



The Ohio State University
Respiratory Protection Program

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Plan prepared by:

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1.0 Introduction

1.1 The Ohio State University's Office of Environmental Health and Safety (EHS), in compliance with state laws, adopted from Federal Occupational Safety and Health Administration (OSHA) rules found at 29 CFR 1910.134, has developed this Respiratory Protection Program. In this document, 29 CFR 1910.134 is referred to as the *respiratory protection standard*.

2.0 Scope

2.1 This program applies to all faculty and staff employed by The Ohio State University, who are required to wear respiratory protection. This written Respiratory Protection Program includes policies and procedures for the following functions:

- Procedures for selecting respirators for use in the workplace.
- Medical evaluations of employees who are required to use respirators.
- Fit testing procedures for tight-fitting respirators.
- Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations.
- Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding and maintaining respirators.
- Procedures to ensure adequate air quality, quantity and flow of breathing air for atmosphere-supplying respirators.
- Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations.
- Training of employees in the proper use of respirators, including donning (putting on) and doffing (removing) them, any limitations to their use and their maintenance.
- Procedures for regularly evaluating the effectiveness of the Respiratory Protection Program.
- This plan does not address SCUBA users.

3.0 Responsibilities

3.1 The Office of Environmental Health & Safety

- 3.1.1 The Office of Environmental Health and Safety (EHS); upon the request of an employee, supervisor, or other departmental representative; will identify; through a respiratory job hazard analysis, or respiratory assessment form, those employees required to wear respirators while performing specific tasks as part of their work duties as a result of hazardous air contaminants.
- 3.1.2 If a respiratory hazard is thought to exist at a work site, the affected employee(s) should report them to their supervisor and he/she should contact EHS for consultation. If necessary, EHS will conduct on-site inspections and perform exposure monitoring, as needed, to determine the extent of hazardous airborne contaminants.
- 3.1.3 EHS will make a determination as to the need for and type of control measures to be instituted. The primary objective will be to prevent atmospheric contamination through the use of accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators will be selected and placed into service for affected workers.
- 3.1.4 EHS is responsible for administration of the Respiratory Protection Program. The respiratory protection standard requires that an administrator be appointed to oversee the Respiratory Protection Program and its implementation. The Administrator must be qualified by appropriate training to administer and oversee the respiratory protection program. This person must have experience commensurate with the complexity of the Respiratory Protection Program at The Ohio State University. The Program Administrator will conduct evaluations of the program's effectiveness. The Program Administrator will require department supervisors, managers or directors (departmental representative) of those employees required to use respirators to act as assistants to the program administrator to ensure departmental compliance.

3.2 Departments/Colleges

- 3.2.1 Departments with employees required to wear respirators must provide the applicable and suitable equipment (i.e., respirators, cleaning supplies, spare parts, etc.) for the purpose intended. The provision of respirators for voluntary use (no

documented need) by employees will be at the discretion of EHS and the employees' department.

3.2.2 Departments with employees using respirators must have departmental personnel responsible for the following:

3.2.2.1 Implementing and overseeing the Respiratory Protection Program within the department.

3.2.2.2 Supervising those required to wear respiratory protective equipment.

3.2.2.3 Ensure the proper use of respirators.

3.2.2.4 Assist the EHS Program Administrator in coordinating fit testing

3.2.2.5 Be available for consultation by employees, as needed.

3.3 Respirator Users

3.3.1 Employees who use respiratory protective equipment (mandatory use and voluntary use) are required to comply with the policies and procedures found in this document. These are general policies and can be universally applied. Job site and job task-specific procedures may be in place and used for each department and task requiring respiratory protection and should be addressed in department specific standard operating procedures (SOPs).

4.0 Definitions

The following definitions are important terms used in the respiratory protection standard and in The Ohio State University's Respiratory Protection Program.

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 including supplied-air respirators (SAR) and self-contained breathing apparatus (SCBA) units.

Canister or cartridge: 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: An atmosphere-supplying respirator that admits breathing air to the face piece only when a negative pressure is created inside the face piece by inhalation.

Emergency situation: Any occurrences such as, but not limited to, equipment failure, rupture of containers or failure of control equipment resulting in an uncontrolled significant release of an airborne contaminant.

Employee exposure: 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): 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: A respirator intended to be used only for emergency exit.

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

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

Fit factor: 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: The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.

Helmet: A rigid respiratory inlet covering that also provides head protection against impact and penetration.

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

Hood: 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): 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.

Loose-fitting face piece: A respiratory inlet covering that is designed to form a partial seal with the face.

Negative pressure respirator (tight fitting): A respirator in which the air pressure inside the face piece is negative during inhalation with respect to the ambient air pressure outside the respirator.

NIOSH: The National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services. This organization tests and certifies respirators and filter media for use in the workplace.

Oxygen deficient atmosphere: An atmosphere with oxygen content below 19.5% by volume.

Physician or other licensed health care professional (PLHCP): 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 the respiratory protection standard.

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 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 face piece when the positive pressure is reduced inside the face piece by inhalation.

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

Quantitative fit test (QNFT): An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

Respiratory inlet covering: The 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 face piece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

Respiratory protection standard: Title 29 US Code of Federal Regulations Section 1910.134.

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

Service life: 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: An atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

Tight-fitting face piece: A respiratory inlet covering that forms a complete seal with the face.

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

5.0 Voluntary Respirator Use

- 5.1 When respiratory protection is not mandated by the need to protect the health of the employee as determined by job site evaluation, provisions may be made for the voluntary or elective use of respirators. Departments may provide respirators at the request of employees or permit employees to use their own respirators, if such respirator use will not in itself create a hazard. The decision to use non-mandatory respiratory protection will be made by the employing department in consultation with EHS. Such situations may occur on job sites where nuisance dust is generated below the permissible exposure limit, where objectionable odors are present below hazardous exposure levels or when mold exposure is resulting in reactions in sensitive individuals.
- 5.2 Non-mandatory use of respirators does not carry the same program requirements as mandatory use. The program to be followed for non-mandatory respirators will be designed on a case-by-case basis for each job site and task. At the minimum, if elective respirator use is permissible, the plan administrator will provide the respirator users with the information contained in Appendix D of the respiratory protection standard titled "Information for Employees Using Respirators When Not Required under the Standard" as follows.
- 5.2.1 Voluntary use of a filtering facepiece (i.e. particulate respirator) does not require medical clearance prior to use.
 - 5.2.2 Voluntary use of a tight-fitting respirator (i.e. full-face or half-face air purifying; or supplied air respirators) does require medical clearance prior to use (see Section 7.0).
 - 5.2.3 The plan administrator will establish and implement those elements of a written respiratory protection program necessary to ensure that any employee using a respirator voluntarily is able to use that respirator.
 - 5.2.4 The respirator must be cleaned, stored and maintained so its use does not present a health hazard to the user. If elective use of respirators involves only the use of filtering face pieces (dust masks), this use is not required to be included in the written respiratory protection program. Provisions for the elective use of filtering face pieces will be made on a case-by-case basis.

Appendix D to Sec. 1910.134 (Non-Mandatory) 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 follow 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.

6.0 Selection of Respiratory Protective Equipment

When respirator use is required, respirators, training, and medical evaluations must be provided at no cost to the employee. The employing department or unit is responsible for purchasing respiratory protective equipment. Training will be arranged through consultation with EHS and will be conducted by EHS staff or other appropriate group. The Ohio State University Employee Health Services shall conduct medical evaluations. Other arrangements can be made as necessary.

All respirators used by employees must be NIOSH-certified models. All use of selected respirators must be in compliance with the conditions of their NIOSH certification.

Prior to the selection and use of respirators, EHS will identify and evaluate the respiratory hazard(s) in each work site for each job task through a job hazard analysis (JHA); and document the findings on the Respiratory Hazard Evaluation Form (Appendix A). This evaluation will include a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. Where the employee exposure cannot be identified or reasonably estimated, EHS will consider the atmosphere to be IDLH.

References such as product labels, safety data sheets (SDS), reference texts and communication with product manufacturers will be used to determine the chemical and physical form of air contaminants. Monitoring equipment (active pumps/filters or passive badges) will be used to quantify the level of employee exposure to air contaminants, where feasible. Where monitoring is not feasible, reference to accepted, published research and consensus standards will be used to estimate exposures. Contaminant identity and exposure levels will be compared to OSHA exposure limits and/or accepted consensus standards to determine the degree of respiratory protection required for each task.

In addition to employee exposures, workplace and user factors affecting respirator performance and reliability will be considered. Such workplace and user factors include:

- Other personal protective equipment necessary for the job task that may affect the fit of the respirator or the stress experienced by the user.
- The duration and frequency of respirator use and whether it is routine, periodic or emergency use.
- Worksite factors such as temperature, humidity and expected physical work effort.
- Any physical limitations of the employee or their tolerance to job site stressors that may limit the use of a respirator. These will be assessed during the Medical Evaluation.

The selection of respirators will be made from a sufficient number of respirator models and sizes so the respirator is acceptable to and correctly fits the user.

6.1 Selection of Respirators for IDLH Atmospheres

- 6.1.1 All oxygen-deficient atmospheres (< 19.5%) will be considered IDLH. Exception: If it is demonstrated that, under all foreseeable conditions, the oxygen concentration can be maintained within the ranges specified in Table I, any atmosphere-supplying respirator may be used.

Altitude (feet)	Oxygen deficient atmospheres (%O ₂) for which atmosphere supplying respirators may be used
Less than 3,001	16.0 – 19.5
3,001 – 4,000	16.4 – 19.5
4,001 – 5,000	17.1 – 19.5
5,001 – 6,000	17.8 – 19.5
6,001 – 7,000	18.5 – 19.5
7,001 – 8,000*	19.3 – 19.5

*Above 8,000 feet the exception does not apply. Oxygen-enriched breathing air must be supplied above 14,000 feet.

- 6.1.2 If the employee(s) will enter work sites where an IDLH atmosphere is present or expected, or where an unknown respiratory hazard exists, a selection will be made from among the following respirator types:
- Full-face piece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes or;
 - Combination full-face piece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.
- 6.1.3 Respirators provided only for escape from IDLH atmospheres will be NIOSH-certified for escape from the atmosphere in which they will be used.

6.2 Selection of Respirators for Non-IDLH Atmospheres

- 6.2.1 The respirators selected for non-IDLH work sites shall be adequate to protect the health of the employee and ensure compliance with OSHA regulatory requirements under routine and reasonably foreseeable emergency situations. Respirators selected shall be appropriate for the chemical state and physical form of the contaminant(s) present.

6.2.2 For protection against gases and vapors, the respirator selected shall be:

- An atmosphere-supplying respirator; or
- An air-purifying respirator, provided that:
 - The respirator is equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or
 - If there is no ESLI appropriate for the work site conditions, a change-out schedule to be implemented for canisters and cartridges based on objective information or data that will ensure canisters and cartridges are changed before the end of their service life. This information shall be documented in a department-specific respiratory protection program.

6.2.3 For protection against particulates, the respirator selected shall be:

- A filtering facepiece (dust mask) with a filter rating of at least 95% to 99.97% rating, in removing monodisperse particles of 0.3 micrometers and larger in diameter, with a P (oil Proof), N (Not resistant to oil) or R (Resistant to oil) prefix depending upon application; or,
- An atmosphere-supplying respirator; or,
- An air-purifying respirator equipped with a filter certified by NIOSH as a high efficiency particulate air (HEPA) filter, or,
- An air-purifying respirator equipped with a filter certified for particulates by NIOSH; or,
- For contaminants consisting primarily of particles with diameters of at least 2 micrometers and larger, an air- purifying respirator equipped with any filter certified for particulates by NIOSH.

6.2.4 A Respiratory Hazard Evaluation Form (Appendix A) shall be completed for each work site and task prior to a final respirator selection. This form will document the workplace conditions, airborne contaminants, physical factors and other protective equipment needed for the job site. This form will serve as a guide for the evaluator to ensure all necessary elements are considered in the selection of respirators.

7.0 Medical Evaluation

- 7.1 Due to the nature of respirator use placing a potential physiological burden on the user, a medical evaluation is required for all respiratory protection users to determine their fitness for respirator use. The department hiring an employee (that is required to wear a respirator due to an occupational exposure) is required to arrange a medical evaluation through Employee Health Services. The completion of the Online Risk Assessment Tool (ORAT) should be utilized for this purpose. The ORAT will walk employers/employees through the process for assessing any job-based risks, including respiratory hazards. The submission of the completed ORAT will also provide the opportunity to consult and/or schedule a medical evaluation with Employee Health Services. Accordingly, this section specifies requirements for medical evaluation used to determine the employee's ability to use a respirator.
- 7.2 Employee Health Services will provide a medical evaluation to determine an employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace. Discontinuation of an employee's medical evaluations will occur when the employee is no longer required to use a respirator.
- 7.3 Employee Health Services or other physician or licensed health care professional (PLHCP) will perform medical evaluations using a medical questionnaire and/or an initial medical examination that obtains the information required by OSHA's medical questionnaire as follows. This service will be provided at no cost to the employee.
- 7.3.1 For regional campuses and other situations where necessary, medical evaluation is provided by the physician or licensed health care professional (PLHCP) responsible for occupational medicine.
- 7.3.2 Where medical evaluation is required for voluntary respirator use (tight-fitting respirators), PLHCP medical evaluation is acceptable provided the appropriate paperwork accompanies the user during respirator use and is provided to the plan administrator.

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) Every employee who has been selected to use any type of respirator must provide the following information (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
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
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
 - e. 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

7.3.3 A follow-up medical examination will be provided for any employee who gives a positive response to any question among questions 1 through 8 in Section 2, Part A of OSHA's Medical Questionnaire or whose initial medical examination demonstrates the need for a follow-up medical examination. The follow-up medical examination will include any medical tests, consultations or diagnostic procedures that necessary to make a final determination as to the employee's fitness for respirator use.

7.3.4 Information provided on the medical questionnaire shall remain confidential and will be provided to the employee during normal working hours. The medical questionnaire will be administered in a manner to ensure the employee understands its content. Employee Health Services will provide the employee with an opportunity to discuss the questionnaire and examination results.

7.4 Supplemental Information for the PLHCP

7.4.1 Supplemental information can be obtained by contacting the user's department directly. Environmental Health & Safety can assist the PLHCP in acquiring the below listed information as necessary:

- The type and weight of the respirator to be used by the employee;
- The duration and frequency of respirator use (including use for rescue and escape);
- The expected physical work effort;
- Additional protective clothing and equipment to be worn;
- Temperature and humidity extremes that may be encountered, and;
- Hazardous air contaminants to which the employee will be exposed

7.4.2 If an outside physician or licensed health care professional is performing the medical evaluation, EHS will provide the PLHCP with a copy of the Written Respiratory Protection Program and a copy of the respiratory protection standard.

7.5 Medical Determination

7.5.1 When Employee Health Services clears an employee to use a respirator, EHS will obtain a Medical Clearance Form for Respirator Use (Appendix C) outlining the employee's ability to use the prescribed respirator. The recommendation will provide the following information

- Limitations, if applicable, on respirator use related to a medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator;
- The need, if any, for follow-up medical evaluations; and,
- A statement that the employee has been provided a copy of the Medical Clearance Form.

7.5.2 If the assigned respirator is a negative pressure respirator and the medical evaluation reveals a medical condition that may place the employee's health at increased risk if the respirator is used, departments will provide a powered air-purifying respirator (PAPR), provided the medical evaluation finds the employee can use such a respirator. If a subsequent medical evaluation determines the employee is medically able to use a negative pressure respirator, then the PAPR can be replaced with a negative pressure respirator.

7.6 Additional Medical Evaluations

7.6.1 Employee Health Services will provide additional medical evaluations that comply with the requirements noted above if:

- An employee reports medical signs or symptoms related to their ability to use a respirator;
- Employee Health Services, the supervisor or the respiratory program administrator informs the employee they must be reevaluated;
- Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation; or
- A change occurs in workplace conditions (physical work effort, protective clothing, temperature, etc.), which may result in a substantial increase in the physiological burden placed on the employee.

8.0 Respirator Fit Testing

Fit testing of respirators will be conducted for all tight fitting face piece types. EHS will provide fit testing to employees required to use any respirator with a negative or positive pressure tight-fitting face piece. The employee will be fit tested with the same make, model, style and size of respirator that will be used in their workplace. This section specifies the fit testing procedures and interpretation of results.

8.1 EHS will ensure that employees using a tight-fitting face piece respirator pass an appropriate quantitative fit test (QNFT) as outlined in this section.

8.2 The respirator user shall be fit tested prior to initial use of the respirator, and at least annually thereafter.

8.2.1 EHS shall contact respirator users for initial and annual fit test scheduling.

8.3 Respirator users shall receive training prior to, and during fit testing. Upon completion of a fit test, the user's fit test results will be stored electronically. Users may also request a certification card at the completion of a fit test.

8.4 Additional testing:

8.4.1 EHS will conduct additional fit testing whenever the employee reports, or Employee Health Services, supervisor or program administrator makes visual observations of changes in the employee's physical condition, which 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.

8.4.2 If after passing fit test, the employee subsequently notifies EHS, Employee Health Services, the program administrator, or their supervisor the fit of the respirator is unacceptable; the employee will be given a reasonable opportunity to select a different respirator and be re-tested.

8.5 Fit tests shall be administered by EHS using an OSHA-accepted QNFT protocol as outlined in 29 CFR 1910.134 Appendix A-Fit Testing Procedures.

8.5.1 Quantitative Fit Testing (QNFT) shall be administered if the fit factor for the respirator is equal to or greater than 100 for tight-fitting half face pieces, or equal to or greater than 500 for tight fitting full face pieces.

8.5.1.1 Quantitative fit testing will be conducted using ambient aerosol (salt tablet particulate generator) as the test agent and appropriate instrumentation (condensation nuclei counter) to quantify the respirator fit.

8.5.1.1.1 The ambient aerosol condensation nuclei counter (CNC) quantitative fit testing (Portacount™) protocol quantitatively fit tests respirators with the use of a probe. The probed respirator is only used for quantitative fit tests. A probed respirator has a special sampling device, installed on the respirator, which allows the probe to sample the air from inside the mask. A probed respirator is required for each make, style, model and size used and can be obtained from the respirator manufacturer or distributor. The CNC instrument manufacturer, TSI Inc., and certain respirator manufacturers also provide probe attachments (sampling adapters), which permit fit testing in an employee's own respirator. A minimum fit factor pass level of at least 100 is necessary for a half-mask respirator and a minimum fit factor pass level of at least 500 is required for a full-face piece negative pressure respirator. The entire screening and testing procedure will be explained to the test subject prior to the conduct of the screening test.

Portacount Fit Test Requirements

1. Check the respirator to make sure it is fitted with a high-efficiency filter and that the sampling probe and line are properly attached to the face piece.
 2. Instruct the person to be tested to don the respirator for five minutes before the fit test starts. This purges the ambient particles trapped inside the respirator and permits the wearer to make certain the respirator is comfortable. The individual will already have been trained on how to wear the respirator properly.
 3. Check the following conditions for the adequacy of the respirator fit: chin properly placed, adequate strap tension, not overly tightened; fit across nose-bridge, respirator of proper size to span distance from nose to chin, tendency of the respirator to slip and self observation in a mirror to evaluate fit and respirator position.
 4. Have the person wearing the respirator do a user seal check. If leakage is detected, determine the cause. If leakage is from a poorly fitting face piece, try another respirator.
 5. Follow the manufacturer's instructions for operating the Portacount and proceed with the test.
 6. The test subject will be instructed to perform the QNFT exercises.
 7. The test subject will be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another respirator will be tried.
- The Portacount will automatically stop and calculate the overall fit factor for the entire set of exercises. The Pass or Fail message will indicate whether or not the test was successful. If the test was a Pass, the fit test is over.
 - Since the pass or fail criterion of the Portacount is user programmable, the test operator will

ensure that the pass or fail criterion meets the requirements for minimum respirator performance according to the respiratory protection standard.

- A record of the test will be kept on file, assuming the fit test was successful. The record must contain the test subject's name, overall fit factor, make, model, style and size of respirator used; and date tested.

8.5.2 Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators will be accomplished by performing quantitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) used for respiratory protection.

8.5.2.1 Modifications shall be made to the respirator to allow for fit testing to be conducted as a negative pressure device.

8.5.3 Any modifications to the respirator face piece for fit testing will be completely removed, and the face piece restored to NIOSH-approved configuration, before that face piece can be used in the workplace.

8.6 General Fit Testing Procedures – The following general fit testing procedures shall be utilized for all QNFT as provided in Appendix A to 29 CFR 1910.134

Table A-1-- Modified Ambient Aerosal CNC Quantitative Fit Testing Protocol for Full Facepiece and Half-Mask Elastomeric Respirators

Exercises ¹	Exercise procedure	Measurement procedure
Bending Over	The test subject shall bend at the waist, as if going to touch his/her toes for 50 seconds and inhale 2 times at the bottom ² .	A 20 second ambient sample, followed by a 30 second mask sample.
Jogging-in-Place	The test subject shall jog in place comfortably for 30 seconds	A 30 second mask sample.
Head Side-to-Side	The test subject shall stand in place, slowly turning his/her head from side to side for 30 seconds and inhale 2 times at each extreme ² .	A 30 second mask sample.
Head Up-and-Down	The test subject shall stand in place, slowly moving his/her head up and down for 39 seconds and inhale 2 times at each extreme ² .	A 30 second mask sample followed by a 9 second ambient sample.

¹Exercises are listed in the order in which they are to be administered.

²It is optional for test subjects to take additional breaths at other times during this exercise.

5. Modified ambient aerosol condensation nuclei counter (CNC) quantitative fit testing protocol for filtering facepiece respirators.

(a) When administering this protocol to test subjects, employers shall comply with the requirements specified in Part I.C.3 of this appendix (ambient aerosol condensation nuclei counter (CNC) quantitative fit testing protocol), except they shall use the test exercises described below in paragraph (b) of this protocol instead of the test exercises specified in section I.C.3(a) (6) of this appendix.

(b) Employers shall ensure that each test subject being fit tested using this protocol follows the exercise and duration procedures, including the order of administration, described in Table A-2 of this appendix

TABLE A-2— MODIFIED AMBIENT AEROSAL CNC QUANTITATIVE FIT TESTING PROTOCOL FOR FILTERING FACEPIECE RESPIRATORS

Exercises ¹	Exercise procedure	Measurement procedure
Bending Over	The test subject shall bend at the waist, as if going to touch his/her toes for 50 seconds and inhale 2 times at the bottom ² .	A 20 second ambient sample, followed by a 30 second mask sample.
Talking	The test subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor for 30 seconds. He/she will either read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.	A 30 second mask sample.
Head Side-to-Side	The test subject shall stand in place, slowly turning his/her head from side to side for 30 seconds and inhale 2 times at each extreme ² .	A 30 second mask sample.
Head Up-and-Down	The test subject shall stand in place, slowly moving his/her head up and down for 39 seconds and inhale 2 times at each extreme ² .	A 30 second mask sample followed by a 9 second ambient sample.

¹Exercises are listed in the order in which they are to be administered.

²It is optional for test subjects to take additional breaths at other times during this exercise.

9.0 Respirator Use

9.1 Face Seal Protection: respirators with tight fitting face pieces shall not be worn by employees having:

9.1.1 Facial hair between the sealing surface of the face piece and the face or that interferes with valve function; or,

9.1.2 Any condition that interferes with the face-to-face piece seal or valve function.

9.2 Employees who wear corrective glasses or goggles or other personal protective equipment, shall wear such equipment in a manner that does not interfere with the seal of the face piece.

9.2.1 If necessary, corrective lenses shall be incorporated into the respirator with an approved spectacle kit, specific to the chosen respirator.

9.3 For tight-fitting respirators, users shall perform a user seal check each time they put on the respirator using the procedures in OSHA's Appendix B-1 or other appropriate procedures recommended by the respirator manufacturer that are as effective as those in Appendix B-1.

Appendix B-1 to Sec. 1910.134: User Seal Check Procedures (Mandatory)

The individual who uses a tight-fitting respirator is to perform a user seal check to ensure 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 manufacturers recommended user seal check method shall be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

Positive pressure check: Close off the exhalation valve and exhale gently into the face piece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the face piece 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.

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 face piece collapses slightly, and hold 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 face piece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

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 the employer demonstrates the manufacturer's procedures are equally effective.**

9.4 Continuing Respirator Effectiveness

- 9.4.1 Supervisors are responsible for respirator user oversight and monitoring. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the respirator shall be reevaluated for effectiveness.
- 9.4.2 Employees shall leave the respirator use area whenever it is necessary to perform the following operations:
- To wash their faces and respirator face pieces as necessary to prevent eye or skin irritation associated with respirator use;
 - If they detect vapor or gas breakthrough, changes in breathing resistance or leakage of the face piece; or,
 - To replace the respirator or the filter, cartridge or canister elements.
- 9.4.3 If vapor or gas breakthrough is detected, there are changes in breathing resistance and/or leakage of the face piece is detected; the respirator shall be removed in a safe area and replaced or repaired prior to reuse.

9.5 Procedures for IDLH Atmospheres

- 9.5.1 The following procedures apply to all IDLH atmospheres:
- At least one employee will be located outside the IDLH atmosphere with a line of communication for emergency services.
 - Visual, voice or signal line communication will be maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere.
 - The employee(s) located outside the IDLH atmosphere will be trained and equipped to provide effective emergency rescue.
 - Supervisors shall be notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue.
 - EHS may be contacted to provide necessary assistance in emergency situations.
 - Employee(s) located outside the IDLH atmospheres will be equipped with:
 - Pressure demand or other positive pressure SCBA or supplied-air respirator with auxiliary SCBA; and
 - Appropriate retrieval and/or rescue equipment for removing the employee(s) who enter hazardous atmospheres.

Equipment shall not create an additional hazard to personnel in an IDLH environment.

10.0 Maintenance and Care of Respirators

10.1 Cleaning and Disinfecting: Respirator users shall be supplied with a respirator that is clean, sanitary and in good working order. Respirators must be cleaned and disinfected using the procedures in OSHA's Appendix B-2, or procedures recommended by the respirator manufacturer, provided such procedures are of equivalent effectiveness. The respirators shall be cleaned and disinfected at the following intervals:

- 10.1.1 Respirators issued for the exclusive use of an employee will be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.
- 10.1.2 Respirators issued to more than one employee will be cleaned and disinfected before being worn by different individuals.
- 10.1.3 Respirators maintained for emergency use will be cleaned and disinfected after each use.
- 10.1.4 Respirators used in fit testing and training will be cleaned and disinfected after each use.

Appendix B-2 to Sec. 1910.134: Respirator Cleaning Procedures (Mandatory)

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 the procedures used must accomplish the objectives set forth in Appendix B-2, i.e., must ensure the respirator is properly cleaned and disinfected in a manner that prevents damage to the respirator and does not cause harm to the user.

Procedures for Cleaning Respirators

- A. Remove filters, cartridges, or canisters. Disassemble face pieces 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 degree C [110 degree F] maximum) water with 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 degree C [110 degree 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:
 - Hypochlorite solution (50 PPM of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 degrees C (110 degrees F); or,
 - 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 degrees C (110 degrees F); or,
 - 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 degrees C [110 degrees F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on face pieces 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.
- G. Reassemble face piece, replacing filters, cartridges and canisters where necessary.
- H. Test the respirator to ensure all components work properly.

10.2 Storage of Respirators: Respirators shall be stored as follows:

10.2.1 All respirators will be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture and damaging chemicals; and they will be packed or stored to prevent deformation of the face piece and exhalation valve.

10.2.2 In addition to the storage requirements stated above, emergency respirators will be:

10.2.2.1 Kept accessible to the work area;

10.2.2.2 Stored in compartments or in covers that are clearly marked as containing emergency respirators; and,

10.2.2.3 Stored in accordance with any applicable manufacturer instructions.

10.3 Respirator Inspection: Respirators will be inspected as follows:

10.3.1 All respirators used in routine situations will be inspected before each use and during cleaning;

10.3.2 All respirators maintained for use in emergency situations will be inspected at least monthly and in accordance with the manufacturer's recommendations, and will be checked for proper function before and after each use; and,

10.3.3 Emergency escape-only respirators will be inspected before being carried into the workplace for use.

10.3.4 Respirator inspections will include the following:

- 10.3.4.1 A check of respirator function, tightness of connections and the condition of the various parts including, but not limited to, the face piece, head straps, valves, connecting tube and cartridges, canisters or filters; and,
- 10.3.4.2 A check of elastomeric parts for pliability and signs of deterioration.
- 10.3.5 In addition to the aforementioned requirements, self-contained breathing apparatus will be inspected monthly. Air and oxygen cylinders will be maintained in a fully charged state and will be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level.
 - 10.3.5.1 Refer to the SCBA manufacturer specifications for inspection items.
- 10.3.6 The following additional procedures will be performed for respirators maintained for emergency use:
 - 10.3.6.1 The respirator will be certified by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action and a serial number or other means of identifying the inspected respirator; and,
 - 10.3.6.2 This information will be provided on a tag or label that is attached to the storage compartment for the respirator.
- 10.4 Respirator Repairs: Respirators that fail an inspection or are otherwise found to be defective will be removed from service, and will be discarded or repaired or adjusted in accordance with the following procedures:
 - 10.4.1 Repairs or adjustments to respirators will be made only by persons appropriately trained to perform such operations and will use only the respirator manufacturer's NIOSH-approved parts designed for the respirator;
 - 10.4.2 Repairs will be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and,
- 10.5 Breathing Air Quality and Use: Respirator users required to utilize supplied air and SCBA respirators shall be provided breathing gases of high purity as follows:
 - Compressed and liquid oxygen will meet the United States Pharmacopoeia requirements for medical or breathing oxygen; and,

- Compressed breathing air will meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:
 - Oxygen content (v/v) of 19.5-23.5%;
 - Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;
 - Carbon monoxide (CO) content of 10 PPM or less;
 - Carbon dioxide content of 1,000 PPM or less; and,
 - Lack of noticeable odor.

10.5.1 Compressed oxygen will not be used in atmosphere-supplying respirators that have previously used compressed air.

10.5.2 Cylinders used to supply breathing air to respirators will meet the following requirements:

- Cylinders will be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173 and part 178);
- Cylinders of purchased breathing air will have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing; and,
- The moisture content in the cylinder will not exceed a dew point of -50 degrees F (45.6 degrees C) at 1 atmosphere pressure

10.5.3 Compressors used to supply breathing air to respirators will be constructed and situated so as to:

- Prevent entry of contaminated air into the air-supply system;
- Minimize moisture content so that the dew point at 1 atmosphere pressure is 10 degrees F (5.56 degrees C) below the ambient temperature;
- Have suitable in-line air-purifying sorbent beds and filters to further ensure breathing air quality. Sorbent beds and filters will be maintained and replaced or refurbished periodically following the manufacturer's instructions.
- Have a tag containing the most recent change date and the signature of the person authorized to perform the change. The tag will be maintained at the compressor.

10.5.4 For compressors that are not oil-lubricated, carbon monoxide levels in the breathing air will not exceed 10 PPM.

10.5.5 For oil-lubricated compressors, a high-temperature or carbon monoxide alarm, or both will be used to monitor carbon monoxide levels. If only high-temperature alarms are used, the air supply will be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 PPM.

10.5.6 Breathing air couplings will be incompatible with outlets for non-respirable worksite air or other gas systems. No asphyxiating substance will be introduced into breathing air lines.

10.5.7 Breathing gas containers marked in accordance with the NIOSH respirator certification standard, 42 CFR part 84 will be used.

10.6 Identification of Filters, Cartridges and Canisters

10.6.1 All filters, cartridges and canisters used in the workplace shall be labeled and color-coded with the NIOSH approved label. Labels must not be removed and shall remain legible at all times.

11.0 Training

- 11.1 Training will be provided to respirator users by EHS such that each employee will be able to demonstrate knowledge of at least the following:
- Why the respirator is necessary and how improper fit, usage or maintenance can compromise the protective effect of the respirator;
 - Limitations and capabilities of the respirator;
 - Respirator use in emergency situations, including situations in which the respirator malfunctions;
 - How to inspect, don and doff, and check the seals of the respirator;
 - Procedures for maintenance and storage of the respirator;
 - Recognizing medical signs and symptoms that may limit or prevent the effective use of respirators; and,
 - General requirements of the respiratory protection standard.
- 11.2 The training will be conducted in a manner that is understandable to the employee.
- 11.3 Training will be provided prior to requiring the employee to use a respirator in the workplace.
- 11.4 Re-training will be administered annually, and when the following situations occur:
- Changes in the workplace or the type of respirator render previous training obsolete;
 - Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or,
 - Any other situation arises in which re-training appears necessary to ensure safe respirator use.
- 11.5 The basic advisory information on respirators, as presented in Appendix D of the respiratory protection standard, will be provided in written or oral format to employees who wear respirators when such use is not mandatory.

12.0 Program Evaluation

At the direction and guidance of the respiratory program administrator, departmental representatives will conduct evaluations of the workplace to ensure this Written Respiratory Protection Program and the work site-specific programs are being properly implemented. During the evaluations, the departmental representative will consult employees to ensure they are using the respirators properly.

12.1 Evaluations of the workplace will be conducted as necessary to ensure the provisions of the current written programs are being effectively implemented and continue to be effective. Employees required to use respirators will be regularly consulted to assess the employees' views on program effectiveness and to identify any problems. Any problems identified during this assessment will be corrected. Factors to be assessed include, but are not limited to:

12.1.1 Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);

12.1.2 Appropriate respirator selection for the hazards the employee is exposed;

12.1.3 Proper respirator use under the workplace conditions the employee encounters;
and,

12.1.4 Proper respirator maintenance.

13.0 Recordkeeping

- 13.1 Medical evaluation records required by this section will be retained by Employee Health Services (on the employee's chart) and made available in accordance with 29 CFR 1910.1020.
- 13.2 Fit testing records will be established and maintained by EHS for qualitative and quantitative fit tests administered to employees including:
 - 13.2.1 The name or identification of the employee tested;
 - 13.2.2 Type of fit test performed;
 - 13.2.3 Specific make, model, style and size of respirator tested;
 - 13.2.4 Date of test and,
 - 13.2.5 The pass/fail results for QLFTs.
- 13.3 Fit test records will be retained for respirator users until the next fit test is administered.
- 13.4 EHS will retain a copy of the current written respirator program.
- 13.5 Written materials, which are required to be retained under the respiratory protection standard, will be made available upon request to affected employees and to the authorities having jurisdiction or designee for examination and copying.

Appendix A: Respiratory Hazard Evaluation Form



Environmental Health and Safety
 1314 Kinnear Road (Room 106)
 Columbus OH 43210-1168
 Phone (614) 292-1284
 Fax (614) 123-4567
www.ehs.osu.edu

Respiratory Hazard Evaluation

Date:		Department:	
Contact Name:			
Location(s):			
Job Task(s):			

What are potential respiratory hazards associated with this task (List products and materials)?

Type of task:

	Routine (at least once per month)
	Non-Routine (less than once per month)
	Emergency use only

Air Contaminants:

Chemical Hazards:	
Particulate Hazards:	

Oxygen Deficient Atmosphere?

Yes:		No:	
If Yes, provide percent range:			

List each air contaminant and its characteristics:

Contaminant:											
	Gas:		Vapor:		Fume:						
	Mist:		Dust:		Biological:						
	Concentration:		Measured:		Estimated:						
	Device:										
	Mean aerodynamic diameter:		Measured:		Estimated:						
	Device:										
	PEL:		STEL:		TLV:		IDLH:				
	Carcinogen?	Yes:		No:							
	Is there a substance-specific standard?	Yes:		No:							

BUT FOR OHIO STATE

Contaminant:									
Gas:			Vapor:			Fume:			
Mist:			Dust:			Biological:			
Concentration:			Measured:			Estimated:			
Device:									
Mean aerodynamic diameter:			Measured:			Estimated:			
Device:									
PEL:		STEL:		TLV:		IDLH:			
Carcinogen?			Yes:		No:				
Is there a substance-specific standard?			Yes:		No:				
Contaminant:									
Gas:			Vapor:			Fume:			
Mist:			Dust:			Biological:			
Concentration:			Measured:			Estimated:			
Device:									
Mean aerodynamic diameter:			Measured:			Estimated:			
Device:									
PEL:		STEL:		TLV:		IDLH:			
Carcinogen?			Yes:		No:				
Is there a substance-specific standard?			Yes:		No:				

What engineering controls are in place?

What engineering controls could be added to reduce exposure?

What other personal protective equipment is required for this task?

List workers and any physical factors:

Name	Facial scarring, dentures, beard, other?	Medical limitations (from medical evaluation)

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Respirator(s) Recommended (type, media, configuration):

Type	Media	Configuration

Comments:

Evaluator name:	
Evaluator Signature:	

Appendix B – Employee Health Services Medical Clearance Form

Medical Center

Employee Health Services

2100A Cramblett Hall
456 W 10th Ave
Columbus, OH 43210
Phone: 614.293.8146
Fax: 614.293.8018

CLEARANCE FOR DUTY

_____ Medical Record Number

____ **Respirator & Protective Equipment Use**

____ This individual is medically cleared for respirator fit testing and use without limitations.

____ This individual is medically cleared for respirator fit testing and use with limitations as checked:

____ Cleared for N95 respirator only.

____ Cleared for half face respirator only

____ Full face respirator requires corrective lens inserts or use of contact lenses

____ May use only powered air respirator or hood

____ Not to use SCBA, impermeable or encapsulating suite (NIOSH level A or B)

____ Not cleared for rescue or re-entry into hazardous area

____ Cleared for emergency escape use only

____ Use only non-latex containing respirator (face seal, valves); may use silicone

____ rubber

____ Other _____

____ Not cleared for respirator use

_____ Employee Name

_____ Supervisor Name

This clearance is valid as long as there is no change in the job requirements or the individual's health status, or until _____ (date or "indefinite").

Schedule fit testing with Environmental Health & Safety (292-1284) or OARDC Safety as appropriate.

This individual has undergone medical evaluation for:

1. ____ Animal Handler Duties

2. ____ Asbestos Abatement/Exposure*

3. ____ Confined Space Entry

4. ____ Hazmat*(type***) _____

5. ____ Pesticide Handling/Application

6. ____ Security/Law Enforcement

7. ____ Hearing Conservation-(Ear protection & employee training must be provided by supervisor)

8. ____ Other: _____

and is qualified for the following numerically referenced clearances:

_____ no limitations

_____ limitations as follows: _____

_____ not qualified

Additional comments: _____

This clearance is valid until _____

***Employees who require asbestos and HAZMAT evaluations are requested to have an exit evaluation. Please call Employee Health and schedule an evaluation prior to the employees separation date.**

****HAZMAT includes biologic, chemical, or radiological hazardous substances or conditions, cleanup and/or transport.**

Medical Examiner Signature (Employee Health) _____ Date

Copies to: Supervisor EH&S OARDC Safety ULAR Hospital Security University Police Wexner Security

Medical Record Other _____

c1rfm/PCK/0706