



## Respiratory Protection Program

### Intent:

The purpose of this program is to protect the health and safety of University faculty, students, and staff who work in areas that may have irritating particles or hazardous atmospheres. This program outlines the proper implementation to ensure are specific practices and procedures in place to safeguard employees who, during their normal duties, are potential exposed to hazardous airborne contaminants.

### Scope:

This program applies to all University faculty, staff and other authorized personnel that require the use of respiratory protection based on exposure to hazardous environment. To prevent occupational exposures caused by breathing contaminated air, the primary objective shall be to control atmospheric contamination.

- This policy does not apply to third-party contractors while on UW-Eau Claire property. Contractors are responsible for their own Respiratory Protection Program (RPP) when working on UW-Eau Claire property. Contractor RPP must conform to all applicable federal, state and local laws and regulations.
- This policy includes safe practices and requirements to ensure protection from inhalation of particulate matter, toxic gases and vapors encountered on the job.
- Respiratory protection will be used only where engineering or administrative controls are not feasible, cannot reduce exposure to acceptable levels, or while engineering controls are being installed.
- The need for respiratory protection is dependent upon the type of operation, workplace conditions, and type and quantity of material(s) in use, or which may be breathed during the work process.
- The use of respirators at UW-Eau Claire requires prior approval by the supervisor and is subject to the provisions of this policy.
- This policy provides guidelines for: determining the need for a respiratory, medical evaluation required and the proper respirator selection, fitting and use of required equipment, and maintenance and care of respirator.

### Definitions:

**Air-Purifying Respirator:** A respirator with an air-purifying filter, cartridge, or canister capable of removing specific air contaminants by passing ambient air through the air-purifying element.

**Dust Mask:** A mask that is not designed as a filtering face piece and is not certified by NIOSH for use as a respirator.



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**Fit Test:** A qualitative or quantitative evaluation of the air seal between the respirator and an individual's face.

**Half-Face Respirator:** A facepiece that fits over the nose and under the chin and does not protect the eyes.

**Immediately Dangerous to Life or Health (IDLH):** Any atmosphere that poses an immediate hazard to life or poses immediate irreversible debilitating effects on health.

**Negative Pressure Respirator:** A respirator in which the air pressure inside the facepiece inlet covering is negative during inhalation with respect to the ambient air pressure.

**Negative-Pressure (User Seal) Check:** Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds.

**Positive-Pressure (User Seal) Check:** Block the exhaust port with the heel of your hand and exhale with enough force to cause a slight positive pressure inside the face-piece. If the face-piece bulges slightly and no air leaks between the face and face-piece are detected, a proper fit has been obtained.

**Powered Air-Purifying Respirator (PAPR):** An air-purifying respirator that uses a blower to force ambient air through an air-purifying cartridge or filter and into the facepiece.

**Qualitative Fit Test (QLFT):** A pass/fail evaluation of the seal between the respirator and the individual's face that relies on the individual's ability for sensory response to detect a challenge agent (e.g., sweet taste).

**Quantitative Fit Test (QNFT):** A pass/fail evaluation of the seal between the respirator and the individual's face that used an instrument to measure the differential between a level of a challenge agent.

**Respirator Cartridge:** A container with a filter, sorbent medium, or combination of these items that removes specific contaminants (particulates, gases, and/or vapors) from air passed through the container.

**User Seal Check:** A self-test conducted by a respirator user to determine if a respirator is properly seated to the face prior to its use in the workplace.

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## Respiratory Protection Program

### Procedures

All activities involving the use of respiratory protective equipment including but not limited to operations, maintenance and research activities in all facilities controlled by the University shall be conducted in compliance with the provisions of this program.

### Responsibilities

#### Risk Management, Safety and Sustainability (RMSS)

1. Responsible for the development and implementation of this policy.
2. Provide necessary resources to carry out the program.
3. Evaluate and ensure adequacy of respiratory protection equipment before the purchase and issuance to individuals when requested.
4. Provide instruction on the need for respiratory protection; criteria for selecting and respirator fitting, use and maintenance.
5. Conduct annual fit tests for employees who utilize respiratory equipment.
6. Ensure employees who are required to wear a respirator undergo a medical evaluation. (See section Medical Evaluation Procedures).
7. Assist in selecting respiratory protection devices that are appropriate for a specific job or task. (See section Selection of Respirators).
8. Conduct annual training for proper respirator usage, maintenance, and storage.
9. Maintain records of all medical authorizations for use of respirators, fit testing and training on file.

#### Supervisors

1. Recognize conditions and products that might present a respiratory health hazard.
2. Identify job procedures that their employees are engaged in which might make them subject to the requirements of respiratory protection.
3. Before the proper respirator can be selected for a job, a supervisor must:
  - 3.1 Identify the respiratory hazard (Part 1, *Appendix D*)
  - 3.2 Evaluate the workplace hazard (See *Appendix D. Hazard Assessment-Respirator Use*).
  - 3.3 Completed the respirator selection form and selected based on respiratory hazards worker is exposed. (See *Appendix A. Respirator Request Form*).
  - 3.4 Order the appropriate respirator to protect the employee.
4. Request assistance from RMSS in evaluating existing, new or changed work processes that may include respiratory health and safety hazards.
5. Schedule medical exams for their employees who will be required to wear a respirator in the performance of their duties and for those who met the criteria in section Medical Evaluation Procedures.



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6. Provide the employee with respirator medical approval form found in (**Appendix C**) and medical questionnaire form found in (**Appendix E**) to take with to the Physician or Licensed Health Care Professional (PLHCP).
7. Ensure all employees who are required to wear respirator completion of annual training and schedule with RMSS to complete annual fit testing.
8. Schedule fit-testing with RMSS each time an employee receives a new respirator.
9. Enforce the provisions of this policy and other requirements which may be applicable, with regards to use of respirators by employees.

### Employees

1. Utilize the issued respiratory protection equipment in accordance with instruction and training provided by RMSS.
2. Inform his/her supervisor if the respirator no longer fits well and if any personal health problems exist that could be aggravated by wearing respiratory equipment.
3. Guard against damage and ensure respirators are not disassembled, modified, or altered in any way other than by replacing respirator cartridges/filters.
4. Attend annual fit testing and training.
5. Inspect respirators for defects or missing parts monthly and before each use.
6. Clean and store respirator in a clean sanitary location. (See section Storage).

### Respiratory Hazard Assessment

1. Shop supervisor may request RMSS to conduct Respiratory Hazard Assessments, as necessary to identify potential respiratory risks or hazards that employees may be exposed to. (See **Appendix D. Hazard Assessment for Respirator Use**).
2. The Respiratory Hazard Assessment shall:
  - 1.1. Identify the respiratory hazard(s) in the workplace;
  - 1.2. Include a reasonable estimate of employee exposure to the respiratory hazard(s);
  - 1.3. Identify the contaminant's chemical state and physical form.
3. A respiratory Hazard Assessment must be completed for all areas and procedures approved for use of respirators.
4. Where the facility cannot identify or reasonably estimate the employee exposure, the atmosphere shall be considered an immediately dangerous to life or health (IDLH).
5. Employees are engaged in activities that are addressed in other (EHS) policies such as asbestos, certain other chemical, biological, or radiological hazards, or for confined space entry, which require the use of respiratory protection.



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### Respirator Use Requirements

The use of required respiratory protection program at UW-Eau Claire campus is limited to those situations where a documented need to utilize such equipment exists, employees who maintain an appropriate medical evaluation, and complete annual fit testing.

#### 1. Documentation of Respirator Needs

13.1 Respirators are only to be used in situations where engineering controls are infeasible or during installation of such controls.

### Medical Evaluation Procedures

1. Employees who are required to wear respiratory protection shall have a medical evaluation from a physician in accordance with OSHA Guidelines and procedures.
2. Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so.
3. Employees will not be allowed to work in an area requiring a respirator until the employee has passed their medical evaluation and have successfully completed respirator fit testing.
4. Employees who are **REQUIRED** to wear any tight-fitting ARP respirator includes filtering facepiece N95 type respirators **MUST** complete a medical evaluation prior to being permitted to wear a respirator or conduction a fit test session.
  - 4.1 Ensure that any employee whose only use of respirators involves the voluntary use of filtering facepieces N95 is required medical evaluation & fit test per OSHA.
5. All UWEC employees will be medically evaluated by a physician, or other licensed healthcare professional (PLHCP) within the Student Health Service.
6. RMSS will use a medical questionnaire found in (*Appendix E*).
7. All affected employees will be given a copy of the medical questionnaire to fill out and they will bring the completed questionnaire to the medical practitioner.
8. All medical questionnaires and examinations are confidential and handled during the employee's normal working hours or at a time and place convenient to the employee.
9. All employees will be granted the opportunity to speak with the medical practitioner about their medical evaluation, if they so request. **Note:** All examinations and questionnaires are to remain confidential between the employee and the physician.
10. Medical evaluations conducted by a licensed physician shall be required initially and at least annually pursuant when:
  - 10.1 An employee reports medical signs or symptoms that are related to ability to use of a respirator, such as shortness of breath, dizziness, chest pains, or wheezing.

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- 10.2 A physician or other licensed health care professional, supervisor or representative from RMSS informs the employer that an employee needs to be reevaluated.
- 10.3 Information from the respiratory protection program including observations made during fit testing and program evaluation indicates a need for employee reevaluation. (See **Appendix B. Qualitative respirator fit test**)
- 10.4 A change occurs in workplace conditions (e.g., physical work effort, protective clothing, and temperature) that may result in a substantial increase in the physiological burden placed on an employee.

### Medical Determination of the employee's ability to use a respirator

1. The employee needs to complete Part 1 of the form.
2. Physician or (PLHCP) needs to complete Part 2 of the form.
3. Physician shall indicate on the form the need, if any, for follow-up medical evaluation.
4. The employee shall provide the RMSS with the completed Employee Respirator Medical Approval Form (**Appendix C**) and the provider medical examination report.
5. If the physician finds a medical condition that may place the employee's health at increased risk if using an Air Purifying Respirator, then RMSS shall provide a Powered Air Purifying Respirator (PAPR), if the physician approved.
6. If a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then the PAPR is no longer required.

### Fit-Testing General Information

1. Fit-Testing is essential to ensure that a respirator forms a good seal with the wearer's face. This prevents contaminants from leaking into the mask.
2. When the employee is authorized to wear a respirator, the immediate supervisor shall contact the manufacturer to purchase a respirator based on the completed Respirator Selection Form (**Appendix E. Respirator User Medical Questionnaire**) by the RMSS.
3. All tight-fitting respirators, including Self-Contained Breathing Apparatus (SCBA), must be fit tested to determine proper fit.
4. Fit test after the medical evaluation is performed and medical approval is received.
5. Fit-test prior to initial use of a respirator with a positive or negative pressure tight fitting face-piece. It is required to have fit-testing at least annually.
6. Fit test whenever a different respirator is used (size, style, model, or make).
7. Fit test whenever there are changes to the employee's physical condition that could affect the fit. This include facial scarring, dental changes, cosmetic surgery, and obvious change in body weight.



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8. The employee shall be provided the opportunity to wear the respirator in normal air for an adequate familiarity period. The following fit checks shall be conducted each time a tight-fitting respirator is used:

### 8.1 Negative Pressure Test

- a. The user closes off the inlet of the cartridges or filters by covering with the palms, so it does not allow air to pass; inhales gently so the face piece collapses slightly; and holds his/her breath for about 10 seconds. If a vacuum and partial inward collapse of the mask cannot be maintained for a least 10 seconds, readjust the mask and try again.
- b. If the face piece remains slightly collapsed and no inward leakage is detected, the respirator probably fits tightly enough. This test of course, can only be used on respirators with tight fitting face pieces. It also has potential drawbacks, such as the hand pressure modifying the face piece seal and causing false results.

### 8.2 Positive Pressure Test

- a. The wearer closes off the exhalation valve and exhales gently into the face piece. The respirator fit is considered okay if slight positive pressure can be built up inside the face piece without any evidence of outward leakage around the face piece. In addition, the wearer should be careful not to exhale too strongly so as not to force leakage.

**Fit-Testing Procedures** (See *Appendix B*). It will be performed in the following manner:

1. Employees will be required to demonstrate the ability to put on and properly adjust respirator.
2. They will conduct a negative pressure check to verify a good facial seal by blocking the air flow through the respirator filter during inhalation. Ambient air leakage into the respirator around the face seal indicates an improper fit.
3. The employee is exposed to an atmosphere containing an irritating aerosol and then asked to perform several exercises to challenge the respirator fit. The wearer reports any noticeable irritation caused by mask leaks.
4. If the employee does not detect the smoke, proceed with the fit-test exercises. The smoke should be directed around the mask at a distance of 6 inches. These will include:
  - 4.1 Normal Breathing (NB): In normal standing position, without talking, the subject shall breathe normally for at least one minute.
  - 4.2 Deep Breathing (DB): In normal standing position, the subject performs deep breathing for at least one minute, pausing so as not to hyperventilate.



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- 4.3 Turning Head Side to Side (SS): Standing up, the subject shall slowly turn his/her head from side to side between the extreme positions to each side. The head shall be held at each extreme position for at least 5 seconds.
- 4.4 Moving Head Up and Down (UD): Standing up, the subject shall slowly move his/her head up and down between the extreme position straight up and the extreme position for at least 5 seconds.
- 4.5 Talking (T): The subject shall talk out loud slowly and loud enough to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage or count backward from 100.
- 4.6 Bending Over (BO): The test subject shall bend at the waist as if he/she was to touch his/her toes.
- 4.7 Normal Breathing (NB): Same as the first exercise.
5. If the employee detects smoke during the test, stop immediately and have them adjust their respirator in another area.

### Authorization for use of respiratory protection equipment

1. Only those employees who are required to utilize respiratory protection equipment by the provisions of this policy and who have been properly fitted and trained in its use, shall utilize respirators.
2. Employees who have been designated to wear respirators with tight-fitting face pieces shall not have:
  - 2.1 Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function.
  - 2.2 Any condition that interferes with the face-to-face piece seal or valve-function.

### Selection of Respirators (See *Appendix A. Respirator Request Form*)

1. No respirators shall be purchased or used except as authorized by the terms and conditions of this policy.
2. Only respirators appropriate for the intended use certified by National Institute for Occupational safety and Health (NIOSH) shall be selected and these must be used in compliance with the conditions of the certification and manufacturer use instructions.
  - 2.1 Respirator parts which are not certified for use together must never be interchanged.
  - 2.2 Respirator parts manufactured by different respirator suppliers must never be interchanged.
- 3 Respirators shall be selected based on the potential hazard to which the worker is exposed. The following factors must be considered in making this selection.



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- 3.1 The appropriate respirator will be based on the respiratory hazard(s) to which the employee is exposed and workplace and user factors that affect respirator performance and reliability.
- 3.2 The identity of the substance(s) and environment for which protection is needed.
- 3.3 The respirators must be selected from models and sizes so that they are acceptable to, and correctly fits the user.
- 3.4 Any limitations or restrictions applicable to the types of respirators being considered could make them unsafe in the work environment involved.
- 4 Respirators selected shall be adequate to protect the health of the employee and ensure compliance with all other OSHA regulatory requirements under routine and reasonably foreseeable emergency situations.
- 5 No respirator shall be used for any purpose unless the “Respirator Request Form” for that application has been completed. (See *Appendix A. Respirator Request Form*)

### Maintenance and Care of Respirators

The primary responsibility for maintaining the respirator in proper and clean condition rests with the employee. The maintenance and care of respirator shall include:

1. **Monthly Visual Inspection:** The shop/department will appoint a responsible person(s) to conduct an inspection of each department personnel’s respirator and verify completion by initialing and dating an inspection tag mounted on the side of the respirator box.
  - 1.1 To ensure all parts are inspected for dirt, residue, pliability of rubber, deterioration and cracks, tears, and holes.
  - 1.2 To ensure the valves are checked for holes, warp age, cracks, and dirt.
  - 1.3 To check hoods, helmets, and face shields for cracks, tears, and distortions.
2. **Cleaning and disinfecting:** Each employee issued a respirator is responsible for maintaining the equipment and making sure it is free of defects. Cleaning should be done on a regular basis or after each day’s use.
  - 2.1 The face pieces are removed from the receptacles and are disassembled.
  - 2.2 Remove filter and straps.
  - 2.3 All parts are washed in warm soap water & visible residue is removed with a brush.
  - 2.4 The parts are rinsed in clean water and allowed to air-dry.
  - 2.5 Wipe the respirator with disinfectant wipes to kill germs.
3. **Repair:** Respirator users should ensure their equipment is in working order by periodically checking the equipment for the following defects:
  - 3.1 Snap fasteners on headbands and on face piece that are worn, distorted, or loose.



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- 3.2 Plastic exhalation valve seat that is distorted or contains scratches or cracks on its sealing surface.
- 3.3 Exhalation valve cover that is distorted or decomposed.
- 3.4 If any of the above defects are found, the respirator should be turned in for the immediate attention of the supervisor.
- 3.5 If immediate repairs cannot be made and a respirator is needed, a temporary replacement with the same model and size, and a new respirator shall be issued.
- 3.6 Exchange of parts from one brand to another is NOT ALLOWED. Use only cartridges, filters and replacement parts specified from each respirator.
4. Storage
  - 4.1 Respirators are to be cleaned according to the manufacturer's instructions and inspected.
  - 4.2 All respirators should be stored in plastic bags, and then placed in a proper storage cabinet in a non-hazard area.
  - 4.3 All respirators shall be stored in a manner that protects them from damage, dust, sunlight, extreme temperatures, excessive moisture, or damaging chemicals.
  - 4.4 Emergency respirators shall be kept accessible to the work area.
  - 4.5 The devices should be stored in a normal position.

### Voluntary Use of Respirators

1. Conditions of Voluntary Use.
  - 1.1 If there is no hazard and respirator use is voluntary, RMSS shall not be required to provide the respirator.
  - 1.2 The employee making voluntary use of a respirator is responsible for obtaining and documenting all necessary medical examinations and fit testing.
  - 1.3 Voluntarily worn respirator must not in itself create a health hazard and must be appropriate for the intended use and certified by the (NIOSH).
  - 1.4 Most of voluntary use situations involve filtering face pieces which are provided for the worker's sense of comfort.
2. Voluntary Use Responsibilities
  - 2.1 Read and pay attention to all instructions provided by the manufacturer on use, maintenance, cleaning & care, and warning regarding the respirator's limitations.
  - 2.2 See that the voluntary respirator is cleaned, stored, and maintained so that its use does not present a health hazard to the user or other employees.
  - 2.3 Do not wear your respirator in 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 against gases, vapors, or very small solid particles of fumes or smoke.
  - 2.4 Keep track of your respirator so that you do not mistakenly use someone else's respirator.



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### Training Program

1. Each employee designated to wear a respirator must receive adequate training.
2. Training shall be provided prior to requiring the employee to wear a respirator in the workplace and annually thereafter.
3. Training shall ensure that each employee can demonstrate knowledge of the following:
  - 3.1 Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effects of the respirator.
  - 3.2 Limitations and capabilities of the respirator.
  - 3.3 How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
  - 3.4 How to inspect, put on, remove, use, and check the seals of the respirator.
  - 3.5 What the procedures are for maintenance and storage of the respirator.
  - 3.6 How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
4. Retraining is required at least annually and when the following situations occur:
  - 4.1 Changes in the workplace or the type of respirator render previous training obsolete.
  - 4.2 Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill.
  - 4.3 Any other situation arises in which retraining appears necessary to ensure safe respirator use.
5. RECORD KEEPING

The RMSS shall establish and maintain an accurate record for each employee subject to the Program. This record shall include:

  - 5.1 The medical evaluation form and any physician's written opinion, including results of medical examination, opinions and recommendations.
  - 5.2 Employees who are trained in respirator use, have annually fit-testing, and have documentation of the care and maintenance of respirators.



# Respiratory Protection Program

## Related Information:

29 CFR 1910.134 - [Respiratory Protection](#)  
 UW-La Crosse, [Respiratory Protection Program](#)

## Appendixes:

- Appendix A. [Respirator Request Form](#)
- Appendix B. [Qualitative Respirator Fit-Test](#)
- Appendix C. [Employee Respirator Medical Approval Form](#)
- Appendix D. [Hazard Assessment for Respirator Use](#)
- Appendix E. [Respirator User Medical Questionnaire](#)

## Administration:

### Approval Details

<b>Approved By:</b>	
<b>Approval Date:</b>	
<b>Version no:</b>	V2.0
<b>Date of next Review:</b>	The practice directive and procedure review should be scheduled annually from the approval date.

### Revision History

Version	Revision Date	Description of changes	Author
1.0	02/13/2020	Procedure Established	Chaizong Lor
2.0	10/19/2023	Procedure Established	Chaizong Lor

### Contact Person/Department

<b>Contact Person:</b>	Brian Drollinger, Director of Risk Management, Safety & Sustainability
<b>Keywords:</b>	Respiratory Protection Program