



City of Montpelier, Vermont
"The Smallest Capital City in the United States"

RESPIRATORY PROTECTION PROGRAM

Last Updated April 15, 2004

Respiratory Protection Program

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Purpose

This program was created to provide our employees with procedures and policies to properly and safely perform tasks requiring the use of respiratory protection devices. The program was prepared in accordance with OSHA regulation Section 1910.134 Respiratory Protection.

Copies of this program shall be located at each work site where the use of respiratory protection devices have been identified including use by the fire service.

Program administrator

The program administrator shall be responsible for annual review of the program. The Department Head is responsible for the coordination of employee respiratory protection training, purchase of equipment, the fitting and maintenance of respiratory protection equipment and incident review of injuries or illnesses that result when respiratory equipment was used.

Employees should refer their questions or comments about this program to the administrator or the Department Head.

The program administrator is

Eric Ladd, Public Works Department Supervisor

Annual Review

The program shall be evaluated each year to determine the effectiveness of this program.

See evaluation form, page 7

Voluntary Use of Respirators is Prohibited

OSHA requires that voluntary use of respirators, when not required by the City of Montpelier, must be controlled as strictly as under required circumstances. **To prevent violations of the Respirator Protection Standard at The City of Montpelier, employees are not allowed voluntary use of their own or City supplied respirators of any type.** Exception: Employees whose only use of respirators involves the voluntary use of filtering (non-sealing face pieces (dust masks).

Definitions – The following definitions are important terms used in the respiratory protection standard.

- "Air Purifying Respirator" means 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" means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SAR) and self-contained breathing apparatus (SCBA) units.
- "Canister or Cartridge" means a container with a filter, sorbent or a catalyst or combination of their items, which removes specific contaminants from the air passed through the container.
- "Emergency Situation" means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant.
- "Employee exposure" means exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

- "Escape Only Respirator" means a respirator intended to be used only for emergency exit.
- "Fit Test" means the use of a method to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test (QNFT).)
- "Immediately Dangerous to Life or Health (IDLH)" 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.
- "Negative Pressure Respirator (tight fitting) means a respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.
- "Oxygen Deficient Atmosphere" means an atmosphere with an oxygen content below 19.5% by volume.
- "Positive Pressure Regulator" means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.
- "Powered Air-purifying Respirator (PAPR)" means an air purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering
- "Pressure Demand Respirator" means a positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.
- "Qualitative Fit Test (QLFT)" means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.
- "Quantitative Fit Test (QNFT)" means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.
- "Self-Contained Breathing Apparatus (SCBA)" means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.
- "Supplied-Air Respirator (SAR) or Airline Respirator" means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

Other definitions are found in 1910.134(b)

Selection of respirators

The selection process must include a team comprised of employees who will use the respirator, and supervisors who will help the employees select the proper respirator for the task to be performed.

The selection team must select a respirator certified by the National Institute for Occupational Safety and Health (NIOSH).

The selection team also must identify and evaluate the hazards in the workplace, including a reasonable estimate of employee exposures and identification of the contaminant's chemical state and physical form.

Where the team cannot identify or reasonably estimate the risk, the atmosphere shall be considered to be **Immediately Dangerous to Life or Health (IDLH)**.

See Page 15

Respirators for IDLH Atmospheres and for non-IDLH Atmospheres

See CFR 1910.134 (2) for the procedure to determine the proper choice of respirator.

Medical evaluation

All employees and volunteers that are exposed to hazards requiring respirator use shall be required to have a medical evaluation to determine an employee's ability to use a respirator BEFORE FIT TESTING AND USE.

The following physician or other licensed health care professional (PLHCP) has been selected to perform medical evaluations using the medical questionnaire or to conduct an initial medical examination:

Name of PLHCP	Clinic Name	Telephone Number	Address
	OH&R	802-223-7499	Barre, VT
Nancy M.Frey	CVH Rehab Services	802-371-4246	Barre, VT

Employees will be provided with the medical questionnaire on *page 10* along with a self-addressed envelope to one of the listed PLHCP. The employee will complete the questionnaire and send it to the PLCHP as soon as possible.

The PLHCP must provide *written recommendation* regarding the employee's ability to use a respirator. The recommendation will be kept in the employee's medical file.

- Additional medical evaluations may be required if an employee reports medical signs or symptoms related to the ability to use a respirator; if the PLHCP or supervisor recommends a reevaluation; if information when fitting or using a respirator indicates more testing is needed; if changes occur in the workplace that cause an increase in the physiological burden on the employee.
- Annual medical evaluation is not required.

Face hair

- Employees covered under this program that wear respirators as part of their job will required to remove all facial hair such as beards, sideburns and mustaches that could interfere with the proper seal of the respirator.

Fit testing

- All employees must be medically evaluation prior to the fit testing procedure.
- All employees must pass an appropriate qualitative (QLFT) or quantitative (QNFT) fit test.
- *Annual fit testing is required.* Fit Testing is also required whenever a different facepiece respirator is used or when the employee's physical condition changes.

Fit testing protocols used and results are recorded on *Fit testing Form* page 16

Maintenance and care of respirators

Must clean and disinfect respirators using the procedures recommended by the manufacturer or procedures in CFR 1910.134 Appendix B-2 at the following intervals:

- As often as necessary to maintain sanitary condition for exclusive use.
- Before being worn by different individuals when issued to more than one employee
- After each use for emergency use respirators *and those used in fit testing and training.*

- Monthly for emergency use respirators located near Chlorine rooms.

Breathing air quality and use

All air must be approved Type 1-Grade D breathing air.

Identification of filters, cartridges and canisters

- All filters, cartridges and canisters used in the workplace must be labeled and color-coded with the NIOSH approved label.
- The label must not be removed and must remain legible.
- Filters, cartridges and canisters not meeting the label requirements will be immediately removed from the workplace.

Training and information

- Employees must be trained as to why the respirator is necessary, why improper fit or maintenance can cause the respirator to offer no protection for the user.
- The limits and capabilities of the respirator must be explained to the employees.
- Employees must be trained in how to inspect, put on and remove respirator.
- Retraining required when workplace conditions change, new types of respirators are used or if employee exhibits need of retraining.

See page 9 for Employee Learning Exercise.

Annual program evaluation

Program Name:

Evaluation Date:

Evaluation Team:

Name	Title	Department

* Team should include an authorized person from outside department

List injuries or near misses attributable to failure of program or failure to follow program:

Recommendations for additions to procedures/policies with explanation for each:

Recommendations for deletions of procedures/policies with explanation for each:

Recommendations for modifications to procedures/policies with explanation for each:

Description and date of actual modifications made:

Employee training for respiratory protection program

City of Montpelier

Instructor's Name: Date:

Address:

Qualifications:

Course Outline:

List of employees receiving training

Employee Name	Signature

Instructor's Signature

Employee Learning Exercise for Respiratory Protection Program

Employee: _____ Signature: _____

Score: Date: _____

1. True False All compressed air is suitable for respirator use.
2. True False Annual respirator training is required for all respirator users.
3. True False Facial hair is not a concern when fit testing a respirator.
4. True False Medical testing is required before fit testing and using a respirator.
5. True False A physician or other licensed health care professional must provide a written recommendation before using a respirator.
6. True False All respirators in the workplace must be NIOSH approved.
7. True False All atmospheres that cannot be tested for hazards must be considered to be Immediately dangerous to life and health (IDLH) atmospheres.
8. True False Personal Protective equipment may not interfere with the use of a respirator.
9. True False Filter cartridges must be used only for the purpose that the label says they are to be used for.
10. True False A filter cartridge with the label removed or defaced is all right to use.
11. True False An employer must pay for the cost of the respirator and the medical evaluation.
12. True False All respirators can be used in any hazardous environment.
13. True False Oxygen deficient atmospheres do not require the use of a respirator.
14. True False The employee must identify the situations at the workplace that require the use of a Respirator.
15. True False Records of each employee's training must be kept by the employer.
16. True False It is the employee's responsibility to clean and inspect his/her respirator and to inform his/her supervisor immediately of any respirator defect.

OSHA respirator medical evaluation questionnaire

Appendix C to Sec. 1910.134: OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee:

Can you read (circle one): Yes/No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory) The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date: _____
2. Your name: _____
3. Your age (to nearest year): _____
4. Sex (circle one): Male/Female
5. Your height: _____ ft. _____ in.
6. Your weight: _____ lbs.
7. Your job title: _____
8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): _____
9. The best time to phone you at this number: _____
10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No
11. Check the type of respirator you will use (you can check more than one category):
 - a. _____ N, R, or P disposable respirator (filter-mask, non- cartridge type only).
 - b. _____ Other type (for example, half- or full-face piece type, powered-air purifying, supplied-air, self-contained breathing apparatus).
12. Have you worn a respirator (circle one): Yes/No
If "yes," what type(s): _____

Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or "no").

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month: Yes/No
2. Have you ever had any of the following conditions?
 - a. Seizures (fits): Yes/No
 - b. Diabetes (sugar disease): Yes/No
 - c. Allergic reactions that interfere with your breathing: Yes/No
 - d. Claustrophobia (fear of closed-in places): Yes/No
 - e. Trouble smelling odors: Yes/No

Continued

3. Have you ever had any of the following pulmonary or lung problems?

- a. Asbestosis: Yes/No
- b. Asthma: Yes/No
- c. Chronic bronchitis: Yes/No
- d. Emphysema: Yes/No
- e. Pneumonia: Yes/No
- f. Tuberculosis: Yes/No
- g. Silicosis: Yes/No
- h. Pneumothorax (collapsed lung): Yes/No
- i. Lung cancer: Yes/No
- j. Broken ribs: Yes/No
- k. Any chest injuries or surgeries: Yes/No
- l. Any other lung problem that you've been told about: Yes/No

4. Do you currently have any of the following symptoms of pulmonary or lung illness?

- a. Shortness of breath: Yes/No
- b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/No
- c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/No
- d. Have to stop for breath when walking at your own pace on level ground: Yes/No
- e. Shortness of breath when washing or dressing yourself: Yes/No
- f. Shortness of breath that interferes with your job: Yes/No
- g. Coughing that produces phlegm (thick sputum): Yes/No
- h. Coughing that wakes you early in the morning: Yes/No
- i. Coughing that occurs mostly when you are lying down: Yes/No
- j. Coughing up blood in the last month: Yes/No
- k. Wheezing: Yes/No
- l. Wheezing that interferes with your job: Yes/No
- m. Chest pain when you breathe deeply: Yes/No
- n. Any other symptoms that you think may be related to lung problems: Yes/No

5. Have you ever had any of the following cardiovascular or heart problems?

- a. Heart attack: Yes/No
- b. Stroke: Yes/No
- c. Angina: Yes/No
- d. Heart failure: Yes/No
- e. Swelling in your legs or feet (not caused by walking): Yes/No
- f. Heart arrhythmia (heart beating irregularly): Yes/No
- g. High blood pressure: Yes/No
- h. Any other heart problem that you've been told about: Yes/No

6. Have you ever had any of the following cardiovascular or heart symptoms?

- a. Frequent pain or tightness in your chest: Yes/No
- b. Pain or tightness in your chest during physical activity: Yes/No
- c. Pain or tightness in your chest that interferes with your job: Yes/No
- d. In the past two years, have you noticed your heart skipping or missing a beat: Yes/No
- e. Heartburn or indigestion that is not related to eating: Yes/No
- f. Any other symptoms that you think may be related to heart or circulation problems: Yes/No

7. Do you currently take medication for any of the following problems?

- a. Breathing or lung problems: Yes/No
- b. Heart trouble: Yes/No

- c. Blood pressure: Yes/No
- d. Seizures (fits): Yes/No

Continued

8. If you've used a respirator, have you ever had any of the following problems? (If you've never used a respirator, check the following space and go to question 9:)

- a. Eye irritation: Yes/No
- b. Skin allergies or rashes: Yes/No
- c. Anxiety: Yes/No
- d. General weakness or fatigue: Yes/No
- e. Any other problem that interferes with your use of a respirator: Yes/No

9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes/No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-face piece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you ever lost vision in either eye (temporarily or permanently): Yes/No

11. Do you currently have any of the following vision problems?

- a. Wear contact lenses: Yes/No
- b. Wear glasses: Yes/No
- c. Color blind: Yes/No
- d. Any other eye or vision problem: Yes/No

12. Have you ever had an injury to your ears, including a broken eardrum: Yes/No

13. Do you currently have any of the following hearing problems?

- a. Difficulty hearing: Yes/No
- b. Wear a hearing aid: Yes/No
- c. Any other hearing or ear problem: Yes/No

14. Have you ever had a back injury: Yes/No

15. Do you currently have any of the following musculoskeletal problems?

- a. Weakness in any of your arms, hands, legs, or feet: Yes/No
- b. Back pain: Yes/No
- c. Difficulty fully moving your arms and legs: Yes/No
- d. Pain or stiffness when you lean forward or backward at the waist: Yes/No
- e. Difficulty fully moving your head up or down: Yes/No
- f. Difficulty fully moving your head side to side: Yes/No
- g. Difficulty bending at your knees: Yes/No
- h. Difficulty squatting to the ground: Yes/No
- i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes/No
- j. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No

Part B Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes/No

If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes/No

2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes/No

If "yes," name the chemicals if you know them: _____

Continued

3. Have you ever worked with any of the materials, or under any of the conditions, listed below:

- a. Asbestos: Yes/No
- b. Silica (e.g., in sandblasting): Yes/No
- c. Tungsten/cobalt (e.g., grinding or welding this material): Yes/No
- d. Beryllium: Yes/No
- e. Aluminum: Yes/No
- f. Coal (for example, mining): Yes/No
- g. Iron: Yes/No
- h. Tin: Yes/No
- i. Dusty environments: Yes/No
- j. Any other hazardous exposures: Yes/No

If "yes," describe these exposures: _____

4. List any second jobs or side businesses you have: _____

5. List your previous occupations: _____

6. List your current and previous hobbies: _____

7. Have you been in the military services? Yes/No

If "yes," were you exposed to biological or chemical agents (either in training or combat): Yes/No

8. Have you ever worked on a HAZMAT team? Yes/No

9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes/No

If "yes," name the medications if you know them: _____

10. Will you be using any of the following items with your respirator(s)?

- a. HEPA Filters: Yes/No
- b. Canisters (for example, gas masks): Yes/No
- c. Cartridges: Yes/No

11. How often are you expected to use the respirator(s) (circle "yes" or "no" for all answers that apply to you)?:

- a. Escape only (no rescue): Yes/No
- b. Emergency rescue only: Yes/No
- c. Less than 5 hours per week: Yes/No
- d. Less than 2 hours per day: Yes/No
- e. 2 to 4 hours per day: Yes/No
- f. Over 4 hours per day: Yes/No

12. During the period you are using the respirator(s), is your work effort:

- a. Light (less than 200 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: _____ hrs. _____ mins.

Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines.

- b. Moderate (200 to 350 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: _____ hrs. _____ mins.

Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

c. Heavy (above 350 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: _____ hrs. _____ mins.

Continued

Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes/No

If "yes," describe this protective clothing and/or equipment: _____

14. Will you be working under hot conditions (temperature exceeding 77 deg. F): Yes/No

15. Will you be working under humid conditions: Yes/No

16. Describe the work you'll be doing while you're using your respirator(s):

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases):

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

Name of the first toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the second toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the third toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

The name of any other toxic substances that you'll be exposed to while using your respirator:

19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well being of others (for example, rescue, security):

Sample

Hazard assessment and respirator selection form

Hazard assessment

Department: Water

	Particulates	O2 Deficient atmosphere	Toxic gas	smoke	Blood products	TB	Paint fumes	Other: welding fumes	Other:	Other:
Task										
Confined Space entry		X	X					X		
Spray painting							X			
Changing Chlorine cylinders			X							
First Aid					X	X				

Respirator selection

Based on the Hazard Assessment table above, the following respirators are required for the following task:

Task	SCBA	Canister/Cartridge	other
Confined space entry	X		
Spray painting		X- for paint	
Changing Chlorine cylinders		X for chlorine	
First aid			X-HEPA mask in first aid kit

Fit testing results

Name of Employee: _____

Date of Fit Test: _____

Name of Person administering Fit Test: _____

Has person being tested been given a medical evaluation: yes / no

Respirator type: _____

Check the test type used and record results in the area provided:

Qualitative

Isoamyl Acetate Test

Results: _____

Saccharin Solution Test

Results: _____

Bitrex Solution Test

Results: _____

Irritant Smoke Test

Results: _____

Quantitative

Generated Aerosol Test

Results: _____

Ambient Aerosol Condensation Nuclei Test

Results: _____

Controlled Negative Pressure Test (CNP)

Results: _____

Appendix A

To view and download the Section 1910.134 Respiratory Protection regulations from the OSHA web site, click on the following link:

http://www.osha-slc.gov/Oshd_data/1910_134.html

Print out a copy of the standard and mandatory appendices to include with your program.

Appendix B – Answers to Employee Learning Exercise for Respiratory Protection Program

Employee: _____ Signature: _____

Score: Date: _____

1. True False All compressed air is suitable for respirator use.
2. True False Annual respirator training is required for all respirator users.
3. True False Facial hair is not a concern when fit testing a respirator.
4. True False Medical testing is required before fit testing and using a respirator.
5. True False A physician or other licensed health care professional must provide a written recommendation before using a respirator.
6. True False All respirators in the workplace must be NIOSH approved.
7. True False All atmospheres that cannot be tested for hazards must be considered to be Immediately dangerous to life and health (IDLH) atmospheres.
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