

George Mason University

Respiratory Protection Plan



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Table of Contents

Acronyms	4
Forward	5
Document History	5
1.0 Introduction.....	6
2.0 Roles and Responsibilities	6
2.1 Environmental Health and Safety Office (EHS)	6
2.2 Physician or Other Licensed Healthcare Provider (PLHCP).....	7
2.3 Supervisors	7
2.4 Employees	8
2.5 Instructors	8
3.0 Respiratory Protection Selection.....	9
3.1 Examples of Tasks Which May Require Respiratory Protection	9
3.2 Respiratory Hazard Assessment	9
3.3 Selecting Required Respiratory Protection.....	10
4.0 Worksite Specific Procedures for Use of Respiratory Protection	10
4.1 Use of Respiratory Protection When Required	10
4.2 Voluntary Use of Respiratory Protection	11
4.3 Student Use of Respiratory Protection	11
4.4 Visitor Use of Respiratory Protection	11
4.5 Contractor Use of Respiratory Protection	11
5.0 Respiratory Protection Care and Maintenance	11
5.1 Cleaning of Respirators	12
5.2 Inspection.....	12
5.3 Respirator Storage	12
5.4 Respirator Maintenance	13
6.0 Medical Evaluations.....	13
6.1 Administration of Medical Evaluation	13
6.2 Information Provided to the PLHCP	14
6.3 PLHCP written opinion	14
7.0 Training.....	14
8.0 Fit Testing	15
8.1 Qualitative Fit Testing	15

8.2	Quantitative Fit Testing	15
8.3	Fit Test Records	15
9.0	Recordkeeping	16
10.0	Program Evaluation	16
	Appendix A Definitions	167
	Appendix B OSHA Respirator Medical Evaluation Questionnaire (Mandatory).....	
	198	
	Appendix C Fit Test Record	22
	Appendix D Supplemental Respiratory Protection Program	23

Acronyms

BSL	Biosafety Level
EHS	Environmental Health and Safety Office
HEPA	High-Efficiency Particulate Air
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PAPR	Powered Air-Purifying Respirator
PEL	Permissible Exposure Limit
PLHCP	Physician or Other Licensed Healthcare
SOP	Standard Operating Procedure

Foreword

The Occupational Safety and Health Administration (OSHA) established 29 CFR 1910.134, *Respiratory Protection*, to limit occupational disease caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors. When air contaminants cannot be lowered below acceptable levels by engineering and administrative controls respirators may be appropriate. This standard includes requirements for training, respirator medical clearance, respirator fit testing, exposure monitoring when required, and recordkeeping.

The Respiratory Protection Program to include this *Respiratory Protection Plan*, has been developed to protect George Mason University employees from exposure to harmful air contaminants and complies with 29 CFR 1910.134. While implementing control measures to further reduce occupation exposure may be required to wear a respirator when it is necessary to protect the health of the employee. Employees who are required to wear a respirator will be enrolled in the Respiratory Protection Program. As outlined in this *Respiratory Protection Plan*, program elements includes: training, medical evaluation, respirator fit testing, program evaluation, and recordkeeping.

Document History

Version	Date	Comments
1	May, 2008	Initial <i>Respiratory Protection Program</i>
2	April, 2013	Routine review and update

1.0 Introduction

This *Respiratory Protection Plan* covers George Mason University employees who use respiratory protection and complies with 29 CFR 1910.134 *Respiratory Protection*. Elements of the Respiratory Protection Program include respiratory protection selection, worksite-specific procedures for use of respiratory protection, respiratory protection care and maintenance, medical evaluations, training, fit testing, recordkeeping, and program evaluation.

2.0 Roles and Responsibilities

This *Respiratory Protection Plan* for George Mason University is a cooperative effort between the Environmental Health and Safety Office (EHS), a physician or other licensed healthcare provider (PLHCP), supervisors, employees, and instructors. Specific responsibilities relating to the Respiratory Protection Program are outlined below.

2.1 Environmental Health and Safety Office (EHS)

Specific responsibilities of EHS relating to respiratory protection are to:

- Administer the George Mason University Respiratory Protection Program.
- Conduct Respiratory Hazard Assessment if:
 - Supervisor notifies EHS that the need for respiratory protection is suspected.
 - Supervisor informs EHS that the use of respiratory protection is desired.
- Determine appropriate respiratory protection.
- Notify supervisor in writing the type of respiratory protection required.
- Provide training to voluntary users as required by 29 CFR 1910.134 Appendix D, (*Mandatory*) *Information for Employees Using Respirators When Not Required Under Standard*.
- Clean, inspect, maintain, and store respiratory protection used for fit testing and training after each use according to 29 CFR 1910.134.
- Coordinate required medical evaluations for employees required to wear respiratory protection.
- Provide employees required to undergo medical evaluations with a copy of the *OSHA Respirator Medical Evaluation Questionnaire*.
- Pay all costs associated with medical evaluations and follow-up examinations related to the use of respiratory protection.
- Assist supervisors with *Information for the PLHCP* form for all employees required to wear respiratory protection when requested.
- Provide PLHCP conducting medical evaluations for respiratory protection use with a copy of the following (if not already on file):
 - 29 CFR 1910.134;
 - George Mason University's *Respiratory Protection Plan*; and
 - Previous records maintained by EHS for employees required to wear respiratory protection.
- Provide training and fit testing to employees deemed fit to by PLHCP to use respiratory protection prior to use and annually thereafter.
- Provide copies of fit test records to individuals upon successful completion of fit testing.

- Maintain medical evaluation records, including copies of *Information for the PLHCP* and the PLHCP written opinions for 30 years after termination of employment.
- Maintain respirator fit testing and respirator training records for duration of employment.
- Maintain training materials, program evaluations records, a current copy of the written *Respiratory Protection Plan*, and copies of *Worksite-Specific Procedures for Use of Respiratory Protection*.
- Generate *Worksite-Specific Procedures for Use of Respiratory Protection* (for use in conjunction with the *Respiratory Protection Program*).
- Annually evaluate the Respiratory Protection Program and revise this program as needed.

2.2 Physician or Other Licensed Healthcare Provider (PLHCP)

A physician or other licensed healthcare professional (PLHCP) is 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 29 CFR 1910.134 (e). Specific responsibilities of PLHCP related to the Respiratory Protection Program are to:

- Discuss the medical evaluation questionnaire with employees upon request.
- Review the completed *OSHA Respirator Medical Evaluation Questionnaire (Mandatory)* and *Information for the PLHCP* to determine employee fitness to use respiratory protection.
- Notify the employee and EHS if an employee demonstrates a need for a follow-up examination.
- Provide follow-up medical examinations.
- Provide written opinion to the employee and a copy to EHS within 30 days of evaluation, stating:
 - Whether the employee is medically able to use the respirator under anticipated work conditions;
 - Limitations on respirator use related to the medical condition of the employee or workplace conditions in which the respirator will be used, if applicable; and
 - The need, if any, for follow-up evaluation.

2.3 Supervisors

Supervisors oversee George Mason University employees and their work. Specific responsibilities of supervisors related to the Respiratory Protection Program are to:

- Inform EHS if the need for respiratory protection is suspected.
- Inform EHS if voluntary use of respiratory protection is desired.
- Ensure employees who wish to voluntarily wear a filtering face piece have signed and understand 29 CFR 1910.134 Appendix D, *(Mandatory) Information for Employees Using Respirators When Not Required Under Standard*.
- Review *Worksite-Specific Procedures for Use of Respiratory Protection* (for use in conjunction with the *Respiratory Protection Plan*).
- Provide employees with respiratory protection per EHS recommendations.

- Issue respiratory protection to employees that are medically able to wear respiratory protection (per PLHCP written opinion), have completed annual training, and have been successfully fit tested with the make, model, and size used.
- If an employee wears corrective glasses or goggles or other personal protective equipment, the employer 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.
- Ensure an adequate supply of respiratory protective equipment in good condition.
- Inform EHS of changes in workplace conditions (workload, protective clothing, or temperature) that may result in substantial increase in physiological burden placed on an employee.
- Inform EHS of visual changes in employee's physical condition that could affect respirator fit (e.g. facial scarring, dental changes, cosmetic surgery, or change in body weight).
- Provide feedback for annual program evaluation as requested by EHS.

2.4 Employees

Employees include faculty (professional, administrative, and research), staff (classified, wage, and student wage), and graduate students receiving compensation who may use respiratory protection as required. This does not refer to students enrolled in instructional courses. Specific responsibilities of George Mason University employees related to the Respiratory Protection Program are to:

- Participate in required medical evaluations.
- Schedule and attend applicable follow-up medical examinations.
- Register for and attend annual training and fit testing.
- Only use respiratory protection for which you have obtained a satisfactory fit per fit testing conducted by EHS.
- Notify supervisor if prescription glasses inserts are required for use with full-face respiratory protection. As a best practice employees should not wear contact lenses when wearing a respirator.
- Inspect respirator prior to each use.
- Conduct user seal checks prior to wearing a respirator.
- Use respirators in a manner that complies with instruction and training.
- Clean, disinfect, inspect, and properly store respirators.
- Report respirator malfunctions to supervisor.
- Report physiological changes (e.g. facial scarring, dental changes, cosmetic surgery, or change in body weight) that could affect the respirator fit or ability to safely wear a respirator to EHS.
- Provide feedback for annual program evaluation as requested by EHS.

2.5 Instructors

Filtering face pieces (e.g. N95) may be provided to students for voluntary use, when the use does not create a hazard, to control exposure to nuisance dust. Instructor responsibilities related to respiratory protection include:

- Notify EHS if students request to wear a filtering face piece.

- Provide an adequate supply of respiratory protection in good, clean condition to students, including a range of sizes to assure that a proper fit may be achieved.
- Ensure students have signed and understand 29 CFR 1910.134 Appendix D, *(Mandatory) Information for Employees Using Respirators When Not Required Under Standard*.

3.0 Respiratory Protection Selection

EHS will select the appropriate respiratory protection for the work area and determine whether the use of respiratory protection is required or may be voluntary. Respiratory protection will only be selected after EHS completes a Respiratory Hazard Assessment. If feasible engineering or administrative controls are not sufficient to reduce air concentrations of hazardous substances below applicable exposure limits, EHS will specify the respiratory protection required. George Mason University employees, students, and volunteers are not permitted to wear atmosphere-supplying respirators. If a task cannot safely be completed without an atmosphere-supplying respirator the task must be completed by a contractor who is capable of completing the task and trained in the use of this type of respirator.

3.1 Examples of Tasks Which May Require Respiratory Protection

Supervisors must contact EHS when the need for respiratory protection is suspected.

Examples of some tasks for which respiratory protection may be required include:

- Generating large amounts of dust
- Welding or grinding
- Painting with epoxy or organic solvent coatings
- Using solvents, thinners, or degreasers
- Using formaldehyde outside a chemical fume hood
- Abrasive blasting
- Scraping or sanding lead paint
- Work with BSL 3 agents

3.2 Respiratory Hazard Assessment

EHS will conduct a Respiratory Hazard Assessment to evaluate the need for respiratory protection if:

- Supervisor or employee notifies EHS that the need for respiratory protection is suspected; or
- Supervisor or employees informs EHS that the voluntary use of respiratory protection is desired.

Elements of the Respiratory Hazard Assessment include:

- Determine the identity and concentrations of hazardous substances present in the environment;
- Identify engineering or administrative controls to reduce the concentrations of hazardous substances in the work environment below applicable regulations and guidelines so respiratory protection is not required;

- Coordinate implementation of engineering or administrative controls with supervisors when feasible;
- Conduct exposure monitoring to evaluate the effectiveness of the controls; and
- If controls do not reduce the exposure to acceptable levels, assist with determining appropriate respiratory protection.

3.3 Selecting Required Respiratory Protection

EHS will notify supervisors in writing when respiratory protection is required. This memo will include tasks for which respiratory protection is required, the type of respiratory protection and filtering media used, and the filtering media change out schedule.

Respiratory protection will be selected by EHS in consultation with the supervisor. All respiratory protection used at George Mason University is certified by the National Institute of Occupational Safety and Health (NIOSH) and must be used in compliance with the conditions of certification. Supervisors must provide employees with respiratory protection per EHS recommendations.

4.0 Worksite Specific Procedures for Use of Respiratory Protection

EHS will generate *Worksite Specific Procedures for Use of Respiratory Protection* to be used in conjunction with the *Respiratory Protection Plan* for all routine use of respiratory protection. A copy of the *Worksite-Specific Procedures for Use of Respiratory Protection* will be reviewed by the supervisor prior to implementing and as requested by EHS. *Worksite-Specific Procedures for Use of Respiratory Protection* includes:

- Location of the written *Respiratory Protection Plan*;
- Voluntary or required use;
- Respiratory hazards;
- Tasks completed;
- Where the tasks will be completed;
- Frequency and duration of the task;
- Names of respirator users;
- Types of respirators and filter cartridges or canisters required;
- Designated area for donning/doffing respirators and PPE; and
- Procedures to ensure adequate air quality, quantity, and flow of breathing for atmosphere supplying respirators; and
- Reasonable foreseeable emergencies and recommended response.

4.1 Use of Respiratory Protection When Required

Supervisors must issue employees respiratory protection for required use after the employees are medically evaluated, trained, and fit tested, in conjunction with EHS. If facial hair comes between the sealing surface of the facepiece and the face, the user cannot use tight-fitting respiratory protection, including filtering facepieces, when respiratory protection is required. Employees are required to be clean shaven when wearing a tight fitting respirator.

4.2 Voluntary Use of Respiratory Protection

Supervisors must contact EHS if voluntary use of respiratory protection is desired. EHS will conduct a Respiratory Hazard Assessment to determine whether voluntary use of respiratory protection is permissible. EHS will inform the supervisor in writing if voluntary use is allowed along with a description of the tasks or locations in which voluntary use is acceptable. EHS must provide voluntary respirator users with a copy of 29 CFR 1910.134 Appendix D, *Information for Employees Using Respirators When Not Required Under the Standard*.

Upon receipt of approval for voluntary use of respiratory protection, supervisors may provide respiratory protection. Respiratory protection for voluntary use must be limited to **filtering facepieces** (e.g. N95 respirators) and be approved by NIOSH.

4.3 Student Use of Respiratory Protection

Students may be permitted to use respiratory protection when the use does not create a hazard and respiratory protection is not required. Upon receipt of approval for voluntary use of respiratory protection, instructors may provide respiratory protection. Respiratory protection for student use must be supplied by the instructor and limited to **filtering facepieces** (e.g. N95 respirators) and be approved by NIOSH.

Instructors must also provide students with a copy of 29 CFR 1910.134 Appendix D (*Mandatory*) *Information for Employees Using Respirators When Not Required Under the Standard*.

4.4 Visitor Use of Respiratory Protection

In the event a visitor enters a work area where respiratory protection is required, the escort must verify and obtain the following documentation of the visitor prior to entry:

- Written opinion from PLHCP stating that the visitor is considered medically fit to wear respiratory protection under the conditions present in the work area (i.e., environmental conditions and resultant physiological burden).
- Current training records verifying that the visitor has received appropriate training, including a copy of the certificate.
- Documentation that the visitor has a current fit testing record for the respirator used (PAPRs are exempt).

Visitors must use respiratory protection that is of the same type specified in the *Worksite-Specific Procedures for Use of Respiratory Protection* for the work area(s) entered. In the event that the escort provides the visitor with a respirator, EHS must conduct fit testing.

4.5 Contractor Use of Respiratory Protection

Contractors may be hired to complete tasks or work in areas where respiratory protection is needed. Contractors are responsible for complying with all aspects of 29 CFR 1910.134.

5.0 Respiratory Protection Care and Maintenance

Supervisors must ensure an adequate supply of respiratory protection in good, working condition. Re-usable respiratory protection must be cared for and maintained to assure their

continued performance. Cleaning, inspection, and storage of respirators following each use according to 29 CFR 1910.134 is the responsibility of:

- Employees issued respiratory protection;
- Supervisors or visitor escorts when respiratory protection is issued to multiple users; and
- EHS for respiratory protection used for fit testing or training.

5.1 Cleaning of Respirators

Procedures for cleaning respirators other than filtering facepieces as specified in 29 CFR 1910.134 Appendix B-2, *Respiratory Cleaning Procedures (Mandatory)*, include the following:

- Remove filters, cartridges, or canisters.
- Disassemble facepiece by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer.
- Wash components in warm (110 °F, maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to remove dirt.
- Rinse components thoroughly in clean, warm (110 °F, maximum) running water.
- Drain.
- Components should be hand-dried with a clean lint-free cloth or air-dried.
- Reassemble facepiece, replacing filters, cartridges, or canisters.
- Test the respirator to ensure that all components work properly.
- Place in a clean, dry, sealable plastic bag or other suitable container for storage after each cleaning and disinfection.

5.2 Inspection

The inspection of respiratory protection includes:

- Test respirator function;
- Check tightness of connections;
- Inspect condition of facepiece, head straps, valves, connecting tube, and cartridges, canisters, or filter; and
- Check elastomeric parts for pliability and signs of deterioration.

For powered air-purifying respirators (PAPR), the inspection also includes:

- Charging batteries;
- Checking flow velocity; and
- Performing leak tests on the HEPA filter within the unit.

Employees must report respirator malfunctions identified during the inspection to their supervisor.

5.3 Respirator Storage

Supervisors must allocate adequate storage and storage supplies for respiratory protection so the respirator is not exposed to sunlight, heat, extreme cold, excessive moisture, or chemicals.

Half-mask and full-face air-purifying respirators shall be placed in sealable plastic bags. Respirators may be stored in such places as lockers or desks only if they are first placed in carrying cases or cartons.

After cleaning and inspecting respirators to determine that they are in good condition, the user must store the respirator in a designated storage area. Respirators shall be packed or stored so that the facepiece and exhalation valves will rest in a normal position and not be crushed. Do not hang respirators by their straps, as this ruins the integrity of the straps and causes the respirator to lose its seal.

5.4 Respirator Maintenance

Respirator maintenance is the responsibility of:

- Supervisors; and
- EHS for respirators used for training or fit testing.

Respirators found to be defective must be repaired prior to reissuance or discarded. Worn or deteriorated parts may be replaced. No attempt will be made to replace components, make adjustment, or make repairs on any respirator beyond those recommended by the manufacturer. Any repair to reducing or admission valves, regulators, or alarms will be conducted by the manufacturer or a qualified trained technician.

6.0 Medical Evaluations

Employees required to wear respiratory protection must be medically evaluated by a PLHCP to determine the user's medical fitness to wear the type of respirator required under the anticipated job and workplace condition. The medical evaluation must be conducted prior to issuance of respiratory protection. Additional medical evaluations are required when:

- Individual reports medical signs or symptoms related to the ability to use a respirator.
- The PLHCP or Supervisor recommends an employee for re-evaluation.
- Information obtained during program evaluation or fit testing indicates a need for reevaluation.
- There are changes in workplace conditions (physical work effort, PPE, and temperature) that may result in substantial increase in physiological burden placed on employees.

6.1 Administration of Medical Evaluation

EHS coordinates medical evaluations administered by the PLHCP. The medical evaluation consists of a questionnaire *OSHA Respirator Medical Evaluation Questionnaire (Mandatory)* and any follow-up medical exams deemed necessary by PLHCP.

EHS will provide employees required to complete a medical evaluation with a copy of the *OSHA Respirator Medical Evaluation Questionnaire*. Employees must be permitted to complete the questionnaire during normal work hours and the PLHCP must discuss the questionnaire with employees upon request. Upon completion, employees must send the completed questionnaire to the PLHCP for review.

In the event the PLHCP determines a need for a medical examination to make a determination, the PLHCP must contact the employee and EHS. The employee is responsible for scheduling and attending the medical examination with the PLHCP.

All costs associated with medical evaluations and examinations related to employee use of respiratory protection are paid for by EHS.

6.2 Information Provided to the PLHCP

Supervisors must complete the form *Information for the PLHCP*, included as Appendix A to the *Respiratory Protection Plan*, for each employee or group of employees assigned to a work area where respiratory protection is required. A copy of the completed form must be forwarded to the PLHCP with the questionnaire. The form contains specific information related to the tasks the user is assigned to complete while wearing respiratory protection. The following additional information must be provided to the PLHCP if not already on file:

- Copy of 29 CFR 1910.134;
- Copy of *Respiratory Protection Plan*; and
- Previous records related to the use of respiratory protection maintained by EHS for the individual being evaluated.

6.3 PLHCP written opinion

Following the medical evaluation, the PLHCP shall provide a written opinion within 30 days of the evaluation to the employee with a copy to EHS containing the following information:

- Whether the PLHCP considers the individual medically able to wear respiratory protection under the conditions described;
- Any limitations on respirator use related to medical condition of individual, including a medical recommendation for the individual to use a PAPR instead of an APR; and
- The need, if any, for follow-up evaluation.

7.0 Training

Respiratory Protection Training is provided by EHS to individuals who may be required to wear a respirator as part of their job. Individuals must register for and attend Respiratory Protection Training prior to initial assignment to tasks requiring respirators and annually thereafter. At the completion of training, each attendee must complete a quiz to demonstrate comprehension in:

- Why respiratory protection is necessary;
- How improper fit, usage, or maintenance can compromise the protective effect of the respirator;
- Limitations and capabilities of the respirator;
- How to use respirator effectively in emergency situation, including when the respirator malfunctions;
- How to don and doff the respirator;
- User face-to-facepiece seal check;
- Procedures for maintenance and storage of the respirator; and
- Knowledge of the medical signs and symptoms that may limit or prevent the effective use of respirators.

Individuals who earn a passing score on the quiz greater than 80 percent will receive credit for this training for one year.

8.0 Fit Testing

A fit test is conducted to determine the ability of each respirator user to obtain a satisfactory fit with a tight-fitting respirator. All individuals required to use tight-fitting respiratory protection must successfully pass a fit test using the same make, model, style, and size of respirator that will be used. Fit testing must be completed annually thereafter until use of the respirator is discontinued.

Fit testing will only be provided to employees deemed medically able to wear respiratory protection by the PLHCP and who have completed annual Respiratory Protection Training.

8.1 Qualitative Fit Testing

Qualitative fit testing is conducted by determining whether an individual can detect a chemical introduced outside the respirator facepiece while wearing the respirator. Qualitative fit testing is limited by varying sensory thresholds among individuals.

Qualitative fit testing procedures include a taste threshold screening to determine the user's sensitivity to a test substance, a user seal check to determine whether there are any leaks in the face-to-facepiece seal, and then fit testing to see if the user detects the test substance while wearing the selected respirator. OSHA-approved qualitative fit testing methods are described in 29 CFR 1910.134 Appendix A *Fit Testing Procedures (Mandatory)* and are summarized in EHS' Qualitative Fit Testing Standard Operating Procedures (SOP).

8.2 Quantitative Fit Testing

Quantitative fit testing is conducted using a PortaCount which determines the fit factor based on the ratio of particle concentrations outside the respirator versus inside the respirator. Quantitative fit testing is the preferred method because it does not rely on the user to identify exposure.

OSHA-approved quantitative fit testing methods are described in 29 CFR 1910.134 Appendix A *Fit Testing Procedures (Mandatory)* and are summarized in EHS' Quantitative Fit Testing Standard Operating Procedures (SOP).

8.3 Fit Test Records

Upon successful completion of fit testing, EHS will provide employee with a fit test record (Appendix B) containing the following information:

- User name;
- Expiration date of fit test (one year from the date of issuance);
- The type, make, model, and size of respirator issued; and
- Description of fit test method used.

A fit test record will be issued for each make and model of respirator the individual has been successfully fit tested on.

9.0 Recordkeeping

EHS maintains Respiratory Protection Program records, including records for medical evaluations, fit testing, training, and program materials.

Medical evaluation records must be maintained for 30 years after termination of employment.

Medical evaluation records include:

- Name and G# of employee;
- Completed copies of all *Respirator Medical Evaluation Questionnaire (Mandatory)*, 29 CFR 1910.134 Appendix C (maintained by PLHCP);
- PLHCP written opinion; and
- Other medical exams conducted to determine an employee's fitness to use respiratory protection (maintained by PLHCP).

Fit testing records are maintained the duration of the employee's employment. Fit testing records include:

- Date of test;
- Name of employee;
- Type of fit test performed;
- Fit test substance used (if qualitative fit testing is conducted);
- Specific make, model, size of respirator; and
- Results of fit test (Pass/Fail for qualitative, fit factor for quantitative).

EHS shall maintain training records for the duration of employee's employment, including:

- Date of training;
- Supervisor, work area, job classification, and similar exposure group;
- Name and G# of employee;
- Instructor; and
- Copy of written quiz to demonstrate comprehension.

EHS shall maintain records of the Respiratory Protection Program. These include training materials, annual program evaluation records, and a current copy of the written *Respiratory Protection Plan*.

10.0 Program Evaluation

EHS will evaluate the Respiratory Protection Program to include this *Respiratory Protection Plan* periodically for continued program effectiveness and compliance with applicable regulations and industry standards.

APPENDIX A

Definitions

Air-purifying respirator means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

Atmosphere-supplying respirator means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere.

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

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

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

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

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

Physician or other licensed health care professional (PLHCP) means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by paragraph (e) of this section.

Powered air-purifying respirator (PAPR) means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

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

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

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

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

APPENDIX B

OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

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

To the employee:

CAN YOU READ (Circle One): Yes / NO

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. Name: _____

3. Age: _____
4. Sex: (circle one): Male/Female
5. Ht. _____ Ft. _____ in. _____
6. 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 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? Yes/No
11. Check the type of respirator you will use (you can check more than one category):
 - a. _____ N, R, or p disposable respirator (filter-mask, non- cartridge type only)
 - b. _____ Other type (for example, half or full face piece type, powered-air purifying, supplied air, self-contained breathing apparatus).
12. Have you worn a respirator (circle one): YES/NO
If "YES" what type(s):

Part A. Section 2. (Mandatory) Questions 1-9 below must be answered by every employee who has been selected to use any type of respirator (please circle "Yes" or "No").

1. Do you **currently** smoke tobacco, or have you smoked 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? Yes/No

- | | | | |
|------------------------|--------|-------------------------------------|--------|
| a. Asbestosis: | Yes/No | h. Pneumothorax (collapsed lung): | Yes/No |
| b. Asthma: | Yes/No | i. Lung cancer: | Yes/No |
| c. Chronic bronchitis: | Yes/No | j. Broken ribs: | Yes/No |
| d. Emphysema: | Yes/No | k. Any chest injuries or surgeries: | Yes/No |
| e. Pneumonia: | Yes/No | l. Any other lung problem | |
| f. Tuberculosis: | Yes/No | you have been told about: | Yes/No |
| g. Silicosis: | 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:
Yes/No
- c. Shortness of breath when walking with other people at an ordinary pace on level
ground: Yes/No
- d. Have to stop for breath when walking at your own pace on level ground: Yes/No
- e. Shortness of breath when washing or dressing yourself: Yes/No
- f. Shortness of breath that interferes with your job: Yes/No
- g. Coughing that produces phlegm (thick sputum): Yes/No
- h. Coughing that wakes you early in the morning: Yes/No
- i. Coughing that occurs mostly when you are lying down: Yes/No
- j. Coughing up blood in the last month: Yes/No
- k. Wheezing Yes/No
- l. Wheezing that interferes with your job: Yes/No
- m. Chest pain when you breathe deeply: Yes/No
- n. Any other symptoms that you think may be related to lung problems: Yes/No

5. Have you *ever had* any of the following cardiovascular or heart problems?

- a. Heart attack: Yes/No
- b. Stroke: Yes/No
- c. Angina: Yes/No
- d. Heart failure: Yes/No
- e. Swelling in your legs or feet (not caused by walking): Yes/No
- f. Heart arrhythmia (heart beating irregularly): Yes/No
- g. High blood pressure: Yes/No
- h. Any other heart problem that you've been told about: Yes/No

6. Have you *ever had* any of the following cardiovascular or heart symptoms?

- a. Frequent pain or tightness in your chest: Yes/No
- b. Pain or tightness in your chest during physical activity: Yes/No
- c. Pain or tightness in your chest that interferes with your job: Yes/No
- d. In the past two years, have you noticed your heart skipping or
missing a beat: Yes/No
- e. Heartburn or indigestion that is not related to eating: Yes/No

- f. Any other symptoms that you think may be related to heart or circulation problems: Yes/No
- 7. Do you *currently* take medication for any of the following problems?**
- a. Breathing or lung problems: Yes/No
 - b. Heart trouble: Yes/No
 - c. Blood pressure: Yes/No
 - d. Seizures: Yes/No
- 8. If you've used a respirator, have you *ever had* any of the following problems? (If you've never used a respirator, check the following space and go to question 9:) Have never used a respirator _____**
- 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:** Yes/No
- Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-face piece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.**
- 10. Have you *ever lost* vision in either eye (temporarily or permanently):** Yes/No
- 11. Do you *currently* have any of the following vision problems?**
- a. Wear contact lenses: Yes/No
 - b. Wear glasses: Yes/No
 - c. Color blind: Yes/No
 - d. Any other eye or vision problem: Yes/No
- 12. Have you *ever had* an injury to your ears, including a broken ear drum:** Yes/No
- 13. Do you *currently* have any of the following hearing problems:**
- a. Difficulty hearing: Yes/No
 - b. Wear a hearing aid: Yes/No
 - c. Any other hearing or ear problem: Yes/No
- 14. Have you *ever had* a back injury:** Yes/No
- 15. Do you *currently* have any of the following musculoskeletal problems?**
- a. Weakness in any of your arms, hands, legs, or feet: Yes/No
 - b. Back pain: Yes/No

- c. Difficulty fully moving your head up or down: Yes/No
- d. Pain or stiffness when you lean forward or backward at the waist: Yes/No
- e. Difficulty fully moving your arms or legs: Yes/No
- f. Difficulty bending at your knees: Yes/No
- g. Difficulty squatting to the ground: Yes/No
- h. Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes/No
- i. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No

Signature: _____ **Date:** _____

APPENDIX C

FIT TEST RECORD

RESPIRATOR USED CARD

Name:
Department:
EHS Liaison:
EHS Signature:

Expir:
Jan Feb Mar Apr May .

2010 2011 2012 2013 2014 2015



Front

Respirator Manufacturer:


Model: **Size:**

Quantit **ive: _____**

Safety

- **I**
- **C**
- **C**

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Back

APPENDIX D

SUPPLEMENTAL PROGRAM TEMPLATE



Supplemental Respiratory Protection Plan
Department Name

This *Supplemental Respiratory Protection Plan* for Air-Purifying Respirators (APR) provides site-specific procedures for respirator use. All employees using respiratory protection equipment must be familiar with the contents of this plan and the university's Respiratory Protection Program. A written copy of the *Respiratory Protection Plan* is available on the EHS website (ehs.gmu.edu).

A. Contact Information	
Supervisor:	Supervisor phone:

B. Job Task for which Respiratory Protection is Required	
Name of Task:	Respiratory Hazard(s):
Location of task:	Respirator Type:
Duration of task:	
Frequency of task:	
Respirator storage area:	Change out Schedule:
Comments:	