists.

Definitions:

IDLH - Immediately Dangerous to Life and Health, means 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.

Medical Evaluation – Shall mean the completion of the Medical Questionnaire forms found in Appendix C of 29 CFR 1910.134 and reviewed by a Professional Licensed Health care Provider (PLHCP).

Medical Examination – Shall mean a physical examination by a PLHCP, selected by the Town of _____.

Fit Testing – A test conducted on each individual who is expected to wear a respirator. The fit test will be done using the facepiece selected for that

individual, to insure a proper seal. Fit testing shall meet the QLFT (qualitative fit testing) or the QNFT (quantitative fit testing) protocol found in Appendix B of 29CFR1910.134.

PLHCP – *Physician or other licensed health care professional* – An individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by paragraph (e) of the standard.

Air-purifying respirator – a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

Atmosphere-supplying respirator – A respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

Demand respirator – An atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation.

Escape-only respirator - A respirator intended to be used only for emergency exit.

Negative pressure respirator – A respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

Positive pressure respirator – A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

Powered air-purifying respirator (PAPR) – An air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

Pressure demand respirator – A positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

Supplied-air respirator (SAR) or airline respirator – An atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

Job Task Analysis - An analysis of the job being performed and the identified hazards associated with the job. This would also outline the controls to be put in place to abate the hazard.

Responsibilities

Program Administrator

The program administrator_____ is responsible for administering and overseeing the respiratory protection program. The program administrator may delegate certain responsibilities and duties to other staff. Duties of the program administrator shall include:

- Identify work areas or operations that require individuals to wear respirators.
- Select the proper respiratory protection for the hazard.
- Develop and implement the respiratory protection program.
- Develop policies and rules.
- Ensure that all individuals expected to use respirators are given a medical evaluation(s).
- Provide a copy of the program and Job Task Analysis to the PLHCP.
- Ensure that medical exams are conducted if required by the PLHCP.
- Institute a respirator training and retraining program.
- Ensure proper storage and maintenance of respirators.
- Develop and maintain all respirator training and respirator records.
- Evaluate and update the program as needed.
- Shall ensure that the compressed air maintains Grade D quality or better, and that the air compressor is serviced and tested as needed.

Department Supervisors

Department Supervisors are responsible for ensuring that the respiratory protection program is implemented. In addition to being knowledgeable about the program requirements for their own protection, Department Supervisors shall ensure that the program is understood and followed by all individuals under their charge. Duties of Department Supervisors include:

- Ensure that individuals under their supervision have received appropriate training, fit testing, and medical evaluations according to the established schedule.
- Ensuring the availability of SCBA for all personnel working in an IDLH atmosphere.
- Ensuring the availability of the appropriate respirator for the identified hazard.
- Enforcing the proper use of respirators when necessary.
- Ensuring that respirators are properly cleaned, maintained, and stored according to the respiratory protection program.
- Continually monitoring work areas and operations to identify respiratory hazards.

- Report to the Program Administrator or Deputy Administrator any individual having difficulty wearing the respirator, or who has had medical or physical changes that might require a new medical evaluation and fit test.

Employees

- Each employee shall wear his/her respirator when and where required and in the manner in which they were trained.
- Each employee shall care, maintain, and store their respirator as instructed.
- Shall inform the Department Supervisor if the respirator facepiece no longer fits well and request to be refitted with the proper fitting facepiece.
- Inform the Department Supervisor should you have difficulty when wearing or using a respirator.
- Inform the Department Supervisor or Program Administrator of any respiratory hazards that you feel are not adequately addressed in the workplace and any other concerns that you have regarding the program.
- Report any significant changes (medical or physical) that might require a new medical evaluation and fit test.

Program Elements

Selection of Respirator Procedures

The_____ Department currently uses _____ brand(s) of respirator. The _____ is certified by NIOSH and shall be used in accordance with the certification. Personnel shall be fit tested annually. Should the individual require a different mask then the standard, the Department shall issue to the individual member the proper fitting mask.

Hazard Evaluation where Respirators will be required

(List the hazard situations the employee may be exposed to. Identify how and when the specific respirator will be used. Identify any Engineering Controls that may be used.)

Updating the Hazard Assessment

The Program Administrator_____ shall review and update the hazard assessment whenever an operational process is changed or a new chemical is used. A review should be documented and reviewed at least annually.

Medical Evaluation

Personnel who may be required to wear a respirator must pass a medical evaluation before being permitted to wear the respirator in training or on the job. Personnel are not permitted to wear the respirator or be fit tested until a PLHCP has determined that they are medically able to do so. Any personnel refusing a medical evaluation will not

be allowed to work in an area requiring a respirator. All medical information will be handled in the strictest confidentiality.

A PLHCP at _____will provide the medical evaluation. Medical evaluation procedures are as follows:

- The medical evaluation will be conducted using a questionnaire provided in Appendix C of the respiratory protection standard.

- All affected employees will be given a copy of the medical questionnaire to fill out, along with a stamped and addressed envelope for mailing the questionnaire to the PLHCP.

- Follow-up medical evaluations will be provided to employees as required by the PLHCP.

- All employees will be granted the opportunity to speak with the PLHCP about their medical evaluation, if they so request.

- After an employee has received clearance and begun to wear a respirator, additional medical evaluations will be provided under the following circumstances.

  At least annually after age 40.
  At least every two years between the ages of 36 – 40.
  At least every five years up through age 35

  Or:

  - The employee reports signs and/or symptoms related to their ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing.
  - The PLHCP or supervisor informs the Program Administrator that the employee needs to be reevaluated.
  - Information from the program, including observations made during fit testing and program evaluation, indicates a need for reevaluation.
  - A change occurs in the workplace that may result in an increased physiological burden on the employee.

All examinations, evaluations and questionnaires are to remain confidential between the employee and the PLHCP and will be maintained for 30 years past the last day of employment in accordance with OSHA 1910.120.

Fit Testing

Fit testing is required for all employees wearing a respirator.

Fit testing will be conducted in accordance with the following schedule:

- Prior to being allowed to wear a respirator.
- Annually
- When there are changes in the employee's physical condition that could affect respiratory fit (obvious changes in body weight, facial scarring, etc.).

Employees will be fit tested with the make, model, and size of respirator that they will actually use.

The Program Administrator will conduct fit tests following either the QLFT or QNFT protocols found in Appendix A of the respiratory protection standard.

Respirator Use

Respirator use is required for all employees engaged and or working in the following activities: ***(List activities)*** and special rescue situations, or any incident that may cause exposure to a respiratory hazard.

General Procedures

Employees will use their respirator(s) under conditions specified by this program, and in accordance with the training they've received on the use of each particular model. In addition, the respirator shall not be used in a manner for which it was not certified by NIOSH or by its manufacturer.

All employees shall conduct "User Seal Checks" each time that they wear their respirator. Employees shall use either positive or negative pressure check (depending on which test works best for them) as specified in Appendix B-1 of the Respiratory Protection Standard (ME 1910.134).

Employees who detect operational problems with, or experience failure of, the respirator shall immediately leave the hazardous environment and notify their supervisor.

Employees are not permitted to wear any jewelry, ear protection, eye glasses, or protective hoods in a manner that may interfere with the face to face piece seal. Facial hair or any other hairstyle may not interfere with the face to face piece seal.

Use other than Interior Structural Firefighting

For incidents requiring SCBA use other than Interior Structural Firefighting, employees shall use SCBA whenever they may be exposed to environments which may become IDLH or other respiratory hazard, as directed by the Department Supervisor.

Air Quality

SCBA cylinders shall be filled with Grade D (or higher quality) compressed air only. The Program Administrator shall ensure that the compressed air maintains at least Grade D quality and that the air compressor is serviced and tested at least annually. Annual certification should be posted or made easily accessible for viewing, and provided to any departments filling with the department air.

Cleaning

Non-Disposable Respirators

Non-Disposable Respirators are to be cleaned and disinfected after each use. These are general guidelines and you should refer to the owner's manual for specific approved cleaning instructions. The cleaning policy to be as follows:

- Disassemble respirator.
- Wash the face piece and associated parts in mild detergent with warm water.
- Disinfect the face piece with a diluted bleach solution.
- Rinse completely in clean warm water.
- Air-dry in a clean area.
- Reassemble the respirator, test the function, and replace any defective parts, test function.
- Place back on apparatus, masks are to be stored in a bag, or within an enclosed cab.

SCBA

SCBA are to be cleaned and disinfected after each use. The cleaning policy to be as follows:

- Disassemble SCBA, removing cylinder, mask and PASS device.
- Wash the face piece and associated parts in mild detergent with warm water.
- Disinfect the face piece with a diluted wescodine solution or manufacturer recommended solution.
- Rinse completely in clean warm water.
- Air-dry in a clean area.
- Reassemble the SCBA, test the function, and replace any defective parts, test function.
- Place back on apparatus, masks are to be stored in a bag, or within an enclosed cab.

Field cleaning of SCBA is to be done using 70% Isopropyl Alcohol wipes. There will be no sharing of SCBA masks in the field without proper field cleaning.

After each use and cleaning documentation of inspection should be kept with details about usage and defects found.

The Program Administrator will ensure an adequate supply of cleaning and disinfecting material at the department, as well as field cleaning material. If supplies are low, employees should notify their supervisor who will in turn notify the Program Administrator.

Maintenance

Respirators are to be properly maintained at all times in order to ensure that they function properly and adequately protect the employees. Maintenance involves a thorough visual inspection for cleanliness and defects. Worn or deteriorated parts will be replaced prior to use. No components will be replaced or repairs made beyond those recommended by the manufacturer, except by those trained by the manufacturer to do such repairs. Repairs beyond the scope of our trained personnel will be conducted by the manufacturer or their designee.

The following items are to be checked after each use and weekly. The findings of these checks are to be properly recorded in the Respirator Maintenance Log:

- Face piece;
  - Cracks, tears, or holes
  - Face piece distortion
  - Cracked, loose, or damaged lens
  - Loose damaged voice amplifiers

- Head straps;
  - Breaks or tears
  - Broken buckles
  - Elasticity

- Valves
  - Residue or dirt
  - Damage to valve or valve material

- Gauges, regulators & Air Lines **(SCBA only)**
  - Damage to or inaccuracy
  - Leaks
  - Chaffing

- PASS Alarm **(SCBA only)**
  - Operation
  - Battery condition
  - 15 to 30 second alarm
  - Manual alarm

- Body Harness **(SCBA only)**
  Tears, rips, fraying or otherwise damaged straps
  Broken buckles
  Heat exposure and discoloring

- Cylinder **(SCBA only)**
  Air supply full
  Hydrostatic test date
  General cylinder condition
  MFG date with in 15 year

Respirators that are defective or that have defective parts shall be taken out of service immediately. If during an inspection or during use, an employee discovers a respirator with a defect he / she is to bring the defect to the attention of his / her supervisor. Supervisors will give all defective respirators to the Program Administrator. The Program Administrator will decide whether to:

- Temporarily take the respirator out of service until it can be repaired
- Perform a simple repair on the spot.
- Dispose of the respirator or part due to irreparable condition.

When a respirator is taken out of service, it will be appropriately tagged indicating the problems, and stored in the respirator maintenance room until it can be repaired or sent out for service.

Storage

Storage of the respirator shall be in their designated place. Masks shall be stored in plastic or nylon bags, or enclosed apparatus cabs to prevent exposure to road dirt or other contaminates.

Training

Annually, in_____, each employee shall attend and successfully complete respirator training that is based on current OSHA/ NFPA Standards. Training will be both knowledge and hands-on based. Training will include:

- The need for respirator use, and how improper fit, usage, or maintenance can compromise the protective effectiveness of the respirator.

- Limitations and capabilities of the respirator.

- How to effectively use the respirator.

- How to inspect, put on and remove, use, and perform proper seal checks.

- Procedures for maintenance field cleaning, and storage.
- How to recognize medical symptoms that may compromise the safety of the wearer.

Program Evaluation

The Program Administrator_____shall annually and as needed evaluate the respiratory program to ensure that:

- Current written programs are effective and properly implemented.
- Employees are properly using the respirator selected for the hazard and,
- The program continues to be effective.

Recordkeeping

The Program Administrator_____, shall keep and maintain all documentation in the areas of:

- Medical evaluations (PLHCP recommendation only)
- Fit Testing
- Training records
- Inspections

Effective Dates

The effective date of this policy shall be _____, 20_____

Next scheduled evaluation of this policy shall be _____, 20____

Checklist for Respiratory Protection Programs

Check to ensure that your facility has:

- ☐ A written respirator protection program that is specific to your workplace and covers the following:
  - ☐ Procedures for selection of respirators
  - ☐ Medical evaluations of employees required to wear respirators.
  - ☐ Fit testing procedures
  - ☐ Routine use procedures and emergency respirator use procedures.
  - ☐ Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and maintaining respirators.
  - ☐ Procedures for ensuring adequate air quality for supplied air respirators.
  - ☐ Training in respiratory hazards.
  - ☐ Training in proper use and maintenance of respirators.
  - ☐ Program evaluation procedures
  - ☐ Procedures for ensuring that workers who voluntarily wear respirators (excluding filter face pieces) comply with the medical evaluation, cleaning, storing and maintenance requirements of the standard.
- ☐ A designated program administrator who is qualified to administer the program.
- ☐ Updated the written program as necessary to account for changes in the workplace affecting respirator use.
- ❑ Provided equipment, training, and medical evaluations at no cost to employees.

Checklist for Respirator Selection

Check:

- ❑ Respiratory hazards in your workplace have been identified and evaluated.
- ❑ Employee exposures that have not been, or cannot be, evaluated are considered IDLH.
- ❑ Respirators are National Institute for Occupational Safety and Health (NIOSH) certified, and used under the conditions of the certification.
- ❑ Respirators are selected based on the workplace hazards evaluated and workplace and user factors affecting respirator performance and reliability.
- ❑ A sufficient number of respirator sizes and models are provided to be acceptable and correctly fit to the users.
- ❑ For IDLH atmospheres:
    - ❑ Full face piece pressure demand (SAR's) Supplied Air Respirators with auxiliary (SCBA) Self Contained Breathing Apparatus unit or full face piece pressure demand SCBS's, with a minimum service life of 30 minutes, are provided.
    - ❑ Respirators used for escape only are NIOSH certified for the atmosphere in which they will be used.
    - ❑ Oxygen deficient atmospheres are considered IDLH.
- ❑ For Non-IDLH atmospheres:
    - ❑ Respirators selected are appropriate for the chemical state and physical form of the contaminant.
    - ❑ Air-purifying respirators used for protection against gases and vapors are equipped with ESLIs (End Of Service Life Indicators) or a change schedule has been implemented.
    - ❑ Air-purifying respirators used for protection against particulates are equipped with NIOSH-certified HEPA filters or other filters certified by NIOSH for particulates in 42 CFR part 84.

Checklist for Medical Evaluation

Check that:

- ❑ All employees have been evaluated to determine their ability to wear a respirator prior to being fit tested for or wearing a respirator for the first time in your workplace.
- ❑ A physician or other licensed health care professional (PLHCP) has been identified to perform the medical evaluation.
- ❑ The medical evaluations obtain the information requested in Sections 1 and 2, Part A of Appendix C of the standard, 29 CFR 1910.134.
- ❑ Employees are provided follow-up medical exams if they answer positively to any of questions 1 through 8 in Section 2, Part A of Appendix C, or if their initial medical evaluation reveals that a follow-up exam is needed.
- ❑ Medical evaluations are administered confidentially during normal working hours, and in a manner that is understandable to employees.
- ❑ Employees are provided the opportunity to discuss the medical evaluation results with the PLHCP (Professional Licensed Health Care Provider)
- ❑ The following supplemental information is provided to the PLHCP before he or she makes a decision about respirator use:
    - ❑ Type and Weight of the respirator.
    - ❑ Duration and frequency of respirator use.
    - ❑ Expected physical work effort.
    - ❑ Additional protective clothing to be worn.
    - ❑ Potential temperature and humidity extremes.
    - ❑ Written copies of the respiratory protection program and the Respiratory Protection standard.
- ❑ Written recommendations are obtained from the PLHCP regarding each employee's ability to wear a respirator, and that the PLHCP has given the employee a copy of these recommendations.

- ❑ Employees who are medically unable to wear a negative pressure respirator are provided with a powered air purifying respirator (PARP) if they are found by the PLHCP to be medically able to use a PARP.

- ❑ Employees are given additional medical evaluations when:

  - ❑ The employee reports symptoms related to his or her ability to use a respirator.

  - ❑ The PLHCP, respiratory protection program administrator, or supervisor determines that a medical reevaluation is necessary.

  - ❑ Information from the respiratory protection program suggests a need for reevaluation.

  - ❑ Workplace conditions have changed in a way that could potentially place an increased burden on the employee's health.

  - ❑ Periodic medical evaluations shall be administered according to the following schedule:

    Employees: up through 35 years of age – at least every 5 years
    36 – 40 years of age - at least every two years
    Over 40 years old - at least annually

Checklist for Fit Testing

Check that your facility:

- ❑ Employees who are using tight fitting respirator face pieces have passed an appropriate fit test prior to being required to use a respirator.
- ❑ Fit testing is conducted with the same make, model, and size that the employee will be expected to use at the worksite.
- ❑ Fit tests are conducted annually and when different respirator face pieces are to be used.
- ❑ Provisions are made to conduct additional fit tests in the event of physical changes in the employee that may affect respirator fit.
- ❑ Employees are given the opportunity to select a different respirator face piece, and be retested, if their respirator fit is unacceptable to them.
- ❑ Fit tests are administered using OSHA-accepted QNFT (quantitative) or QLFT (qualitative) protocols.
- ❑ QLFT is only used to fit test either PARPs, SCBAs, or negative pressure APRs (air purifying respirators) that must achieve a fit factor of 100 or less.
- ❑ QNFT is used in all situations where a negative pressure respirator is intended to protect workers from contaminant concentrations greater than 10 times the PEL (permissible exposure limit).
- ❑ When QNFT is used to fit negative pressure respirators, a minimum fit factor of 100 is achieved for tight fitting half-face pieces and 500 for full face pieces.
- ❑ For tight-fitting atmosphere-supplying respirators and powered air purifying respirators:
    - ❑ Fit tests are conducted in a negative pressure mode.
    - ❑ QLFT is achieved by temporarily converting the face piece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure APR.
    - ❑ QNFT is achieved by modifying the face piece to allow for sampling inside the mask midway between the nose and mouth. The face piece is restored to its NIOSH approved configuration before being used in the workplace.

Check List for Proper Use of Respirators

Check your facility to be certain that:

- ❑ Workers using tight-fitting respirators have no conditions, such as facial hair, that would interfere with a face-to face piece seal or valve function.

- ❑ Workers wear corrective glasses, goggles, or other protective equipment in a manner that does not interfere with the face-to face piece seal or valve function.

- ❑ Workers perform user seal checks prior to each use of a tight-fitting respirator.

- ❑ There are procedures for conducting ongoing surveillance of the work area for conditions that affect respirator effectiveness, and that when such conditions exist, you take steps to address those situations.

- ❑ Employees are permitted to leave their work area to conduct respirator maintenance, such as washing the face piece, or to replace respirator parts.

- ❑ Employees do not return to their work area until their respirator has been repaired or replaced in the event of breakthrough, a leak in the face piece, or a change in breathing resistance.

- ❑ There are procedures for respirator use in IDLH atmospheres and during interior structural firefighting to ensure that: the appropriate number of standby personnel are deployed; standby personnel and employees in the IDLH environment maintain communication; standby personnel are properly trained, equipped, and prepared; you will be notified when standby personnel enter an IDLH atmosphere; and you will respond to this notification.

- ❑ Standby personnel are equipped with a pressure demand or other positive pressure SCBA, or a positive pressure supplied air respirator with an escape SCBA, and appropriate retrieval equipment or other means of rescue.

- ❑ Procedures for interior structural firefighting require that: at least two firefighters enter the IDLH atmosphere and remain in contact with one another at all times; at least two standby personnel are used; and all firefighting employees use SCBAs.

Checklist for Respiratory Maintenance and Care

Check to make sure that your facility has met the following requirements:

Cleaning and Disinfecting

- ❑ Respirators are provided that are clean, sanitary, and in good working order.
- ❑ Respirators are cleaned and disinfected using the procedures specified in Appendix B-2 of this standard.
- ❑ Respirators are cleaned and disinfected:
    - ❑ As often as necessary when issued for the exclusive use of one employee.
    - ❑ Before being worn by different individuals.
    - ❑ After each use for emergency use respirators.
    - ❑ After each use for respirators used for fit testing or training.
    - ❑ After each use.

Storage

- ❑ Respirators are stored to protect them from damage from the elements, and from becoming distorted.
- ❑ Emergency respirators are stored:
    - ❑ To be accessible to the work area.
    - ❑ In compartments marked as such, or described in the respiratory protection program and training program.
    - ❑ In accordance with the manufacturer's recommendations

Inspections

- ❑ Routine-use respirators are inspected before each use and during cleaning.
- ❑ SCBAs and emergency respirators are inspected monthly and checked for proper function before and after each use.

- ❑ Emergency escape-only respirators are inspected before being carried into the workplace for use.
- ❑ Inspections include:
  - ❑ Check for respiratory function
  - ❑ Tightness of connections
  - ❑ Condition of the face piece, head straps, valves and cartridges.
  - ❑ Condition of elastomeric parts.
- ❑ For SCBAs, inspection includes checking that cylinders are fully charged, and that regulators and warning devices function properly.
- ❑ Emergency use respirators are certified by documenting the inspection, and by tagging the information either to the respirator or its compartment, or storing it with inspection reports.

Repairs

- ❑ Respirators that have failed inspection are taken out of service.
- ❑ Repairs are made only by trained personnel.
- ❑ Only NIOSH-approved parts are used.
- ❑ Reducing and admission valves, regulators and alarms are adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

Checklist for Breathing Air Quality and Use

Check that at your facility:

General

- ❑ Compressed breathing air meets the requirements for Grade D breathing air.
- ❑ Compressed oxygen is not used in respirators that have previously used compressed air.
- ❑ Oxygen concentrations greater than 23.5 percent are used only in equipment designed for oxygen service or distribution.
- ❑ Breathing air couplings are incompatible with outlets for other gas systems.
- ❑ Breathing gas containers are marked with appropriate NIOSH certification.

Breathing Air Cylinders

- ❑ Cylinders are tested and maintained according to DOT 49 CFR Part 173 and 178.
- ❑ A certificate of analysis for breathing air has been obtained from the supplier.
- ❑ Moisture content in the cylinder does not exceed a dew point of -50^0F at 1 atmosphere pressure.

Compressors

- ❑ Are constructed and situated to prevent contaminated air from getting into the system.
- ❑ Are set up to minimize the moisture content.
- ❑ Are equipped with in-line air purifying sorbent beds and/or filters that are maintained or replaced following manufacturer's instructions.
- ❑ Are tagged with information on the most recent change date of the filter and an authorizing signature.
- ❑ Carbon monoxide does not exceed 10ppm in the breathing air from compressors that are not oil-lubricated.

- ❑ High-pressure and carbon monoxide alarms are used on oil-lubricated compressors, or that the air is monitored often enough to ensure that carbon monoxide does not exceed 10ppm if only a high-temperature alarm is used.

Training and Information Checklist

Check that at your facility:

- ❑ Employees can demonstrate knowledge of:
    - ❑ Why the respirator is necessary and the consequences of improper fit, use, or maintenance.
    - ❑ Limitations and capabilities of the respirator.
    - ❑ How to effectively use the respirator in emergency situations.
    - ❑ How to inspect, put on, remove, use, and check the seals of the respirator.
    - ❑ Cleaning, Maintenance and care for the Respirators
- ❑ Training is understandable to employees.
- ❑ Training is provided prior to employee use of the respirator.
- ❑ Retraining is provided:
    - ❑ Annually
    - ❑ Upon changes in workplace conditions that affect respirator use.
    - ❑ Whenever retraining appears necessary to ensure safe respirator use.
- ❑ Appendix D of the standard is provided to voluntary users.

Program Evaluation Checklist

Check that at your facility:

- ❑ Workplace evaluations are being conducted as necessary to ensure that the written respiratory protection program is being effectively implemented.
- ❑ Employees required to wear respirators are being regularly consulted to assess the employee's views and to identify problems with respirator fit, selection, use and maintenance.
- ❑ Any problems identified during assessments are corrected.
- ❑ Work stations are evaluated annually minimally to ensure programs still fits hazards presented to the workers.
- ❑ Policy is reviewed annually by the administrator to ensure standard updates or departmental updates are included.

Recordkeeping Checklist

Check that you facility:

- ❑ Records of medical evaluations have been retained by the PLHCP.
- ❑ PLHCP medical evaluation approvals or denials.
- ❑ Fit testing records have been retained.
- ❑ A copy of the current respiratory protection program has been retained.
- ❑ Access to these records is provided to affected employees.
- ❑ Training records have been retained
- ❑ Inspections are retained