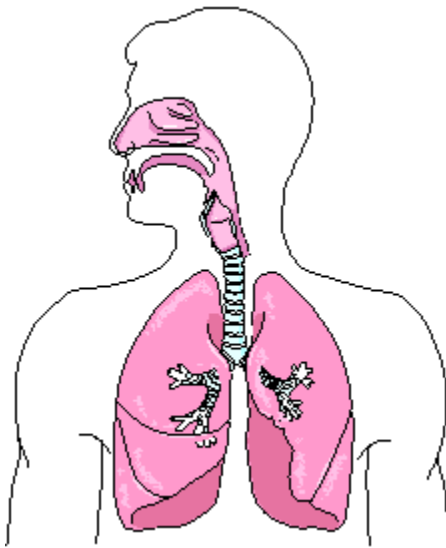


# Gettysburg College



# Respiratory Protection Program

January 30, 2008



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## I. Introduction to Respiratory Protection

### A. Purpose

This document serves as the written guide for Gettysburg College compliance to 29 CFR 1910.134, titled, “Respiratory Protection” and the Respiratory Protection Program requirements contained therein.

This document will hereafter be known as the Gettysburg College Respiratory Protection Plan (GCRPP).

### B. Scope

Respirators are to be used only when engineering controls (e.g. – enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials) are not feasible, while these controls are being installed or repaired, or in emergencies.

## II. Responsibility

In compliance with 29 CFR 1910.134, titled “Respiratory Protection”, Gettysburg College realizes our responsibility for the protection of our employees. We hereby institute the enclosed respiratory protection program to assist us in our safety program.

Gettysburg College hereby appoints William J. Shoemaker to be our respiratory protection program administrator. We acknowledge the respiratory protection program administrator has the knowledge and authority to implement and enforce our respiratory protection program.

Although we, Gettysburg College, are designating Mr. Shoemaker as our respiratory protection program administrator, we realize the success of our respiratory protection program rests with all of our employees. The ultimate responsibility for the respiratory protection program rests with the President of Gettysburg College.

- A. The **President of Gettysburg College** has ultimate responsibility for respiratory protection within the institution. General oversight responsibility is assigned to the **Executive Vice President**.

- B. The **Director of Environmental Health & Safety** will be responsible for administering the Gettysburg College Respiratory Protection Program. This includes
1. working with administrators and other employees to develop and implement the appropriate respiratory protection policies and practices.
  2. evaluating respiratory hazards in the work environment.
  3. educating supervisors and employees.
  4. advising on administrative and engineering controls that reduce exposure.
  5. recommending proper personal protective equipment
  6. scheduling medical evaluations and fit test services
  7. scheduling training for exposed employees and their supervisors.
  8. maintaining exposure measurements, test records, and training records.
  9. evaluating the effectiveness of the respiratory protection program
- C. The **Supervisor** has a primary responsibility for implementing the Gettysburg College Respiratory Protection Program in the workplace. This includes:
1. identifying and reporting job areas and personnel that require or may require respiratory protective equipment.
  2. ensuring that employees wearing respirators voluntarily do not wear a respirator in a required use situation.
  3. ensuring that workers know and follow the respiratory protection program.
  4. implementing administrative and engineering controls where possible to reduce exposure
  5. ensuring that the required level of respiratory protection is available, in working order, and that specific training in its use has been provided
  6. maintaining records of respirator inspections, training, and fit testing at the department level.
  7. notifying the Director of Environmental Health and Safety of changes in the workplace that affect exposure levels.
  8. enforcing the use of proper respiratory protection
  9. ensuring that employees attend required annual respiratory protection program training.
  10. ensuring that employees attend required annual fit testing.
  11. providing for the safety of visitors in the workplace

- D. The **Employee** will be responsible for maintaining a thorough understanding of the Gettysburg College Respiratory Protection Program and conducting each operation in accordance with the program. This includes:
1. following safe work practices to eliminate or reduce exposure
  2. completing medical questionnaires.
  3. attending required annual respiratory protection program training.
  4. attending required annual fit testing.
  5. wearing the required level of protection
  6. storing, cleaning, and maintaining respiratory equipment.
  7. reporting changes in the workplace that affect exposure levels to their supervisor.
- E. The **Safety Committee** assists the Director of Environmental Health and Safety and:
1. reviews the Respiratory Protection Program
  2. conducts safety audits

### III. Respirator Selection

Unless an exception is granted by the respiratory protection program administrator, all respirators shall be obtained through, or with the approval of, the Department of Environmental Health & Safety. Gettysburg College shall, at no cost to its employees, provide a sufficient number of respirator models and sizes so that the respirators are acceptable to, and correctly fit, the users.

All respirators and respirator parts used on campus must be certified by the National Institute of Occupational Safety and Health (NIOSH). Respirator use shall be in compliance with the conditions of certification.

The EHS Director shall select an appropriate respirator based on the respiratory hazard(s) to which the worker is exposed and workplace and user factors that affect respirator performance and reliability, including but not limited to:

1. the physical and chemical properties of the air contaminant (dusts, fumes, mists, vapors, or gases)
2. warning properties of the hazardous chemical
3. the adverse health effects of the respiratory hazard (IDLH)
4. the relevant hazard exposure levels (PEL, TLV, STEL)
5. the results of workplace sampling of airborne concentrations of contaminants

6. the period of time in which respiratory protection will be worn by employees during the work shift
7. the work activities of the employees and the physiological burden these work conditions place on employees wearing the respirators
8. medical evaluations
9. fit-test results
10. the physical characteristics, functional capabilities, and limitations of various types of respirators, including assigned protection factors

Gettysburg College shall use the assigned protection factors listed in Table 1 to select a respirator that meets or exceeds the required level of employee protection. When using a combination respirator (eg., airline respirators with an air-purifying filter), Gettysburg College shall ensure that the assigned protection factor is appropriate to the mode of operation in which the respirator is being used.

Table 1. -- Assigned Protection Factors<sup>5</sup>

Type of respirator <sup>1, 2</sup>	Quarter mask	Half mask	Full facepiece	Helmet/hood	Loose-fitting facepiece
1. Air-Purifying Respirator	5	<sup>3</sup> 10	50	.....	.....
2. Powered Air-Purifying Respirator (PAPR)	.....	50	1,000	<sup>4</sup> 25/1,000	25
3. Supplied-Air Respirator (SAR) or Airline Respirator					
• Demand mode	.....	10	50	.....	.....
• Continuous flow mode	.....	50	1,000	<sup>4</sup> 25/1,000	25
• Pressure-demand or other positive-pressure mode	.....	50	1,000	.....	.....
4. Self-Contained Breathing Apparatus (SCBA)					
• Demand mode	.....	10	50	50	.....
• Pressure-demand or other positive-pressure mode (e.g., open/closed circuit)	.....	.....	10,000	10,000	.....

**Notes:**

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>This APF category includes filtering facepieces, and half masks with elastomeric facepieces.

<sup>4</sup>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.

<sup>5</sup>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).

Gettysburg College shall select a respirator for employee use that maintains the employee's exposure to the hazardous substance, when measured outside the respirator, at or below the maximum use concentration (MUC). Gettysburg College shall not apply maximum use concentrations to conditions that are immediately dangerous to life or health (IDLH); instead, they must use respirators listed for IDLH conditions as described below. When the calculated maximum use concentration exceeds the IDLH level for a hazardous substance, or the performance limits of the cartridge or canister, then Gettysburg College must set the maximum MUC at that lower limit.

Respirators protect the wearer by either filtering hazards from inhaled air (air-purifying respirators), or by providing a source of nonhazardous air (atmosphere-supplying respirators).

#### Air-purifying Respirators

##### 1. Quarter and Half Mask (including filtering facepieces)

These tight-fitting respirators include filtering face pieces and masks with elastomeric face pieces. They may provide respiratory protection against vapors, gases, fumes, and particulate matter or any combination of these contaminants depending on the type of filter used. The half mask respirator has a higher assigned protection factor than the quarter mask. Qualitative or quantitative fit testing is required.

NOTE: Gettysburg College is not required to include in its respiratory protection program employees whose only use of respirators involves the voluntary use of filtering facepieces.

##### 2. Full-face Respirators

These tight-fitting respirators provide greater protection by forming a complete seal with the face. They may provide respiratory protection against vapors, gases, fumes, and particulate matter or any combination of these contaminants depending on the type of filter used. The full-face respirator

combines added protection for the eyes and a higher assigned protection factor than the half mask respirator. Quantitative fit testing is required.

### 3. Powered Air-Purifying Respirators

These respirators contain a blower, which pushes ambient air through a filter and then to the wearer. They are available in either a tight-fitting face piece or a loose-fitting helmet, hood, or suit. Quantitative fit testing is required. The loose-fitting PAPR does not require a fit test.

## Atmosphere-Supplying Respirators

### 1. Self-Contained Breathing Apparatus (SCBA)

SCBA respirators are typically equipped with a full-face piece, but may also be equipped with a half-face piece, helmet, or hood. The wearer carries a supply of nonhazardous air. Quantitative fit testing is required.

### 2. Air-Line Respirator

These respirators are supplied nonhazardous air via a hose. The amount of air provided can be controlled by the wearer via a valve and exhaled air passes through another valve in the face piece or opening in the enclosure. Quantitative fit testing is required.

## A. Respirators for IDLH atmospheres

All oxygen-deficient atmospheres (<19.5% O<sub>2</sub>) and all atmospheres where the EHS Director cannot identify or reasonably estimate the employee exposure, will be considered immediately dangerous to life or health (IDLH), and either a full face piece pressure demand SCBA certified by NIOSH for a minimum service life of 30 minutes, or a combination full face piece pressure demand supplied-air respirator with auxillary self-contained air supply will be provided.

Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

## B. Respirators for atmospheres that are not IDLH

For protection against gases and vapors, Gettysburg College shall provide an atmosphere-supplying respirator, or an air-purifying respirator, provided that:

- the air-purifying respirator is equipped with an end-of-service life indicator (ESLI) certified by NIOSH for the contaminant, or
- if there is no ESLI appropriate for conditions in the workplace, the College implements a change schedule for canisters and cartridges that is based on objective information or data (which is attached to this document) that will ensure that canisters and cartridges are changed before the end of their service life.

All filters, cartridges, and canisters used in the workplace shall be labeled and color coded with the NIOSH approval label, and that label must not be removed and remain legible.

For protection against particulates, Gettysburg College shall provide an atmosphere-supplying respirator, or an air-purifying respirator equipped with a filter certified by NIOSH under 30 CFR Part 11 as a high efficiency particulate air (HEPA) filter, or an air-purifying respirator equipped with a filter certified for particulates by NIOSH under 42 CFR part 84 or for contaminants consisting primarily of particles with mass median aerodynamic diameters (MMAD) of at least 2 micrometers, an air-purifying respirator equipped with any filter certified for particulates by NIOSH.

## IV. Medical Certification

Due to the physiological burden created by its use, before wearing (including fit testing) a respirator (excluding voluntary use of filtering facepieces), employees must undergo a medical evaluation to determine their ability to use that respirator. This evaluation by a physician or other licensed health care professional (PLHCP) may be obtained by using the medical questionnaire in Appendix C of the OSHA Respiratory Protection Standard or an initial medical examination that obtains the same information as the medical questionnaire.

The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its

content. Gettysburg College shall provide employees with an opportunity to discuss the questionnaire and examination results with the PLHCP.

When an employee gives a positive response to any question among questions 1 through 8 in Section 2, Part A, or when their initial medical examination demonstrates the need, they must have a follow-up medical examination, including any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination. This follow-up medical examination does not have to be performed face-to-face so long as the PLHCP can obtain the necessary information.

A. Information Provided to the Healthcare Professional

The College shall ensure that the healthcare professional evaluating an employee has been provided the following information:

1. a copy of the Respiratory Protection Standard (29 CFR 1910.134)
2. the type and weight of the respirator to be used by the employee
3. the duration and frequency of respirator use (including use for rescue and escape)
4. the expected physical work effort
5. additional protective clothing and equipment to be worn, and
6. temperature and humidity extremes that may be encountered

NOTE: If the College selects a new PLHCP, it must ensure that the above information is provided or transferred from the former PLHCP; however, the College is not expected to have employees medically reevaluated solely because a new PLHCP has been selected.

B. Healthcare Professional's Written Recommendation

The College shall obtain the evaluating healthcare professional's written recommendation regarding the employee's ability to use the respirator. The healthcare professional's written recommendation shall be limited to limited to the following information:

1. any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including

- whether or not the employee is medically able to use the respirator
2. the need, if any, for follow-up medical evaluations, and
  3. a statement that the PLHCP has provided the employee with a copy of the PLHCP's written recommendation.

All other findings and diagnoses shall remain confidential and shall not be included in the written report.

NOTE: 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, the College 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 the College is no longer required to provide a PAPR.

#### C. Additional Medical Evaluations

The College shall provide additional medical evaluations, complying with the above requirements if:

1. an employee reports medical signs or symptoms that are related to their ability to use a respirator
2. a PLHCP, supervisor, or the respirator program administrator informs the employer that an employee needs to be reevaluated
3. information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation, or
4. a change occurs in workplace conditions (e.g.—physical work effort, protective clothing, temperature) that may result in substantial increase in the physiological burden placed on the employee.

### V. Fit Testing and Use

#### A. Fit Testing

1. Gettysburg College shall ensure that all employees **required** to use a tight-fitting facepiece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT).
2. Gettysburg College shall ensure that employees are fit tested with the same make, model, style, and size of respirator that will be used.

3. Gettysburg College shall ensure that employees are fit tested prior to initial use of the respirator, whenever a different respirator facepiece (size, style, model, or make) is used, and at least **annually** thereafter.
4. Gettysburg College shall conduct an additional fit test whenever the employee reports, or the employer, PLHCP, supervisor, or program administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to: facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.
5. If after passing a QLFT or QNFT, the employee subsequently notifies the College, 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 facepiece and to be retested.
6. Fit tests shall be administered using the OSHA-accepted QLFT or QNFT protocols and procedures found in 29 CFR 1910.134 Appendix A.
7. QLFT may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.
8. If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half facepieces, or equal to or greater than 500 for tight-fitting full facepieces, the QNFT has been passed with that respirator.
9. Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for the respiratory protection.
10. Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surface as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.
11. Quantitative fit testing of these respirators shall be accomplished by modifying the facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto

a surrogate facepiece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.

12. Any modifications to the respirator facepiece for fit testing shall be completely removed, and the facepiece restored to NIOSH-approved configuration, before that facepiece can be used in the workplace.

## B. Respirator Use

### 1. Seal Check

Gettysburg College shall require employees to perform a user seal check each time they put on the respirator, using the procedures in Appendix B-1 of 29 CFR 1910.134 or procedures recommended by the respirator manufacturer that the College demonstrates are as effective as those in Appendix B-1.

### 2. Seal Protection

Employees with facial hair (stubble, mustache, sideburns, beard, low hairline or bangs) that comes between the sealing surface of the facepiece and the face or facial hair that interferes with valve function (mustache, beard) shall not be permitted to wear a respirator with a tight-fitting facepiece. Employees shall be clean shaven within 24 hours of wearing a respirator.

Employees with any condition that interferes with the face-to-facepiece seal or valve function shall not be permitted to wear a respirator with a tight-fitting facepiece.

Employees who wear corrective glasses or goggles or other personal protective equipment shall ensure that such equipment is worn in a manner that does not interfere with the seal of the facepiece to the face of the user. Spectacles with temple bars or straps that pass between the sealing surface of the facepiece and the wearers face shall not be worn. If a full facepiece respirator is used, special frames for mounting prescription glasses are available.

### 3. Respirator Effectiveness

Gettysburg College shall survey the work area conditions and degree of employee exposure or stress, and when changes occur, reevaluate the continued effectiveness of the respirator.

Gettysburg College shall ensure that employees leave the respirator use area:

- a. To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use; or
- b. If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece; or
- c. To replace the respirator or the filter, cartridge, or canister elements.

If an employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece, the College must replace or repair the respirator before allowing the employee to return to the work area.

#### 4. Procedures for IDLH atmospheres

For all IDLH atmospheres, the College shall ensure that:

- a. Employees wear a full facepiece pressure demand SCBA certified by NIOSH for a minimum service life of 30 minutes or a combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.
- b. Employees are equipped with retrieval equipment for lifting or removing them from the hazardous area, or equivalent provisions for rescue have been made.
- c. One employee or, when needed, more than one employee is located outside the IDLH atmosphere who maintains visual, voice, or signal line communication with the employee(s) in the IDLH atmosphere.
- d. The employee(s) located outside the IDLH atmosphere are trained to provide effective emergency rescue and are equipped with:
  - i. pressure demand or positive pressure SCBA or pressure demand or positive pressure supplied-air respirators with auxiliary SCBA and
  - ii. appropriate retrieval equipment or equivalent means for rescue.
  - iii. a radio, cell phone, or other communication device to call Safety & Security and 911 before entering the IDLH atmosphere to provide emergency rescue.

#### 5. Procedures for Interior Structural Firefighting

In addition to the requirements above for IDLH atmospheres, in interior structural fires, the College shall ensure:

- a. at least two employees enter the IDLH atmosphere and remain in visual or voice contact with one another at all times;
- b. at least two employees are located outside the IDLH atmosphere; and
- c. all employees engaged in interior structural firefighting use SCBAs

NOTE: Nothing in this section is meant to preclude firefighters from performing emergency rescue activities before an entire team has assembled.

#### 6. Voluntary Use of Respirators

When an employee chooses to use a respirator for comfort, and not for protection against levels of contaminants that would require respiratory protection, the employee does not need fit testing; however, they shall be provided with a copy of 29 CFR 1910.134 Appendix D “Mandatory Information for Employees Using Respirators When not Required Under Standard,” and in addition, employees must undergo a medical evaluation to determine their ability to use that respirator. (EXCEPTION: Gettysburg College is not required to include in its written respiratory protection program those employees whose only use of respirators involves the use of filtering facepieces.)

It is the responsibility of the supervisor to ensure that employees wearing respirators on a voluntary basis do not wear these respirators in a situation that would require a respirator, such as exposure above permissible exposure limits or action levels.

### VI. Respirator Maintenance

#### A. Cleaning and Disinfecting

Gettysburg College will provide each respirator user with a respirator that is clean, sanitary, and in good working order. Respirators shall be cleaned and disinfected using the procedures in Appendix B-2 of 29 CFR 1910.134, or using the procedures recommended by the respirator manufacturer, provided such procedures are of equivalent effectiveness.

Respirators shall be cleaned and disinfected when:

1. they become unsanitary
2. before use by a different individual
3. after each use if maintained for emergencies only
4. after each use of used for fit testing and training

## B. Storage

Respirators shall be stored:

1. to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals
2. to prevent deformation of the facepiece and exhalation valve
3. accessible to the work area
4. according to applicable manufacturer's instructions
5. in compartments or covers that are clearly marked as containing emergency respirators if used for emergency purposes.

## C. Inspection

Respirators used routinely shall be inspected before each use and during cleanings.

Respirator inspections shall include the following:

1. a check of respirator function
2. tightness of connections
3. condition of the various parts, including but not limited to: the facepiece, head straps, valves, connecting tube, cartridges, canisters, and filters
4. a check of the elastomeric parts for pliability and signs of deterioration

In addition SCBA:

1. shall be inspected monthly;
2. air and oxygen cylinders shall be maintained in a fully charged state and shall be recharged when the pressure falls below 90% of the manufacturer's recommended pressure level; and
3. regulator and warning devices shall be checked for functionality

Emergency respirators shall be inspected at least monthly in accordance with manufacturer's recommendations, and shall be checked for proper function

before and after each use. A tag certifying the respirator was inspected shall be affixed to the storage compartment or kept with the respirator. The tag shall contain the date of inspection, name (or signature) of person who made the inspection, the findings requiring remedial action, and a serial number or other means of identifying the inspected respirator.

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

#### D. Repairs

Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall be performed according to manufacturer's recommendations or specifications, using only the respirator manufacturer's NIOSH-approved parts designed for the respirator.

Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

### VII. Breathing Air Quality and Use

Compressed or liquefied air or oxygen used for respiration shall meet the following specifications

1. Compressed air and liquid oxygen shall meet the United States Pharmacopoeia requirements for medical or breathing oxygen, and compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/CGA Commodity Specification for Air G-7.1-1989, to include: Oxygen 19.5-23.5%; Hydrocarbon 5 mg/m<sup>3</sup> air or less, Carbon Monoxide 10 ppm or less, Carbon Dioxide 1000 ppm or less, and lack of noticeable odor.
2. Compressed oxygen shall not be used in atmosphere-supplying respirators that have previously used compressed air.
3. Oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution.

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

1. Cylinders shall be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR 173 and 178)

2. Cylinders of purchased breathing air shall have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air
3. The moisture content in the cylinder shall not exceed a dew point of -50 degrees F at 1 atmospheric pressure.

Compressors used to supply breathing air to respirators shall be constructed and situated to meet the following requirements:

1. Prevent entry of contaminated air into the air-supply stream
2. minimize moisture content so that the dew point at 1 atmospheric pressure is 10 degrees F below the ambient temperature
3. have suitable in-line air-purifying sorbent beds and filters to ensure breathing air quality. Sorbent beds and filters shall be maintained and replaced or refurbished periodically following the manufacturer's instructions.
4. Have a tag containing the most recent change date and the signature of the person authorized by the College to perform the change. The tag shall be maintained at the compressor.
5. For compressors that are not oil-lubricated, the College shall ensure that the carbon monoxide levels in the breathing air do not exceed 10 ppm.
6. For oil-lubricated compressors, the College shall use a high-temperature or carbon monoxide alarm, or both, to monitor the carbon monoxide levels. If only high-temperature alarms are used, the air supply shall be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 ppm.

Additionally, the College shall ensure:

1. Breathing air couplings are incompatible with outlets for nonrespirable worksite air or other gas systems. No asphyxiating substance shall be introduced into breathing air lines.
2. Breathable gas containers are marked in accordance with the NIOSH respirator certification standard, 42 CFR part 84.

## VIII. Training

### A. Requirements

1. Gettysburg College shall institute and ensure employee participation in a training program for all employees who are **required** to use respirators.

2. The training program shall be provided prior to using a respirator and shall be repeated annually for each employee included in the respiratory protection program.
3. Information in Appendix D of 29 CFR 1910.134 shall be provided to employees who wear respirators when **not required** to do so by 29 CFR 1910.134 or the College.

#### B. Training Topics

Gettysburg College shall ensure that each employee can demonstrate knowledge of at least the following:

1. Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.
2. What the limitations and capabilities of the respirator are.
3. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
4. How to inspect, put on and remove, use, and check the seals of the respirator.
5. What the procedures are for maintenance and storage of the respirator.
6. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators, and
7. The general requirements of 29 CFR 1910.134 and the Gettysburg College Respiratory Protection Program.

#### C. Retraining

Retraining shall be provided annually, and when any of the following situations occur:

1. changes in the workplace or the type of respirator render previous training obsolete
2. inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill
3. any other situation arises in which retraining appears necessary to ensure safe respirator use

#### IX. Program Evaluation

The Department of Environmental Health and Safety shall periodically review the Respiratory Protection Program to ensure that the provisions of the program are effectively implemented and it continues to be effective.

The Department of Environmental Health and Safety shall regularly consult with employees required to use respirators to assess the employee's views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed included, but are not limited to:

1. respirator fit (including the ability to use the respirator without interfering with effective workplace performance)
2. appropriate respirator selection for the hazards to which the employee is exposed
3. proper respirator use under the workplace conditions the employee encounters, and
4. proper respirator maintenance

## X. Record Keeping

### A. Medical Evaluations

Records of medical evaluations required shall be retained in accordance with 29 CFR 1910.1020.

### B. Fit Tests

Records of Fit Tests shall be retained for a period of up to one year after an employee no longer uses a respirator or until the next fit test is administered. It is recommended that fit test records be maintained for the duration of employment plus 30 years.

Records of QLFT and QNFT shall include:

1. name or identification of the employee tested
2. type of fit test performed
3. specific make, model, style, and size of respirator tested
4. date of test, and
5. the pass/fail result for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs.

### C. Training Records

Gettysburg College shall retain a record of each employee's training required by the Respiratory Protection standard for the duration of the employee's employment.

Appendix A:

Respiratory Protection Standard with Mandatory and Non-mandatory Appendices



## Appendix B:

### Respirator Inspection Checklist

#### **Facepiece:**

Excessive dirt

Cracks, tears, holes, or physical distortions

Lack of pliability and signs of distortion

Incorrect facepiece mounting or missing clips

Cracked or broken air purifying element holder or bad (stripped) threads

Damaged/missing inhalation valve

#### **Head Straps/Head Harness**

Breaks

Loss of elasticity

Broken or malfunctioning buckles/attachments

Worn serrations which might permit slippage

#### **Inhalation & Exhalation Valves**

Foreign material under valve seat

Cracks, tears or distortion of the valve

Cracks, breaks, or chips in the valve body

Missing or defective valve cover

Improper installation of valve in valve body

Improper insertion of valve body into facepiece

## **Air Purifying Elements**

Incorrect cartridge or filter for hazard

Incorrect installation, missing or worn gasket on holder

Damaged or stripped threads on cartridge/filter

Expired end of service life indicator

Expired (past) recommended shelf or service life

Cracks or dents in outside casing

Evidence of other damage

Appendix C:

Respirator Cartridge Selection and Change Out Schedule Documentation