ROSE STATE COLLEGE

Respiratory Protection Program

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ROSE STATE COLLEGE
RESPIRATORY PROTECTION PROGRAM

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I. Purpose

a. The purpose of the Respiratory Protection Program is to ensure that all employees have adequate respiratory protection in the workplaces on the Rose State College campus where engineering controls or work practices are inadequate or not feasible to reduce the exposure to airborne contaminates.
b. In all cases, engineering controls must be considered and implemented to the extent that they are feasible.
c. Definitions are found in Appendix C of this document.

II. Scope

a. This Program shall cover all Rose State College employees on the Campus who wear respiratory protection during work activities and those who anticipate wearing respiratory equipment during an emergency incident. This Respiratory Protection Program specifically excludes those employees whose primary job function is to abate or work with asbestos. A separate Asbestos Respiratory Protection Program has been developed to specifically address asbestos and asbestos employees.

III. Responsibilities

a. Rose State College (RSC) shall provide respirators, training, fit testing, and medical evaluations at no cost to the employee.

b. Program Administrator

1. The Designated Program Administrator shall be the Safety and Risk Management Coordinator (SRMC) or his designated representative.
2. The SRMC shall have the authority to make decisions and implement changes to the Program as necessary.
3. The SRMC shall administer/oversee the Program.
4. The SRMC shall conduct the required evaluations of Program effectiveness.
5. The SRMC shall ensure that all respirator users are properly trained and fit tested.
6. The SRMC shall ensure that all employees who wear a negative or positive pressure tight-fitting face piece shall be fit tested before use in the workplace.
7. The SRMC shall assist departments in identifying, evaluating, and surveying work areas that require respiratory protection.
8. The SRMC shall maintain required records.

c. Supervisory Personnel

This section refers to those supervisory personnel who have at least one work area that requires the use of respiratory equipment. Supervisory personnel would include such people as foremen, superintendents, etc.

1. Supervisors shall be trained and familiarized with this Program.
2. Supervisors shall ensure that workers are identified, medically evaluated, trained, fit tested, and equipped for respiratory protection usage.
3. Supervisors shall ensure that respiratory equipment is available.
4. Supervisors shall enforce the proper use and maintenance of respiratory equipment as necessary.
5. Supervisors shall monitor work areas to identify potential respiratory hazards.
6. Supervisors shall coordinate and consult with the Program Administrator on the administration of this Program.

d. Employees

1. The employee shall be responsible for the routine care and maintenance of the respirator. The employee shall inform his/her supervisor for remediation of any problems with the respirator.
2. The employee shall inform his/her supervisor of any respiratory hazards or any aspects of the Program that the employee feels is not being adequately addressed.
3. The employee shall maintain a facial surface consistent with a proper fit of the respiratory device; i.e., no beards and clean-shaven.

e. Health Care Professional

RSC has designated Dr. V. Joseph Fiorazo as the Physician for the College.

1. The Dr. V. Joseph Fiorazo shall make the determination whether an employee is medically fit to wear respiratory protection equipment.
2. The Dr. V. Joseph Fiorazo shall determine what tests, evaluations, etc. are necessary to make the determination whether an employee is medically fit to wear respiratory protection equipment.
3. The Safety and Risk Management Coordinator shall maintain records as prescribed in Section XVI - Recordkeeping.

IV. Engineering Controls

a. Engineering controls shall be used when feasible. Examples of engineering controls are:

1. Changes in the work process that reduces or eliminates worker exposure;
2. Substitute less hazardous chemicals or products for more hazardous materials;
3. Enclose or isolate the work process from the affected workers; and/or
4. Use ventilation to dilute or remove the contaminant.

V. Types of Respiratory Protection

This Program covers the use of both air-filtered and air-supplied respirators.

VI. Selection of Respirators

a. General Requirements

1. RSC shall use NIOSH-certified respiratory equipment. A Certified Equipment List can be found on the NIOSH website.
2. RSC shall use respirators and cartridges that are:
   a) Jointly approved by the Mine Safety and Health Administration (MSHA) and NIOSH as specified in 30 CFR 11, and manufactured after any date; or
   b) Approved by NIOSH as specified in 42 CFR 84. Only those cartridges manufactured after July 10, 1998, shall be used.
3. RSC shall select and provide an appropriate respirator for the hazard. RSC shall use the following as guidance in the selection: 29 CFR Parts 1910.134, 1910.135, 1910.1001, 1926.1101, 1910.1017, 1910.1045, and 1910.1051; the ANSI *Standard for Respiratory Protection* Z88.2-1992; and any applicable federal and/or state regulations.
4. RSC shall identify and evaluate respirator hazards. Where RSC cannot identify or reasonably estimate the employee exposure, RSC shall consider the atmosphere to be IDLH. Criteria for this shall be based on the following:
   a) The activity or process the employee will be engaged in,
   b) The type of respiratory hazard. This would include the physical, chemical, and physiological properties of the respiratory hazard or air contaminant;
   c) The concentration of the air-borne contaminate that would be encountered in the work area;
   d) The time spent wearing respiratory equipment;

e) The published TLV, PEL, EDLH, C (ceiling), STEL or any other available exposure limit for the particular contaminant;

f) The existence of a specific standard for a particular process or chemical that may require specific respiratory protection equipment;

g) The actual and potential oxygen content in the work area's ambient air, i.e., the determination of an oxygen-deficient atmosphere;

h) The capabilities and limitations of respiratory protection equipment used;

i) The ability of the cartridges to protect the wearer from the air-borne contaminants; and

j) The respirator-assigned protection factors.

5. RSC shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to and correctly fits the user.

b. Selection of Respirators for IDLH Atmospheres

1. If RSC determines that the atmosphere is an IDLH atmosphere, then RSC shall provide one of the following respirators for the employee:

a) Pressure demand SCBA minimum 30 min; or

b) SAR with auxiliary self-contained air supply; or

c) Respirator provided only for escape from IDLH atmosphere shall be NIOSH-certified for escape from that atmosphere.

2. Oxygen deficient atmospheres shall be considered IDLH, unless demonstrated that the oxygen concentration is 16.0-19.5% by volume. (Elevation for Stillwater, Oklahoma is 986 ft. Altitude guidelines are found in 29CFR 1910.134, Table II.)

c. Selection of Respirators for Non-IDLH Atmospheres

1. RSC shall provide respirators adequate to protect the health of the user and ensure compliance.

2. RSC shall ensure that the respirator selected is appropriate for the chemical state and physical form of the contaminant.

3. For protection against gases and vapors, RSC shall provide:

a) Atmosphere-supplying respirator or

b) Air-purifying respirator, providing that:

(1) Respirator equipped with an End-of-Service-Life-Indicator (ESLI) (NIOSH-certified) for the contaminate; or

(2) Implement a change schedule for canisters and cartridges before ESLI. Describe the information and data relied upon and the basis for this schedule and the basis for reliance on the data.

4. For protection against particulates, RSC shall provide:
   a) Atmosphere-supplying respirator; or
   b) Air-purifying respirator equipped with a NIOSH-certified HEPA filter; or
   c) For contaminants consisting primarily of particles with mass median aerodynamic diameters (MMAD) of at least 2 micrometers, an air-purifying respirator equipped with any NIOSH-certified particulates filter shall be provided. To determine the class of particulate respirator and cartridge needed, the following table shall be used:
   d) Filter Classifications, under NIOSH 42 CFR 84. (Note that additional restrictions may be needed when using particulate respirator.)

Minimum Efficiency	No Oil Aerosol Exposure (not oil-proof)	Some Oil Aerosol Exposure (oil-resistant)	Total Oil Aerosol Exposure (oil-proof)
95%	N95	R95	P95
99%	N97	R97	P97
99.97%	N100	R100	P100

   e) The voluntary use of particulate masks in an area where respiratory protection is deemed by the EHS to not be needed shall be limited to N95 masks only. These masks are commonly referred to as "paper masks" or "dust masks."

VII. Medical Evaluations of Employees

RSC shall provide a medical evaluation to determine the employee's ability to use a respirator before the employee is fit tested or required to use the respirator in the workplace. RSC will discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.

a. Medical evaluation procedures
   1. RSC has designated Dr. V. Joseph Fiorazo as the PLHCP.
   2. Dr. V. Joseph Fiorazo shall use the OSHA Respirator Medical Evaluation Questionnaire (Appendix D of this document) to gather pertinent medical information.

b. Follow-up medical examination
   1. RSC shall provide an opportunity for the employee to discuss the questionnaire and/or examination/medical results with the PLHCP.
   2. RSC shall provide a follow-up examination to any employee who gives a positive response to any question among questions 1 through 8 in Section 2, Part A of the OSHA Respirator Medical Evaluation Questionnaire, or whose initial medical exam demonstrates the need for a follow-up medical examination.

3. The follow-up medical examination shall include any medical tests, consultation, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

c. Administration of the medical questionnaire and examinations

The OSHA Respirator Medical Evaluation Questionnaire shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. If the employee needs assistance in filling out or understanding the questionnaire, the Wellness Center will provide assistance, so as to maintain confidentiality.

d. Supplemental information for the PLHCP

1. RSC shall provide the PLHCP the following information for each employee. This information only needs to be supplied once, as long as there have been no changes. If there are changes, RSC shall provide the PLHCP with those changes.

a) The type and weight of the respirator

b) The duration and frequency of respirator use, including use for rescue and escape

c) The expected physical work effort

d) Additional protective clothing and equipment to be worn

e) Temperature and humidity extremes that may be encountered

2. RSC shall provide the PLHCP a copy of this Program.

e. The PLHCP shall provide a written recommendation regarding the employee's ability to use a respirator. In this recommendation, the PLHCP shall provide the following information:

1. Any limitations on respirator use related to the medical condition of the employee, or related to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator.

2. The need, if any, for follow-up medical evaluations.

3. A statement that the LHCP has provided the employee with a copy of the PLHCP's written recommendation.

f. If the respirator is a negative-pressure respirator and the PLHCP finds a medical condition that may place the employee’s health at increased risk if the respirator is used, RSC shall provide a PAPR if the PLHCP's medical evaluation finds that the employee can use such a respirator. If a subsequent medical evaluation finds that the employee is medically able to use a negative-pressure respirator, then RSC is no longer required to provide a PAPR.

g. Additional medical evaluations

At a minimum, RSC shall provide additional medical evaluations that comply with the requirements of this section, if:

1. An employee reports medical signs or symptoms that are related to his ability to use a respirator;

2. The PLHCP, a supervisor, the Program Administrator determines that an employee needs to be reevaluated; or
3. A change occurs in the workplace conditions that may result in a substantial increase in the physiological burden placed on an employee. Examples are physical work effort, protective clothing, and temperature.

VIII. Fit Testing Procedures

Before an employee wears a negative or positive pressure tight-fitting face piece, the employee must be fit tested with the same make, model, style and size of respirator to be used.

a. The employee must pass an appropriate QLFT or QNFT. (See Appendix B for procedures to perform a QLFT or QNFT.)

b. The employee shall be fit tested:
   1. Prior to initial use of a respirator, and
   2. Whenever a different respirator face piece (size, style, model or make) is used, and
   3. On an annual basis.

c. The employee shall be given additional fit testing whenever the employee reports or the PLHCP, supervisors, or Program Administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions are, but not limited to:
   1. Facial scarring
   2. Dental changes
   3. Cosmetic surgery
   4. Obvious change in body weight

d. If after passing a QLFT or QNFT the employee subsequently notifies the supervisor, Program Administrator, or the 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 be retested.

e. QLFT may be only used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.

f. The acceptable pass level for QNFT for tight-fitting face pieces:
   1. For full face pieces, the QNFT pass level shall be equal to or greater than 500.
   2. For half face pieces, the QNFT pass level shall be equal to or greater than 100.

g. Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing QLFT or QNFT in the negative pressure mode regardless of which pressure-mode the respirator is used in work practices.

IX. Use of Respirators

a. Face Piece Seal Protection

1. General use limitations. RSC shall **not** permit employees to wear tight-fitting respirators under the following conditions:

   a) Atmospheric oxygen content is less than 19.5% by volume.

   b) An IDLH condition.

   c) Air contaminant(s) is extremely toxic in minute quantities.

   d) Air contaminant(s) cannot be sufficiently detected by odor or the odor threshold is at or above the listed TLV or PEL.

   e) Air contaminant(s) is highly irritating to the eyes, unless the worker is using a full-face respirator mask or equivalent eye protection.

   f) The selected cartridge is not rated for the air contaminate(s).

   g) A fast cartridge breakthrough time for that particular air contaminant(s).

   h) Concentration(s) of the air contaminant(s) exceed the maximum filter concentration for that air-purifying filter as specified by the manufacturer.

2. Workers with facial hair that may interfere with the face piece seal or valve function on fitting respirators shall not use a tight-fitting respirator. This would include beards.

3. Other personal protective equipment such as head coverings, eye goggles, etc., shall be worn outside of the respirator. They shall be worn in a manner that does not interfere with the seal of the respirator. "Beard socks" shall not be worn between the respirator and the employee's face.

4. RSC will provide respirator spectacle kits for those employees who must have corrective eyewear. The kits shall be provided at no cost to the employee.

b. The respirator shall not be altered in any manner.

c. All cartridges, replacement parts, etc., shall be from the same manufacturer as the respirator, e.g., use only 3M™ cartridges and parts for a 3M™ respirator.

d. When wearing a respirator, an employee shall be permitted to leave the hazardous area for any respirator-related reason. Some reasons, but not all, are listed below:

1. The respirator fails to provide adequate protection.

2. The respirator malfunctions.

3. The respirator wearer detects air leakage around the face seal.

4. The respirator wearer detects an odor or tastes a chemical.

5. The respirator wearer has increased breathing resistance.

6. The respirator wearer experiences any illnesses or discomforts such as dizziness, nausea, weakness, breathing difficulties, sneezing, fever, chills, distorted thought processes, etc.
7. The respirator wearer experiences extreme discomfort from wearing the respirator.
8. The respirator wearer needs to wash his/her face and face piece to minimize skin irritation.
9. Components (including air tanks) or purifying devices need change-out.
10. The respirator wearer takes his/her periodic break.

e. For all tight-fitting respirators, the employee must perform a user seal check each time they put on the respirator using the procedures listed in Appendix A or procedures recommended by the respirator manufacturer.

f. Procedures for IDLH atmospheres - including emergency rescues

1. Only employees who have had specific training for IDLH atmospheres may enter an IDLH area.
2. Employees shall wear either a positive-pressure SCBA or an airline supplied-air respirator with an escape SCBA.
3. Entry teams shall consist of a minimum of two (2) people.
4. A minimum of two (2) additional, trained and equipped employees (standby team) shall be posted outside the IDLH atmosphere to provide **emergency rescue**. Communication shall be maintained between the entry team and the standby team. Equipment shall include positive-pressure SCBAs or an airline supplied-air respirator with an escape SCBA and appropriate retrieval equipment. Before the Standby Team enters the IDLH area for rescue, they shall first notify the Environmental Health and Safety Department.

X. Maintenance and Care of Respirators

a. Cleaning and Disinfecting

1. RSC shall provide each respirator user with a respirator that is clean, sanitary, and in good working order.
2. RSC shall provide the materials needed to clean and disinfect the respirators.
3. Each respirator user shall clean and disinfect his/her respirator according to the manufacturer's recommendations. This includes:

a) Disassembly, cleaning and disinfecting, rinsing, drying and reassembly.

b) Frequency of cleaning is recommended at least after each use and according to conditions listed below:

(1) If the respiratory equipment is used exclusively by an individual employee, then it shall be cleaned and disinfected as often as necessary to maintain cleanliness.

(2) If the respiratory equipment is used by more than one employee, then it shall be cleaned and disinfected before each use.

(3) If the respiratory equipment is used for emergencies, training or testing, then the equipment shall be cleaned and disinfected after each use.

b. Storage

1. The respiratory equipment shall be stored in a manner that protects the equipment from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals.

2. The respiratory equipment shall be stored in a manner that prevents the deformation of the face piece and the exhalation valve.

3. In addition, emergency-use respiratory equipment shall be stored in the following manner

a) The respiratory equipment shall be stored in the work area where the equipment is readily accessible.

b) The respiratory equipment shall be stored in compartments or covers that are clearly labeled or marked as containing respiratory equipment.

c) The respiratory equipment is stored according to any applicable manufacturer's instructions.

c. Inspection of the Respiratory Equipment

RSC shall ensure that the respiratory equipment is inspected according to the following schedule.

1. The respiratory equipment shall be visually inspected for damaged or missing parts before each use and during cleaning.

2. Emergency-use respiratory equipment shall be inspected on a monthly basis and in accordance with the manufacturer's recommendations. The equipment shall also be checked for proper function before and after each use.

3. Emergency escape-only respiratory equipment shall be inspected before being carried into the workplace for use.

4. Self-Contained Breathing Apparatus (SCBA) shall be inspected monthly.

5. The respiratory equipment inspections shall consist of the following:

a) A check of the condition of the parts such as valves, cartridges, canisters or filters, head straps, face piece, connecting tube, and gaskets;

b) A check for respirator function;

b) A check for signs of deterioration or lack of pliability;

c) For SCBAs, the air or oxygen cylinders shall have and maintain a minimum of 90% of the recommended pressure level. A check to determine if the regulator and

warning devices are also functioning properly shall also be performed on a regular schedule.

d. Replacement and Repair

1. The employee or his/her supervisor shall replace defective or missing valve flaps, gaskets and head straps on air-purifying respirators. This is considered to be routine maintenance and not repair.

2. Repairs shall be made by qualified technicians.

3. The employee shall immediately inform his/her supervisor of any repairs to be made to the defective respirator equipment and take the equipment out of service.

4. The supervisor shall ensure that the defective respiratory equipment is either repaired or replaced. He/she shall also ensure that the defective equipment is not used in the interim.

XI. Cartridge Life (End-of-Service Life) and Change-Out Schedule

a. If available, the respirator wearer shall use the End-of-Service-Life Indicator (ESLI) to determine when to change out air-purifying elements. If no ESLI is available for the selected air-purifying elements, then EHS shall be consulted to determine a change-out schedule to ensure that the air-purifying elements are changed out before the end of their useful service life.

b. The following factors may be utilized to estimate ESLI:

1. The relative humidity of the work area. Humidity above 85% can reduce an air-purifying element's estimated service life by approximately 50%.

2. The type of air contaminant.

3. The concentration of the air contaminant. By reducing the amount of contaminant by a factor of ten (10), the service life of an air-purifying element can be increased by a factor of five (5).

4. The breathing demand of the respirator wearer. The harder and faster one breathes due to work stresses, the shorter the air-purifying element's service life.

5. The presence of multiple contaminants.

6. How variable the contaminant's concentration(s) will be.

7. The breakthrough time(s) of the contaminant(s).

c. If the respirator wearer experiences any odor, taste, or irritation, or experiences excessive breathing resistance, the wearer shall:

1. Immediately leave the contaminated area,

2. Change-out the air-purifying element(s) regardless of the ESLI change-out schedule,

3. Adjust the change-out schedule to shorter times, and

4. Contact EHS for possible changes to the existing change-out schedule.

d. The respirator wearer shall change-out and discard any air-purifying elements that have reached their ESLI, failed during use, become damaged or wet, or become difficult to breathe through.

e. If conditions are causing the air-purifying elements to fail before their ESLI, then EHS shall be contacted to determine if the job function requires the use of a supplied-air respirator.

f. For those cartridges that do not have an ESLI, a computer program such as OSHA's ETOOL for respirators can be used to determine a change-out schedule. The web site for the ETOOL is https://www.osha.gov/SLTC/etools/respiratory/

XII. Breathing Air Quality and Use

a. Only compressed breathing air that meets the specifications below shall be used for air-supplying respirators.

1. Oxygen in concentrations greater than 23.5% by volume shall not be used in compressed air equipment. Oxygen in concentrations greater than 23.5% shall be used in oxygen equipment only.

2. Oxygen content in compressed breathing air shall be between 19.5% and 23.5% by volume.

3. Condensed hydrocarbon content shall be 5 mg/m^3 or less

4. Carbon monoxide content shall be 10 ppm or less.

5. Carbon dioxide content shall be 1000 ppm or less.

6. There shall be a lack of noticeable odor in the compressed air.

b. Cylinders of purchased compressed breathing air

1. Cylinders shall be tested and maintained according to 49 CFR 173-178, "Shipping Container Specification Regulations." (US Department of Transportation)

2. The supplier of the cylinder shall provide a certificate indicating that the breathing air has been tested and meets the criteria for Class D breathing air.

3. The compressed breathing air shall have a moisture level that does not exceed the dew point of -50°F (-45.6°C).

c. Air Compressors used for breathing air

1. For compressors that are not oil-lubed, the carbon monoxide level shall be 10 ppm or lower.

2. Oil-lubed compressors shall have high-temperature alarms or carbon monoxide alarms.

3. Air compressors shall be located away from any source of air contamination such as the air from the hazardous work area, combustion exhaust from the compressor or vehicles, or plant process exhausts.

4. The moisture content shall have a dew point of $10^{o}F$ ($-5.56^{o}C$) or below.

d. Breathing air couplings shall be different from non-breathing air couplings.

e. Carbon monoxide levels shall be monitored. An in-line carbon monoxide filter shall be used that meets the manufacturer's recommendations.

f. All sorbents and filters shall be labeled with a tag stating the last change-out date.

g. All breathing air containers shall be labeled according to 42 CFR 84.

XVIII. Identification of Filters, Cartridges and Canisters

a. All filters, cartridges and canisters used shall be NIOSH-approved.

b. All labels on the filters, cartridges and canisters shall be labeled and color-coded with the NIOSH approval label.

c. During respirator use, the labels shall not be defaced, obscured or removed. The information on them shall remain legible. Any marking on the filters, cartridges or canisters by the user is acceptable if the marking does not compromise the integrity of the filter, cartridge or canister and it does not obscure the information on the label.

XIV. Training and Information

a. RSC shall ensure that the employee can demonstrate knowledge in the following areas:

1. Why respiratory protection is necessary;
2. The limitations and capabilities of respiratory equipment;
3. The use of respiratory equipment in an emergency;
4. How to inspect, put on and remove a respirator, and how to perform user check seals;
5. Procedures for maintenance and storage of respiratory equipment;
6. How to recognize medical signs and symptoms;
7. General requirements of the Respiratory Protection Program.

b. The training shall be understandable to the employee.

c. The employee shall be trained before respiratory equipment usage.

d. Employees shall be retrained any time:

1. There are changes in the workplace environment where respiratory protection is used; or
2. There are changes in the procedures or policies of respiratory equipment usage; or
3. Whenever the employee demonstrates inadequacies in knowledge; or
4. Any other situation that might warrant retraining.

XV. Program Evaluation

The Program Administrator shall evaluate the Respiratory Protection Program for the workplace. This Evaluation is dependent upon various workplace practices.

a. At a minimum, he/she shall assess:

   1. The proper respirator fit on the employee.
   2. Whether the respirator use is interfering with effective work performance.
   3. Whether appropriate respiratory protection has been selected.
   4. Whether the respirator is used properly.
   5. Whether the respiratory equipment is used properly.

b. The Program Administrator shall talk with the workers about their respiratory equipment usage and its effect on them:

   1. Interference with hearing or vision
   2. Fatigue
   3. Breathing difficulties
   4. Interference with movement or job performance
   5. Comfort
   6. Confidence in using the respirator correctly
   7. Confidence that respiratory equipment is performing adequately

c. The Program Administrator shall have any problems corrected.

XVI. Recordkeeping

a. The Program Administrator shall maintain a minimum of the following documents:

   1. A written record from DR. V Joseph Fiorazo that certifies that the employee is medically fit to wear a respirator and any limitations.
   2. A written record of the last Respiratory Fit Test administered to the employee. At a minimum, the record shall contain:

      a) Name of the employee tested
      b) Type of fit test used
      c) Make, model and size of the respirator tested
      d) Date of the respiratory fit test
      e) Test results

3. A current, written copy of the Respiratory Protection Program.

b. The Dr. V. Joseph Fiorazo, as the PLHCP, shall maintain all written medical records of the employees who wear respiratory equipment.

c. Access to Records:

1. Only the affected employee and the PLHCP shall have access to the affected employee's medical records.

2. The Program Administrator shall make available for review and copying the written records of an affected employee.

3. An employee is restricted to his/her records only.

XVII. Voluntary Usage (Where Respirator Use is Not Required)

This section is for those employees who voluntarily use Dust Masks (Paper Masks) when respiratory protection is **NOT** required. The employee shall either verbally or in writing be given the information contained in Appendix D of 29 CFR 1910(134). This information is also found at the end of Appendix E, in this document.

Appendix A
User Seal Check Instructions
(Fit Check)

User Seal Checks shall be performed each time the respirator wearer dons (puts on) the respirator or enters a hazardous atmosphere. A User Seal Check is not the same as the annual Respirator Fit Test.

There are two User Seal Checks to be performed:

a. Negative Fit Check
    1. Don the respirator
    2. Adjust the straps
    3. Place palms of user's hands over the inhalation inlets. The inhalation inlets are located on the cartridge, canister or filter. This will prevent air from entering the mask when the user inhales. If needed, the user can use a piece of plastic to help close off the inlets.
    4. Inhale slowly
    5. Hold breath for about 10 seconds. The mask should collapse slightly inward.
    6. If the mask collapses and the user feels no leaks around the mask seal, the seal should be secure.
    7. Vigorous or overly sustained inhalation can cause the seal to leak air. This should be avoided when checking the seal.
b. Positive Fit Check
    1. Don the respirator
    2. Adjust the straps
    3. Place the palm of the user's hand over the exhalation outlet.
    4. Exhale slowly
    5. Hold breath for about 10 seconds. The mask should bulge out slightly.
    6. If the mask bulges and the user feel no leaks around the mask seal, the seal should be secure.
    7. Vigorous or overly sustained exhalation can cause the seal to leak air. This should be avoided when checking the seal.

Appendix B
Fit Test Procedures for
Tight-Fitting Respirator Masks

General Requirements

a. The employer shall conduct fit testing using the following procedures. The requirements in this appendix apply to all OSHA-accepted fit test methods, both QLFT and QNFT.

b. The test subject shall be allowed to pick the most acceptable respirator from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

c. Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine an acceptable fit. A mirror shall be available to assist the subject in evaluating the fit and positioning of the respirator. This instruction may not constitute the subject's formal training on respirator use, because it is only a review.

d. The test subject shall be informed that he/she is being asked to select the respirator that provides the most acceptable fit. Each respirator represents a different size and shape, and will provide adequate protection if it is fitted and used properly.

e. The test subject shall be instructed to hold each chosen face piece up to the face and eliminate those that obviously do not give an acceptable fit.

f. The more acceptable face pieces are noted in case the one selected proves unacceptable. The most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by discussing the points in the following paragraphs g and h. If the test subject is not familiar with using a particular respirator, the test subject shall be directed to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.

g. Assessment of comfort shall include a review of the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:

    1. Position of the mask on the nose
    2. Room for eye protection
    3. Room to talk
    4. Position of the mask on face and cheeks

h. The following criteria shall be used to help determine the adequacy of the respirator fit:

    1. Chin properly placed
    2. Adequate strap tension--not overly tightened
    3. Fit across nose bridge
    4. Respirator of proper size to span distance from nose to chin
    5. Tendency of respirator to slip

6. Self-observation in mirror to evaluate fit and respirator position

i. The test subject shall conduct a user seal check, either the negative and positive pressure seal checks described in **Appendix A**, or those recommended by the respirator manufacturer, which provide equivalent protection to the procedures in Appendix A.

   1. Before conducting the negative and positive pressure checks, the subject shall be told to seat the mask on the face by moving the head from side-to-side and up and down slowly while taking in a few slow, deep breaths.

   2. Another face piece shall be selected and retested if the test subject fails the user seal check tests.

j. The test shall not be conducted if there is any hair growth between the skin and the face piece sealing surface, such as stubble beard growth, beard, mustache or sideburns that cross the respirator sealing surface. Any type of apparel that interferes with a satisfactory fit shall be altered or removed.

k. If a test subject exhibits difficulty in breathing during the tests, he/she shall be referred to a physician or other licensed health care professional, as appropriate, to determine if the test subject can wear a respirator while performing his/her duties.

l. If the employee finds the fit of the respirator unacceptable, the test subject shall be given the opportunity to select a different respirator and to be retested.

m. Exercise Regimen: Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure. The description of the process shall include a description of the test exercises that the subject will be performing. The respirator to be tested shall be worn for at least 5 minutes before the start of the fit test.

n. The fit test shall be performed while the test subject is wearing any applicable safety equipment that may be worn during actual respirator use that could interfere with respirator fit.

o. Test Exercises: The following test exercises are to be performed for all fit testing methods prescribed in this appendix. The test subject shall perform these exercises (in the test environment) in the following manner:

   1. Normal breathing: In a normal standing position, without talking, the subject shall breathe normally.

   2. Deep breathing: In a normal standing position, the subject shall breathe slowly and deeply taking caution so as to not hyperventilate.

   3. Turning head side-to-side: Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.

   4. Moving head up and down: Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).

5. Talking: The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song:

   Rainbow Passage:
   When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

6. Grimace: The test subject shall grimace by smiling or frowning. (This applies only to QNFT testing; it is not performed for QLFT.)

7. Bending over: The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place shall be substituted for this exercise in those test environments such as shroud-type QNFT or QLFT units that do not permit bending over at the waist.

8. Normal breathing: Same as exercise #1

9. Each test exercise shall be performed for one minute except for the grimace exercise, which shall be performed for 15 seconds. The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried. The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated.

PortaCount Plus™ Fit Test Requirements

a. Check the respirator to make sure the sampling probe and line are properly attached to the face piece and that the respirator is fitted with a particulate filter capable of preventing significant penetration by the ambient particles used for the fit test (e.g., NIOSH 42 CFR 84 series 100, series 99, or series 95 particulate filter) per manufacturer's instruction.

b. 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. This individual shall already have been trained on how to wear the respirator properly.

c. 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;
   Self-observation in a mirror to evaluate fit and respirator position.

d. Have the person wearing the respirator to do a user seal check. If leakage is detected, determine the cause. If leakage is from a poorly fitting face piece, try another size of the same model respirator or another model of respirator.

e. Follow the manufacturer's instructions for operating the PortaCount and proceed with the test.

f. The test subject shall be instructed to perform the exercises in this appendix.

g. After the test exercises, the test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried.

h. Portacount Test Instrument

1. The PortaCount will automatically stop and calculate the overall fit factor for the entire set of exercises. The overall fit factor is what counts. 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.

2. Since the pass or fail criterion of the PortaCount is user programmable, the test operator shall ensure that the pass or fail criterion meet the requirements for minimum respirator performance listed in this Appendix.

3. A record of the test needs to 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 the date tested.

Qualitative Fit Test (QLFT) Irritant Smoke (Stannic Chloride) Protocol

a. General QLFT Requirements

1. The employer shall ensure that persons administering QLFT are able to prepare test solutions, calibrate equipment and perform tests properly, recognize invalid tests, and ensure that test equipment is in proper working order.

2. The employer shall ensure that QLFT equipment is kept clean and well maintained so as to operate within the parameters for which it was designed.

3. This qualitative fit test uses a person's response to the irritating chemicals released in the "smoke" produced by a stannic chloride ventilation smoke tube to detect leakage into the respirator.

b. General Requirements and Precautions for Irritant Smoke QLFT

1. The respirator to be tested shall be equipped with high efficiency particulate air (HEPA) or P100 series filter(s).

2. Only stannic chloride smoke tubes shall be used for this protocol.

3. No form of test enclosure or hood for the test subject shall be used.

4. The smoke can be irritating to the eyes, lungs and nasal passages. The test conductor shall take precautions to minimize the test subject's exposure to irritant smoke. Sensitivity varies, and certain individuals may respond to a greater degree to irritant

smoke. Care shall be taken when performing the sensitivity screening checks that determine whether the test subject can detect irritant smoke to use only the minimum amount of smoke necessary to elicit a response from the test subject.

5. The fit test shall be performed in an area with adequate ventilation to prevent exposure of the person conducting the fit test or the build-up of irritant smoke in the general atmosphere.

c. Sensitivity Screening Check. The person to be tested must demonstrate his or her ability to detect a weak concentration of the irritant smoke.

1. The test operator shall break both ends of a ventilation smoke tube containing stannic chloride and attach one end of the smoke tube to a low-flow air pump set to deliver 200 milliliters per minute, or an aspirator squeeze bulb. The test operator shall cover the other end of the smoke tube with a short piece of tubing to prevent potential injury from the jagged end of the smoke tube.

2. The test operator shall advise the test subject that the smoke can be irritating to the eyes, lungs and nasal passages and instruct the subject to keep his/her eyes closed while the test is performed.

3. The test subject shall be allowed to smell a weak concentration of the irritant smoke before the respirator is donned to become familiar with its irritating properties and to determine if he/she can detect the irritating properties of the smoke. The test operator shall carefully direct a small amount of the irritant smoke in the test subject's direction to determine that he/she can detect it.

d. Irritant Smoke Fit Test Procedure

1. The person being fit tested shall don the respirator without assistance and perform the required user seal check(s).

2. The test subject shall be instructed to keep his/her eyes closed.

3. The test operator shall direct the stream of irritant smoke from the smoke tube toward the face seal area of the test subject, using the low-flow pump or the squeeze bulb. The test operator shall begin at least 12 inches from the face piece and move the smoke stream around the whole perimeter of the mask. The operator shall gradually make two more passes around the perimeter of the mask, moving to within six inches of the respirator.

4. If the person being tested has not had an involuntary response and/or detected the irritant smoke, proceed with the test exercises.

5. The exercises identified in this appendix shall be performed by the test subject while the respirator seal is being continually challenged by the smoke being directed around the perimeter of the respirator at a distance of six inches.

6. If the person being fit tested reports detecting the irritant smoke at any time, the test is failed. The person being retested must repeat the entire sensitivity check and fit test procedure.

7. Each test subject passing the irritant smoke test without evidence of a response (involuntary cough, irritation) shall be given a second sensitivity screening check with the smoke from the same smoke tube used during the fit test (once the respirator has been removed) to determine whether he/she still reacts to the smoke. Failure to evoke a response shall void the fit test.
8. If a response is produced during the second sensitivity check, then the fit test is passed

Appendix C
Definition of Terms

ACGIH – American Conference of Governmental Industrial Hygienists.

Action Level – The concentration for a specific substance, calculated as an eight (8) hour time-weighted average, that initiates certain required activities such as exposure monitoring and medical surveillance. Typically, it is one-half that of the PEL for that substance.

Air-Purifying Element – The air-purifying filters, cartridges or canisters used with an Air-Purify Respirator. These Air-Purify Elements are not suitable for oxygen-deficient atmospheres.

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 (29 CFR 1910.134(b)). This means that the respirator purifies the air as the worker breathes.

American Conference of Governmental Industrial Hygienists (ACGIH) – The voluntary organization of professional industrial hygiene personnel in government or educational institutions. The ACGIH develops and publishes recommended occupational exposure limits each year, called Threshold Limit Values (TLVs), for hundreds of chemicals, physical agents and biological exposure indices.

American National Standards Institute (ANSI) – A voluntary membership organization that develops consensus standards nationally for a wide variety of devices and procedures.

ANSI – American National Standards Institute.

Atmosphere-Supplying Respirator – A respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units (29 CFR 1910.134(b)). This means that the respirator supplies a worker clean air from an uncontaminated source.

C – Ceiling, as defined by the ACGIH. (see Ceiling)

Canister or Cartridge – A container with a filter, sorbent, catalyst, or combination of these items that removes specific contaminants from the air passed through the container (29 CFR 1910.134(b)).

Ceiling (C or TLV-C) – The maximum concentration of a contaminant that should not be exceeded, even for an instant.

CFR – Federal Code of Regulations

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 (29 CFR 1910.134(b)).

Dew Point – The temperature at which the air is saturated with moisture.

Emergency Situation – Any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant (29 CFR 1910.134(b)).

Employee – An individual employed at OSU who may be exposed to hazardous materials in the course of his or her work duties.

Employee Exposure – Exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection (29 CFR 1910.134(b)).

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 (29 CFR 1910.134(b)).

Escape-Only Respirator – A respirator intended to be used only for emergency exit (29 CFR 1910.134(b)).

Filter or Air-Purifying Element – A component used in respirators to remove solid or liquid aerosols from the inspired air (29 CFR 1910.134(b)).

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 filter medium (29 CFR 1910.134(b)). Sometime, this mask is referred to as a "Paper Mask."

Fit Factor – A quantitative estimate of the fit of a particular respirator to a specific individual. It typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn (29 CFR 1910.134(b)).

Fit Test – The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative Fit Test QLFT and Quantitative Fit Test QNFT (29 CFR 1910.134(b)). A Fit Test is performed annually, and is not to be confused with the positive and negative User Seal Check that is performed every time the mask is donned.

Gas – A fluid such as air that does not have a defined volume or shape but tends to expand infinitely. In other words, a gas is a chemical substance that resembles air. Some examples are oxygen, nitrogen and carbon dioxide.

Helmet – A rigid respiratory inlet covering that also provides head protection against impact and penetration (29 CFR 1910.134(b)).

High-Efficiency Particulate Air (HEPA) Filter – A filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100 and P100 filters (29 CFR 1910.134(b)).

Hood – A respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso (29 CFR 1910.134(b)).

IDLH – Immediately Dangerous to Life or Health

Immediately Dangerous to Life or Health (IDLH) – An atmosphere that poses an immediate threat to life and would cause irreversible adverse health effects or would impair an individual's ability to escape from a dangerous atmosphere (29 CFR 1910.134(b)). It is the maximum concentration from which one

could escape within 30 minutes without a respirator and without experiencing any escape-impairing (e.g., severe eye irritation) or irreversible health effects.

Inhalation – The breathing in or an airborne substance that may be in the form of gases, fumes, mists, vapors or dusts.

Interior Structural Firefighting – The physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures that are involved in a fire situation beyond the incipient stage. (See 29 CFR 1910.155.)

Loose-Fitting Face Piece – A respiratory inlet covering that is designed to form a partial seal with the face (29 CFR 1910.134(b)).

M^3 - Cubic meter

Mists – Liquids that have been atomized into the air and that have formed minute particles. In other words, they are very fine particles of liquid suspended in the air. For example, spray painting forms mists in the air.

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 (29 CFR 1910.134(b)).

NIOSH – National Institute for Occupational Safety and Health. NIOSH is a federal agency that has various responsibilities, which include training occupational health and safety professionals, conducting research on health and safety concerns, and testing and certifying respirators for work place use.

Odor Threshold – The minimum concentration of a substance in the air at which a majority of test subjects can detect and identify (smell) the substance's characteristic odor.

OSHA – Federal Occupational Safety and Health Administration. OSHA publishes and enforces safety and health regulations for most businesses and industries in the United States.

Oxygen Deficient Atmosphere – An atmosphere with an oxygen content below 19.5% by volume (29 CFR 1910.134(b)). Normal oxygen content in air is about 20.9% by volume at sea level.

Paper Mask – (See Filtering Face Piece)

Particulates – Very fine solid particles that are suspended in the air. These are formed from sanding, crushing, grinding, etc. Normally, particulates are greater than 0.3 microns in diameter. Some examples are wood dust, concrete dust and asbestos fibers.

PEL – Permissible Exposure Limit as defined by OSHA.

Permissible Exposure Limit (PEL) – Exposure limit that is published and enforced by OSHA as a legal standard. PEL may be either a time-weighted-average (TWA) exposure limit (8 hours), a 15-minute short-term exposure limit (STEL), or a ceiling (C). The PELs are found in Tables Z-1, Z-2, or Z-3 of 29 CFR 1910.100. This level of exposure is deemed to be the maximum safe concentration, and is often the same value as the TLV.

Personal Protective Equipment – Equipment such as gloves, respirators, clothing and safety glasses that are used to protect the employee from environmental hazards (splashes, airborne contaminants, welding arcs, etc.).

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 paragraph (e) of 29 CFR 1910.134(b).

Positive Pressure Respirator – A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator (29 CFR 1910.134(b)). An SCBA is one type of a positive pressure respirator.

Powered Air-Purifying Respirator (PAPR) – An air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering (29 CFR 1910.134(b)).

Ppm – Parts per million

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 (29 CFR 1910.134(b)).

Qualitative Fit Test (QLFT) – A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent (29 CFR 1910.134(b)). This Test uses a chemical substance that a person can smell and/or taste if the respirator fit is inadequate.

Quantitative Fit Test (QNFT) – An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator (29 CFR 1910.134(b)). This test uses a machine, such as the PortaCount Plus™, to count the number of particulates that escape into the respirator mask.

Respirator – A device that fits over the mouth and nose to protect the respiratory system from airborne contaminants. There are two types of respirators: air-supplied and air-purifying.

Respiratory Hazard – A particular concentration of an airborne contaminant that, when it enters the body by way of the respiratory system or by being breathed into the lungs, results in some bodily function impairment or harm.

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 (29 CFR 1910.134(b)).

Respiratory Protection –The use of respirators to protect an employee's respiratory system, e.g., to protect the employee's health by supplying him or her with non-contaminated air.

Self-Contained Breathing Apparatus (SCBA) – An atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user (29 CFR 1910.134(b)).

Service Life – The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer (29 CFR 1910.134(b)).

Short Term Exposure Limit (STEL or TLV-STEL) – The maximum concentration to which employees can be exposed for a short period of time (15 minutes) for only four times throughout the day with at least one hour between exposures.

STEL – Short Term Exposure Limit

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 (29 CFR 1910.134(b)).

Threshold Limit Values – A set of standards for the concentration of airborne contaminants. These values are calculated based on time-weighted averages, i.e., they are based on conditions that employees can be exposed to day after day without adverse effects. These are guidelines, not legal standards, established by the ACGIH.

Tight-Fitting Face Piece – A respiratory inlet covering that forms a complete seal with the face (29 CFR 1910.134(b)).

Time Weighted Average (TLV-TWA, Threshold Limit Value-Time Weighted Average) – The time weighted average of airborne chemical concentration for a normal eight-hour work day and a 40-hour work week to which nearly all employees may be repeatedly exposed, day-after-day, without adverse effect. These limits are guidelines, not legal standards, established by the ACGIH.

TLV – Threshold Limit Value as defined by the ACGIH. See **Threshold Limit Values**.

TLV-C – See **Ceiling**

TLV-STEL – See **Short Term Exposure Limit**

User Seal Check – An action conducted by the respirator user to determine if the respirator is properly seated to the face (29 CFR 1910.134(b)). There are two Seal Checks: a positive and a negative check. The User Seal Check is done every time a user dons his or her respirator.

Vapors – Liquid or solid chemicals that are in their gaseous state. They are formed when chemicals evaporate. Examples of chemicals that form vapors are paint thinners, gasoline and alcohol.

Volatile – The liquid chemical will readily and easily vaporize into vapors at room temperature.

Appendix D
OSHA Respirator Medical Evaluation Questionnaire

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

To the employee: Can you read (circle one): Yes / No

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

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

1. Today's date: _____
2. Your name: _____
3. Your age (to nearest year): _____
4. Your 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):
    - ____ N, R, or P disposable respirator (filter-mask, non-cartridge type only).
    - ____ 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 (answer by circling "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
    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 this space (____) and go to question 9.)
    a. Eye irritation: Yes / No
    b. Skin allergies or rashes: Yes / No
    c. Anxiety: Yes / No
    d. General weakness or fatigue: Yes / No
    e. Any other problem that interferes with your use of a respirator: Yes / No
9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire? Yes / No

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

10. Have you ever lost vision in either eye (temporarily or permanently): Yes / No
11. Do you currently have any of the following vision problems?
    a. Wear contact lenses: Yes / No
    b. Wear glasses: Yes / No
    c. Color blind: Yes / No
    d. Any other eye or vision problem: Yes / No
12. Have you ever had an injury to your ears, including a broken eardrum: Yes / No
13. Do you currently have any other 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 while carrying more than 25 lbs.: Yes / No

j. Any other muscle or skeletal problem that interferes with using a respirator: Yes / No

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

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

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

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

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

3. Have you ever worked with any of the materials, or under any of the conditions, listed below?
   a. Asbestos: Yes / No
   b. Silica (e.g., in sandblasting): Yes / No
   c. Tungsten/cobalt (e.g., grinding or welding this material): Yes / No
   d. Beryllium: Yes / No
   e. Aluminum: Yes / No
   f. Coal (for example, mining): Yes / No
   g. Iron: Yes / No
   h. Tin: Yes / No
   i. Dusty environments: Yes / No
   j. Any other hazardous exposures: Yes / No

   If "yes," describe these exposures: _____

   _____

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

   _____

5. List your previous occupations:

   _____

6. List your current and previous hobbies:

   _____

7. Have you been in the military services: Yes / No
8. Have you ever worked on a HAZMAT team: Yes / No
9. Other than medications for breathing and lung problems, heart trouble, blood pressure and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes / No

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

10. Will you be using any of the following items with your respirator(s)?
    a. HEPA Filters: Yes / No
    b. Canisters (for example, gas masks): Yes / No
    c. Cartridges: Yes / No
11. How often are you expected to use the respirator(s)?
    (Circle "yes" or "no" for all answers that apply to you.)
    a. Escape only (no rescue): Yes / No
    b. Emergency rescue only: Yes / No
    c. Less than 5 hours per week: Yes / No
    d. Less than 2 hours per day: Yes / No
    e. 2 to 4 hours per day: Yes / No
    f. Over 4 hours per day: Yes / No
12. During the period you are using the respirator(s), is your work effort:
    a. Light (less than 200 kcal per hour): Yes / No

       If "yes," how long does this period last during the average shift:
       _____hrs. _____mins.

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

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

If "yes," how long does this period last during the average shift:
_____hrs. _____mins.

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

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

If "yes," how long does this period last during the average shift:
_____hrs. _____mins.

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

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

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

    _____

14. Will you be working under hot conditions (temperature exceeding 77°F): Yes / No
15. Will you be working under humid conditions: Yes / No
16. Describe the work you'll be doing while you're using your respirator(s):

    _____

    _____

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

    _____

    _____

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

    Name of the first toxic substance: _____

    Estimated maximum exposure level per shift: _____

    Duration of exposure per shift: _____

    Name of the second toxic substance: _____

    Estimated maximum exposure level per shift: _____

    Duration of exposure per shift: _____

Name of the third toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

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

_____

_____

_____

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

    _____

Appendix E

Sec. 1910.134 (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 employees. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the employee. Sometimes, employees may wear respirators to avoid exposures to hazards even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard. You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirator's 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.

(29 CFR 1910.134 App.C)