

Environmental Health & Safety Policy Manual		
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Respiratory Protection Program		

1.0 PURPOSE:

To provide a comprehensive respiratory protection program with required worksite-specific protection and elements for required respirator use.

2.0 SCOPE:

This policy applies to all employees and students who wear respirators designed to protect them from workplace hazards. Respirators as defined by this policy include N95 particulate, Half and Full Face Air Purifying, Powered and Supplied Air Respirators. Simple white gauze type dust masks are not included.

3.0 RESPONSIBILITIES:

3.1 Designated physician or other licensed health care professional (PLHCP) shall:

- Perform initial medical evaluations using Appendix A, Respirator Medical Evaluation Questionnaire, and provide a recommendation concerning an employee's ability to wear a respirator using Appendix B, Respirator Authorization Use Form.
- Ensure that the physical examination criteria conform to OSHA protocols.
- Recommend the need, if any, for follow-up medical evaluations.

3.2 Department Heads/Supervisors shall:

- Perform initial Hazard Assessments for all potentially hazardous operations/tasks to identify those where respiratory protection is required.
- Report suspected air contaminant hazards to EH&S.
- In coordination with EH&S, develop strategies to control or eliminate exposure to hazardous air contaminants in their work areas.
- Implement recommended or corrective engineering controls and work practices to control or eliminate exposure to hazardous air contaminants.
- Identify all personnel who have the potential to wear respirators and ensure they are medically evaluated and fit-tested prior to respirator use.
- Provide respirators to all users and fund all medical evaluations, consultations and diagnostic procedures.

- Ensure that employees required to use respiratory protection equipment attend scheduled medical appointments, respiratory training and fit testing.
- Ensure that all personnel under their supervision or direction adhere to the applicable provisions of this program.
- Provide instructions to employees on the type of respirator to be used for each specific operation where respirators are required.
- Establish a location and provide scheduled time for employees to clean, inspect and maintain their respirators.
- Maintain a current list of employees with respirator certifications.
- In addition to the initial fit test, fit tests are also required at least annually and when a different respirator face piece is used. Furthermore, fit tests are required whenever the employee reports, or the employer or PLHCP makes visual observations of changes in the employee's physical condition that could affect respirator fit (e.g., facial scarring, dental changes, cosmetic surgery, or obvious change in body weight).
- Maintain records of PLHCP's recommendations and fit tests.
- Provide lab or site specific training to augment training provided by EH&S per section 5.1, and provide refresher training per section 5.2.

3.3 Environmental Health and Safety Department (EH&S) shall:

- Perform Health Hazard Evaluations (HHE) to assist in the determination of requirements for respiratory protection.
- Provide consultation to the Department Heads/Supervisors on respirator selection for specific uses.
- Ensure implementation of this procedure and revisions to this procedure based on changes to referenced documents or a determination of deficiencies in work processes, procedures, and/or behavior.
- Provide oversight of the Respiratory Protection Program.
- Provide fit tests for each respirator having a face piece-to-face seal.
- Provide initial and refresher training for those who wear respirators.

3.4 Employees and students shall:

- Report suspected chemical exposures to their supervisors.
- Notify their supervisor of areas, operations, or equipment which may be a source of air contaminants.
- Advise their supervisors of changes in their health status, which may affect their ability to safely use respiratory protection. Notify their supervisor when a change in medical condition requires an updated medical evaluation.
- Care for their respirators as trained, including the proper storage, proper cleaning and proper wear which include being clean shaven where the face piece meets the face.
- Stop any job if conditions are significantly different than anticipated and respiratory protection is in question.
- Understand the respiratory protection requirements for their work areas.
- Wear respirators according to manufacturer's instructions

4.0 IMPLEMENTATION

Proper selection of respirators, medical evaluations, fit testing, training, and the proper assessment of when respirator use is required is critical to a sound respiratory program.

4.1 Respiratory Hazards

Air contaminants can be in the form of a gas, vapor, mist, aerosol, and/or fumes. They can enter the body by inhalation, skin absorption, and/or ingestion. Definitions follow:

- Gases are substances that become airborne at room temperature, such as releasing gaseous nitrogen in a room. They can enter the body by inhalation.
- Vapors are substances that evaporate from a liquid or solid, such as opening a can of paint. They can enter the body by inhalation or skin absorption.
- Dusts are formed when solid materials are broken down, such as by drilling, or grinding. They can enter the body by inhalation or ingestion.
- Fumes occur when a metal or plastic is heated then quickly cooled. They can enter the body by inhalation.
- Mists are tiny liquid droplets usually created by spraying operations. They can enter the body by inhalation, skin absorption, or ingestion.
- Oxygen deficiency (inhalation hazard) occurs in confined spaces, whenever the normal percentage is too low. Oxygen deficiency can be caused by a chemical reaction, fire, or an inert gas (e.g., gaseous helium or nitrogen).

4.2. Workplace Monitoring

- An initial Hazard Assessment of potentially hazardous operations/tasks shall be conducted when any information or observation shows that an employee may be exposed to hazardous air contaminants. This includes, but is not limited to, data from monitoring of similar operations; MSDS and procedure reviews; the potential for skin and eye contacts; and employee complaints of unusual odors, irritations, or other signs or symptoms of potential exposures.
- The initial hazard assessment shall involve identification and preliminary evaluation to gather data in support of the HHE that will be conducted by EH&S.
- A HHE shall be conducted where there is a reasonable potential for employee exposure to the hazardous material or condition and shall be performed to evaluate and document employee exposures to hazardous materials or physical agents.
- When the HHE shows that any employee or group of employees may be exposed to hazardous levels of air contaminants, EH&S will determine the need for the performance of area and/or personal exposure monitoring.
- Monitoring which is representative of the exposure of employees in the work area shall be repeated as determined necessary by EH&S or whenever any changes to facilities, equipment, work practices, procedures, or engineering control measures alter the rate or type of air contaminant generation.

4.3 Engineering Control of Respiratory Hazards

- The primary objective to protect LSUHSC personnel from respiratory hazards is to eliminate or control the hazards by implementing engineering and work practice controls. Some of the controls may consist of substitution of a less hazardous material, process enclosure, and the use of effective exhaust ventilation systems, or by modifying the process to reduce the generation of hazardous air contaminants.
- Where feasible, facilities and equipment shall be procured, designed, operated, and/or modified to prevent the generation or provide for the control of hazardous atmospheres.
- Respiratory protection is required when:
 - Work controls are not effective;
 - Engineering controls cannot be implemented;
 - Engineering controls are not feasible to control a hazardous atmosphere or;
 - Until effective engineering controls can be implemented.

4.4 Procedures for Selecting Respirators

- The selection of the respiratory protection equipment for use in any operation shall be in accordance with Appendix C, unless otherwise specified on the MSDS or in the substance specific standards of 29 CFR 1910 Subpart Z and 29 CFR 1926.
- All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and be used in compliance with the conditions of its certification. Where exposure cannot be identified or reasonably estimated, the atmosphere shall be considered immediately dangerous to life or health (IDLH).
- No LSUHSC personnel shall perform work in or enter into an area identified as containing an IDLH atmosphere. University Police and EH&S shall be notified immediately upon the identification of an actual or potential IDLH environment.
- Respirators that are acceptable for use in non-IDLH atmospheres:
 - For protection against gases and vapors use:
 - 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. The alternative is to implement a change schedule for canisters/cartridges that will ensure that they are changed before the end of their service life.
 - For protection against particulates use:
 - An atmosphere-supplying respirator
 - An air-purifying respirator equipped with high efficiency particulate air (HEPA) filters certified by NIOSH or filters certified for particulates.
 - An air-purifying respirator equipped with any filter certified for particulates by NIOSH for contaminants consisting primarily of particles with mass median aerodynamic diameters of at least two micrometers.
 - Air-purifying respirators shall not be used for a hazardous chemical with poor or inadequate warning properties unless one of the following situations exists:

- Their use is specifically approved under the provisions of a substance-specific OSHA standard; or,
- The odor or irritation threshold does not exceed the regulated exposure level; there are not associated ceiling limits; and available information indicates that an undetected exposure between one and three times the regulated exposure level would not cause serious or irreversible health effects; or,
- The respirator has an end-of-service-life indicator approved by NIOSH/MSHA for use with the specific chemical; or,
- A change schedule has been implemented to assure that air-purifying elements are replaced when 10 percent breakthrough occurs.

4.5 Medical Evaluations

4.5.1 The following medical evaluation requirements must be met before an employee can wear a respirator:

- A physician or other licensed health care professional (PLHCP) perform medical evaluations using Appendix A and provide a written recommendation using Appendix B, PLHCP - Respirator Authorization Use Form, regarding the employee's ability to use the respirator.
- Additional follow-up medical evaluations are required if:
 - Employee reports medical signs or symptoms related to ability to use a respirator.
 - PLHCP, program administrator, or supervisor recommends re-evaluation.
 - If an employee gives a positive response to any question among questions 1 through 8 in Part A, Section 2 of Appendix A, or whose initial medical examination demonstrates the need for a follow-up medical examination. Follow-up exams may include medical tests, consultations, or diagnostic procedures.
- Administer the medical questionnaire and evaluations during the employee's normal working hours or at a time and place convenient to the employee.
- Follow-up medical evaluations, consultations or diagnostic procedures for faculty/staff and students will be performed by the Health Care Network located at 2820 Napoleon Ave., New Orleans, LA (504-412-1100) and LSUHSC Student Health Clinic, respectively.

4.5.2 PLHCP medical determination should provide the following information:

- Whether or not an employee is medically able to use the respirator.
- Any limitations on respirator use related to the employee's medical condition or relating to the workplace conditions where the respirator will be used.
- Complete Appendix B and present to employee for review and signage.

4.6 Fit Testing

4.6.1 Procedures

Before any employee can wear a respirator with a negative or positive pressure tight-fitting face piece, the employee must be fit tested with the same make, model, style, and the size of respirator that will be used. The following specifies the kinds of fit test allowed, the procedures for conducting them, and how to use the results of the fit tests.

- Fit testing is required prior to initial use, whenever a different respirator face piece is used, and at least annually thereafter.
- An additional fit test is required whenever the employee reports, or the employer or PLHCP makes visual observations of changes in the employee's physical condition that could affect respirator fit (e.g., facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight).
- If after passing a QLFT or QNFT, the employee subsequently notifies the program administrator, supervisor, or PLHCP that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator face piece and to be retested.
- Unless otherwise specified by substance-specific OSHA health standards, respirators may be fit tested using qualitative and quantitative fit-test procedures which have been accepted by OSHA.
- Fit-test results shall be related to Assigned Protection Factors (APF) as follows:
 - Half-mask and filtering face piece air-purifying respirators may be worn in atmospheres no greater than 10 times the established exposure limit when the respirator passes the qualitative fit test; or when the respirator passed the quantitative fit test with a minimum fit factor of greater than 100.
 - Full-face air purifying respirators may be worn in atmospheres no greater than 10 times the established exposure limit, when the respirator passes the qualitative fit test (QLFT); or, in atmospheres no greater than 50 times the established exposure limit when the respirator passes a quantitative fit test (QNFT) with a minimum fit factor greater than 500.
 - Tight-fitting powered air-purifying respirators shall be fit tested under negative pressure. This shall be accomplished by using the face piece equipped with air purifying elements in place of supplied-air attachments. If the respirator face piece passes the test, then the same respirator face piece (i.e., make, model, and size) available on a NIOSH/MSHA approved, supplied air respirator may be used in atmospheres no greater than allowed by the Assigned Protection Factor for that respirator listed in Appendix C.

4.6.2 Fit Test Records

Qualitative and quantitative fit tests records shall include:

- The name and LSUHSC identification number of the person being fit tested.
- Type of fit test performed.
- Specific make, model, style, and size of respirator tested.

- Date of test.
- The pass/fail result for QLFTS or the fit factor and strip chart recording or other recording of the test results for QNFTs.

4.6.3 Qualifications of Fit Tester

- Qualitative and quantitative fit tests shall be performed only by qualified individuals specifically trained and assigned the responsibility for providing respirator fit tests.
- Persons performing fit-tests shall be familiar with the fit-test protocols identified in Appendix D of this document and be able to demonstrate proficiency at preparation of test solutions, calibration of test equipment, performance of qualitative and quantitative fit tests, and recognition and maintenance of test equipment.

4.7 Procedures for Proper Respirator Use

- Tight-fitting respirators shall not be worn by employees who have facial hair or any condition that interferes with the face-to-face piece seal or valve function.
- Personal protective equipment shall be worn in such a manner that does not interfere with the seal of the face piece to the face of the user.
- Where employees must wear protective glasses or goggles with a half-face respirator or quarter face respirator, they shall be worn in a manner that does not interfere with the face piece-to-face seal.
- Employees shall perform a user seal check each time they put on a tight-fitting respirator using procedures in Appendix D or equally effective manufacturer's procedures.
- Respirators which are not in proper working condition shall be removed from service and either repaired according to manufacturer's instructions, or discarded or replaced.
- Disposable respirators, which cannot be cleaned or disinfected, shall be discarded at the end of each task or at the end of the work shift, whichever comes first.
Disposable respirators, which can be cleaned and disinfected, shall be disposed of after their service life has been reached.

4.8 Procedures for Proper Maintenance, Inspection and Storage

- Clean and disinfect respirators using the procedures provided by 29 CFR 1910.134 Appendix B-2, Respirator Manufacturers, or Appendix E of this document, or equally effective manufacturer's procedures at the following intervals:
 - Before being worn by different individuals when issued to more than one employee.
 - After each use for emergency use respirators and those used in fit testing and training.
- Respirators used in non-emergency circumstances shall be inspected by the wearer before each use, during cleaning, and after each use.
- As a minimum, the wearer of the respirator shall check respirator function, tightness of connections or condition of face piece, head straps, valves, connecting tube, and

cartridges, canisters or filters; and check the rubber or elastomeric parts for pliability and signs of deterioration.

- Remove from service respirators which fail to pass inspection.
- Repairs are to be made only by persons appropriately trained and assigned the responsibility to perform such repairs, using parts designated for the respirator.
- Perform repairs following the manufacturer's recommended methods, utilizing the manufacturer's replacement parts designated for the respirator being repaired.
- Reducing valves or regulators shall be returned to the manufacturer or manufacturer's designated representative for adjustment or repair.
- All respiratory protection equipment shall be stored in a manner that protects them from dust, sunlight, extreme temperatures, excessive moisture, damaging chemicals, biological contaminants and mechanical damage.
- Store routinely used respirators, such as air purifying respirators, in a plastic bag or the bag that comes with it, or otherwise protected from contamination and damage. Respirators shall not be stored in such places like lockers or tool boxes unless they are in carrying cases or cartons. Respirators shall be packed or stored face piece up and in a manner to prevent deformation of the face piece or exhalation valve.

4.9 Voluntary Use of Respirators

Voluntary respirator use applies if the employees are not exposed to hazardous agents above the permissible exposure limits, they are not emergency responders, or they are not required by procedure. Voluntary users should refer to information in Appendix F, Information for Employees Using Respirators When Not Required under the Standard.

5.0 EMPLOYEE TRAINING:

5.1 Initial Training

EH&S will provide initial training during fit testing. Training will include:

- Why the respirator is necessary and how improper fit, use, or maintenance can compromise the protective effect of the respirator.
- Limitations and capabilities of the respirator.
- Use in emergency situations.
- How to inspect, put on and remove, use, and check the seals.
- Procedures for maintenance, inspection and storage.
- Recognition of medical signs and symptoms that may limit or prevent effective use.

5.2 Refresher Training

EH&S will provide refresher training during annual fit testing and when:

- Workplace conditions change.
- A new type of respirator is used.
- There is reason to believe that there are deviations from or inadequacies in the employee's knowledge in the proper use or care of a respirator.



6.0 RECORD KEEPING:

Maintain medical evaluations/recommendations for the duration of the employee's employment plus 30 years. EH&S shall retain records of fit tests until the next fit test

7.0 INSPECTION AND PROGRAM REVIEW:

Program effectiveness will be assessed annually by the Environmental Health and Safety Department. Furthermore, program compliance will be evaluated at the General Safety Committee meetings and during routine laboratory inspections.

8.0 REFERENCES:

OSHA 29 CFR 1910.134	Respiratory Protection Standard
OSHA 29 CFR 1910.94	Ventilation
OSHA 29 CFR 1910.1020	Employee Exposure/Medical Records
OSHA 29 CFR 1910.1200	Hazard Communication
OSHA 29 CFR 1910 Subpart Z	Toxic and Hazardous Substances
OSHA 29 CFR 1926	Construction Industry

9.0 DEFINITIONS

Adequate Warning Properties means detectable characteristics of a hazardous air contaminant including odor, taste, and/or irritation effects, which are detectable and persistent at concentrations at or below the Occupational Exposure Limit and do not cause olfactory fatigue.

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.

Atmosphere Supplying Respirator means a respirator which supplies the user with a source of breathing air that is independent of the immediately surrounding atmosphere, and includes supplied-air respirators and self-contained breathing apparatus units.

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

Demand respirator means 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.

Disposable respirator means a respiratory protective device, which does not have replaceable filters or cartridges and is discarded after its useful service life is reached.

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.

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.

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

Filtering face piece (dust mask) means 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.

Hazardous Atmosphere means an atmosphere that contains a contaminant in excess of its exposure limits or is oxygen deficient/enriched.

Hazardous Chemical means a substance that meets the definition of a health hazard under the OSHA Hazard Communication Standard (29 CFR 1910.1200(c)).

High efficiency particulate air filter (HEPA) means a filter that is at least 99.97% efficient in removing particles of 0.3 micrometers in diameter.

Immediately dangerous to life or health (IDLH) means an atmosphere that poses an immediate threat to life, cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

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

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 29 CFR 1910.134(e), Medical evaluation section.

Positive pressure respirator means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

Pressure demand respirator means a positive 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) means a pass/fail fit test to assess the adequacy of a respirator fit that relies on the individual's response to the test agent.

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

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

10.0 APPENDICES:

Appendix A – Respirator Medical Evaluation Questionnaire

Appendix B – PLHCP – Respirator Authorization Use Form

Appendix C – Assigned Protection Factors

Appendix D – (FIT Test) - User Seal and Smoke/Scent Test Procedures and Record Form

Appendix E – Respirator Cleaning Procedures

Appendix F – Information for Employees Using Respirators When Not Required Under this Standard



OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

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

To the employee:

Can you read (circle one): Yes / No

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

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

1. Today's date: _____
2. Your name: _____
3. Your age (to the 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. _____ 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. Ilicosis: 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: Shortness of breath: 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 you 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 waling): 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? (Circle all that apply) (If you've never used a respirator, 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 you use of a respirator: Yes/No
9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes/No

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

10. Have you **ever lost** vision in either eye (temporarily or permanently): Yes/No
11. Do you **currently** have any of the following vision problems?
- a. Wear contact lenses: Yes/No
 - b. Wear glasses: Yes/No
 - c. Color blind: Yes/No
 - d. Any other eye or vision problem: Yes/No
12. Have you **ever had** an injury to your ears, including a broken 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
 - j. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No

Part B. Section 2.

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

1. What type of respirator(s) will you use (circle all that apply to them)?

Types: N95 Half Face Full Face Supplied Air

2. How often are you expected to use the respirator(s) (circle “yes” or “no” for all answers that apply to them)?

- 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
- g. Other _____

3. During the period of 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 3mph; 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.).



4. Will you be wearing protective clothing and/or equipment (other than the respirator) when using their respirator: Yes/No

If “yes,” describe this protective clothing and/or equipment:

5. Will you be working under hot conditions?
(Temperatures exceeding 77 deg. F): Yes/No

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

7. Describe the work you’ll be doing while using this respirator(s):

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

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

Name of the first toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of second toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of third toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

The name of any other toxic substances that you will be exposed to while using their respirator:

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



PLHCP – Respirator Authorization Use Form

Note: *Physician or licensed health care professional will complete this form and employee must present this completed form at FIT testing.*

Select ONE of the following:

I have reviewed this medical questionnaire and I do not recommend further examination be performed. The employee is authorized to wear _____ respirator.
(type, model)

I have reviewed this medical questionnaire and recommend further examination be performed.

PLHCP Name – Print

Date

PLHCP Signature

Employee Signature

Assigned Protection Factors²

- Air purifying respirators may not be used in oxygen deficient atmospheres.
- Only full facepiece respirators are to be used in contaminant concentrations that produce eye irritation.
- Only a full facepiece pressure demand SCBA or combination full facepiece pressure demand SAR with auxiliary self contained air supply may be used in unknown IDLH or oxygen deficient atmospheres.

Type of Respirator ^{1,2}	Quarter Mask	Half Mask	Full Facepiece	Helmet/Hood	Loose-Fitting Facepiece
1. Air-Purifying Respirator	5	10 ³	50	—	—
2. Powered Air-Purifying Respirator (PAPR)	—	50	1,000	25/1,000 ⁴	25
3. Supplied-Air Respirator (SAR) or Airline Respirator	—	10	50	—	—
• Demand mode	—	50	1,000	25/1,000 ⁴	25
• Continuous flow mode	—	50	1,000	—	—
• Pressure-demand or other positive-pressure mode	—	50	1,000	—	—
4. Self-Contained Breathing Apparatus (SCBA)	—	10	50	50	—
• Demand mode	—	—	10,000	10,000	—
• Pressure-demand or other positive-pressure mode (e.g., open/closed circuit)	—	—	10,000	10,000	—

Notes:

¹ Employers may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required respirator use is independent of concentration.

² The assigned protection factors in Table 1 are only effective when the employer implements a continuing, effective respirator program as required by this section (29 CFR 1910.134), including training, fit testing, maintenance, and use requirements.

³ This APF category includes filtering facepieces, and half masks with elastomeric facepieces.

⁴ The employer must have evidence provided by the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a WPF or SWPF study or equivalent testing. Absent such testing, all other PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators, and receive an APF of 25.

⁵ These APFs do not apply to respirators used solely for escape. For escape respirators used in association with specific substances covered by 29 CFR 1910 subpart Z, employers must refer to the appropriate substance-specific standards in that subpart. Escape respirators for other IDLH atmospheres are specified by 29 CFR 1910.134 (d)(2)(ii).

(Fit Test) - User Seal Check Procedures

Face piece Positive and/or Negative Pressure Checks

- There can be no facial hair between respirator sealing surface and skin on the face.
- To perform a 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.
- To perform a 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 seals(s), inhale gently so that the face piece collapsed slightly, and hold the breath for ten seconds. The design or 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 that the employer demonstrates that the manufacturer's procedures are equally effective.

(Fit Test) – Smoke or Scent Test Exercise

During this test, follow the instructions of the Tester, and keep your eyes closed. The testing smoke or scent may be irritating and is designed to test the seal of the respirator to your face, but it can also irritate your eyes and nasal passages. A proper seal ensures your safety when using the respirator. You should only use the type and size respirator you have approved fit testing results. The Tester will ask you to do the following; if at any time you taste or smell the scent or smoke, or become uncomfortable, notify the Tester.

1. Place respirator on
2. Perform a user seal check
3. Test exercises (scent or smoke will be introduced at this time)
 - a) Normal Breathing
 - b) Deep Breathing
 - c) Turning head side to side
 - d) Moving head up and down
 - e) Talking (Rainbow Passage)
 - f) Bending over
 - g) Normal Breathing



Respirator Fit Test – Record Form

This is to certify that a Qualitative Fit Test, according to OSHA 29 CFR 1910.134 respiratory protection standard was performed on the below individual using a 3M-10 fit Test Kit.

The following type of PPE was provided:

Respiratory Manufacturer: 3M North Other _____

Model: _____

Type: _____

Size: Small Medium Large X-Large Other _____

Outcome: Pass Fail

OSHA requires a physician or other licensed health care professional (PLHCP) perform medical evaluations using a medical questionnaire or an initial medical examination that obtains the same information found in the medical questionnaire in sections 1 and 2, Part A in Appendix C of 29 CFR 1910.134.

Employee ID Number: _____

Print Name: _____

Signature: _____

Date: _____

Tests used: Seal Test Smoke Sweet Bitter

Test Performed by:

Print Name: _____

Signature: _____

Respirator Cleaning Procedures

Procedures for Cleaning Respirators:

- 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.
- 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.
- Rinse components in warm (43 deg. C (110 deg. F) maximum), preferably running water. Drain.
- 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 deg. C (110 deg. F).
 - Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliter of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100cc of 45% alcohol) to one liter of water at 43 deg. C (110 deg. F).
 - Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
- 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 face pieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.
- Components should be hand-dried with a clean lint-free cloth or air-dried.
- Reassemble face piece, replacing filters, cartridges, and canisters where necessary.
- Test the respirator to ensure that all components work properly.

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:

- Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
- 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.
- 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.
- Keep track of your respirator so that you do not mistakenly use someone else's respirator.