

ENVIRONMENTAL HEALTH & SAFETY

UNIVERSITY *of* WASHINGTON

# RESPIRATORY PROTECTION PROGRAM MANUAL

---

UPDATED APRIL 2023



## TABLE OF CONTENTS

---

I.	PURPOSE .....	4
II.	SCOPE .....	4
III.	ROLES AND RESPONSIBILITIES.....	4
A.	Environmental Health & Safety Department (EH&S).....	4
B.	EH&S Respiratory Protection Program Administrator .....	5
C.	UW Employee Health Center in EH&S.....	6
D.	University Units .....	6
E.	Organizational Respirator Coordinators .....	7
F.	Supervisors .....	7
G.	Respirator Users.....	8
IV.	VOLUNTARY USE OF RESPIRATORS .....	8
V.	RESPIRATOR SELECTION AND AUTHORIZATION.....	9
A.	Selection Procedures.....	9
B.	Selected Respirators for Respiratory Hazards.....	10
C.	Obtaining Authorization to Wear a Respirator .....	10
VI.	MEDICAL EVALUATION AND CLEARANCE.....	10
A.	Medical Evaluation Questionnaire.....	10
B.	Medical Evaluation.....	11
C.	Medical Clearance to Wear a Respirator .....	12
VII.	TRAINING.....	12
VIII.	FIT TESTING.....	13
A.	General .....	13
B.	Quantitative Fit Testing .....	14
C.	Qualitative Fit Testing.....	14
D.	Respirator Authorization.....	14
IX.	RESPIRATOR USE.....	14
A.	General Use Requirements .....	14
B.	Emergency Use Respirators.....	15

C.	Immediately Dangerous to Life and Health Use .....	16
D.	N95 Respirators – Supply and Use Considerations During a Pandemic Event.....	16
E.	Respirator Use for Radioactive Material Exposure .....	16
X.	RESPIRATOR MAINTENANCE, STORAGE, INSPECTIONS AND CARTRIDGE CHANGE- OUT SCHEDULES.....	16
A.	Cleaning, Disinfection and Disposal.....	17
B.	Storage.....	17
C.	Inspections.....	17
D.	Repairs.....	18
E.	Cartridge Change-Out Schedules .....	18
F.	Sharing Respiratory Protection.....	19
XI.	PROCEDURES FOR SAFE AIR QUALITY FOR SUPPLIED-AIR RESPIRATORS.....	19
A.	Designated Person.....	19
B.	Compressors.....	20
XII.	RECORDS .....	21
XIII.	PROGRAM EVALUATION.....	21
	APPENDICES.....	22
	APPENDIX A: RESPIRATOR REQUEST FORM.....	23
	APPENDIX B: ADVISORY INFORMATION FOR EMPLOYEES WHO VOLUNTARILY USE RESPIRATORS.....	26
	APPENDIX C: EXAMPLES OF RESPIRATORS USED AT THE UNIVERSITY OF WASHINGTON..	27
	APPENDIX D: RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRES.....	29
	APPENDIX E: FIT TESTING PROCEDURES (QUALITATIVE AND QUANTITATIVE).....	38
	Portacount™ Fit Test Procedure .....	38
	Bitrex™ Fit Test Procedure.....	40
	APPENDIX F: RESPIRATOR FIT TESTING/ TRAINING FORM.....	43
	APPENDIX G: RESPIRATOR TRAINING, FIT TESTING AND AUTHORIZATION RECORD.....	44
	APPENDIX H: SEAL CHECK PROCEDURE FOR CARTRIDGE-STYLE RESPIRATORS .....	45
	APPENDIX I: RESPIRATOR CLEANING PROCEDURE.....	47
	APPENDIX J: RESPIRATOR PROGRAM AUDIT CHECKLIST .....	48
	APPENDIX K: VOLUNTARY RESPIRATOR USE FOR LAB ANIMAL ALLERGENS .....	59

## I. PURPOSE

The purpose of the University of Washington's (UW) Respiratory Protection Program (referred to as "Program" in this document) is to help protect University personnel and students from exposure to respiratory hazards, ensure compliance with applicable occupational safety and health regulations, and provide requirements for the proper selection and use of respiratory protection equipment.

The Respiratory Protection Program conforms to the Washington Administrative Code (WAC) standards for [Airborne Contaminants 296-841](#) and [Respirators 296-842](#).

When respirators are used properly, they can prevent injury and illnesses from both acute and chronic inhalation exposures to hazardous substances. At the UW, respirator use is considered an interim measure until engineering and administrative controls, such as ventilation or substitution of a less toxic material, can be implemented. However, when such controls are not feasible or are not able to completely control the identified hazards, respirators and other personal protective equipment must be used. Respirators are also used voluntarily where appropriate, in accordance with WAC 296-842, and are utilized for protection during emergency situations.

This UW Respiratory Protection Program Manual describes the requirements of University personnel, units and departments that participate in the UW Respiratory Protection Program. Personnel, units and departments participating in the UW Respiratory Protection Program must follow the requirements in this manual.

[Back to Top](#)

## II. SCOPE

The UW Respiratory Protection Program applies to all University-affiliated activities where personnel and/or students may use respiratory protection. This includes all locations that serve as assigned workplaces and educational settings including the UW Medicine medical facilities, Seattle, Bothell, and Tacoma campuses, as well as all other University owned property, University leased spaces, temporary field locations, and field trips that are under the control of University operations and personnel. Non-UW personnel (e.g., volunteers and visiting researchers) must comply with UW Respiratory Protection Program requirements when working in a UW facility where respiratory protection is required.

Refer to the [Selected Respirators for Respiratory Hazards](#) section of this document for a list of respirators covered by the UW Respiratory Protection Program.

[Back to Top](#)

## III. ROLES AND RESPONSIBILITIES

### A. Environmental Health & Safety Department (EH&S)

1. Establish and maintain the UW Respiratory Protection Program.

2. Designate the Respiratory Protection Program administrator with institutional authority for compliance oversight of the UW Respiratory Protection Program.
3. Provide technical assistance to units in following the requirements of the UW Respiratory Protection Program.
4. Review completed [Respirator Request Forms](#) submitted by supervisors. This completed form documents and serves as the respiratory hazard evaluation and is updated annually.
5. Conduct workplace assessments to identify hazards and recommend controls, including respirators.
6. Determine if respirator use is required or voluntary based on a hazard assessment and select appropriate respirators.
7. Determine and document respirator cartridge change-out schedules. Provide the schedule to and review with supervisors and respirator users.
8. Monitor respirator use to ensure respirators are used in accordance with their certifications.
9. Provide and/or oversee respirator training and fit testing.
10. Implement and/or oversee the respirator medical evaluation process provided by the UW Employee Health Center in EH&S.
11. Monitor compliance of UW units and departments with respirator use and respirator users.

## **B. Respiratory Protection Program administrator in EH&S**

1. Develop the UW Respiratory Protection Program Manual. Maintain a current copy of the program and ensure that it complies with the Washington Administrative Code (WAC) requirements.
2. Consult with respirator users, supervisors, and organizational respirator coordinators on issues related to the UW Respiratory Protection Program.
3. Inform organizations of product recalls, changes in respiratory protection equipment specifications, and changes in regulations.
4. Coordinate with the UW Employee Health Center staff to implement the medical surveillance program requirements for respirator use.
5. Maintain Program records including respiratory hazard assessments, medical evaluations, training, and fit testing records as required in records section.
6. Maintain Respirator Database.
7. Conduct an annual evaluation of the Program and implement Program improvements.

8. Evaluate University unit self-administrated respiratory protection programs annually for compliance and efficacy (e.g., University of Washington Medical Center (UWMC) and Harborview Medical Center (HMC)).
9. Monitor compliance and inform supervisors, units or departments of improvements required for their respiratory protection programs.

### **C. UW Employee Health Center in EH&S**

The UW Employee Health Center is overseen by a licensed healthcare provider (LHCP) who is responsible for evaluating respirator users to ensure they are medically able to wear a respirator in accordance with [WAC 296-842-14005](#) and [296-842-22005](#). Specifically, the UW Employee Health Center is responsible for the following:

1. Review the [Respirator Request Form](#) and the Respirator Medical Evaluation Questionnaire (example shown in [Appendix D](#)) to determine the individual's ability to wear a respirator for the stated hazards and activities.
2. Follow up with respirator users as necessary to clarify responses on the Respirator Medical Evaluation Questionnaire and refer respirator users to the LHCP as needed for physical examinations, tests, or consultation.
3. Complete the Respirator Medical Clearance Report and provide a copy to the respirator user and their supervisor. Submit reports of medical clearance results to the Respiratory Protection Program administrator or designated associate.
4. Maintain confidential records related to health screening, medical evaluations, and health surveillance. Retain records in accordance with applicable regulations.
5. Communicate medical surveillance program issues to the Respiratory Protection Program administrator.

*The employee health centers affiliated with UW Medicine medical facilities implement the medical review and clearance processes for their respective personnel.*

### **D. University units**

University organizational units and departments, in consultation with EH&S, are responsible for identifying potential respiratory hazards associated with various work processes or tasks. The supervisor or director of each organizational unit or department with potential respiratory hazards is responsible for ensuring the implementation of the applicable portions of the UW Respiratory Protection Program at their unit or department level. This includes ensuring personnel wear respirators when required, maintaining respirators in good working order, and coordinating training and fit testing of their personnel at least annually. Units and departments are responsible for the costs associated with respirator use when respirators are required. This includes all required equipment and supplies associated with respirator use and maintenance. Units and

departments are also responsible for evaluating the Program in their operations at least once annually and making improvements as necessary.

### **E. Organizational respirator coordinators**

Some organizational units and departments that have a large number of respirator users may self-administer a customized Respiratory Protection Program or manage some elements of the program with the approval of EH&S. These programs must be in compliance with the overall UW Respiratory Protection Program and must designate an organizational respirator coordinator to facilitate implementation of the Respiratory Protection Program within their unit or department. The Respiratory Protection Program administrator works with these units and departments to develop a list of specific duties for the organizational respirator coordinator and provide additional training.

### **F. Supervisors**

1. Identify, with assistance from EH&S, personnel who may need respirators, facilitate medical evaluations, and schedule training and fit testing before beginning work activities requiring respirator use, and annually thereafter.
2. Submit a [Respirator Request Form](#) to EH&S when respiratory hazards are first identified, when processes change that may impact respiratory hazards, and annually thereafter.
3. Request assistance from EH&S in evaluating operations that may present health and safety hazards requiring the use of a respirator.
4. Purchase and maintain availability of appropriate respirators, replacement parts, cleaning and maintenance supplies, and accessories.
5. Ensure compliance with the UW Respiratory Protection Program for personnel and equipment under their responsibility.
6. Ensure respirators are properly used and maintained, including following cartridge change-out schedules, as necessary.
7. Implement engineering and other controls when feasible.
8. Notify EH&S if problems occur with respirator use, or with the unit or department's Respiratory Protection Program.
9. Engage EH&S for further evaluation if hazards have changed.
10. Allow for employee medical clearance, training, and fit testing to be completed during paid work time.
11. Ensure adherence to medical restrictions and conditions specified in an individual's respirator medical clearance authorization.
12. Ensure only trained and authorized personnel perform work that requires respiratory protection.

## G. Respirator users

1. Use only the brand, model, and size of respirator(s) for which the individual was trained and fitted.
2. Use the respirator only for the specific tasks that it was issued.
3. Use respirators for tasks when they are required.
4. Seek medical help if wearing a respirator creates negative health effects such as difficulty breathing, dizziness, or anxiety.
5. Care for and maintain respirators as instructed, including following the specific cartridge change-out schedule.
6. Notify the supervisor of any problems associated with using a respirator. This includes a respiratory hazard that needs further evaluation, if the respirator is not providing adequate protection, and any concerns with the UW Respiratory Protection Program.
7. Update respirator authorization by completing annual training and fit testing (recertification).
8. Report any concerns related to respirator use or respiratory hazards, and any changes in medical conditions to EH&S.

[Back to Top](#)

## IV. VOLUNTARY USE OF RESPIRATORS

The voluntary use of respirators applies only when it has been determined that

- Such respirator use will not in itself create a hazard;
- Airborne occupational exposures to hazardous chemicals do not exceed established WISHA Permissible Exposure Limit (PEL);
- No airborne biological hazard is present; and
- No specification standards require the mandatory use of respirators.

Personnel who voluntarily use a disposable filtering facepiece respirator (i.e., dust-mask style respirator) are excluded from medical clearance, training and fit testing requirements. The information in [Advisory Information for Employees who Voluntarily Use Respirators](#) in [Appendix B](#) must be provided to all voluntary users of respirators for their review. In addition, the information provided in [Appendix K](#), Voluntary Respirator Use for Lab Animal Allergens, provides guidance for using respirators voluntarily for protection against [laboratory animal allergens](#) (LAA).

Any employee who experiences any difficulties while wearing a filtering facepiece respirator must immediately inform their supervisor. If an employee requests to wear a respirator other than a filtering facepiece respirator, they must contact their supervisor.



The supervisor must contact EH&S to initiate the appropriate Respiratory Protection Program procedures that include medical evaluations, training and fit testing, as required by [WAC 296-842](#).

Voluntary use does not require the employing unit to pay for respirator equipment; however, program costs, such as medical evaluations, training and fit testing, are the responsibility of the employing unit.

[Back to Top](#)

## V. RESPIRATOR SELECTION AND AUTHORIZATION

### A. Selection procedures

Supervisors first must identify respiratory hazards by conducting a hazard evaluation, which may include assistance from an EH&S industrial hygienist. This hazard evaluation should include the availability and applicability of any non-personal protective equipment (PPE) controls, including elimination, substitution, engineering, and administrative.

Respirators must be selected based on:

1. Type of hazard: Respiratory hazards include, but are not limited to, gases, vapors, dusts, mists, fumes, oxygen-deficient atmospheres, biohazards, infectious agents, animal allergens, radiological materials, pesticides, and emergency conditions.
2. Expected or actual exposure concentrations, compared to the Permissible Exposure Limits (PELs) as listed in [WAC 296-842](#), Respiratory Hazards; note that not all respiratory hazards have an applicable PEL.
3. Potential for immediately dangerous to life and health (IDLH) atmospheres
4. Infection control risk assessment
5. Respirator selection guidance, including the Assigned Protection Factor (APF) for various types of respirators and industry guidelines for respirator use, such as the National Institute for Occupational Safety and Health (NIOSH) [Respirator Selection Logic](#)
6. User and workplace factors, such as work-related exertion, vision needs, temperature extremes, humidity and other hazards that may require specific respirator types
7. Biosafety risk assessment, including determination of the appropriate biosafety levels for laboratories
8. NIOSH Certification: All respirators used by personnel must be NIOSH certified. All filters, cartridges and canisters must be labeled with the appropriate NIOSH approval label.

## **B. Selected respirators for respiratory hazards**

Respirators used at the University of Washington may include disposable filtering facepiece respirators, half-face and full-face air-purifying respirators (APR), powered air-purifying respirators (PAPR), supplied-air respirators (SAR), escape respirators, and self-contained breathing apparatus (SCBA). [Appendix C](#) lists respirators for various respiratory hazards identified at the UW.

## **C. Obtaining authorization to wear a respirator**

The process for obtaining authorization to wear a respirator is as follows:

1. The supervisor initiates the process by submitting a [Respirator Request Form](#) to EH&S at [uwresp@uw.edu](mailto:uwresp@uw.edu).
2. EH&S consults with the supervisor, completes the workplace hazard assessment, and selects the appropriate respirator for the identified respiratory hazard(s). Results of the assessment are recorded and provided to the supervisor and the UW Employee Health Center.
3. Personnel designated by the supervisor as respirator users complete and submit the confidential Respirator Medical Evaluation Questionnaire (shown in [Appendix D](#)) to the UW Employee Health Center.
4. The UW Employee Health Center performs and documents the respirator medical evaluation and sends a report to the individual and EH&S.
5. EH&S provides training and fit testing, and issues written documentation to personnel as described in [section VIII-D](#) of this document. The employee is then authorized to wear a respirator.

EH&S maintains [records](#) as required.

[Back to Top](#)

## **VI. MEDICAL EVALUATION AND CLEARANCE**

All potential respirator users must be medically evaluated and medically cleared prior to being trained, fit tested, and issued a respirator. This process includes submission of a medical evaluation questionnaire and completion of a medical evaluation.

*UW Medicine medical facilities personnel complete their medical evaluation process as documented in their respective respiratory protection programs.*

### **A. Medical evaluation questionnaire**

Personnel assigned to tasks requiring the use of a respirator complete a Respirator Medical Evaluation Questionnaire (shown in [Appendix D](#)) before they are assigned tasks that require a respirator.

EH&S provides medical questionnaires to supervisors, who distribute the questionnaires to personnel. Personnel complete and seal questionnaires in envelopes labeled “CONFIDENTIAL” and mail them to the UW Employee Health Center (Hall Health Building, Box 354400, 4060 E. Stevens Way NE, Suite G07, Seattle, WA 98195). Personnel can also fill out and submit the form electronically to [emphlth@uw.edu](mailto:emphlth@uw.edu).

The questionnaire is administered confidentially and during normal working hours at a location that is convenient to personnel without any expenses incurred by the employee. Only the UW Employee Health Center reviews completed questionnaires.

## **B. Medical evaluation**

The UW Employee Health Center evaluates each individual based on their medical questionnaire, the hazard assessment and referral from EH&S. Personnel may be referred for clinic visits if needed. The medical evaluation is performed following the requirements of [WAC 296-842-14005](#) and indicates whether the individual is medically qualified to use a respirator.

The UW Employee Health Center also determines if certain restrictions are necessary based on the frequency and duration of use, working conditions, exertion required, temperature and humidity extremes, and whether the user is at risk of injury. Some restrictions may be in the scope of the Americans with Disabilities Act (ADA). The UW Employee Health Center works with the supervisor, the University's [Disability Services Office](#), and/or an occupational physician as needed to determine whether accommodations are required and can be put in place. Reasonable attempts are made to accommodate users with restrictions in accordance with [UW Administrative Policy Statement 46.5: Reasonable Accommodation of Employees with Disabilities](#).

If an employee opts to be medically evaluated by their personal healthcare provider, they will do so at their own expense and are responsible for ensuring all of the appropriate medical information is provided to the UW Employee Health Center.

Medical evaluations will be repeated if the employee reports health problems related to respirator use; medical symptoms are observed during fit testing, use, or evaluation; and/or changes in the work environment result in an increase in the physiological burden placed on the employee. In absence of any of these conditions, medical evaluations will be repeated for continuing respirator users at least every five years.

Personnel who are renewing their respirator use authorization from a previous year complete a “Health Status Update” during their annual training and fit testing; they have the option to update their medical clearance with the UW Employee Health Center at this time as well. Those wearing an SCBA are medically evaluated each year.

Employee medical evaluations may be discontinued when an employee is no longer required to use a respirator.

Employee medical information is not shared with supervisors. All medical information is seen only by the UW Employee Health Center and pertinent offices as needed, such as the

Disabilities Services Office, and UW Human Resources or Office of Academic Personnel. Medical information is maintained in a confidential medical file.

### **C. Medical clearance to wear a respirator**

The UW Employee Health Center provides a written recommendation as established by [WAC 296-842-14005](#) documenting that the employee is medically qualified to wear a respirator and whether there are any restrictions for respirator use. This information is included on a Respirator Medical Clearance Report from the UW Employee Health Center. There is no confidential health information included on this report.

The employee and their supervisor receive a copy of the Respirator Medical Clearance Report directly from the UW Employee Health Center. The supervisor is responsible for ensuring that any listed restrictions are adhered to.

[Back to Top](#)

## **VII. TRAINING**

EH&S provides training to medically qualified respirator users, supervisors, organizational respirator coordinators, and those who maintain respiratory protection equipment as needed.

- Personnel are provided training on their responsibilities and expectations for respirator use prior to using one.
- Supervisors receive training prior to supervising personnel who wear respirators.
- Personnel who issue or maintain respiratory protection equipment receive training.

Retraining occurs annually and more often if EH&S or the supervisor determines that an employee has not retained or demonstrated the knowledge, understanding, or skill level required.

Respiratory protection training covers the following elements:

- Types of respiratory hazards (e.g., gases, vapors, dust, mists, etc.);
- Signs and symptoms of exposure;
- Why the respirator is necessary;
- How the respirator provides protection by filtration, absorption or supplied-air;
- Limitations and capabilities of the respirator;
- How improper fit, use or maintenance can make the respirator ineffective;
- How to properly inspect the respirator, put it on, perform a seal check, use, and remove it;

- How to clean, repair, disinfect, store and/or discard the respirator;
- How to use the respirator in emergency situations, including what to do when the respirator fails;
- Medical signs and symptoms (e.g., shortness of breath, dizziness) that may limit or prevent the effective use of a respirator;
- General requirements of the WAC Respirators standard; and
- Roles and responsibilities within the UW Respiratory Protection Program.

Personnel must demonstrate their understanding of the information covered in the training through hands-on exercises.

Comprehensive training is provided where respirators are used in IDLH situations including oxygen-deficient atmospheres such as those that occur in rescue or confined space operations.

[Back to Top](#)

## VIII. FIT TESTING

### A. General

Fit testing is performed for each user

- After initial respirator medical clearance and training is completed;
- Prior to being allowed to wear any tight-fitting facepiece respirator;
- When an individual needs to use a respirator facepiece for which they have not previously received fit testing;
- When there are changes in an individual's physical condition that could affect respirator fit (e.g., change in body weight, facial scarring, etc.); and
- At least annually.

EH&S ensures that all personnel using negative or positive pressure tight-fitting facepiece respirators are provided an appropriate quantitative (QNFT) or qualitative (QLFT) fit test as described below.

Fit Testing Procedures (shown in [Appendix E](#)) outlines procedures for selecting respirators for fit testing and performing quantitative and qualitative fit testing. All fit testing procedures used are compliant with [WAC 296-842-22010](#).

PAPRS with loose-fitting head covers/hoods cannot be fit tested. For these respirators, a hands-on competency demonstration of respirator use occurs in place of a fit test.

If the employee exhibits breathing difficulty or any other negative health effects during the fit test or hands-on demonstration, the test will be discontinued and the employee will be referred immediately to the UW Employee Health Center for further evaluation.

## **B. Quantitative fit testing**

Quantitative fit testing using a PortaCount® Respirator Fit Tester is the preferred method for fit testing at the University of Washington. Quantitative fit testing (QNFT) is required for all negative pressure respirators in locations where airborne concentrations may exceed 10 times the PEL.

Fit testing of tight-fitting airline respirators and SCBA respirators is conducted using an identical negative pressure air purifying respirator facepiece as a “substitute” test mask. Fit testing is not done for PAPRs with loose fitting head covers/hoods.

## **C. Qualitative fit testing**

The preferred qualitative fit test procedure is the Bitrex method (described in [Appendix E](#)).

## **D. Respirator authorization**

After fit testing, personnel receive written documentation (card, badge sticker, and/or summary report to supervisor) with the brand, model, type, and size of respirator they are authorized to wear and the date of fit testing.

EH&S documents respirator training including the type, model, and size of respirator for which each employee has been trained and fit tested. The information is documented on the Respirator Training Registration Record (shown in [Appendix F](#)).

A Respirator Authorization Card (shown in [Appendix G](#)) is issued upon request.

[Back to Top](#)

# **IX. RESPIRATOR USE**

University units and departments, with assistance from EH&S, may develop unit, department or job-specific standard operating procedures (SOPs) for using, cleaning, and maintaining respirators. SOPs must include procedures for face seal checks (as applicable), inspection, cartridge change-out schedule, cleaning, disinfection, storage and maintenance as described in this manual.

## **A. General Use Requirements**

Personnel are not allowed to wear respirators with tight-fitting facepieces if they have

- Facial hair that interferes with the seal (e.g., beards, stubble, bangs);
- An absence of normally worn dentures;
- Jewelry or headgear that projects under the facepiece seal;
- Facial features that interfere with the seal (e.g., scars, deep skin creases, prominent cheekbones); or
- Other features that interfere with the facepiece seal or valve function.

If corrective glasses or personal protective equipment is worn, it must not interfere with the seal of the facepiece to the face. If a full-face tight-fitting respirator is required for use, a spectacle kit must be provided for those who wear corrective lenses while using a respirator. Alternately, a loose-fitting PAPR with the same Assigned Protection Factor (APF) may be provided, if applicable.

Each respirator user must inspect their respirator(s) prior to each use. Refer to [section X-C](#) in this document.

All cartridge-style respirator users must perform a seal check before using the respirator. Refer to the Seal Check Procedures in [Appendix H](#).

Personnel must leave the area where respiratory protection is required if any of the following occur:

- Need to replace filters or cartridges;
- When they sense, smell, or taste a chemical inside the respirator;
- When they notice a change in breathing resistance;
- Need to adjust their respirator;
- Need to wash their faces or respirator;
- If they become ill; or
- If they experience dizziness, nausea, weakness, breathing difficulty, coughing, sneezing, vomiting, fever, or chills.

## **B. Emergency use respirators**

It is not the University's normal practice to have personnel routinely perform operations that involve emergency and rescue work. Emergency situations include, but are not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled substantial release of an airborne contaminant. Emergency situations also include emergency response duties, such as those performed by the UW Police Department and response groups, such as the Pre-Entry Assessment Team (PEAT) and the Re-Entry Assessment Team (RAT). Units with responsibilities for emergency and rescue work must develop SOPs, including respirator selection, inspection, use and maintenance, for all anticipated emergency and rescue operations.

Respirators used for rescue purposes must be appropriate for IDLH atmospheres. All potential rescuers must receive the appropriate training prior to respirator use. If there is a respirator malfunction, the employee must immediately leave the affected area. Units conducting rescue operations must develop written SOPs to guide respirator users in correct procedures for use, inspection, and rescue management.

The supervisor is responsible to ensure that emergency use respirators are accessible to the work area. Such respirators must be stored in clearly marked containers and stored according to the manufacturer's instructions specific to each respirator. The supervisor or

organizational respirator coordinator ensures an adequate number of respirators are provided in each work area where they are needed.

### **C. Immediately dangerous to life and health use**

For atmospheres that are immediately dangerous to life and health, the highest level of respiratory protection and reliability is required. Full facepiece pressure demand SCBA respirators certified by NIOSH for a minimum service life of thirty minutes, or a combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply are approved for use in IDLH atmospheres. No employee is allowed to enter an IDLH atmosphere without an appropriately trained rescue team standing by.

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

### **D. N95 respirators: Supply and use considerations during a pandemic event**

During a pandemic event, the supply of respiratory protection equipment may become limited. When supply is limited, supervisor or unit leadership may implement strategies to reduce exposure to infectious agents. These strategies are in conformance with [Centers for Disease Control \(CDC\) recommendations and guidelines](#).

### **E. Respirator use for radioactive material exposure**

All respirators selected for use to limit the intake of radioactive material must comply with [WAC 246-221-117](#), 'Use of individual respiratory protection equipment' within the WAC Radiation Protection Standards.

[Back to Top](#)

## **X. RESPIRATOR MAINTENANCE, STORAGE, INSPECTIONS AND CARTRIDGE CHANGE-OUT SCHEDULES**

EH&S monitors the compliance of respirator maintenance and care to ensure that groups using respirators have designated a person to maintain and care for their respirators. The designated individual is responsible for ensuring the respirators remain serviceable and deliver effective protection, including by following the Respirator Cleaning Procedure (described in [Appendix I](#)).

Supervisors are responsible for following the guidance in this document regarding the removal from service and repair or adjustment of defective respirator and informing personnel of warning systems and cartridge change-out schedules. Units and departments are responsible for consulting with EH&S regarding any needed repairs.

Users are responsible for following the guidance in this document regarding conducting inspections before use, and notifying their supervisor of leakage, breakthrough, or breathing changes.



## **A. Cleaning, disinfection and disposal**

Respirators that are issued for the exclusive use by one user are cleaned and disinfected per the manufacturer's instructions as often as necessary to be maintained in a sanitary condition.

Respirators used by more than one user must be cleaned and disinfected prior to being used by a different individual. Respirators maintained for emergency use, as well as respirators used in fit testing and training, are cleaned and disinfected after each use.

Disposable filtering facepiece respirators must be discarded after each use according to infection control and applicable hazardous waste regulations.

## **B. Storage**

Respirators must be stored such that they are protected against damage, contamination, dust, sunlight, temperature extremes, excessive moisture, and damaging chemicals. When respirators are packed or stored, the facepiece and parts must be stored in a manner that prevents deformation.

## **C. Inspections**

Each respirator user must inspect their respirator(s) prior to each use. Inspections must include a check of respirator function, tightness of connections, and the condition of various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, cartridges/canisters/filters, and batteries. In addition, the elastomeric parts must be evaluated for pliability and signs of deterioration. Defects should be reported to supervisors and result in repair or replacement of the respirator in question.

Regulators and warning devices on SCBAs must be inspected monthly to ensure they function properly. The monthly inspection also ensures cylinders are in a fully charged capacity (i.e., 90 % of the manufacturer's recommended pressure level).

Respirators that are maintained for use in emergencies must be certified by documenting the date the inspection was performed, the name or signature of the inspector, the findings of the inspection, any required corrective action, and a serial number or other means of identifying the inspected respirator. This information must be provided on the tag/label that is attached to the storage compartment for the respirator. Inspection information for emergency respirators must be maintained in the immediate work area until it is replaced following subsequent certification.

Respirators should be inspected at the following frequencies:

RESPIRATOR USE	FREQUENCY OF INSPECTION
Used for non-emergencies, including daily or infrequent use	Before use and during cleaning
A SCBA in any use	Before use and during cleaning, or monthly if not used
Used for escape-only purposes	Before carrying into a workplace for use
Used only for emergencies	Check for proper function before and after each use and at least monthly as instructed by the manufacturer.

### D. Repairs

Supervisors ensure respirators that fail to pass inspection or are otherwise found to be defective are removed from service and repaired or adjusted properly. If a respirator cannot be repaired or adjusted, it must be discarded.

Only NIOSH-approved replacement parts designed for a specific respirator may be used. Repairs are made in accordance with the manufacturer's recommendations and specifications regarding the type and extent of repairs to be performed. Departments and units should consult with EH&S prior to making repairs.

Because SCBA components such as valves, regulators, and alarms are complex and essential to the safe functioning of SCBAs, they are required to be adjusted and repaired only by the manufacturer or a technician trained by the manufacturer.

SCBA air and oxygen cylinders must be maintained in a fully charged state and recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. Cylinders are recharged by sending them to the manufacturer's recommended service center or with a well-maintained and certified compressor filling system. SCBA air and oxygen cylinders are hydrostatically tested according to the manufacturer's recommended frequency. All composite-wrapped aluminum cylinders must be taken out of service after 15 years regardless of the last hydrostatic test date. Hydrostatic testing must be conducted by the manufacturer's recommended service provider.

### E. Cartridge change-out schedules

For air-purifying respirators with vapor and/or gas cartridges, the two warning systems relied upon to protect users from contaminant breakthrough include using respirator cartridges equipped with an end-of-service life indicator (ESLI) or using a cartridge replacement schedule based on the manufacturer's breakthrough test data.

If the respirator has an ESLI, the user changes the cartridges when the indicator indicates the cartridge is used up. If the cartridge does not have an ESLI, it is changed in accordance with the replacement schedule determined by the EH&S industrial hygienist. This cartridge change-out schedule is documented in the industrial hygiene assessment section of the [Respirator Request Form](#). The change-out schedule and results of the industrial hygiene

assessment are reviewed with and provided to the supervisor. The information is presented to personnel during training.

The supervisor is responsible for informing all affected personnel of the contaminant breakthrough warning systems and the cartridge change-out schedules for the respirators used. If the work changes from the original conditions for which the respirator was assigned, the supervisor requires that personnel leave the area until they can ensure their employees are equipped with the appropriate respiratory protection.

If a user detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the respirator facepiece, the user must leave the work area and immediately report this to the supervisor. The cartridge and/or respirator must be replaced or repaired before allowing the user to return to the work area.

Respirator cartridges or canisters that do not have an ESLI or an assigned change-out schedule cannot be used.

For respirators worn exclusively for protection against particles, all particulate filters are changed according to the manufacturers' specifications or whenever the cartridge becomes hard to breathe through, is damaged, or gets wet.

## **F. Sharing respiratory protection**

It may be possible to share certain pieces of designated respiratory protection, such as PAPR blower assemblies or SCBA tanks and regulators. All efforts should be made to provide individual respirator users their own designated facepieces. If this is not possible, adequate cleaning and disinfection materials and protocols should be in place. Shared facepieces must be decontaminated prior to use by another individual.

[Back to Top](#)

# **XI. PROCEDURES FOR SAFE AIR QUALITY FOR SUPPLIED-AIR RESPIRATORS**

## **A. Designated person**

University units and departments that use supplied-air respirators (SARs)/atmosphere-supplying respirators must develop a standard operating procedure for their safe use and operation, including air cylinder maintenance.

The unit or department designates an individual who is responsible for ensuring the breathing air is of high purity, meets quality levels for content, and does not exceed certain contaminant levels and moisture requirements. The designated person is also responsible for maintaining the air filtration panels and air compressors in accordance with the manufacturer's specifications. Maintenance includes calibrating carbon monoxide monitors daily and changing filters as recommended by the manufacturer.

The designated person ensures that compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration meet the requirements for medical or breathing oxygen:

Grade D breathing air as described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989; as specified below and according to [WAC 296-842-20005](#).

- Oxygen (volume/volume): Within 19.5 – 23.5%
- Hydrocarbon (condensed): No more than 5 milligrams per cubic meter of air
- Carbon monoxide (CO): No more than 10 parts per million (ppm)
- Carbon dioxide (CO<sub>2</sub>): No more than 1,000 ppm
- No noticeable odor

Only Grade D breathing air is allowed in cylinders. The designated person is responsible for ensuring this; it requires certification that the air in the cylinders meets the specifications of Grade D breathing air. Moisture content in the cylinders must not exceed a dew point of – 50° F (-45.6° C) at 1 atmosphere pressure. Note: This moisture-content requirement prevents respirator valves from freezing, which can occur when excess moisture accumulates on the valves.

All breathing gas containers must be marked in accordance with the NIOSH respirator certification standard, 42 CFR Part 84.

## **B. Compressors**

If an oil-lubricated air compressor is used to supply breathing air, it must have a carbon monoxide or high temperature alarm, or both, to monitor carbon monoxide levels.

Compressors used for supplying breathing air must be designed and situated so contaminated air cannot enter the air-supply system. The location of the air intake must be in an uncontaminated area where exhaust gases from nearby vehicles, the internal combustion engine that is powering the compressor itself (if applicable), or other exhaust contaminants being ventilated are not picked up by the compressor air intake.

Compressors must be equipped with suitable in-line, air-purifying sorbent beds and filters to ensure breathing air meets quality standards and minimize moisture content so the dew point at 1 atmosphere pressure is 10°F (5.56°C) below the ambient temperature. Sorbent beds and filters must be maintained and replaced or refurbished periodically according to the manufacturer's recommendations. An inspection tag is kept at the compressor indicating the most recent change date and the signature of the person authorized to perform the maintenance.

The area supervisor ensures the compressor intake does not allow the introduction of carbon monoxide greater than 10 parts per million (ppm) into the system. Sources of carbon monoxide other than the compressor could be from other gas powered equipment, such as forklifts. Where conditions are such that a reliable carbon monoxide-free area for air intake cannot be found, and/or it is not possible or feasible to operate the compressor where intake does not allow the introduction of carbon monoxide greater than 10 parts per million (ppm), it may be necessary to combine the use of a carbon monoxide alarm with a carbon monoxide sorbent bed.

Breathing air couplings must be incompatible with outlets for non-respirable plant air or other gas systems to prevent accidental servicing of airline respirators with non-respirable gases or oxygen. No asphyxiating substance (e.g., nitrogen) is allowed in the breathing airlines.

[Back to Top](#)

## **XII. RECORDS**

A current copy of the University of Washington's Respiratory Protection Program Manual is available on the EH&S website. All written materials required to be maintained under the recordkeeping requirements of [WAC 296-842](#) will be made available, upon request, to the employee who is the subject of the records and to the director or the director's designee of the Washington State Department of Labor and Industries.

Additional program records include results of hazard assessments, medical evaluations, fit test records, notifications of respirator problems and recall notices, annual program reviews, on-site inspections, and program evaluation findings and resolutions. These documents may exist in either digital or hardcopy form.

## **XIII. PROGRAM EVALUATION**

The Respiratory Protection Program administrator, affiliated organizational respirator coordinators, and supervisors evaluate the UW Respiratory Protection Program in their operations at least once per year. The Respiratory Program Evaluation Checklist (shown in [Appendix J](#)) may be used as an evaluation tool.

The Respiratory Protection Program administrator maintains ongoing dialogue with organizational respirator coordinators and supervisors to discuss any issues they may have with the Respiratory Protection Program and to correct identified deficiencies.

[Back to Top](#)

## APPENDICES

---

[Appendix A: Respirator Request Form](#)

[Appendix B: Important Information about Voluntary Use of Respirators](#)

[Appendix C: Respirator Use Guidance](#)

[Appendix D: Respirator Medical Evaluation Questionnaires](#)

[Appendix E: Fit Testing Procedures \(Qualitative and Quantitative\)](#)

[Appendix F: Respirator Fit Testing/ Training Form](#)

[Appendix G: Respirator Authorization Card](#)

[Appendix H: Seal Check Procedures](#)

[Appendix I: Respirator Cleaning Procedure](#)

[Appendix J: Respiratory Protection Program Evaluation Checklist](#)

[Appendix K: Voluntary Respirator Use for Lab Animal Allergens](#)

## APPENDIX A: RESPIRATOR REQUEST FORM

An accessible version of the [Respirator Request Form](#) is located on the EH&S website.

### Respirator Request Form

Environmental Health & Safety Department  
University of Washington

Request #

<b>1. Supervisor Name</b>		First:	Last:	<b>2. Email:</b>	
<b>3. Box #</b>	35	<b>4. Phone</b>	( ) -	<b>5. Dept/Unit/Shop</b>	
<b>6. Hazards / Agents / Products (attach MSDSs)</b>					
<b>7. Activities / Processes</b>					
<b>8. Form of Contaminants</b> (Check all that apply)		<input type="checkbox"/> Dust <input type="checkbox"/> Mist <input type="checkbox"/> Smoke <input type="checkbox"/> Gas <input type="checkbox"/> Fume <input type="checkbox"/> Spray <input type="checkbox"/> Aerosol <input type="checkbox"/> Vapor			
<b>9. Engineering Controls in Place</b>					
<input type="checkbox"/> Substitution by a less toxic material <input type="checkbox"/> Isolation or enclosure of process or operation <input type="checkbox"/> General dilution ventilation <input type="checkbox"/> Local exhaust, chemical fume hoods, special ventilation systems <input type="checkbox"/> Tools or equipment designed to minimize emissions <input type="checkbox"/> Other (specify)					
<b>10. Administrative Controls in Place</b>					
<input type="checkbox"/> Standard Operating Procedures (Specify) <input type="checkbox"/> Employee Training <input type="checkbox"/> Other (specify)					
<b>11. Special Uses</b>					
<input type="checkbox"/> None <input type="checkbox"/> Firefighting <input type="checkbox"/> Riot Control <input type="checkbox"/> Rescue <input type="checkbox"/> Confined Space Entry <input type="checkbox"/> Escape From a Chemical Leak <input type="checkbox"/> Chemical Spill Clean-up <input type="checkbox"/> Other (specify)					
<b>12. Physical Demands of Work</b>					
<input type="checkbox"/> Light, like standing <input type="checkbox"/> Moderate, like walking <input type="checkbox"/> Heavy, like digging <input type="checkbox"/> Other (specify)					
<b>13. Other PPE or Equipment</b>					
<input type="checkbox"/> Safety Goggles <input type="checkbox"/> Face Shield <input type="checkbox"/> Coveralls (Tyvek) <input type="checkbox"/> Gloves <input type="checkbox"/> Hard Hat <input type="checkbox"/> Other (specify)					
<b>14. Temperature Extremes</b>					
<input type="checkbox"/> None		<input type="checkbox"/> High temperature extreme (ex. high heat furnace)		<input type="checkbox"/> Low temperature extreme (ex. walk-in freezer)	
<b>15. Frequency of Use of Respirator</b>					
<input type="checkbox"/> Rarely (specify)		<input type="checkbox"/> Occasionally (Specify)		<input type="checkbox"/> Daily (Specify)	

16. Respirator User Information						
	First / Last	Completed Medical Clearance In Past 12 months?		EID/SID (Employee ID # or Student ID #)	UW Net ID ( <a href="mailto:uwnetid@uw.edu">uwnetid@uw.edu</a> )	Job Title
		Yes	No			
1		<input type="checkbox"/>	<input type="checkbox"/>			
2		<input type="checkbox"/>	<input type="checkbox"/>			
3		<input type="checkbox"/>	<input type="checkbox"/>			
4		<input type="checkbox"/>	<input type="checkbox"/>			
5		<input type="checkbox"/>	<input type="checkbox"/>			
6		<input type="checkbox"/>	<input type="checkbox"/>			
7		<input type="checkbox"/>	<input type="checkbox"/>			
8		<input type="checkbox"/>	<input type="checkbox"/>			
9		<input type="checkbox"/>	<input type="checkbox"/>			
10		<input type="checkbox"/>	<input type="checkbox"/>			
11		<input type="checkbox"/>	<input type="checkbox"/>			
12		<input type="checkbox"/>	<input type="checkbox"/>			
13		<input type="checkbox"/>	<input type="checkbox"/>			
14		<input type="checkbox"/>	<input type="checkbox"/>			
15		<input type="checkbox"/>	<input type="checkbox"/>			
16		<input type="checkbox"/>	<input type="checkbox"/>			
17		<input type="checkbox"/>	<input type="checkbox"/>			
18		<input type="checkbox"/>	<input type="checkbox"/>			
19		<input type="checkbox"/>	<input type="checkbox"/>			
20		<input type="checkbox"/>	<input type="checkbox"/>			
21		<input type="checkbox"/>	<input type="checkbox"/>			
22		<input type="checkbox"/>	<input type="checkbox"/>			
23		<input type="checkbox"/>	<input type="checkbox"/>			
24		<input type="checkbox"/>	<input type="checkbox"/>			
25		<input type="checkbox"/>	<input type="checkbox"/>			
<b>17. Supervisor Signature (may type name)</b>				<b>Date</b>		

ATTACH ADDITIONAL PAGES IF NEEDED



Environmental Health and Safety Use Only INDUSTRIAL HYGIENE ASSESSMENT					
<b>18. Respirator(s) Selected</b>		<input type="checkbox"/> Half-Face cartridge	<input type="checkbox"/> Full-Face cartridge	<input type="checkbox"/> PAPR	<input type="checkbox"/> SCBA
<input type="checkbox"/> Disposable filtering face piece: (Select) N,R, P – 95, 100		<input type="checkbox"/> Air-line		Other (specify)	
<b>19. Required or Voluntary Use (attach applicable documentation)</b>					
<input type="checkbox"/> Required (Explain)			<input type="checkbox"/> Voluntary (Explain)		
<b>20. Change Out Schedule (attach applicable documentation)</b>			<b>Cartridge(s)</b>		
<input type="checkbox"/> When it becomes harder to breathe or sooner if cartridge becomes wet or damaged			<input type="checkbox"/> P100, HEPA ( <i>Purple</i> ) <input type="checkbox"/> Other (specify)		
			Activities:		
<input type="checkbox"/> 8 hours from the time the cartridges are opened			<input type="checkbox"/> Certain organic vapors ( <i>Black</i> ) <input type="checkbox"/> Certain acid gases (chlorine, sulfur dioxide, chlorine dioxide, hydrogen chloride) ( <i>White</i> ) <input type="checkbox"/> Certain organic vapors and acid gases ( <i>Yellow</i> ) <input type="checkbox"/> Multi-contaminant (certain organic vapors, certain acid gases, hydrogen sulfide, ammonia, methylamine, formaldehyde, hydrogen fluoride) ( <i>Olive</i> ) <input type="checkbox"/> Other (specify)		
			Activities:		
<input type="checkbox"/> Whichever comes first: - When it becomes harder to breathe - Cartridge becomes wet or damaged - 8 hours from the time the cartridges are opened			P100 plus: <input type="checkbox"/> Certain organic vapors ( <i>Purple/Black</i> ) <input type="checkbox"/> Certain acid gases ( <i>Purple/White</i> ) <input type="checkbox"/> Certain organic vapors and acid gases ( <i>Purple/Yellow</i> ) <input type="checkbox"/> Multi-contaminant ( <i>Purple/Olive</i> ) <input type="checkbox"/> Other (specify)		
			Activities:		
<input type="checkbox"/> 3 hours (e.g., formaldehyde)			<input type="checkbox"/> Certain acid gases ( <i>White</i> ) <input type="checkbox"/> Multi-contaminant ( <i>Olive</i> ) <input type="checkbox"/> Other (specify)		
			Activities:		
<input type="checkbox"/> Dispose after each use (e.g., infectious agents)			<input type="checkbox"/> Disposable filtering face piece: (Select) N,R,P - 95, 100 <input type="checkbox"/> Other (specify)		
			Activities:		
<input type="checkbox"/> Other (specify)			Cartridge: Activities:		
<b>21. Reviewed Assessment with Supervisor (required)</b> <input type="checkbox"/>					
<b>22. Industrial Hygienist Signature</b>				<b>Date</b>	

Send completed form to UW Respirator Program Administrator: <mailto:UWresp@uw.edu>,  
Phone: 206-543-7388, Fax: 206.221.3068, Box 357165

## APPENDIX B: ADVISORY INFORMATION FOR EMPLOYEES WHO VOLUNTARILY USE RESPIRATORS

An accessible version of the [Advisory Information for Employees who Voluntarily Use Respirators](#) is available on the EH&S website.



### ADVISORY INFORMATION FOR EMPLOYEES WHO VOLUNTARILY USE RESPIRATORS

This information must be provided to University of Washington personnel who voluntarily use respirators in the workplace where is *not* required, regardless of whether the respirator was supplied by the University.

This information does *not* apply to respirator use that is required by regulations or indicated by a [risk assessment](#). When respirator use is required, additional requirements apply, such as medical clearance, training, and fit testing, per the Washington Administrative Code ([WAC](#)) [296-842 Respirators](#). Contact the UW Respirator Program Administrator at [uwresp@uw.edu](mailto:uwresp@uw.edu) for additional assistance.

Respirators protect against airborne hazards when properly selected and used. Voluntary use of respirators can provide the wearer with an additional level of comfort and protection.

Voluntary use of respirators is permitted when exposure to potentially hazardous substances remains below the Washington Industrial Safety and Health Act (WISHA) permissible exposure limits (PELs) for a specific substance.

If you choose to voluntarily use a respirator (whether it's provided by you or your employer), be aware that **respirators can create hazards** for you, if not used correctly. You can avoid these hazards if you know how to use your respirator properly and how to keep it clean.

Take these steps:

- Read and follow all instructions provided by the manufacturer about use, maintenance (cleaning and care), and warnings regarding the respirator's limitations.
- [Choose respirators](#) that have been certified for use to protect against the substance of concern. The National Institute for Occupational Safety and Health (NIOSH) certifies respirators. If a respirator isn't certified by NIOSH, you have no guarantee that it meets minimum design and performance standards for workplace use. A NIOSH approval label will appear on or in the respirator packaging that tell you what protection the respirator provides.
- Keep track of your respirator so you don't mistakenly use someone else's.

**Do not** wear your respirator into:

- Atmospheres containing hazards that your respirator isn't designed to protect against. For example, a respirator designed to filter dust particles won't protect you against solvent vapor, smoke, or oxygen deficiency.
- Situations where your supervisor [requires](#) the use of a respirator and it is not voluntary, since additional requirements are required to be met.

Visit the UW [Environmental Health & Safety website](#) for information on the use, care, storage, and disposal of respirators.


## APPENDIX C: EXAMPLES OF RESPIRATORS USED AT THE UNIVERSITY OF WASHINGTON

<b>JOB TASK</b>	<b>RESPIRATORY HAZARD</b>	<b>NIOSH-APPROVED RESPIRATOR(S)</b>	<b>USE</b>
<b>Animal husbandry/Vet services</b>	<b>Lab animal allergens (LAA) Biological agents (BSL3)</b>	<b>N95, PAPR</b>	<b>Required, Voluntary</b>
<b>Animal research</b>	<b>Animal allergens</b>	<b>N95, Half-mask APR</b>	<b>Required, Voluntary</b>
<b>Constructing orthotics and prosthetic devices</b>	<b>Solvents, dust</b>	<b>Half-mask APR</b>	<b>Required</b>
<b>Custodial services</b>	<b>Various (OV, formaldehyde, dusts, silica, asbestos, acid gases)</b>	<b>Half-mask APR</b>	<b>Required</b>
<b>CBRN/Riot Response</b>	<b>Unknown CBRN and riot agents</b>	<b>Full-face APR</b>	<b>Required</b>
<b>Embalming</b>	<b>Formaldehyde, phenol</b>	<b>Half-mask APR, PAPR</b>	<b>Required</b>
<b>Equipment maintenance in BSL2 and BSL3 labs</b>	<b>Biological Agents</b>	<b>PAPR</b>	<b>Required</b>
<b>Field Research</b>	<b>MPTP, pesticides</b>	<b>N95, Half-mask APR</b>	<b>Required</b>
<b>Healthcare/Patient care</b>	<b>Infectious agents</b>	<b>N95 or PAPR per infection control requirements</b>	<b>Required</b>
<b>Healthcare (Contaminated patient decon)</b>	<b>Unknown CBRN, infectious agents</b>	<b>PAPR</b>	<b>Required</b>
<b>Maintenance activities</b>	<b>Various</b>	<b>Half-mask APR, PAPR</b>	<b>Required</b>
<b>Post-earthquake building entry</b>	<b>Asbestos</b>	<b>Half-mask APR</b>	<b>Required</b>
<b>Pre-entry assessment team</b>	<b>Unknown</b>	<b>SCBA</b>	<b>Required</b>
<b>Renovation and maintenance activities</b>	<b>Various (OV, formaldehyde, dusts, silica, asbestos, acid gases)</b>	<b>Half-mask APR, Full-face APR, PAPR, Airline</b>	<b>Required</b>

<b>Research</b>	<b>Biological agents (BSL 1, 2, and 3)</b>	<b>N95, PAPR</b>	<b>Required</b>
<b>Research</b>	<b>Biological agents (ABSL3)</b>	<b>PAPR</b>	<b>Infrequent</b>
<b>Research</b>	<b>Organic vapors, clidox vapors</b>	<b>Half-mask APR, PAPR</b>	<b>Required</b>
<b>Site inspections, industrial hygiene sampling</b>	<b>Various (OV, formaldehyde, dusts, silica, asbestos, acid gases)</b>	<b>Half-mask APR</b>	<b>Required</b>
<b>Semiconductor manufacture</b>	<b>Toxic and corrosive gases</b>	<b>SCBA</b>	<b>Required</b>
<b>Working with solvents and nanomaterials</b>	<b>Solvents - various</b>	<b>Half-mask APR</b>	<b>Required</b>

## APPENDIX D: RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRES

**Respirator Medical Evaluation Questionnaire for full face and/or SCBA respirator users:** An accessible text version appears below the image of the form.

<b>CONFIDENTIAL MEDICAL RECORD</b>		UNIVERSITY OF WASHINGTON <b>RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE</b> — for full face and/or SCBA respirator users ENVIRONMENTAL HEALTH & SAFETY	1317
PLEASE PRINT — Attach additional sheets if needed. Questions in boxes with heavy outlines are optional. <span style="float: right;">UCW 1031 (Rev. 10-09)</span>			
For help filling this out call the employee health nurse at 206-685-1026. If you have questions about respirators call the Respirator Program Administrator at 206-543-7388.			
<b>Your supervisor must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your supervisor must not look at or review your answers.</b>			
Name (Last)		Today's Date	
Name (First)		EID/SID	
Job Title		Dept./Shop	
Supervisor		Email	
Date of Birth	Sex <input type="checkbox"/> Male <input type="checkbox"/> Female	Height ft. in.	Weight lb. in.
<input type="checkbox"/> Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire?			
Check the type of respirator you will use (you can check more than one category)			
<input type="checkbox"/> N, R, or P disposable respirator (filter-mask, non-cartridge type only)		<input type="checkbox"/> Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).	
<input type="checkbox"/> Have you worn a respirator? If yes, what type(s)			
1. <input type="checkbox"/> Do you currently smoke tobacco, or have you smoked tobacco in the last month?			
2. Have you ever had any of the following conditions?			
<input type="checkbox"/> Seizures (fits)	<input type="checkbox"/> Diabetes (sugar disease)	<input type="checkbox"/> Latex allergy or allergic reactions that interfere with your breathing	<input type="checkbox"/> Claustrophobia (fear of closed-in places) <input type="checkbox"/> Trouble smelling odors
3. Have you ever had any of the following pulmonary or lung problems?			
<input type="checkbox"/> Asbestosis	<input type="checkbox"/> Emphysema	<input type="checkbox"/> Silicosis	<input type="checkbox"/> Broken ribs
<input type="checkbox"/> Asthma	<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Lung cancer	<input type="checkbox"/> Any chest injuries or surgeries
<input type="checkbox"/> Chronic bronchitis	<input type="checkbox"/> Tuberculosis	<input type="checkbox"/> Pneumothorax (collapsed lung)	<input type="checkbox"/> Any other lung problem that you've been told about
4. Do you currently have any of the following symptoms of pulmonary or lung illness?			
<input type="checkbox"/> Shortness of breath	<input type="checkbox"/> Shortness of breath when walking fast on level ground or walking up a slight hill or incline	<input type="checkbox"/> Shortness of breath when walking with other people at an ordinary pace on level ground	<input type="checkbox"/> Have to stop for breath when walking at your own pace on level ground
<input type="checkbox"/> Shortness of breath when washing or dressing yourself	<input type="checkbox"/> Shortness of breath that interferes with your job	<input type="checkbox"/> Coughing that produces phlegm (thick sputum)	<input type="checkbox"/> Coughing that wakes you early in the morning
<input type="checkbox"/> Coughing that occurs mostly when you are lying down	<input type="checkbox"/> Coughing up blood in the last month	<input type="checkbox"/> Wheezing	<input type="checkbox"/> Wheezing that interferes with your job
<input type="checkbox"/> Chest pain when you breathe deeply	<input type="checkbox"/> Any other symptoms that you think may be related to lung problems		
5. Have you ever had any of the following cardiovascular or heart problems?			
<input type="checkbox"/> Heart Attack	<input type="checkbox"/> Angina	<input type="checkbox"/> Swelling in your legs or feet (not caused by walking)	<input type="checkbox"/> High blood pressure
<input type="checkbox"/> Stroke	<input type="checkbox"/> Heart failure	<input type="checkbox"/> Heart arrhythmia (heart beating irregularly)	<input type="checkbox"/> Any other heart problem that you've been told about
6. Have you ever had any of the following cardiovascular or heart symptoms?			
<input type="checkbox"/> Frequent pain or tightness in your chest	<input type="checkbox"/> Pain or tightness in your chest during physical activity	<input type="checkbox"/> Heartburn or indigestion that is not related to eating	
<input type="checkbox"/> Pain or tightness in your chest that interferes with your job	<input type="checkbox"/> In the past two years, have you noticed your heart skipping or missing a beat	<input type="checkbox"/> Any other symptoms that you think may be related to heart or circulation problems	
7. Do you currently take medication for any of the following problems?			
<input type="checkbox"/> Breathing or lung problems	<input type="checkbox"/> Heart trouble	<input type="checkbox"/> Blood pressure	<input type="checkbox"/> Seizures (fits)
8. If you've used a respirator, have you ever had any of the following problems?			
<input type="checkbox"/> Eye irritation	<input type="checkbox"/> Skin allergies or rashes	<input type="checkbox"/> Anxiety	<input type="checkbox"/> General weakness or fatigue
			<input type="checkbox"/> Any other problem that interferes with your use of a respirator
9. <input type="checkbox"/> Have you ever lost vision in either eye (temporarily or permanently)?	10. Do you currently have any of the following vision problems?		11. <input type="checkbox"/> Have you ever had an injury to your ears, including a broken ear drum?
	<input type="checkbox"/> Wear contact lenses	<input type="checkbox"/> Color blind	
	<input type="checkbox"/> Wear glasses	<input type="checkbox"/> Any other eye or vision problem	
12. Do you currently have any of the following hearing problems?			13. <input type="checkbox"/> Have you ever had a back injury?
<input type="checkbox"/> Difficulty hearing	<input type="checkbox"/> Wear a hearing aid	<input type="checkbox"/> Any other hearing or ear problem	

14. Do you currently have any of the following musculoskeletal problems? <input type="checkbox"/> Weakness in any of your arms, hands, legs, or feet <input type="checkbox"/> Back pain <input type="checkbox"/> Difficulty fully moving your arms and legs <input type="checkbox"/> Difficulty fully moving your head up or down <input type="checkbox"/> Difficulty climbing a flight of stairs or a ladder carrying more than 25 lbs. <input type="checkbox"/> Pain or stiffness when you lean forward or backward at the waist <input type="checkbox"/> Difficulty fully moving your head side to side <input type="checkbox"/> Difficulty bending at your knees <input type="checkbox"/> Difficulty squatting to the ground <input type="checkbox"/> Any other muscle or skeletal problem that interferes with using a respirator		
15. <input type="checkbox"/> In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen? <input type="checkbox"/> If yes, do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions?		
16. <input type="checkbox"/> At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals?             If yes, name the chemicals, if you know them		
17. <input type="checkbox"/> Have you ever worked with any of the materials, or under any of the conditions, listed below <input type="checkbox"/> Asbestos <input type="checkbox"/> Beryllium <input type="checkbox"/> Iron <input type="checkbox"/> Any other hazardous exposures <input type="checkbox"/> Silica (e.g., in sandblasting) <input type="checkbox"/> Aluminum <input type="checkbox"/> Tin             If yes, describe these exposures: <input type="checkbox"/> Tungsten/cobalt (e.g., grinding or welding this material) <input type="checkbox"/> Coal (for example, mining) <input type="checkbox"/> Dusty environments		
18. List any second jobs or side businesses you have:	19. List your previous occupations:	20. List your current and previous hobbies:
21. <input type="checkbox"/> Have you been in the military services? <input type="checkbox"/> If yes, were you exposed to biological or chemical agents (either in training or combat)		22. <input type="checkbox"/> Have you ever worked on a HAZMAT team?
23. <input type="checkbox"/> Are you taking any other medications for any reason (including over-the-counter medications) other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire.             If yes, name the medications, if you know them		
24. Will you be using any of the following items with your respirator(s)? <input type="checkbox"/> HEPA Filters <input type="checkbox"/> Canisters (for example, gas masks) <input type="checkbox"/> Cartridges		25. How often are you expected to use the respirator(s)? Indicate all answers that apply to you. <input type="checkbox"/> Escape only <input type="checkbox"/> Less than 5 hours per week <input type="checkbox"/> 2 to 4 hours per day <input type="checkbox"/> Emergency rescue only <input type="checkbox"/> Less than 2 hours per day <input type="checkbox"/> Over 4 hours per day
26. During the period you are using the respirator(s) is your work effort <input type="checkbox"/> Light (less than 200 kcal per hour) <input type="checkbox"/> Moderate (200 to 350 kcal per hour) <input type="checkbox"/> Heavy (above 350 kcal per hour) <div style="display: flex; justify-content: space-between;"> <div style="width: 30%; border: 1px solid black; padding: 2px;"> <b>Examples of light work effort:</b> sitting while writing, typing, drafting, or performing light assembly work, or standing while operating a drill press (1-3 lbs.) or controlling machines.         </div> <div style="width: 30%; border: 1px solid black; padding: 2px;"> <b>Examples of moderate work effort:</b> sitting while nailing or filing, driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level, walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.         </div> <div style="width: 30%; border: 1px solid black; padding: 2px;"> <b>Examples of heavy work:</b> lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder, working on a loading dock, shoveling, standing while bucklating or clipping castings, walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 60 lbs.)         </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="width: 30%;">           If yes, how long does this period last during the average shift:    hrs _____ mins _____         </div> <div style="width: 30%;">           If yes, how long does this period last during the average shift:    hrs _____ mins _____         </div> <div style="width: 30%;">           If yes, how long does this period last during the average shift:    hrs _____ mins _____         </div> </div>		
27. <input type="checkbox"/> Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator?             If yes, describe this protective clothing and/or equipment		
28. <input type="checkbox"/> Will you be working under hot conditions (temperature exceeding 77 degrees F.)	29. <input type="checkbox"/> Will you be working under humid conditions?	30. Describe the work you'll be doing while you're using your respirator(s):
31. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases)		
32. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s)		
Name of the <b>first</b> toxic substance  Estimate the maximum exposure level per shift:  Duration of exposure per shift:	Name of the <b>second</b> toxic substance  Estimate the maximum exposure level per shift:  Duration of exposure per shift:	Name of the <b>third</b> toxic substance  Estimate the maximum exposure level per shift:  Duration of exposure per shift:
32. b. Indicate the name of any other toxic substances that you'll be exposed to while using your respirator:		
33. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security)		

Field Test (Rev. 10/02) PEV-BRP

Signature \_\_\_\_\_

Date \_\_\_\_\_

Return this form to: Hall Health, Employee Health Nurse, Box 354400, Seattle, WA 98195-4410  
 Write **"CONFIDENTIAL"** on the envelope or email [emphlth@uw.edu](mailto:emphlth@uw.edu)

UNIVERSITY OF WASHINGTON RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE — for full face and/or SCBA respirator users

ENVIRONMENTAL HEALTH & SAFETY

PLEASE PRINT — Attach additional sheets if needed. Questions in boxes with heavy outlines are optional.

UoW 1031 (Rev.10-09)

For help filling this out call the employee health nurse at 206-685-1026. If you have questions about respirators call the Respirator Program Administrator at 206-543-7388.°

Your supervisor must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your supervisor must not look at or review your answers.

Name (Last) (First) (M.I.) EID/SID Today's Date

Job Title Box Number Dept/Shop

Supervisor

Work phone number What is the best time to reach you at this number? Email

Date of Birth

Sex Male Female

Height ft. in. Weight

Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire?

Check the type of respirator you will use (you can check more than one category)

N, R, or P disposable respirator (filter-mask, non-cartridge type only) Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).

Have you worn a respirator? If yes, what type(s)

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month?

2. Have you ever had any of the following conditions?

Seizures (fits) Diabetes (sugar disease), Latex allergy or allergic, Claustrophobia (fear of closed in places) Trouble smelling odors reactions that interfere with your breathing

3. Have you ever had any of the following pulmonary or lung problems?

Asbestosis Emphysema Silicosis Broken ribs

Asthma Pneumonia Lung cancer Any chest injuries or surgeries

Chronic bronchitis Tuberculosis Pneumothorax (collapsed lung) Any other lung problem that you've been told about

4. Do you currently have any of the following symptoms of pulmonary or lung illness?

Shortness of breath when washing or dressing yourself Coughing that occurs mostly when you are lying down Shortness of breath when walking fast on level ground or walking up a slight hill or incline Shortness of breath that interferes with your job Coughing up blood in the last month Shortness of breath when walking with other people at an ordinary pace on level ground Wheezing Coughing that produces phlegm (thick sputum) Wheezing that interferes with your job Have to stop for breath when walking at your own pace on level ground Chest pain when you breathe deeply Coughing that wakes you early in the morning Any other symptoms that you think may be related to lung problems

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

Heart Attack Angina Swelling in your legs or feet (not caused by walking) High blood pressure Stroke Heart failure Any other heart problem that you've been told about Heart arrhythmia (heart beating irregularly)

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

Frequent pain or tightness in your chest Pain or tightness in your chest during physical activity Heartburn or indigestion that is not related to eating Pain or tightness in your chest that interferes with your job In the past two years, have you noticed your heart skipping or missing a beat Any other symptoms that you think may be related to heart or circulation problems

7. Do you currently take medication for any of the following problems?

Breathing or lung problems Heart trouble Blood pressure Seizures (fits)

8. If you've used a respirator, have you ever had any of the following problems?

Eye irritation Skin allergies or rashes Anxiety General weakness or fatigue Any other problem that interferes with your use of a respirator

9. Have you ever lost vision in either eye (temporarily or permanently)?

10. Do you currently have any of the following vision problems?

Wear contact lenses Color blind Wear glasses Any other eye or vision problem

11. Have you ever had an injury to your ears, including a broken ear drum?

12. Do you currently have any of the following hearing problems?

Difficulty hearing Wear a hearing aid Any other hearing or ear problem

13. Have you ever had a back injury?

14. Do you currently have any of the following musculoskeletal problems?

Weakness in any of your arms, hands, legs, or feet Back pain Difficulty fully moving your arms and legs Difficulty fully moving your head up or down Difficulty climbing a flight of stairs or a ladder carrying more than 25 lbs.



Pain or stiffness when you lean forward or backward at the waist      Difficulty fully moving your head side to side      Difficulty bending at your knees      Difficulty squatting to the ground      Any other muscle or skeletal problem that interferes with using a respirator

15. In your present job, are you working at high altitudes (over 5,000 feet)      or in a place that has lower than normal amounts of oxygen? If yes, do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions?

16. At work or at home, have you ever been exposed to hazardous, solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals?      If yes, name the chemicals if you know them.

17. Have you ever worked with any of the materials, or under any of the conditions, listed below

Asbestos      Beryllium      Iron      Silica (e.g., in sandblasting)      Aluminum      Tin

Any other hazardous exposures If yes, describe these exposures:

Tungsten/cobalt (e.g., grinding or welding this material)      Coal (for example, mining)      Dusty environments

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

19. List your previous occupations:

20. List your current and previous hobbies:

21. Have you been in the military services?

If yes, were you exposed to biological or chemical agents      (either in training or combat)

22. Have you ever worked on a HAZMAT team?

23. Are you taking any other medications for any reason (including over-the-counter medications) other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, If yes, name the medications, if you know them

24. Will you be using any of the following items with your respirator(s)?      HEPA Filters  
Canisters (for example, gas masks) Cartridges

25. How often are you expected to use the respirator(s)? Indicate all answers that apply to you.

Escape only      Less than 5 hours per week      2 to 4 hours per day      Emergency rescue only  
Less than 2 hours per day      Over 4 hours per day

26. During the period you are using the respirator(s) is your work effort

Light (less than 200 kcal per hour)      Moderate (200 to 350 kcal per hour)      Heavy (above 350 kcal per hour)

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

If yes, how long does this period last during the average shift:   hrs.   mins.

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

If yes, how long does this period last during the average shift:   hrs.   mins.

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

If yes, how long does this period last during the average shift:   hrs.   mins.

27. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator? If yes, describe this protective clothing and/or equipment.

28. Will you be working under hot conditions (temperature exceeding 77 degrees F.)

29. Will you be working under humid conditions?

30. Describe the work you'll be doing while you're using your respirator(s):

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

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

32. b. Indicate the name of any other toxic substances that you'll be exposed to while using your respirator:


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

UoW 1031 (Rev. 10-09) REVERSE

Signature   Date

Return this form to: Hall Health, Employee Health Nurse, Box 354400, Seattle, WA 98195-4410 Write "CONFIDENTIAL" on the envelope or email [emphlth@uw.edu](mailto:emphlth@uw.edu).

**Respirator Medical Evaluation Questionnaire for disposable/half-mask/PAPR respirator users:** An accessible text version appears below the image of the form.

<b>CONFIDENTIAL MEDICAL RECORD</b>		UNIVERSITY OF WASHINGTON <b>RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE</b> — for disposable/half-mask/PAPR respirator users ENVIRONMENTAL HEALTH & SAFETY	1878						
PLEASE PRINT — Attach additional sheets if needed. <span style="float: right;">UoW 1031 short (Rev 04-20)</span>									
For help filling this out call the employee health nurse at 206-685-1026. If you have questions about respirators call the Respirator Program Administrator at 206-543-7388.*									
Your supervisor must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your supervisor must not look at or review your answers.									
Name (Last)		(First)		(M.I.)		EID/SID		Today's Date	
Job Title			Box Number			Dept/Shop			
Supervisor			Work phone number		What is the best time to reach you at this number?			Email	
Date of Birth		Sex <input type="checkbox"/> Male <input type="checkbox"/> Female		Height _____ft.____in.		Weight		<input type="checkbox"/> Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire?	
Check the type of respirator you will use (you can check more than one category)									
<input type="checkbox"/> N, R, or P disposable respirator (filter-mask, non-cartridge type only)					<input type="checkbox"/> Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).				
<input type="checkbox"/> Have you worn a respirator? If yes, what type(s)									
1. <input type="checkbox"/> Do you currently smoke tobacco, or have you smoked tobacco in the last month?									
2. Have you ever had any of the following conditions?									
<input type="checkbox"/> Seizures (fits)		<input type="checkbox"/> Diabetes (sugar disease)		<input type="checkbox"/> Latex allergy or allergic reactions that interfere with your breathing		<input type="checkbox"/> Claustrophobia (fear of closed-in places)		<input type="checkbox"/> Trouble smelling odors	
3. Have you ever had any of the following pulmonary or lung problems?									
<input type="checkbox"/> Asbestosis		<input type="checkbox"/> Emphysema		<input type="checkbox"/> Silicosis		<input type="checkbox"/> Broken ribs			
<input type="checkbox"/> Asthma		<input type="checkbox"/> Pneumonia		<input type="checkbox"/> Lung cancer		<input type="checkbox"/> Any chest injuries or surgeries			
<input type="checkbox"/> Chronic bronchitis		<input type="checkbox"/> Tuberculosis		<input type="checkbox"/> Pneumothorax (collapsed lung)		<input type="checkbox"/> Any other lung problem that you've been told about			
4. Do you currently have any of the following symptoms of pulmonary or lung illness?									
<input type="checkbox"/> Shortness of breath		<input type="checkbox"/> Shortness of breath when walking fast on level ground or walking up a slight hill or incline		<input type="checkbox"/> Shortness of breath when walking with other people at an ordinary pace on level ground		<input type="checkbox"/> Have to stop for breath when walking at your own pace on level ground		<input type="checkbox"/> Shortness of breath when washing or dressing yourself	
<input type="checkbox"/> Shortness of breath that interferes with your job		<input type="checkbox"/> Coughing that produces phlegm (thick sputum)		<input type="checkbox"/> Coughing that wakes you early in the morning		<input type="checkbox"/> Coughing that occurs mostly when you are lying down		<input type="checkbox"/> Coughing up blood in the last month	
<input type="checkbox"/> Wheezing		<input type="checkbox"/> Wheezing that interferes with your job		<input type="checkbox"/> Chest pain when you breathe deeply		<input type="checkbox"/> Any other symptoms that you think may be related to lung problems			
5. Have you ever had any of the following cardiovascular or heart problems?									
<input type="checkbox"/> Heart Attack		<input type="checkbox"/> Angina		<input type="checkbox"/> Swelling in your legs or feet (not caused by walking)		<input type="checkbox"/> High blood pressure			
<input type="checkbox"/> Stroke		<input type="checkbox"/> Heart failure		<input type="checkbox"/> Heart arrhythmia (heart beating irregularly)		<input type="checkbox"/> Any other heart problem that you've been told about			
6. Have you ever had any of the following cardiovascular or heart symptoms?									
<input type="checkbox"/> Frequent pain or tightness in your chest		<input type="checkbox"/> Pain or tightness in your chest that interferes with your job		<input type="checkbox"/> Pain or tightness in your chest during physical activity		<input type="checkbox"/> In the past two years, have you noticed your heart skipping or missing a beat		<input type="checkbox"/> Heartburn or indigestion that is not related to eating	
<input type="checkbox"/> Any other symptoms that you think may be related to heart or circulation problems									
7. Do you currently take medication for any of the following problems?									
<input type="checkbox"/> Breathing or lung problems		<input type="checkbox"/> Heart trouble		<input type="checkbox"/> Blood pressure		<input type="checkbox"/> Seizures (fits)			
8. If you've used a respirator, have you ever had any of the following problems?									
<input type="checkbox"/> Eye irritation		<input type="checkbox"/> Skin allergies or rashes		<input type="checkbox"/> Anxiety		<input type="checkbox"/> General weakness or fatigue		<input type="checkbox"/> Any other problem that interferes with your use of a respirator	
Signature _____ Date _____									
Return this form to: Hall Health, Employee Health Nurse, Box 354400, Seattle, WA 98195-4410 Write " <b>CONFIDENTIAL</b> " on the envelope or email <a href="mailto:emphlth@uw.edu">emphlth@uw.edu</a> .									

UNIVERSITY OF WASHINGTON RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE — for disposable/half-mask/PAPR respirator users

PLEASE PRINT — Attach additional sheets if needed. ENVIRONMENTAL HEALTH & SAFETY  
UoW 1031 short (Rev 04-20)

For help filling this out call the employee health nurse at 206-685-1026. If you have questions about respirators call the Respirator Program Administrator at 206-543-7388.°

Your supervisor must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your supervisor must not look at or review your answers.

Name (Last) (First) (M.I.) EID/SID Today's Date

Job Title Box Number Dept/Shop

Supervisor Work phone number What is the best time to reach you at this number?  
Email

Date of Birth Sex Male Female Height ft. in. Weight

Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire?

Check the type of respirator you will use (you can check more than one category)

N, R, or P disposable respirator (filter-mask, non-cartridge type only)

Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).

Have you worn a respirator? If yes, what type(s)

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month?

2. Have you ever had any of the following conditions?

Seizures (fits) Diabetes (sugar disease) Latex allergy or allergic reactions that interfere with your breathing Claustrophobia (fear of closed-in places) Trouble smelling odors

3. Have you ever had any of the following pulmonary or lung problems?

Asbestosis Emphysema

Asthma Pneumonia Chronic bronchitis Tuberculosis Silicosis

Lung cancer

Pneumothorax (collapsed lung) Broken ribs

Any chest injuries or surgeries

Any other lung problem that you've been told about

4. Do you currently have any of the following symptoms of pulmonary or lung illness?

Shortness of breath Shortness of breath when washing or dressing yourself Coughing that occurs mostly when you are lying down Shortness of breath when walking fast on level ground or walking up a slight hill or incline Shortness of breath that interferes with your job Coughing up blood in the last month Wheezing

Shortness of breath when walking with other people at an ordinary pace on level ground Coughing that produces phlegm (thick sputum)

Wheezing that interferes with your job

Have to stop for breath when walking at your own pace on level ground

Chest pain when you breathe deeply

Coughing that wakes you early in the morning Any other symptoms that you think may be related to lung problems

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

Heart Attack Angina Swelling in your legs or feet (not caused by walking)

High blood pressure Stroke Heart failure Heart arrhythmia (heart beating irregularly)

Any other heart problem that you've been told about

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

Frequent pain or tightness in your chest

Pain or tightness in your chest during physical activity

Heartburn or indigestion that is not related to eating

Pain or tightness in your chest that interferes with your job

In the past two years, have you noticed your heart skipping or missing a beat

Any other symptoms that you think may be related to heart or circulation problems

7. Do you currently take medication for any of the following problems?

Breathing or lung problems Heart trouble Blood pressure Seizures (fits)

8. If you've used a respirator, have you ever had any of the following problems?

Eye irritation Skin allergies or rashes Anxiety General weakness or fatigue

Any other problem that interferes with your use of a respirator

Signature Date

Return this form to: Hall Health, Employee Health Nurse, Box 354400, Seattle, WA 98195-4410 Write "CONFIDENTIAL" on the envelope or email [emphlth@uw.edu](mailto:emphlth@uw.edu).

## APPENDIX E: FIT TESTING PROCEDURES (QUALITATIVE AND QUANTITATIVE)

### Portacount™ Fit Test Procedure

---

#### Important

1. This is a quantitative (QNFT) fit-test procedure.
  2. This method uses a particle counting instrument that measures and compares the particle concentration both inside and outside the respirator facepiece while the employee performs a series of test exercises.
  3. Particles in the ambient air are used as the test aerosol.
- 

#### Set-Up

1. Obtain a test instrument such as a TSI Portacount™.
2. Have probed respirators available for each respirator model and size the employer uses, or have a sampling adapter available if the employee's actual or chosen respirator will be tested.
  - a. A probed respirator has a special fitting installed on the facepiece design connect with the end of the test instrument's plastic sampling tube so that air samples can be taken inside the facepiece. Probed respirators can be obtained from the respirator manufacturer, or distributor, and can only be used for fit testing purposes.
  - b. Contact TSI Inc., or the respirator's manufacturer to obtain probed respirators or facepiece sampling adapters.
3. Follow the test instrument manufacturer's instructions for test preparation, including particle, zero, and system checks. Make sure the instrument's pass or fail criterion is programmed to the following minimum performance levels:
  - a. For half-facepiece respirators, an overall minimum fit factor of 100 as a passing level.
  - b. For full-facepiece respirators, an overall minimum fit factor of 500 as a passing level.
4. Have high efficiency particulate air (HEPA) filters, or other respirator filters available that are capable of preventing significant penetration by particles generated by the test instrument such as, P100 or N95 series filters.
  - a. If you will use a sampling adapter instead of probed respirators be sure to have the correct type for the respirators chosen.

**Fit Test - Once the individual passes the sensitivity test, the actual fit test can be conducted.**

1. Properly attach the sampling line to the facepiece probe or sampling adapter.
2. Have the employee attach respirator filters, put on, properly adjust, and wear the respirator 5 minutes **before** the fit test. During this time you and the employee must evaluate the respirator's general fit by checking:
  - Proper chin placement
  - Properly tightened straps (do not over tighten)
  - Acceptable fit across the nose bridge
  - Respirator size. It must span the distance from nose to chin
  - To see if the respirator stays in position

Note: Wearing the respirator for 5 minutes permits the employee to make certain the respirator is comfortable **and** allows for purging of ambient particles trapped inside the facepiece.

3. Have the employee perform a seal check. Make sure the sampling line is crimped to avoid leakage during the seal check. If **no** leakage is detected proceed to Step 8. If leakage is detected:
  - Determine the cause **and**
  - If leakage is due to a poorly fitting facepiece have the employee:
    1. Choose another respirator size or model

*And*

    2. Start again at Step 6.
4. Start the fit test cycle.
  - Follow the manufacturer's instructions for operating the test instrument.
  - Have the employee perform the appropriate fit test exercises.
  - The test instrument will automatically stop and calculate the overall fit factor. Use this result to determine whether or not the test is passed.
    1. The test has been passed if the overall fit factor is at least 100 for a half facepiece, or 500 for a full facepiece.
    2. The test has failed if the overall fit factor is below 100 for a half facepiece or 500 for a full facepiece.

Note: If the test has failed, have the employee select another respirator model or size and repeat this procedure.

## Bitrex™ Fit Test Procedure

---

### Important

1. This is a qualitative (QLFT) fit-test procedure.
  2. Bitrex (denatonium benzoate) is routinely used as a taste aversion agent in household liquids that children should not drink and is endorsed by the American Medical Association, the National Safety Council, and the American Association of Poison Control Centers.
  3. The employee must not eat, smoke, chew gum or drink anything but plain water for at least 15 minutes before the fit test.
  4. Commercially-prepared solutions are preferred for qualitative fit testing at the UW
- 

### Set-Up

1. Obtain a test enclosure that meets the following specifications:
  - At least 12 inches in diameter by 14 inches tall
  - A clear front portion
  - Enough space inside the front to allow free movement of the head when a respirator is worn
  - ¾ inch (or 1.9 centimeter) hole to accommodate the nebulizer nozzle. The hole must line up in front of the wearer's nose and mouth.
2. Obtain and assemble 2 clean DeVilbiss Model 40 Inhalation Medication Nebulizers or equivalent
3. Prepare the screening solution by drawing from bottle of sensitivity solution or breaking glass inner vial of sensitivity solution tube.
4. Add about 1 ml of the screening solution to one of the nebulizers.
5. Mark this nebulizer to distinguish it from the one to be used for fit testing.
6. Prepare the fit test solution by drawing from bottle of fit test solution or breaking glass inner vial of fit test solution tube.
7. Add about 1 ml of the test solution to the second nebulizer.
8. Mark this nebulizer or station to distinguish it from the one used for screening.
9. Have particulate filters ready for the employee's chosen respirator or have filtering facepiece respirators ready.

Note: Nebulizers must be thoroughly rinsed in water and shaken dry each morning and afternoon or at least once every four hours.



### **Sensitivity Test – to make sure the subject can taste the Bitrex solution**


1. Have the person put on the test hood without a respirator - position the hood forward so that there is a six-inch gap between the person's face and the hood.
2. Instruct the person to breathe through his/her mouth.
3. Using a nebulizer containing the sensitivity solution, spray the aerosol into the hood. Inject ten squeezes of the bulb, fully collapsing and allowing the bulb to expand fully on each squeeze.
4. Ask the person if he/she can taste the sensitivity solution.
5. If the person does not taste the sensitivity solution, spray an additional ten squeezes of the aerosol into the hood. Repeat again if needed. Do not exceed a total of thirty squeezes during the test. If thirty squeezes are inadequate, end the test and use a different type of fit test method.
6. Remove the hood and allow the subject to rinse their mouth with clear water or give them a few minutes to clear the taste from his/her mouth.

### **Fit Test - Once the individual passes the sensitivity test, the actual fit test can be conducted.**

1. Have the person put on the test hood with a respirator - position the hood forward so that there is a six-inch gap between the person's face and the hood.
2. Using the nebulizer filled with the test solution, inject the aerosol into the hood using the same number of squeezes required during the sensitivity test (see step 6 above).
3. Instruct the person to tell you if they can taste the Bitrex at any time during the test.
4. To maintain an adequate concentration of the Bitrex aerosol during the test, spray one-half of the number of squeezes used in step 3 every thirty seconds.
5. After the initial aerosol is injected, instruct the subject to perform the following exercises for 60 seconds each.
  - Normal breathing
  - Deep breathing
  - Turning head from side to side
  - Nodding the head up and down
  - Talking, recite the alphabet or read a passage out loud (i.e. Rainbow Passage)
  - Normal breathing
6. If the entire test is completed without the person detecting the bitter taste of the Bitrex aerosol, the test is successful.
7. If the person does detect the taste of Bitrex, terminate the test. Wait fifteen minutes or have the person rinse their mouth with clear water, and perform the test over –

either with a new type of respirator or after adjusting the existing respirator. The employee may also be directed to a quantitative fit test method.

## APPENDIX F: RESPIRATOR FIT TESTING/ TRAINING FORM

 ENVIRONMENTAL HEALTH & SAFETY UNIVERSITY of WASHINGTON				<b>RESPIRATOR TRAINING AND FIT TEST RECORD</b>	
Date:				UWNNetID:	
Last Name:				Employee/Student ID #:	
Full First Name:				Dept/Shop:	
Job Title:				Supervisor:	
Signature:					
<b>ANNUAL HEALTH STATUS UPDATE</b> <i>If you have experienced any of the below changes in health status within the <u>past year</u>, or have any other health concerns related to respirator use you may request consult with the the UW Employee Health Center at 206-685-1026 BEFORE your fit test.</i>					
<ul style="list-style-type: none"> <li>▪ Anxiety</li> <li>▪ Claustrophobia</li> <li>▪ Dizziness</li> <li>▪ Wheezing</li> </ul>		<ul style="list-style-type: none"> <li>▪ Chest pain</li> <li>▪ Facial shape changes</li> <li>▪ Shortness of breath</li> <li>▪ Weight gain or loss of 20 lb</li> </ul>		I would like a consult with Employee Health <input type="checkbox"/> Yes <input type="checkbox"/> No	
				Initial Here:	
<b>Environmental Health and Safety Use Only</b> <b>FIT TEST RECORD</b>					
Respirator #1				<b>FIT TEST RECORD – PORTACOUNT QNFT</b>	
Mfr/Model	North 7700	3M 1860	Halyard	Normal Breathing	
	North 7600	3M 1870+	46727	Deep Breathing	
	3M 7500	3m 8200	Halyard	Side-side	
	MSA Millennium	3M 8210	46827	Up-Down	
	MSA Ultra Elite	3M 8211	BYD	Talking	
	3M Versaflo	3M 8511	DE2322	Grimace	
	3M Breatheasy	3m 9205+	Champak	Bends	
	3M GVP	3M 9210+	F550C	Normal	
	North Compact Air	3M 9211+	Other:		
	MaxAir			<b>OVERALL SCORE</b>	
Type	Disposable APR ½ Face APR Full face	PAPR SCBA	<b>TO PASS, FIT FACTOR MUST BE GREATER THAN 100 FOR ½ FACE (INCLUDING DISPOSABLES) OR &gt;500 FOR FULL FACE RESPIRATORS.</b>		
Size	S    M    M/L    L    Regular				
Headpiece	Head Cover                      Other: Hood Double-shrouded hood				
QLFT	Bitrex	# Puffs to Taste:	Overall Result:    PASS    FAIL		
Instructor/Fit Tester Signature:					

## Appendix G: Respirator Training, Fit Testing and Authorization Record

### Front

<b>W</b> ENVIRONMENTAL HEALTH & SAFETY UNIVERSITY of WASHINGTON		<b>Respirator Authorization</b>	
Name		EID/SID	
Brand	Model	Type	Size
Brand	Model	Type	Size
EH&S Signature		Fit Test Date	
Annual training & fit testing required by WAC 296-842.			

Card text: Respirator Authorization; Name, EID/SID, Brand, Model, Type, Size, Brand, Model, Size, Type, EH&S Signature, Fit Test Date; Annual training & fit testing required by WAC 296-842.

### Back

**Remember!**

- Use only brand, model & size respirator for which you were trained and fitted.
- Inspect the respirator before use.
- For tight-fit respirators, perform negative and positive pressure seal checks each time the respirator is worn.
- Contact EH&S if you are uncertain about selecting the appropriate respirator for a specific contaminant.
- Know the limits of your respirator.
- Maintain the respirator in a sanitary condition and dispose as required.
- Follow manufacturer's instructions.
- Notify your supervisor if you experience increased breathing resistance, an odor or taste, or throat irritation.

UoW 1836 (Rev. 6-16)

**UW Environmental Health & Safety, 206-543-7388**

Card text: Remember! Use only brand, model & size respirator for which you were trained and fitted. Inspect the respirator before use. For tight-fit respirators, perform negative and positive pressure seal checks each time the respirator is worn. Contact EH&S if you are uncertain about selecting the appropriate respirator for a specific contaminant. Know the limits of your respirator. Maintain the respirator in a sanitary condition and dispose as required. Follow manufacturer's instructions. Notify your supervisor if you experience increased breathing resistance, an odor or taste, or throat irritation. UW Environmental Health & Safety, 206-543-7388.

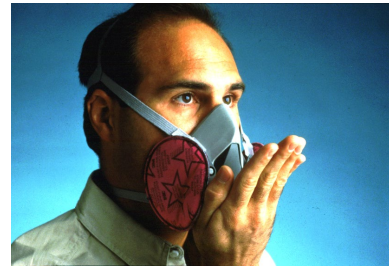
## APPENDIX H: SEAL CHECK PROCEDURE FOR CARTRIDGE-STYLE RESPIRATORS

### Important Information for Respirator Users:

- You need to conduct a seal check each time you put your respirator on **before** you enter the respirator use area. The purpose of a seal check is to make sure your respirator (which has been previously fit tested) is properly positioned on your face to prevent leakage during use and to detect functional problems.
  - The procedure below has two parts; a positive pressure check and a negative pressure check. You must complete both parts each time. It should only take a few seconds to perform, once you learn it.
    - If you cannot pass both parts, your respirator is **not** functioning properly, see your supervisor for further instruction.
- 

### Positive pressure check:

1. Remove exhalation valve cover, if removable.
2. Cover the exhalation valve completely with the palm of your hand **while** exhaling gently to inflate the facepiece slightly.
3. The respirator facepiece should remain inflated (indicating a build-up of positive pressure and **no** outward leakage).



- If you detect **no** leakage, replace the exhalation valve cover (if removed), and proceed to conduct the negative pressure check.
- If you detect evidence of leakage, reposition the respirator (after removing and inspecting it), and try the positive pressure check again.

### Negative pressure check:

4. Completely cover the inhalation opening(s) on the cartridges or canister with the palm(s) of your hands **while** inhaling gently to collapse the facepiece slightly.
- If you cannot use the palm(s) of your hands to effectively cover the inhalation openings on cartridges or canisters, you may use:



- Filter seal(s) (if available) **OR** thin rubber gloves.
5. Once the facepiece is collapsed, hold your breath for 10 seconds **while** keeping the inhalation openings covered.

6. The facepiece should remain slightly collapsed (indicating negative pressure and **no** inward leakage).
  - If you detect **no** evidence of leakage, the tightness of the facepiece is considered adequate, the procedure is completed, and you may now use the respirator
  - If you detect leakage, reposition the respirator (after removing and inspecting it) and repeat **both** the positive and negative fit checks.

## APPENDIX I: RESPIRATOR CLEANING PROCEDURE

**Note: Procedure authored for elastomeric respirators only.**

1. Remove filters, cartridges, canisters, speaking diaphragms, demand and pressure valve assemblies, hoses, or any components recommended by the manufacturer.
  - Discard or repair any defective parts.
2. Wash components in warm (43°C [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 help remove the dirt.
  - If the detergent or cleaner doesn't contain a disinfecting agent, respirator components should be immersed for 2 minutes in one of the following:
    - A bleach solution (concentration of 50 parts per million of chlorine). Make this by adding approximately one milliliter of laundry bleach to one liter of water at 43°C (110°F)
    - Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer
3. Rinse components thoroughly in clean, warm (43°C [110°F] maximum), preferably, running water.

**Note:** The importance of thorough rinsing can't be overemphasized. Detergents or disinfectants that dry on facepieces could cause dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts, if not completely removed.

4. Drain components.
5. Air-dry components or hand dry components with a clean, lint-free cloth.
6. Reassemble the facepiece components.
  - Replace filters, cartridges, and canisters, if necessary (for testing)
7. Test the respirator to make sure all components work properly.

## APPENDIX J: RESPIRATOR PROGRAM AUDIT CHECKLIST

<b>Auditors:</b>
<b>Scope of Audit (departments or institutions):</b>
<b>Dates of Audit:</b>
<b>Involved Personnel in Audit:</b>

I. General Program Information			
<input type="checkbox"/>	1. Written Program	<p>A written respiratory protection program (RPP) exists and is specific to the institution. It includes the following:</p> <ul style="list-style-type: none"> <li>• Procedures for selecting respirators.</li> <li>• Medical evaluations of employees required to wear respirators as specified in WAC 296-842-14005.</li> <li>• Fit testing processes.</li> <li>• Routine-use procedures and emergency-use respirator procedures.</li> <li>• Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and maintaining respirators.</li> <li>• Training on respiratory hazards, and proper use and maintenance of respirators.</li> <li>• Program evaluation procedures.</li> </ul>	Comments:



<input type="checkbox"/>	<p>2. Voluntary Use Program</p>	<p>A procedure exists to ensure that workers who voluntarily wear respirators comply with the medical evaluation, cleaning, storing, and maintenance requirements of the standard.</p> <ul style="list-style-type: none"> <li>• Employees are provided a copy of <a href="#">Table 2</a> per WAC 296-842-1105</li> <li>• Employees who use filtering face pieces are offered fit consultation</li> <li>• Voluntary respirator use is not permitted if it interferes with the ability to work safely or creates health hazards.</li> </ul>	<p>Comments:</p>
<input type="checkbox"/>	<p>3. Program Administrator</p>	<p>There is a designated program administrator within the applicable institution, who consults the UW program administrator as needed.</p>	<p>Comments:</p>
<input type="checkbox"/>	<p>4. Program Updates</p>	<p>The written program has been reviewed and updated within the past 3 years to reflect changes in hazards, work practices, and available controls.</p>	<p>Comments:</p>
<input type="checkbox"/>	<p>5. Cost of Respiratory Protection Resources</p>	<p>The Institution provides equipment, training, and medical evaluations at no cost to employees.</p>	<p>Comments:</p>
<input type="checkbox"/>	<p>6. Hazard Evaluations</p>	<p>A documented hazard evaluation exists for each respirator using group.</p>	<p>Comments:</p>

☐	7. IDLH conditions	No institution employees are exposed to environments that could be considered immediately dangerous to life and health (IDLH)	Comments:
☐	8. NIOSH Certification	Respirators purchased are certified by the National Institute for Occupational Safety and Health (NIOSH) and used under the conditions of certification.	Comments:
☐	9. Respirator Selection	<p>Respirators are selected based on the workplace hazards evaluated and workplace/user factors affecting respirator performance and reliability. They are also appropriate for the chemical state and physical form of the contaminant as follows;</p> <ul style="list-style-type: none"> <li>• Air-purifying respirators (APRs) used for protection against gases and vapors are equipped with end-of-service-life indicators (ESLIs) or a change schedule has been implemented.</li> <li>• All APRs used are NIOSH-certified under 42 CFR Part 84.</li> </ul>	Comments:
☐	10. Size and Model Availability	A sufficient variety of respirator sizes and models are available to correctly fit and be acceptable to the using population	Comments:
☐	11. Program Evaluation	<p>The program is routinely evaluated for effectiveness.</p> <p>Supervisors periodically monitor respirator use to ensure it is being done properly</p>	

	Employees using respirators are regularly polled about their views on program effectiveness and any perceived problems.	
--	---	--

<b>II. Medical Evaluations</b>			
<input type="checkbox"/>	1. Medical Evaluation Compliance	All respirator-using employees have been medically cleared prior to wearing a respirator for the first time.  (Verify with spot check of existing medical clearance record for known respirator users.)	Comments:
<input type="checkbox"/>	2. LHCP Requirement	A licensed healthcare practitioner (LHCP) performs all medical evaluations. This individual is noted on each employee's medical clearance document.  The LHCP has access to information on the type and nature of an employee's respirator use, as well as the written RPP prior to performing the evaluation	Comments:
<input type="checkbox"/>	3. Medical Evaluation Content	The medical evaluations obtain the information requested in the form provided by WAC 296-842-22005 (L&I provided medical questionnaire).	Comments:
<input type="checkbox"/>	4. Medical Evaluation Follow-up	Employees are provided follow-up medical exams or consultation if their initial medical evaluation reveals that a follow-up medical evaluation is needed (e.g. positive responses to questions 1-8 in part two or 1-6 in part 3 of the DOSH questionnaire).	Comments:

<input type="checkbox"/>	<p>5. Method of Evaluation</p>	<p>Medical evaluations are administered confidentially during normal work hours, and in a manner that is understandable to employees.</p>	<p>Comments:</p>
<input type="checkbox"/>	<p>6. Communication of Evaluation</p>	<p>Employees are provided the opportunity to discuss their medical evaluation results with their LHCP.</p> <p>Written documentation from the LHCP regarding each employee's ability to wear a respirator is created and retained, and each employee is given a copy of his or her recommendations.</p>	<p>Comments:</p>
<input type="checkbox"/>	<p>7. Reevaluation</p>	<p>Employees are given additional medical evaluations when:</p> <ul style="list-style-type: none"> <li>• The employee reports a change in symptoms related to his/her ability to use a respirator.</li> <li>• The LHCP, RPP administrator, or supervisor determines that a medical evaluation is necessary.</li> <li>• Information from the RPP suggests a need for reevaluation.</li> <li>• Workplace conditions have changed in a way that could potentially place an increased burden on the employee's health.</li> </ul>	<p>Comments:</p>

**III. Fit Testing**

<input type="checkbox"/>	<p>1. Fit Test Compliance</p>	<p>Employees who are using tight-fitting respirator face pieces have passed an appropriate fit test prior to being required to use a respirator.</p> <p>(Verify with spot check of existing fit testing records for known respirator users.)</p>	<p>Comments:</p>
<input type="checkbox"/>	<p>2. Fit Test Compatibility</p>	<p>Fit testing is conducted with the same make, model, and size that the employee will be expected to use at the worksite.</p>	<p>Comments:</p>
<input type="checkbox"/>	<p>3. Annual Fit Testing</p>	<p>Fit tests are conducted annually and when a different respirator is deemed more appropriate for the work task.</p>	<p>Comments:</p>
<input type="checkbox"/>	<p>4. Fit Testing Methods</p>	<p>Fit tests are administered using accepted quantitative fit test (QNFT) or qualitative fit test (QLFT) protocols as listed by WAC 296-842-22010.</p> <p>Quantitative fit testing machinery is used properly and is under annual calibration.</p>	<p>Comments:</p>
<input type="checkbox"/>	<p>5. Personnel Requirements</p>	<p>The individual conducting fit testing must be able to do ALL of the following:</p> <ul style="list-style-type: none"> <li>• Prepare test solutions if required;</li> <li>• Make sure equipment works properly;</li> <li>• Perform tests properly;</li> <li>• Recognize invalid tests;</li> <li>• Calculate fit factors properly if required.</li> </ul>	

<input type="checkbox"/>	6. Facial Hair	Workers required to use tight fitting respirators are advised to have no conditions (e.g., facial hair) that would interfere with face-to-face piece seal or valve function. Workers with interfering facial hair are not fit tested.	Comments:
<input type="checkbox"/>	7. Seal Checks	Workers are informed on how to perform user seal checks prior to each use of a tight-fitting respirator. This practice is observed when in use prior to entering contaminated area. Seal check requirements are specified in WAC 296-842-22020.	Comments:
<input type="checkbox"/>			

<b>IV. Maintenance and Storage</b>			
<input type="checkbox"/>	1. Respirator Maintenance	Employees are permitted to leave their work area to conduct respirator maintenance, such as washing the face piece or to replace respirator parts. Disposable respirators are permitted for a one-time-use basis only.	Comments:
<input type="checkbox"/>	2. Current Condition	Respirators are clean, sanitary, and in good working order.	Comments:
<input type="checkbox"/>	3. Respirator Cleaning	Respirators are cleaned and disinfected: <ul style="list-style-type: none"> <li>• As often as necessary when issued for the exclusive use of one employee.</li> <li>• Before being worn by different individuals.</li> <li>• After each use for emergency-use respirators.</li> </ul>	Comments:

		<ul style="list-style-type: none"> <li>After each use for respirators used for fit testing and training.</li> </ul>	
<input type="checkbox"/>	4. Respirator Storage	Respirators are stored in such a way so that they are protected from damage, becoming deformed, or contaminated. Powered Air-Purifying Respirators are stored on charge or with additional batteries so that they are available for use.	Comments:
<input type="checkbox"/>	5. Inspection	Routine-use respirators are inspected before being donned and during cleaning (if applicable). Those with flaws are repaired or disposed.	Comments:
<input type="checkbox"/>			

<b>V. Training and Information</b>			
<input type="checkbox"/>	1. Training Compliance	Training is conducted for all required respirator users on an annual basis.  (Verify with spot check of existing training records for known respirator users.)	Comments:
<input type="checkbox"/>	2. Training Content	Training includes the following content: <ul style="list-style-type: none"> <li>Why the respirator is necessary and the consequences of improper fit, use, or maintenance.</li> <li>Limitations and capabilities of the respirator.</li> </ul>	Comments:

		<ul style="list-style-type: none"> <li>• How to inspect, put on, remove, use, and check seals of the respirator.</li> <li>• Maintenance and storage procedures.</li> <li>• Medical signs and symptoms to be aware of during respirator use.</li> <li>• The general requirements of the respirator standard.</li> </ul>	
<input type="checkbox"/>	3. Training Review/Update	<p>Employees are retrained if:</p> <ul style="list-style-type: none"> <li>• Changes to the workplace occur that might affect respirator use</li> <li>• Whenever training appears necessary for an individual</li> </ul> <p>Training content is reviewed on a regular basis and updated as needed.</p>	Comments:
<input type="checkbox"/>	4. Training Delivery	Training is conducted in a standardized and reproducible manner	Comments:
<input type="checkbox"/>			

<b>Recordkeeping</b>			
<input type="checkbox"/>	1. Medical Evaluations	Records of all medical evaluations are retained. This includes written recommendations from the LHCP.	



<input type="checkbox"/>	2. Fit testing	Fit testing records are all retained. Fit testing records must include: <ul style="list-style-type: none"> <li>• Employee name</li> <li>• Test date</li> <li>• Type of fit test performed</li> <li>• Description of respirator tested</li> <li>• Results of fit tests</li> </ul>	
<input type="checkbox"/>	3. Training	Training records are retained, and include employee names and dates trained.	
<input type="checkbox"/>	4. Written Program	The written RPP is published and retained	
<input type="checkbox"/>	5. Access to Records	Affected employees all have access to the specific records that pertain to them.	
<input type="checkbox"/>			

<b>Responsible Parties</b>	
<b>Local Program Associate Administrator:</b>	
<b>Safety Officer/Respirator Coordinator:</b>	
<b>Director of Employee Health</b>	
<b>Designated fit tester(s):</b>	

<b>Other involved Occupational Healthcare Provider(s):</b>	
--	--

<b>Inventory</b>	
<b>Number of Required Users:</b>	
<b>Number of Voluntary Users:</b>	
<b>Types of Tight-Fitting Respirators Used:</b>	
<b>Types of Other Respirators Used:</b>	
<b>Main Client Groups Serviced (e.g. Facilities Services):</b>	

## APPENDIX K: VOLUNTARY RESPIRATOR USE FOR LAB ANIMAL ALLERGENS

EH&S has made a determination that filtering facepiece respirators, such as the N-95 disposable particulate mask, may be used on a voluntary basis specifically for protection from exposure to lab animal allergens. EH&S recommends the voluntary use of N95 respirators for additional comfort and protection when working around animal allergens.

The voluntary use of an N-95 disposable particulate mask is a component of the University's strategy to reduce exposure to lab animal allergens. Additional information about lab animal allergies can be found in the National Institute for Occupational Safety and Health's publication for [Preventing Asthma in Animal Handlers](#).

Employees may self-select to wear an N-95 respirator for lab animal allergen concerns, or they may be suggested this course of action by the [Animal Use Medical Screening \(AUMS\)](#) process. It should be noted that animal husbandry staff may be required to wear filtering facepiece respirators depending on their group's current activities and resulting hazard assessment.

If an employee requests to wear a respirator other than a filtering facepiece respirator for animal-allergen protection, they must contact their supervisor. The supervisor must contact EH&S to initiate the appropriate respirator program procedures that cover medical evaluations, fit testing, and maintenance as required by [WAC 296-842](#).

Any employee who experiences any difficulties while wearing the filtering facepiece respirator must immediately inform his or her supervisor.

The following responsibilities are held by employees and supervisors in reference to voluntary respirator use for lab animal allergens:

### **Employees:**

Notify your supervisor that you want to wear a filtering facepiece respirator. Your supervisor will provide you with a copy of OHS Form 405, Advisory Information for Employees Who Voluntarily Use Respirators (Appendix B). Sign this form where indicated and give a copy to your supervisor.

Employees are responsible for the proper use and care of the respirator in compliance with manufacturer's instructions.

### **Supervisors:**

Provide the respirator user with a copy of OHS Form 405, Advisory Information for Employees Who Voluntarily Use Respirators (Appendix B); ensure that the employee understands the handout content and signs the form; and maintain a copy of the signed form for your records and ensure the respirator user keeps their signed copy.