

# Washington State University Health Sciences

## Respiratory Protection Program

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## **1.0 INTRODUCTION**

Respirators are a type of personal protective equipment designed to protect the wearer from respiratory hazards. The respiratory protection program (RPP) applies to use of all respirators in the workplace and the employees that use them. The program includes procedures for respiratory selection, medical monitoring, fit testing, training, and respirator maintenance in accordance with WAC 296-842, and WSU SPPM S80.80.1.

Anyone employee wearing a respirator, including filtering-facepiece respirators (dust masks), must be included in the RPP, except for employees who only use disposable filtering-facepiece respirators voluntarily.

Employees required to wear a respirator must comply with all parts of the RPP. Employees that wear a respirator voluntarily are not required to comply with all portions of the RPP, but they will be included in the voluntary respirator program. See Section 9.0 for the voluntary respirator program.

## **2.0 PROGRAM ORGANIZATION AND RESPONSIBILITIES**

### **2.1 Environmental Health and Safety**

The WSU Health Sciences Environmental Health and Safety (EH&S) Department administers the respiratory protection program. A member of WSU Health Sciences EH&S serves as the administrator who oversees the respiratory protection program, which includes:

- Drafting and updating the WSU Health Sciences respiratory protection program
- Assisting in conducting respiratory hazard assessments
- Providing respiratory protection training
- Providing fit testing
- Maintaining records of medical clearance documents, training records, and fit test documentation

### **2.2 Department Managers, Supervisors, and Lead Workers**

Department managers, supervisors, and lead workers are to comply with and enforce all provisions of the respiratory protection program. They have the primary responsibility for implementing the program in the workplace for their employees. This responsibility includes:

- Conducting ongoing evaluation of the work environment to identify whether respirator use may be required

- Taking action when necessary to ensure employees are properly protected against airborne contaminants
- Observing their staff to ensure that:
  - Employees using respirators attend the required training and fit testing and complete respiratory questionnaires as required by the program
  - Employees wear respirators when necessary, use respirators properly, and use the correct respirator and cartridge for the specific kind of exposure
  - Employees keep respirators clean and properly maintained
  - When employees detect cartridge breakthrough, changes in breathing resistance, or leakage of the facepiece, employees leave the work area to wash faces and respirator facepieces as necessary to prevent eye or other irritation associated with respirator use, as well as replace respirator filters and cartridges
  - Employees routinely change out cartridges and filters in compliance with service life determination

## **2.3 Employee**

Employees are required to:

- Complete a medical questionnaire and/or further medical evaluation when requested
- Attend respirator training
- Have respirator fit tested to ensure a proper fit
- Wear appropriate respirator whenever entering a hazardous environment that requires respiratory protection
- Inspect respirator prior to donning it
- Perform user seal checks prior to entering a contaminated environment
- Maintain a proper facepiece seal with the respirator
- Inspect, clean, and properly store the respirator
- Report maintenance problems immediately to the supervisor
- Discontinue wearing a tight-fitting respirator when facial hair, corrective glasses or goggles, other PPE, or other conditions occur that interfere with the respirator-to-face seal or valve function
- Routinely change out cartridges and filters in compliance with service life determination

## **3.0 RESPIRATORY HAZARD ASSESSMENT PROCEDURE**

Respiratory hazard assessments are performed to evaluate whether control methods should be implemented (e.g. engineering controls, chemical/product substitutions, or work practices) to reduce respiratory exposure to hazardous substances or whether respirator use is required, voluntary, or not allowed. A respiratory hazard assessment form is located in Appendix A. All WSU employees wearing a respirator must consult with the respiratory program administrator

to determine if they are required to be included in the RPP. Note that employees using only filtering-facepiece respirators voluntarily do not need to be included in the RPP.

Determination of types of respirators to be used by WSU Health Sciences employees is conducted by the department manager/supervisor. A manager, supervisor, employee, or EH&S employee may request a respiratory hazard assessment.

If a reasonable estimate of employee exposure **cannot** be determined, the work site atmosphere will be determined as being “Immediately Dangerous to Life and Health” (IDLH). WSU employees shall not enter IDLH atmospheres. These atmospheres require respiratory equipment that WSU Health Sciences employees are not equipped or trained to use.

#### **4.0 RESPIRATOR SELECTION**

Based on the respirator hazard assessment, a respirator type and cartridge(s) will be selected for each respirator wearer. WSU Health Sciences employees must use NIOSH-approved respirators. The respirator brand selected will be determined by employee selection of respirators from varying sizes and types. The employee must be given the opportunity to select a different facepiece and be retested if the chosen facepiece becomes increasingly uncomfortable at any time.

The respiratory program administrator assists in the selection process by showing the employee how to properly don a respirator, how it should be positioned on the face, how to set strap tension, and how to determine a comfortable respirator fit. Negative and positive user seal checks are reviewed at this time. Comfort of fit is a component of the selection process.

##### **4.1 Cartridge Selection**

With the help of the respiratory program administrator, the supervisor/manager will use the respirator hazard assessment to determine manufacturer cartridge specifications and limitations, which determines cartridge selection. Cartridge selection is noted on the respirator wearer’s respirator authorization form. WSU employees shall use only NIOSH-certified cartridges/filters. The respirator and cartridges must be the same brand.

##### **4.2 Cartridge End of Service Life**

Every cartridge is considered to have a useful life. Respirator users are to be aware of the service life of the cartridges they use and replace spent cartridges in a timely manner. The respiratory program administrator must use available state and federal standards and manufacturer information to determine the service life of a cartridge.

## **5.0 MEDICAL MONITORING**

When a WSU employee is assigned a task for which respirator use is required, a medical evaluation as well as respirator training and fit testing is required **prior to** the time the employee uses the respirator for the assigned task. The medical evaluation must be performed prior to fit testing. The medical evaluation determines employee fitness to use a respirator by taking into consideration the type of respirator used, the environmental conditions at the worksite, the physical demands of the work, use of other protective clothing, and the employee's health status.

The medical evaluation is based on a confidential medical evaluation questionnaire filled out by the employee respirator wearer, which is evaluated by a licensed health care professional (LHCP). After review of the questionnaire, the LHCP approves the employee for respirator use or requires further evaluation.

The medical questionnaire must be confidentially administered during an employee's normal working hours. The respiratory program administrator must be available to answer questions that may arise. The medical questionnaire may be completed online for most employees. Contact the respiratory program administrator to get the information needed to do this.

Some employees must fill out a paper questionnaire. When contacted by the employee, the respiratory program administrator will identify if the employee must complete a paper form. Once the employee has finished filling out the questionnaire, it is sealed by the employee in an envelope, the employee signs their name on the seal of the envelope, and it is given to the respiratory program administrator. The respiratory program administrator encloses a copy of the employee's respirator authorization form in an envelope with the sealed questionnaire and sends it to the LHCP.

Medical evaluations are required prior to initial respirator use. They may be repeated upon recommendation from the LHCP, the respiratory program administrator, or the respirator wearer's supervisor if a change in worksite conditions or tasks substantially increase the wearer's physiological stress, or when medical signs or symptoms (such as breathing difficulties) are reported by an employee or occur during fit testing or program evaluation.

## **6.0 FIT TESTING**

Fit testing assures that negative and positive-pressure, tight-fitting, air-purifying respirators can provide an adequate fit and seal, as well as an acceptable level of comfort to employees. Note that employees using loose-fitting powered air-purifying respirators (PAPR) cannot be fit tested. The respiratory program administrator does fit testing by appointment. Fit test information is noted on the annual respirator fit test and training form (Appendix B).

- Fit testing is performed initially, prior to employees using a respirator, and annually thereafter. Fit testing is also performed if a different respirator facepiece is chosen, if physical change occurs in employee that could affect respirator fit, or if an employee notifies the respiratory program administrator that the respirator fit is unacceptable.
- A respiratory fit test will not be conducted until the respiratory program administrator has received clearance from the medical questionnaire.
- The respiratory program administrator must not perform a fit test on any employee who has facial hair that comes between the sealing surface of the facepiece and the face or any condition that interferes with valve function. Any type of apparel that interferes with a satisfactory fit must be altered or removed. At the time of the fit test, the fit test operator must ensure that employees who wear corrective glasses or goggles or other PPE wear this equipment in a manner that does not interfere with the face-to-facepiece seal or valve function.
- Prior to starting the fit test, the test subject must be given a description of the fit test and the subject's responsibility during the test procedure. The respirator must be worn for at least 5 minutes prior to the start of the fit test. The fit test must be performed while the test subject is wearing applicable safety equipment that may be worn during the actual respirator use and that could interfere with respirator fit. Employees must demonstrate the proper technique for negative and positive respirator user seal checks prior to fit testing.
- Fit test records will be kept by EH&S for 30 years. Employees get a copy of test results at the time of the fit test.

## **7.0 RESPIRATORY PROTECTION TRAINING**

Training is provided by EH&S to ensure employees who use respirators understand and can demonstrate proper respirator use and maintenance. Appendix C contains information regarding the use, maintenance, and storage of respirators. Training is recorded on the annual respiratory fit test and training form (Appendix B).

Training is required:

- Prior to respirator use.
- Annually after the initial training.
- Additionally, when the following occur:
  - The employee has not retained knowledge or skills
  - There are changes in the worksite or the type of respirator needed that make previous training incomplete or obsolete

After completing training, employees must be able to demonstrate the following knowledge and skills as required by their duties:

- Why the respirator is necessary, including information identifying respiratory hazards such as hazardous chemicals; the extent of the employee's exposure; and potential health effects and symptoms.
- The respirator's capabilities and limitations, including how the respirator provides protection and why air-purifying respirators cannot be used in oxygen-deficient conditions
- How improper fit, use, or maintenance can compromise the respirator's effectiveness and reliability
- How to properly inspect, put on, seal check, use, and remove the respirator
- How to clean, disinfect, repair, and store the respirator
- How to use the respirator effectively in emergency situations, what to do when a respirator fails, and where emergency respirators are stored
- Medical signs and symptoms that may limit or prevent the effective use of the respirator, such as shortness of breath or dizziness
- Cartridge service life
- Responsibilities of voluntary respirator users
- Manufacturer's instructions: employees must read and comply with all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirator's limitations
- Employer's general obligations for employee respiratory protection, such as developing a written program, selecting appropriate respirators, and providing medical evaluations and training

In addition to the above respirator training elements, supervisors of respiratory users must be competent in supervising their employees' proper use and care of respirators.

## **8.0 RECORDKEEPING**

The program administrator will keep the following records:

- Current written RPP
- Fit test results
- Medical evaluation questionnaire results
- Voluntary respirator users list
- Training records

## 9.0 VOLUNTARY RESPIRATOR USE

Respirator use that is requested by the employee and permitted by the employer when no respiratory hazard exists is considered voluntary respirator use. Respirator use is **not** considered voluntary if:

- The employer elects to require a respirator.
- A respiratory hazard—such as exposure to a substance over the permissible exposure limit or hazardous exposure to an airborne biological hazard—is present. To evaluate respiratory hazards in your workplace, see chapter 296-841 WAC, Airborne Contaminants.

Some filtering-facepiece respirators are equipped with a sorbent layer for absorbing “nuisance” organic vapors. These can be used for voluntary use, but are not NIOSH-certified for protection against hazardous concentrations of organic vapor.

Prior to allowing an employee to voluntarily wear a respirator, the employee’s manager/supervisor and the respiratory program administrator must conduct hazard assessments of your tasks to identify proper respirator use.

- If the hazard assessment requires the use of a respirator, the user shall be included in the WSU respiratory protection program.
- If the hazard assessment indicates that a respirator is not required for that specific task and the employee wishes to voluntarily wear a filtering-facepiece respirator, WSU must ensure that the user is informed of the previous advisory information.

Voluntary disposable filtering-facepiece respirator (dust mask) use **is not** subject to RPP medical evaluation and fit testing requirements. However, their use **may not** interfere with the employee’s ability to work safely.

Employees may use a respirator for chemical exposures at concentrations below the permissible exposure limit or for protection against exposure to chemical, biological, or radioactive materials that are unregulated for employee exposure under the following conditions:

- Use of a respirator does not interfere with an employee's ability to work safely, such as restricting necessary vision or radio communication.
- The respiratory program administrator determines that there are no factors that will create a hazard to the user by using the respirator, such as:
  - Skin irritation, dermatitis, or other health effects caused by using a dirty respirator



- Illness created by sharing contaminated respirators
  - Health effects caused by use of an unsafe air supply, such as carbon monoxide poisoning
- The respiratory program administrator ensures that the respirator selection is appropriate for its intended use and contaminant.

Voluntary respirator users must be provided with the “Advisory Information for Employees Who Voluntarily Use Respirators.” A copy of this is located in Appendix D. A copy of this form must be forwarded to the respiratory program administrator.

- For voluntary negative-pressure, air-purifying respirators the employee **must** complete a respiratory medical questionnaire or provide the respiratory program administrator with a written statement from the employee’s physician or other LHCP that they are capable of wearing the respirator for the situation or task intended. NOTE: This is not required for employees voluntarily using dust masks.
- The employee’s supervisor must be trained in cleaning, storage, and maintenance requirements and must periodically inspect the area in which the employee uses the respirator to determine that respirator use does not present a health hazard to the employee.
- Voluntary respirator users must be trained to clean, store, and maintain the respirator so that its use does not present a health hazard.
- Fit testing is not required for voluntary respirator users but is highly recommended and available through the respiratory program administrator.
- Payment for respirators and medical evaluations is the responsibility of the voluntary respirator user. However, departments may opt to provide for respirators and medical evaluations. The respiratory program administrator can assist with medical evaluations and respirator selection.

## 10.0 RESPIRATORY PROTECTION PROGRAM EVALUATION

The respiratory program administrator must conduct evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective. The evaluation includes regular employee consultations and workplace audits. The purpose of the consultation is to assess the employees’ views on program effectiveness and to identify any problems. At periodic intervals throughout the year, the respiratory program administrator must audit respirator use in selected departments. The audit must be conducted without prior notification of departmental officials. Audit of respirator use may, at the discretion of the respiratory program administrator, take the form of a questionnaire that is given to employees who are receiving retraining or annual fit testing (see questionnaire below). During both audit and consultation, the following must be assessed:

- Respirator fit (including the ability to use the respirator without interfering with workplace performance)
- Appropriate respirator selection for the hazards to which the employee is exposed
- Proper supervision of employee use of the respirator in the workplace, including appropriate supervisor surveillance of work area conditions and degree of employee exposure or stress
- Proper respirator use under the workplace conditions the employee encounters
- Proper respirator cleaning, maintenance, and repair

Records of respiratory program administrator consultations and audits must be kept for a period of one year. The audit needs to be kept in the form of a written report. Problems identified must be corrected as soon as reasonably possible, but at a minimum within one year of discovery.

### **10.1 Respiratory Protection Program Evaluation Questionnaire**

The following questions were created to stimulate input from employees concerning various aspects important to proper respirator use and the continued success of the respiratory protection program at WSU. The input will be used to identify problems with the program and take steps to correct those problems. Feel free to attach additional information to this form.

#### **Respirator Fit:**

- Are you able to wear your respirator without it affecting your workplace performance?
- Do you perform user seal checks each time you wear your respirator to ensure proper fit?
- Are there any times when you feel the fit achieved from your respirator is not providing the intended protection?

#### **Respirator Selection:**

- Do you feel an appropriate respirator has been selected to ensure protection in the workplace environment(s) where you require respiratory protection? Do you wear your respirator in these environments?
- Are there any workplace duties you perform in which you feel respiratory protection may be needed but is not currently used?

#### **Respirator Maintenance:**

- How often is your respirator cleaned? Are you careful to inspect your respirator during the cleaning process and periodically at other times?
- Upon completion of cleaning, are you careful to store your respirator in an air-tight bag that is not contaminated and in an area that ensures the facepiece is not deformed?

#### **Conclusion:**

- What is your overall view of the respiratory protection program as maintained by EH&S?

## **Appendix A**

### **Workplace/Task Respiratory Hazard Assessment**

EMPLOYEE NAME	DATE
DEPARTMENT	EMPLOYEE JOB TITLE
DESCRIPTION OF TASK CAUSING EXPOSURE	BUILDING/ROOM NO.
LOCATION OF TASK	EMPLOYEE SUPERVISOR

*DURATION/FREQUENCY OF RESPIRATOR USE Max use per shift: Max use per week:	*EXPECTED WORK EFFORT: ____ Light ____ Moderate ____ Heavy	*ENVIRONMENTAL STRESSORS: Temperature ____ Relative Humidity ____
EXPOSURE CHEMICAL OR AGENT	____ ESTIMATED EXPOSURE ____ MEASURED EXPOSURE	EXPOSURE LIMITS  WASHINGTON INDUSTRIAL SAFETY & HEALTH ACT PERMISSIBLE EXPOSURE LIMIT (PEL)=  American Conference of Governmental Industrial Hygienists Threshold Limit Values (TLV)=  IMMEDIATELY DANGEROUS TO LIFE & HEALTH CONCENTRATION=
IRRITANT CHARACTERISTICS	WARNING PROPERTIES ____ GOOD ____ POOR ____ UNKNOWN	OXYGEN CONCENTRATION ____ NORMAL ____ <19.5% ____ >23.5%
ESCAPE PROVISIONS ____ NONE ____ ESCAPE PACK ____ SELF-CONTAINED BREATHING APPARATUS (SCBA)	CONFINED SPACE ____ NO ____ YES ____ PERMIT REQUIRED	ENGINEERING CONTROLS ____ GENERAL ROOM ____ FUME HOOD ____ OTHER ____ LOCAL EXHAUST ____ NONE

MEDICAL INFORMATION

LHCP NAME & PHONE NO.	USE LIMITATIONS	RESPIRATORY PROGRAM ADMINISTRATOR
EMPLOYEE WORK PHONE NO.	DATE OF MEDICAL EVALUATION	DATE FOR NEXT MEDICAL EVALUATION

RESPIRATOR SELECTION and PROTECTIVE CLOTHING

*APPROVED RESPIRATOR(S) <input type="checkbox"/> Half Face Air-Purifying Respirator <input type="checkbox"/> Supplied Air / Air Line <input type="checkbox"/> Self-Contained Breathing Apparatus (SCBA) <input type="checkbox"/> All Types  <input type="checkbox"/> Full Face Air-Purifying Respirator <input type="checkbox"/> Powered Air-Purifying Respirator (PAPR)			
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CHEMICAL STATE/PHYSICAL FORM <input type="checkbox"/> Gas <input type="checkbox"/> Particulate  <input type="checkbox"/> Vapor <input type="checkbox"/> Other _____	CARTRIDGE/FILTER TYPE <input type="checkbox"/> HEPA <input type="checkbox"/> Organic Vapor (OV) <input type="checkbox"/> Acid Gas (AG)  <input type="checkbox"/> Other _____	SERVICE LIFE OF CARTRIDGE/FILTER
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RESPIRATORY HAZARD ASSESSOR   	OTHER PPE RECOMMENDATIONS   
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Employees must conform to the university’s respiratory protection program in order to wear a respirator. This employee is permitted to wear the respirator(s) described on the “Annual Respirator Fit Test/Training Form” using the applicable cartridge/filter. The employee is to use the respirator when performing the indicated duties at the location of exposure. The respirator is routinely used, together with other protective equipment and clothing to maintain employee exposure to the chemical agent(s) indicated at concentrations below regulated limits. The respirator may not be used on a non-routine or emergency basis without prior approval by the respiratory program administrator.

## **Appendix B**

### **Annual Respirator Fit Test and Training Form**

## ANNUAL RESPIRATOR FIT TEST/TRAINING FORM

Employee Name	Department	Job Title
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Task requiring respirator use:	Date:
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Employee E-mail:	Employee Phone Number:
Supervisor Name:	Supervisor E-mail:

Did employee perform the same task last year:    Yes:                      No: \_\_\_\_\_

If no, fill out a new respiratory hazard assessment form.

Using only a loose-fitting powered air-purifying respirator (PAPR): Yes:                      No: \_\_\_\_\_

If yes, no fit test can be performed on a loose-fitting PAPR. All other respiratory protection program requirements apply.

### Training Course Elements

- ☐ Reasons for respiratory protection (to prevent acute and/or chronic exposures to respiratory hazards)
- ☐ Effects of improper fit, usage, or maintenance (false sense of security, respirator needs to fit so air contaminants do not bypass cartridges around the face seal).
- ☐ Nature of respiratory hazards (chronic, acute, life threatening, or debilitating).
- ☐ Adequacy of exposure controls (in order of priority, 1. engineering controls; 2. work practices/substitution; 3. PPE)
- ☐ Efforts to reduce or eliminate the need for respirators (engineering controls or substitute product)
- ☐ Respirator operation, capabilities, and limitations (air-purifying filter air, not for low oxygen or immediately dangerous to life or health environment)
- ☐ Respirator fit limitations include facial hair, scars, use of dentures, and significant weight gain or loss. Respirator users who gain or lose 15 or more pounds must be retested.
- ☐ Be sure to choose the appropriate respirator cartridge for the hazard (designated on the back side of this page)
- ☐ Never use respirator cartridges longer than what is indicated on the cartridge change-out schedule
- ☐ When not in use, cartridges should be stored in a sealed plastic bag or their ends should be covered with duct tape

- ☐ After chemical cartridges have been removed from their original wrapping, do not keep them for more than one month, even if stored properly.
- ☐ After taking particulate filters out of their packaging, do not keep them for more than one year, even if stored properly.
- ☐ Respirator inspection: Before every use, check the respirator to ensure all parts are there and in working order. Check for dirt or debris, stiffness, deformity, cuts, tears, holes, or wear that will impede the ability to seal out contaminants. Straps should be functional and elastic. All valves should be present, flat, and pliable and should seal against the housing.
- ☐ Make sure to put your respirator on and ensure that it fits properly before entering the work environment. Remove the respirator only after you have left the work environment.
- ☐ Do a positive and negative pressure fit check per the manufacturer's recommendation. If the manufacturer does not provide guidance, use the following method.

Positive Pressure Seal Check	Negative Pressure Seal Check
<ol style="list-style-type: none"> <li>1. Put on the respirator according to manufacturer's instructions.</li> <li>2. Block the exhalation valve with the palm of your hand.</li> <li>3. Gently exhale and hold for about 10 seconds.</li> <li>4. Check to see if the facepiece is bulging slightly.</li> <li>5. Try various facial expressions, such as a smile and a frown.</li> </ol>	<ol style="list-style-type: none"> <li>1. Put on the respirator according to manufacturer's instructions.</li> <li>2. Block the air purifying elements with the palms of your hands.</li> <li>3. Gently inhale and hold for about 10 seconds.</li> <li>4. Check to see if the facepiece is collapsing slightly.</li> <li>5. Try various facial expressions, such as a smile and a frown.</li> </ol>
<p>If the facepiece remains bulging and there are no air leaks between the face and facepiece, you have a good respirator fit.</p>	<p>If the facepiece remains collapsed and there are no air leaks between the face and facepiece, you have a good respirator fit</p>

- ☐ Leaving a hazardous area due to respirator-related causes. (If you have any respirator problem when in a hazardous environment—such as respirator malfunction, symptoms of exposure, trouble breathing, chest pain, shortness of breath, or smells of hazardous agents—or you feel the respirator is not fitting as well as it should, leave the area, get medical attention if needed, notify your supervisor, fix any problems with your respirator, and make sure it fits you and is functioning properly before reentering the hazardous environment).
- ☐ Cleaning and storing the respirator to keep it functioning properly. (After every use, remove the cartridges and clean the respirator with mild soap and water. Disinfect it with the manufacturer-approved solution after use if anyone else will be wearing it. Between uses, store your clean, dry respirator in an uncontaminated area out of the sun in a sealed plastic bag that is hung or stored in a natural position to avoid deforming the respirator)
- ☐ A fit test is required at least annually for as long as you are using a respirator for work. A copy of your fit test record will be provided to you.



- ☐ A medical questionnaire must be completed at least once every two years, or whenever there are changes in the work environment, reagents used, or the health of the employee.

The employee named below understands the use and limitations of the respirator selected:

Employee Signature	Trainer's Signature	Date

#### Approved Respirator/Cartridge:

Respirator Make:		Cartridge change out schedule, do not use this cartridge/filter longer than: ____ Work shift(s)  ____ Hours ____ Other _____
Model/Size:		
Cartridge(s):		

Employees must conform to the university's respiratory protection program in order to wear a respirator. This employee is permitted to wear the respirator(s) described on this form using the applicable cartridge/filter. The employee is to use the respirator when performing the indicated duties at the location of exposure. The respirator is routinely used, together with other protective equipment and clothing, to maintain employee exposure to the chemical agent(s) indicated at concentrations below regulated limits. The respirator described above may not be used on a non-routine or emergency basis without prior approval by the respiratory program administrator. Fit tests and other respirator records are available for review at EH&S.

## **Appendix C**

### **Respirator Use, Maintenance and Storage**

## 1.0 RESPIRATOR USE PROCEDURES



When using a respirator:

- Do not enter an area in which atmospheric conditions are unknown or are immediately dangerous to life and health (IDLH).
- Inspect the respirator prior to use:
  - Confirm all parts are present and ensure they are in working order
  - Check for dirt, debris, cuts, tears, holes, or wear
  - Confirm straps are functional and elastic.
  - Confirm valves are flat and pliable and seal against the housing.
- Put respirator on prior to entering work environment and perform negative and positive pressure seal check.
- Remove respirator only after exiting the work environment
- Wear PPE, jewelry, glasses, and head coverings in a manner that it does not interfere with respirator-to-face seal.
- Maintain facial hair so that it does not interfere with respirator valve function or the respirator-to-face seal.
- Do not use a defective respirator or cartridge/filter.
- Leave work area immediately if you:
  - Detect that respirator is not functioning properly
  - Need to remove respirator
  - Become ill or experience signs and/or symptoms of chemical exposure, such as dizziness, nausea, weakness, breathing difficulty, coughing, sneezing, vomiting, fever, chills, or other physical distress
  - Encounter breathing resistance or difficulty
  - Detect chemical breakthrough, such as smelling or tasting contaminants or sensing irritation
  - Detect that the face-to-respirator seal is compromised
  - Experience severe discomfort or irritation from wearing the respirator
  - Need to change cartridges/filters
- Replace cartridges at the end of their determined service life.
- Use only NIOSH-certified respirators and parts and do not use cartridges/filters when the NIOSH approval label has been removed or is not legible.
- Never alter the respirator or interchange parts from other brands.
- Follow proper respirator cleaning, maintenance, and storage procedures.
- Report poor face-to-respirator seal to supervisor.

### 1.1 Negative and Positive Seal Checks

WSU employees who use a tight-fitting respirator facepiece are to perform user positive and negative seal checks to ensure that an adequate seal is achieved each time the respirator is put on and before entering the work area. The positive and negative pressure checks listed below

must be used, or the respirator manufacturer's recommended user seal check method shall be used if it can be proved equally effective.

<b>Positive Pressure Seal Check</b> 	<b>Negative Pressure Seal Check</b> 
<ol style="list-style-type: none"><li>1. Put on the respirator according to manufacturer's instructions.</li><li>2. Block the exhalation valve with the palm of your hand.</li><li>3. Gently exhale and hold for about 10 seconds.</li><li>4. Check to see if the facepiece is bulging slightly.</li><li>5. Try various facial expressions, such as a smile and a frown.</li></ol> <p>If the facepiece remains bulging and there are no air leaks between the face and facepiece, you have a good respirator fit.</p>	<ol style="list-style-type: none"><li>1. Put on the respirator according to manufacturer's instructions.</li><li>2. Block the air purifying elements with the palms of your hands.</li><li>3. Gently inhale and hold for about 10 seconds.</li><li>4. Check to see if the facepiece is collapsing slightly.</li><li>5. Try various facial expressions, such as a smile and a frown.</li></ol> <p>If the facepiece remains collapsed and there are no air leaks between the face and facepiece, you have a good respirator fit</p>

If leakage is detected on either test, reposition the respirator and/or remove and inspect the respirator and repeat both positive and negative pressure checks. Repeat checks several times, if necessary, until proper seal is obtained. If seal is not obtained, report to the respiratory program administrator for evaluation.

## **2.0 RESPIRATOR MAINTENANCE**

Respirators shall be maintained so they will function properly and not create health hazards such as skin irritation. Respirators must be maintained in a clean and reliable condition, stored properly, inspected before each use, and repaired before further use, when necessary.

### **2.1 Respirator Cleaning**

Each WSU Health Sciences respirator user must be provided with a respirator that is clean, sanitary, and in good working order. The respirator user must ensure that the respirator is

cleaned and disinfected using the procedures below, or using procedures recommended by the respirator manufacturer, provided that such procedures are of equivalent effectiveness.

Respirators must be cleaned and disinfected at the following intervals:

- Respirators issued for the exclusive use of an employee must be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.
- Respirators issued to more than one employee must be cleaned and disinfected before being worn by another individual.
- Respirators maintained for emergency use must be cleaned and disinfected after each use.
- Respirators used in fit testing and training must be cleaned and disinfected after each use.

### **2.1.1 Respirator Cleaning and Disinfecting Protocol**

The importance of thorough rinsing cannot be overemphasized, as detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed. The following is the protocol for cleaning and disinfecting respirators:

1. Remove filters, cartridges, or canisters
2. Disassemble facepiece by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.
3. Wash the components in warm (<43°C [110°F]) water with a mild detergent, such as dish soap or another cleaner suggested by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.
4. Rinse components thoroughly in clean, warm (<43°C [110°F]), preferably running water
5. Drain
6. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:
  - a. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at <43°C (110°F); or,
  - b. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
7. Rinse components thoroughly in clean, warm (<43°C [110°F]), preferably running water
8. Drain
9. Components should be hand dried with a clean lint-free cloth or air dried
10. Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.
11. Test the respirator to ensure that all components work properly.

### **2.2 Respirator Storage Procedures**

- Detach cartridges from respirator and store in sealed plastic bag separate from respirator
- Protect respirators from the following:

- Deformation of the facepiece or exhalation valve (do not hang respirator by its head straps)
- Sunlight or extreme temperatures or other conditions
- Contamination such as dust or damaging chemicals
- Excessive moisture
- Store respirator in sealed plastic bag marked with user's name.

## **2.3 Respirator Inspection**

Inspection frequency:

- Workplace respirators should be checked before each use and during cleaning.
- Emergency respirators should be checked before and after each use and at least monthly if not used.
- Escape respirators should be inspected before carrying into a workplace for use.

Inspect respirators for:

- Respirator function
- Tightness of connections
- Condition of facepiece, head straps, valves, gaskets, connecting tubes, and cartridges or filters.
- Pliability and deterioration of elastomeric parts

Respirator repair:

- If respirator is not functioning properly during use, employees are to leave the work area and discontinue use of the respirator and the task requiring a respirator until the respirator can be properly adjusted, repaired, or replaced.
- Do not use a respirator that has failed inspection and is in need of repair or replacement.
- Repair or replace any respirator that is not functioning properly or bring it to the respiratory program administrator for repair or disposal. Powered air-purifying respirators (PAPRs) will be sent to the manufacturer for repair.
- For repair, follow manufacturer's directions and specifications and use only the specific manufacturer NIOSH-approved parts for your respirator.

## **Appendix D**

### **Advisory Information for Employees Who Voluntarily Use Respirators**

Voluntary Respirator Use Advisory Information  
WAC 296-842-11005

All employees who have been approved to voluntarily wear a respirator must review this document, sign and date it, and send it to the respiratory program administrator.

Respirators protect against airborne hazards when properly selected and used. Respirator use required by regulation or by your employer is not voluntary use. With required use, your employer will need to provide further training and meet additional requirements in this chapter. The Washington Department of Occupational Safety and Health (DOSH) recommends voluntary use of respirators when exposure to substances is below permissible exposure limits (PELs) because respirators can provide you an additional level of comfort and protection. A hazard assessment must be completed for **all tasks** where respiratory hazards **may** exist.

If you choose to voluntarily use a respirator (whether it is provided by you or your employer), be aware that **respirators can create hazards for you**, the user. 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.
  - A NIOSH approval label will appear on or in the respirator packaging. It will tell you what protection the respirator provides.
- Keep track of your respirator so you do not mistakenly use someone else's.
- **DO NOT** wear your respirator into:
  - Required use situations when you are only allowed voluntary use.
  - Atmospheres containing hazards that your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against solvent vapor, smoke, or oxygen deficiency.

If you have any questions, please contact Environmental Health and Safety (EH&S) at 509-368-6699.

I certify that I have read and understood this document and have had the opportunity to ask questions or consult with my manager and/or EH&S.		
Signature	Printed Name	Date