

Northern Maine Community College
Respiratory Protection Program

**Northern Maine Community College
Respiratory Protection Program**

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Northern Maine Community College
Respiratory Protection Program

Contents

SECTION 1. DEFINITIONS:.....	3
SECTION 2. PROGRAM RESPONSIBILITIES	6
SECTION 3. SELECTION OF RESPIRATORS	7
Respirator use when no hazards exist such as nuisance odor or dusts.....	8
SECTION 4. MEDICAL EVALUATIONS	8
SECTION 5. PROCEDURES.....	9
Appendix A	12
User Seal Check Procedures	12
Appendix B.....	13
Respirator Cleaning Procedures	13
Appendix C.....	15
Appendix D.....	18
Information for Employees Using Respirators When Not Required Under the Standard	18
Appendix E	19
OSHA Respirator Medical Evaluation Questionnaire	19
Appendix F	28
Staff approved to wear Respirators	28

Northern Maine Community College
Respiratory Protection Program

SECTION 1. DEFINITIONS:

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

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.

Assigned protection factor (APF) means the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program as specified by this section.

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 (SARs) and self-contained breathing apparatus (SCBA) units.

Canister or cartridge means a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

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

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.

End-of-service-life indicator (ESLI) means a system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.

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

Filter or air purifying element means a component used in respirators to remove solid or liquid aerosols from the inspired air.

Filtering facepiece (dust mask) means a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

Fit factor means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

Fit test means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)

Northern Maine Community College
Respiratory Protection Program

Helmet means a rigid respiratory inlet covering that also provides head protection against impact and penetration.

High efficiency particulate air (HEPA) filter means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

Hood means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

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.

Interior structural firefighting means the physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage. (See 29 CFR 1910.155)

Loose-fitting facepiece means a respiratory inlet covering that is designed to form a partial seal with the face.

Maximum use concentration (MUC) means the maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator, and is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance. The MUC can be determined mathematically by multiplying the assigned protection factor specified for a respirator by the required OSHA permissible exposure limit, short-term exposure limit, or ceiling limit. When no OSHA exposure limit is available for a hazardous substance, an employer must determine an MUC on the basis of relevant available information and informed professional judgment.

National Institute for Occupational Safety and Health (NIOSH)

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.

Permissible Exposure Limits The maximum concentration OSHA for an 8 hr work day.

Physician or other licensed health care professional (PLHCP) means 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 this section.

Positive pressure respirator means a respirator in which the pressure inside the respiratory inlet

Northern Maine Community College
Respiratory Protection Program

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.

Respiratory inlet covering means that portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a facepiece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

Self-contained breathing apparatus (SCBA) means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

Service life means the period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

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.

This section means this respiratory protection standard.

Tight-fitting facepiece means a respiratory inlet covering that forms a complete seal with the face.

User seal check means an action conducted by the respirator user to determine if the respirator is properly seated to the face.

Northern Maine Community College
Respiratory Protection Program

SECTION 2. PROGRAM RESPONSIBILITIES

- A. The President must take actions necessary to ensure that all units of the college are in compliance with this policy and with all pertinent federal and State regulations.
- B. The Director of Finance will retain all required records and documentation for NMCC employees. Records retained include record of medical fitness tests, respirator fit tests, and training records. The Health Center will retain the medical portion of the evaluation forms.
- C. The NMCC Safety Committee here after will serve in the capacity of the 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 of operations that require individuals to wear respirators
 - Select the proper respiratory protection for the hazard
 - Develop and implement the respiratory program
 - Develop policies and rules
 - Ensure that all individuals expected to use respirators are given a medical evaluation
 - 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
 - Ensure that the compressed air maintains Grade D quality or better, and the air compressor is serviced and tested as needed.

Northern Maine Community College
Respiratory Protection Program

D. Duties of the Department Supervisors and/or the Department Chairperson include:

- Ensure that individuals under their supervision have received appropriate training, fit testing, and medical evaluations per the established schedule
- Ensure the availability of the appropriate respirator for the identified hazard
- Enforcing the proper use of respirators where necessary

E. Each employee shall:

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

SECTION 3. SELECTION OF RESPIRATORS

The requirement for respirator use will be determined by the SDS instructions for the contaminants. NIOSH rated N95 or greater particulate respirators and/or negative flow respirator and/or forced air systems shall fall within this program and its requirements.

Where respirators are required, NMCC will furnish the employee with a suitable respirator, in accordance with the Hazard Assessment. The respirator will be furnished at no cost to the employee. The respirator 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 than the standard, the Department shall issue the individual the proper fitting mask.

Northern Maine Community College
Respiratory Protection Program

Respirator use when no hazards exist such as nuisance odor or dusts.

- If an employee wants to wear a respirator for a nuisance odor or dust issue, the supervisor must contact the program administrator for permission.
 - The Supervisor will keep a list of the people using respirators under this section as well as the style and type of mask they are using. Each mask will be marked with a large black X to identify the mask as not a part of the campus system.
 - NMCC may provide respirators at the request of employees or permit employees to use their own respirators for nuisance conditions and only for hazards below the OSHA PEL.
 - The respirator use will not, in itself, create a hazard.
 - If the program administrator determines that any voluntary respirator use is permissible, then NMCC shall provide the respirator users with the information contained in Appendix D to this section ("Information for Employees Using Respirators When Not Required Under the Standard").
 - A receipt that Appendix D has been given is also required.

SECTION 4. MEDICAL EVALUATIONS

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 confidentially. Copies of medical evaluations are kept in the NMCC Health Center.

A PLHCP at the NMCC Health Center will provide the medical evaluation. Medical evaluation procedures are as follows:

- The medical evaluation will be conducted using a questionnaire provided in Appendix E
 - All affected employees will be given a copy of the medical questionnaire to complete.
 - 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 requested
 - 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 2 years between the ages of 36-40
 - At least every five years up through age 35
- Or:

Northern Maine Community College
Respiratory Protection Program

- 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 the need for a 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 1920.120.

SECTION 5. PROCEDURES

A. 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, or
- when there are changes in the employee's physical condition that could affect respiratory fit.

Employees will be fit tested with the make, size, and model of respirator that will be used. Fit test records will be kept in the NMCC Health Center.

The Program Administrator will conduct tests following the protocols found in the standard.

B. Respirator use is required for all employees engaged and/or working in the following activities:

- application of spray paints according to the SDS instructions
- any incident that may cause exposure to a respiratory hazard. Employees will use their respirator 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 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 facepiece seal.

Northern Maine Community College
Respiratory Protection Program

Facial hair or any other hairstyle may not interfere with the face to facepiece seal.

- C. Non-disposable respirators are to be cleaned and disinfected after each use. The procedure for cleaning will be one of the following:

- manufacturer recommended procedure
- departmental procedure, per employee training
- procedure outlined in APPENDIX B

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.

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

- Facepiece: cracks, tears, holes, loose or damaged lens
- Head strap: tears or breaks or broken buckles
- Valves: dirt or residue or damage
- Gauges, regulators or air lines: damage, inaccuracy, leaks

Respirators shall be stored in a designated place in containers that prevent exposure to dirt and other contaminants.

- D. Supply air shall be Grade D quality. The Program Administrator shall ensure that the compressed air maintains Grade D quality and that the air compressor is serviced and tested at least annually.
- E. Annually, each employee who will use a respirator shall attend and successfully complete respirator training that is based on current OSHA/NFPA standards.

Training will be both knowledge and hands-on based, and will include:

- the need for respirator use, proper fit, use and maintenance,
- limitations and capabilities of the respirator,
- how to effectively use the respirator,
- how to inspect, Don, Doff, use, and perform seal checks,
- procedures for maintenance, field cleaning, and storage, and
- how to recognize medical symptoms that may compromise the safety of the wearer

- F. The Program Administrator shall annually, and as needed, evaluate the respiratory program to ensure that:

- current written programs are being effective and properly implemented,

Northern Maine Community College
Respiratory Protection Program

- employees are properly using the respirator, and that
- the program continues to be effective

G. 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. The review should be done at least annually.

The Department Supervisor shall review the Program Administrator's responsibilities, and the Program Administrator shall review the Department Supervisor's responsibilities, so that neither will solely perform their own review.

Appendix A

User Seal Check Procedures

The individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks listed in this appendix, or the respirator manufacturer's recommended user seal check method shall be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

I. Facepiece Positive and/or Negative Pressure Checks

- A. *Positive pressure check.* Close off the exhalation valve and exhale gently into the facepiece. The face fit is considered satisfactory, if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators, this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.
- B. *Negative pressure check.* Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s). Inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

II. Manufacturer's Recommended User Seal Check Procedures

The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures, provided that the employer demonstrates that the manufacturer's procedures are equally effective.

Appendix B

Respirator Cleaning Procedures

These procedures are provided for employer use when cleaning respirators. They are general in nature, and the employer, as an alternative, may use the cleaning recommendations provided by the manufacturer of the respirators used by their employees, provided such procedures are as effective as those listed here in Appendix B- 2. Equivalent effectiveness simply means that the procedures used must accomplish the objectives set forth in Appendix B-2, (i.e., must ensure that the respirator is properly cleaned and disinfected in a manner that prevents damage to the respirator and does not cause harm to the user).

I. Procedures for Cleaning Respirators

- A. Remove filters, cartridges or canisters. Disassemble facepieces by removing speaking diaphragms, demand and pressure- demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.
- B. Wash components in warm (43 deg. C [110 deg. F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.
- C. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain.
- D. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:
 1. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 deg. C (110 deg. F); or,
 2. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43 deg. C (110 deg. F); or,
 3. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
- E. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.
- F. Components should be hand-dried with a clean lint-free cloth or air-dried.

Northern Maine Community College
Respiratory Protection Program

- G. Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.
- H. Test the respirator to ensure that all components work properly.

Northern Maine Community College
Respiratory Protection Program

Appendix C

Fit testing procedures for N95 Respirators
(Using 3M FT-30, Bitter Fit Test Equipment)

NOTE: OSHA requires that a medical evaluation be conducted prior to fit testing. Subjects should be informed of the ingredients of the fit test solution and that they will be exposed to a fine mist.

Ingredients: Water, sodium chloride, denatonium benzoate.

Caution: Denatonium benzoate is a very bitter chemical used to keep children from ingesting consumer products. Keep out of the reach of children.

Read and become familiar with the fit testing equipment and respirator being tested.

Prepare Fit Test Form, complete at the conclusion of Fit Test.

Preparation of equipment:

1. Attach hood to collar by placing drawstring between flanges on collar. Tighten drawstring and tie with a square knot or bow.
2. Pour a small amount (approximately one teaspoonful) of the Sensitivity Test Solution into the nebulizer labeled “#1 Sensitivity Test Solution.”
3. Pour the same amount of Fit Test Solution into the second nebulizer labeled “#2 Fit Test Solution.”
4. Immediately recap the bottles.

Sensitivity Test

This test is done to assure that the person being fit tested can detect the bitter taste of the test solution at very low levels. The Sensitivity Test Solution is a very dilute version of the Fit Test Solution.

The test subject should not eat, drink (except water), or chew gum for 15 minutes before the test.

1. Have the test subject put on the hood and collar assembly without a respirator.
2. Position the hood assembly forward so that there is about six inches between the subject's face and the hood window.
3. Instruct the test subject to breathe through his/her mouth with tongue extended.
4. Using Nebulizer #1 with the Sensitivity Test Solution, inject the aerosol into the hood through the hole in the hood window. Inject ten squeezes of the bulb, fully collapsing and allowing the bulb to expand fully on each squeeze. Both plugs on the nebulizer must be removed from the openings during use. The nebulizer must be held in an upright position to ensure aerosol generation.
5. Ask the test subject if he/she can detect the bitter taste of the solution. If tasted, not the number of squeezes as 10 and proceed to the Fit Test.

Northern Maine Community College
Respiratory Protection Program

6. If not tasted, inject an additional ten squeezes of the aerosol into the hood. Repeat with ten more squeezes if necessary. Note whether 20 or 30 squeezes produced a taste response.
7. If 30 squeezes do not cause the subject to detect a bitter taste, the test is ended. Another type of fit test must be used.
8. Remove the test hood, and give the subject a few minutes to clear the taste from his/her mouth. It may be helpful to have the subject rinse his/her mouth with water.

Fit Test

1. Have the test subject don the respirator and perform a user seal check per the instructions provided on the respirator package.
2. Have subject wear any applicable safety equipment that may be worn during actual respirator use that could interfere with respirator fit.
3. Have the subject put on and position the test hood as before, and breathe through his/her mouth with tongue extended.
4. Using Nebulizer #2 with Fit Test Solution, inject the fit test aerosol using the same number of squeezes as required in the Sensitivity Test (10, 20 or 30). A minimum of ten squeezes is required, fully collapsing and allowing the bulb to expand fully on each squeeze. The nebulizer must be held in an upright position to ensure aerosol generation.
5. To maintain an adequate concentration of aerosol during this test, inject one-half the number of squeezes (5, 10, or 15) every 30 seconds for the duration of the fit test procedure.
6. After the initial injection of aerosol, ask the test subject to perform the following test exercises for 60 seconds each:
 - a. Normal breathing – In a normal standing position, without talking, the subject shall breath normally.
 - b. Deep breathing – In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.
 - c. Turning head side to side – standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.
 - d. Moving head up and down – standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (when looking toward the ceiling).
 - e. Talking – The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text, count backward from 100, or recite a memorized poem or song.
 - f. Bending over – The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place may be substituted for the exercise.
 - g. Normal breathing – Same as exercise a.
7. The test is terminated at any time the bitter taste of aerosol is detected by the subject because this indicates an inadequate fit. Wait 15 minutes and perform the sensitivity test again.
8. Repeat the fit test after redonning and readjusting the respirator. A second failure may indicate that a different size or model respirator is needed.
9. If the entire test is completed without the subject detecting the bitter taste of the aerosol, the test is successful and respirator fit has been demonstrated.

Northern Maine Community College
Respiratory Protection Program

10. Periodically check the nebulizer to make sure that it is not clogged. If clogging is found, clean the nebulizer and retest.

Cleaning

At the end of each session or at least every four hours, discard the unused solutions from the nebulizers. **Do not pour unused solutions back into bottles.** Rinse the nebulizers with warm water to prevent clogging and shake dry. Wipe out the inside of the hood with a damp cloth or paper towel to remove any deposited Test Solution.

Appendix D

Information for Employees Using Respirators When Not Required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

Northern Maine Community College
Respiratory Protection Program

Appendix E

OSHA Respirator Medical Evaluation Questionnaire

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:

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. 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-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).
12. Have you worn a respirator (circle one)? Yes/No

Northern Maine Community College
Respiratory Protection Program

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: 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

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?

Northern Maine Community College
Respiratory Protection Program

- | | |
|---|--------|
| 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 <i>ever had</i> 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 |

Northern Maine Community College
Respiratory Protection Program

- 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 Yes/No
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 or this questionnaire? Yes/No

Northern Maine Community College
Respiratory Protection Program

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece 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 ear drum? 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

Northern Maine Community College
Respiratory Protection Program

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 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: _____

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: _____

Northern Maine Community College
Respiratory Protection Program

5. List your previous occupations: _____

6. List your current and previous hobbies: _____

7. Have you served in the military? 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

Northern Maine Community College
Respiratory Protection Program

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.

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).

Northern Maine Community College
Respiratory Protection Program

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 to which you'll be exposed while 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 to which you'll be exposed, while using your respirator.

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

Northern Maine Community College
Respiratory Protection Program

Appendix F

Staff approved to wear Respirators

Bob Collins and lab assistant(s)

Frank Pytlak and lab assistant(s)

Fred Doody

Dave Cote

Bruce Dube

Kord Putman

Stephen Caron, Jr