

SAFETY OFFICE RESPIRATORY PROTECTION PROGRAM



I. INTRODUCTION

The University of Wyoming (UW) is committed to protecting the health and safety of students, employees, faculty, and volunteers at the various UW facilities. Therefore, it is UW's policy to minimize respiratory hazards by either eliminating the hazards; substituting with less hazardous materials; implementing engineering controls; utilizing administrative/work practice controls; or utilizing personal protective equipment (PPE) such as respiratory protection. UW will implement a respiratory protection program compliant with 29 CFR 1910.134 as incorporated by reference by the Wyoming Department of Workforce Services, OSHA General Industry 1910, Chapter 9, Personal Protective Equipment, Subpart I.

II. PURPOSE

UW has determined that personnel in the Chemical Engineering, Petroleum Engineering, Plant Sciences, Operations, Physics and Astronomy, Geology and Geophysics, Safety, Residence Life and Dining Services, Student Health Service, Albany Community Health Clinic, Custodial Services, and Veterinary Sciences departments may be exposed to respiratory hazards during routine operations. These hazards may include, but are not limited to, infectious diseases (human and animal), viruses, bacteria, asbestos, solvents, gases, acids, mists, fumes, and particulates. Based on this information, the purpose of this program is to ensure UW personnel are protected from exposure to these respiratory hazards and to ensure regulatory compliance. Specifically, this respiratory protection program:

- A. Provides written procedures to administer the program.
- B. Outlines information including:
 - 1. Processes for respirator selection.
 - 2. Processes for training.
 - 3. Processes for fit testing.
 - 4. Processes for respiratory protection equipment inspection, maintenance, use, and storage.
 - 5. Processes for medical surveillance.

While engineering controls are the first line of defense, in order to provide adequate protection for UW personnel, respiratory protection is utilized for those situations where engineering controls are infeasible or during the installation of such controls.

III. SCOPE

This respiratory protection program applies to UW personnel who are required to utilize respiratory protection. Departments who are required to utilize respiratory protection are listed above (Section II). This respiratory protection program includes various respirator types such as filtering face piece respirators; half-face air purifying respirators; full-face air purifying respirators; powered air purifying respirators (PAPR); supplied air respirators (SAR); and self-contained breathing apparatus (SCBA).



IV. ACRONYMS/DEFINITIONS

COMMON ACRONYMS	DEFINITIONS
APF	Assigned Protection Factor – means the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program.
APR	Air-Purifying Respirator – means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.
CFR	Code of Federal Regulations
DOT	Department of Transportation
ESLI	End of Service Life Indicator – means a system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.
FF	Fit Factor – means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.
НЕРА	High Efficiency Particulate Air filter – means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.
IDLH	Immediately Dangerous to Life and Health – an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.
MUC	Maximum Use Concentration – means the maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator, and is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance. The MUC can be determined mathematically by multiplying the assigned protection factor specified for a respirator by the required OSHA permissible exposure limit, short-term exposure limit, or ceiling limit. When no OSHA exposure limit is available for a hazardous substance, an employer must determine an MUC on the basis of relevant available information and informed professional judgment.
N95	A filtering face-piece respirator that filters out at least 95% of airborne particulates during "worst case" testing using a "most penetrating" size particle. Not resistant to oil.
N100	A filtering face-piece respirator that filters out at least 99.97% of airborne particulates during "worst case" testing using a "most penetrating" size particle. Not resistant to oil.
NIOSH	National Institute for Occupational Safety and Health
OSHA	Federal Occupational Safety and Health Administration
P100	A filtering face-piece respirator that filters out at least 99.97% of airborne particulates during "worst case" testing using a "most penetrating" size particle. Strongly resistant to oil.
PAPR	Powered Air-Purifying Respirator – means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.



PLHCP	Physician or Other Licensed Health Care Professional - means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by the medical evaluation requirements of the OSHA Respiratory Protection Standard.
PPE	Personal Protective Equipment
QLFT	Qualitative Fit Test – means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.
QNFT	Quantitative Fit Test – means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.
SAR	Supplied Air Respirator – means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.
SCBA	Self-Contained Breathing Apparatus – means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.
SDS	Safety Data Sheet (Formerly Material Safety Data Sheet)
UW	University of Wyoming
Wyoming OSHA	Wyoming Department of Workforce Services OSHA Program

V. RESPONSIBILITIES

Α. University of Wyoming

UW is responsible for ensuring the safety of its employees and for complying with the applicable requirements of Federal, State, and Local rules/regulations. UW Administration considers safety an important priority and UW personnel are encouraged to promote a positive safety culture during their daily activities.

B. Respiratory Protection Program Administrator

The UW Respiratory Protection Program Administrator (Program Administrator) is the UW Safety Office Industrial Hygienist. Program Administrator duties include, but are not limited to:

- 1. Developing, implementing, and monitoring the UW Respiratory Protection Program.
- 2. Assisting Department Directors/Managers/Supervisors with hazard assessments and determining personnel to be included in the UW Respiratory Protection Program.
- 3. Assisting with hazard evaluations for those situations that may require respiratory protection (air monitoring may be completed, as appropriate, to determine exposure concentrations).
- 4. Assisting with the selection of appropriate respiratory protection equipment, in collaboration with Department Directors/Managers/Supervisors, and others, as appropriate.
- 5. Ensuring an appropriate inventory of respiratory protection equipment (respirators, filters, cartridges, replacement parts, etc.) are available.
- 6. Maintaining appropriate records.
- 7. Completing a periodic program evaluation.
- 8. Updating the written respiratory protection program, as necessary.



C. Department Directors/Managers/Supervisors

Department Directors/Managers/Supervisors are responsible for ensuring the UW Respiratory Protection Program is implemented in their departments. Specifically, Department Directors/Managers/Supervisors are to:

- 1. Ensure the UW Respiratory Protection Program is followed by their affected department personnel.
- 2. Ensure the Respiratory Protection Hazard Assessment Form (Appendix B) is completed and submitted to the PLHCP for those tasks where exposure to airborne contaminants (for example, dusts, fumes, mists, vapors, gases, acids, low oxygen levels) may occur (a Respiratory Protection Hazard Assessment Form is necessary for each employee seeking respiratory protection).
- 3. Assist the Program Administrator or the PLHCP with follow up information, as necessary, for an accurate and complete review of the Respiratory Protection Hazard Assessment Form (Appendix B).
- 4. Know tasks within their department(s) that may require respiratory protection and request Program Administrator assistance as necessary. If the Department Director/Manager/Supervisor cannot identify the contaminant or exposure levels are unknown, contact the Program Administrator for assistance.
- 5. Ensure department personnel (including new hires and students) complete the Respiratory Protection Medical Evaluation Questionnaire (Appendix F). The Respiratory Protection Medical Evaluation Questionnaire is reviewed by PLHCP.
- 6. Ensure department personnel are fit tested annually.
- 7. Notify the Program Administrator of conditions or circumstances that indicate the employee's respirator fit may be compromised (for these conditions or circumstances, the Director/Manager/Supervisor will remove the employee from the task immediately). The employee shall not utilize respiratory protection until the concern has been resolved through additional follow up and fit testing (may include a different brand, type, size, or style of respirator).
- 8. Ensure department personnel utilize the specific brand, type, model, and size of respirator as indicated from the fit test report.
- 9. Ensure the correct filter media (filters/cartridges) are available for personnel use.
- 10. Ensure respiratory protection equipment is inspected, cleaned, maintained, and stored in accordance with the manufacturer's recommendations and/or in accordance with the UW Respiratory Protection Program.
- 11. Ensure proper respiratory protection is utilized when necessary.
- 12. Ensure department personnel complete the required training.
- 13. Ensure selection criteria are reassessed when circumstances change that may impact the type of respiratory protection equipment being used (i.e. new hazards identified, new equipment, work practice changes).
- 14. Ensure the Respiratory Protection Hazard Assessment Update Form (Appendix C) is completed annually and submitted to the PLHCP for review.



D. Physician or Other Licensed Health Care Professional (Grand Avenue Urgent Care)

The PLHCP is responsible for:

- 1. Reviewing the Respiratory Protection Medical Evaluation Questionnaire (<u>Appendix F</u>) and the Respiratory Protection Hazard Assessment Form (<u>Appendix B</u>).
- 2. Ensuring medical surveillance, as defined by 29 CFR 1910.13, is completed before respiratory protection fit testing is conducted.
- 3. Providing medical approval for respiratory protection equipment use [Medical Evaluation for Respiratory Protection Use Form (<u>Appendix H</u>)].
- 4. Selecting the appropriate respiratory protection equipment, in collaboration with the Program Administrator or Department Directors/Managers/Supervisors, as necessary.
- 5. Ensuring fit tests are completed in accordance with the 29 CFR 1910.134 requirements.
- 6. Maintaining personal health information.
- 7. Maintaining appropriate records.
- 8. Notifying the Program Administrator of potential concerns or issues reported by UW personnel.
- 9. Referring personnel to an alternate PLHCP for further medical evaluation, if necessary.
- 10. Notifying the Program Administrator when additional respiratory protection equipment and supplies (respirators, filters, cartridges, replacement parts, etc.) are needed.
- 11. Providing education to respiratory protection equipment users regarding inspecting, cleaning, maintaining, repairing and storing respiratory protection equipment.

E. UW Personnel

UW personnel who utilize respiratory protection are responsible for:

- Utilizing their respiratory protection equipment when required and in the manner in which they were trained (respiratory protection equipment shall not be used in a manner for which it was not certified by the National Institute for Occupational Safety and Health (NIOSH) or the manufacturer).
- 2. Following the requirements of the UW Respiratory Protection Program and supporting standard operating procedures.
- 3. Using the correct respirator and filtration media (filters/cartridges) for specific jobs or tasks.
- 4. Not utilizing tight-fitting respirators if they have any condition such as facial scars, facial hair, or missing dentures that interfere with the sealing surface of the face piece and the face.
- 5. Ensuring headphones, jewelry, or other articles do not interfere with the sealing surface of the face piece and the face.
- 4. Completing user seal checks when donning respiratory protection equipment (<u>Appendix</u> D).
- 5. Participating in the required training.



- 6. Informing their Department Director/Manager/Supervisor, or the Program Administrator, of any respiratory hazards they feel are not adequately addressed and of other concerns they have regarding the UW Respiratory Protection Program.
- 7. Observing other general safety practices while completing their job task(s).
- 8. Recognizing hazards that may require respiratory protection.
- 9. Maintaining and storing their respiratory protection equipment in accordance with the manufacturer's instructions.
- 10. Notifying their Department Director/Manager/Supervisor, or the Program Administrator, of health symptoms, including, but not limited to, shortness of breath, dizziness, chest pains, or wheezing while using their respiratory protection equipment.
- 11. Informing their Department Director/Manager/Supervisor, or the Program Administrator, if their respiratory protection equipment no longer fits appropriately or no longer functions correctly (respiratory protection equipment that is defective or has defective parts shall be marked and taken out of service immediately. Bring the defective respiratory protection equipment to the Department Director/Manager/Supervisor and arrange with the Program Administrator for replacement equipment. If a different respirator model, style, size is necessary, a new fit test must be completed before the new respiratory protection equipment can be used. If the respiratory protection equipment is irreparable, the equipment must be returned to the Program Administrator for appropriate replacement equipment.).

VII. PROGRAM ELEMENTS

Specific information regarding implementation of this Respiratory Protection Program is found in the Standard Operating Procedures (SOP).

VIII. PROGRAM EVALUATION

The Program Administrator, or designee, will conduct periodic workplace evaluations to ensure the provisions of this program are being implemented. The evaluations will include consultations with employees who use respirators to assess their views on program effectiveness and to identify any problems. Factors to be assessed include respirator fit; appropriate respirator selection; proper respirator use; and proper respirator maintenance. Identified problems will be addressed by the Program Administrator.

IX. RECORDKEEPING

Hazard assessments, medical approvals, training documentation, and fit test records will be maintained by the UW Safety Office and are available for review, upon request. These records will be updated as new personnel are enrolled into the program, as existing personnel provide updates, and as annual fit testing is completed. Annual fit test records will be maintained until the next fit test is completed. The PLHCP will maintain medical evaluation questionnaires, medical evaluations, physician's written recommendations, and other pertinent health information related to an employee's ability to utilize respiratory protection equipment.



A written copy of this Respiratory Protection Program and the OSHA Respiratory Protection Standard will be maintained in the Program Administrator's office (Hill Hall, Room 454) and is available to personnel who wish to review it. Additionally, UW personnel can access this Respiratory Protection Program online at the UW Safety Office webpage.



APPENDIX A Respirator Types

Surgical Masks



Surgical masks are not respirators and are not meant to protect the wearer from airborne contaminants. A surgical mask can help block large particle droplets, splashes, sprays, or splatter that may contain germs, viruses, and bacteria from reaching the nose and mouth. However, surgical masks are primarily intended to protect the patient from the healthcare worker by reducing exposure of saliva and respiratory secretions to the patient. These masks do not form a tight seal against the skin or filter very small airborne pathogens, such as those involved in airborne disease transmission. Surgical masks have not been tested by NIOSH do not contain any certification markings.

Filtering Face piece Respirator



These respirators are sometimes referred to as "disposable respirators" or "respirator masks" because the entire respirator is discarded when it becomes unsuitable for further use. These filtering facepiece respirators are also commonly referred to as "N95s" and are certified by NIOSH and have the appropriate NIOSH markings on the respirator. These devices do not remove gases, chemicals, or vapors from the air you breathe and cannot be used in atmospheres considered immediately dangerous to life and health (IDLH). You must be enrolled in the UW Respiratory Protection Program to utilize a filtering facepiece respirator.

Air-Purifying Respirators (APRs)



These respirators have filters, cartridges, or canisters that remove contaminants from air by passing the ambient air through the air-purifying element before the air reaches the user's breathing zone. This respirator is different from disposable respirators because there are replacement pieces and parts available (including filters and/or cartridges). These devices cannot be used in atmospheres considered IDLH. You must be enrolled in the UW Respiratory Protection Program to use this type of respirator.

Half-Face APR with Particulate Filters



APRs equipped with particulate filters capture particles (dusts, mists, fumes) before they reach the user's breathing zone. These respirators do not protect against gases or vapors. Filters should be replaced when user finds it difficult to breathe through them or the user can sense the surrounding contaminated environment. These devices cannot be used in atmospheres considered IDLH. You must be enrolled in the UW Respiratory Protection Program to use this type of respirator.

Half-Face APR with Cartridges

APRs equipped with cartridges are typically used in atmospheres that contain hazardous gases or a combination of particulates, gases, or vapors. A variety of cartridges are available to protect the user from these hazards. These devices cannot be used in atmospheres considered IDLH. You must be enrolled in the UW Respiratory Protection Program to use this type of respirator.



Full-Face APR with Cartridges

Full-face APRs protect the user's respiratory system the same as a half-face APR. However, this respirator provides additional protection to the eyes and face. APRs equipped with cartridges are typically used in atmospheres that contain hazardous gases or a combination of particulates, gases, or vapors. A variety of cartridges are available to protect the user from these hazards. These devices cannot be used in atmospheres considered IDLH. You must be enrolled in the UW Respiratory Protection Program to use this type of respirator.



Powered Air-Purifying Respirators (PAPRs)

A PAPR has a blower that pulls air through attached filters. The blower then pushes the filtered air into the face piece, which covers the user's face. For loose-fitting PAPRs, fit testing is not required and these units can be used by workers with facial hair. Tight fitting PAPRs must be fit tested. These devices cannot be used in atmospheres considered IDLH. You must be enrolled in the UW Respiratory Protection Program to use this type of respirator.



Supplied-Air Respirators (SARs)

These respirators use a hose to deliver clean, safe air from a stationary source (compressor). These are sometimes called airline respirators. These respirators are normally used when there are extended work periods required. For extended work periods, the supplied air provides user comfort through a cooling effect. These devices can be used in atmospheres considered IDLH with an appropriate escape cylinder. You must be enrolled in the UW Respiratory Protection Program to use this type of respirator.



Self-Contained Breathing Apparatus (SCBA)



This type of respiratory protection equipment consists of a wearable, clean-air supply pack that provides Grade D breathing air to the user from the cylinder. These devices can be used in atmospheres considered IDLH. You must be enrolled in the UW Respiratory Protection Program to use this type of respirator.



APPENDIX B Respiratory Protection Hazard Assessment Form

Use this form to provide information regarding the employee's work environment for those personnel who are required to be enrolled in the University of Wyoming's Respiratory Protection Program.

This respiratory protection hazard assessment form is dependent upon input from the employee and the employee's Supervisor. It does not imply that the University of Wyoming, or its consultants, has completed a separate hazard assessment of the employee's work environment.

Employee's Name: Employee's Phone:				
Supervisor's Name:	Supervis	or's Phone:		
Supervisor's Signature:	Date:			
Department/Unit:				
Will this respiratory protection equipment be used for the	e following (check appropri	iate box)?	
Emergency response?		☐ Yes	□No	□ N/A
Firefighting?		☐ Yes	□No	□ N/A
Entering oxygen-deficient atmospheres?		☐ Yes	□No	□ N/A
Emergency escape?		☐ Yes	□No	□ N/A
On average, what is the length of time the employee is e box)? 1.5 hours per week	ехрестей то	wear respirato	ry protection (chec	*k appropriate
1-5 hours per week.				
2-4 hours per day.				
5-6 hours per day.			$- \frac{\sqcup}{\vdash}$	
Entire shift every day.				
Other (Please describe).				
3. How many hours would the employee spend doing the following in a given day?				
Light work (less than 200 kcal per hour): Examples include sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines. hours				hours
Moderate work (200-350 kcal per hour): Examples include 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.				hours



Heavy work (about 350 kcal per hour): Examples include 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; or climbing stairs with a heavy load (about 50 lbs.).

_ hours

(To Be Completed by Supervisor)

4.	Describe the employee's typical work activities while wearing respiratory protection equipment (may use PDQ) and the potential hazard(s) to which the employee may be exposed (i.e. solvents, acids, dusts, fumes, infectious materials, etc.):
5.	Describe personal protective equipment (other than respiratory protection) the employee will wear while using respiratory protection equipment (worst case scenario):
6.	Describe temperature and humidity conditions (including extreme conditions) the employee may/will experience while utilizing respiratory protection equipment:
7.	Describe any special or hazardous conditions the employee may/will encounter when utilizing respiratory protection equipment [for example, confined spaces, trenches, elevated work surface, oxygen deficiency (< 19.5% oxygen), hazardous materials incident response, rescue duties, heavy equipment use, etc.]:



8.	Indicate the type(s) of respiratory protection equipment you anticipate this employee to utilize:
	 □ Filtering face piece respirator □ Half-face APR □ Full-face APR □ Supplied-air (compressed air) □ Supplied-air (compressor) □ Loose-fitting PAPR □ SCBA
9.	Indicate the type(s) of filters and/or pre-filters you anticipate may/will be necessary:
	☐ HEPA filter ☐ Chlorine ☐ Organic vapor cartridge ☐ Hydrogen sulfide ☐ Acids cartridge ☐ Combination ☐ Radioactive ☐ Other
10.	Is this employee expected to be facially clean-shaven when wearing the respirator?
	☐ YES ☐ NO ☐ NA
11.	Will this employee use the respiratory protection equipment for protection from fumes, vapors, or gases that are corrosive or irritating to the eyes?
	☐ YES ☐ NO
12.	Indicate the type of corrective lens this employee will wear (if necessary) when using respiratory protection equipment (check one box):
	☐ Spectacle kit ☐ Contact lenses ☐ Not required
	INTERNAL USE ONLY
	Note: The Respiratory Protection Hazard Assessment Form will be provided to the PLHCP.
	Recommended type of respiratory protection equipment:
	 ☐ Filtering face piece respirator ☐ Half-face APR ☐ Full-face APR ☐ Supplied-air (compressed air) ☐ Supplied-air (compressor) ☐ Loose-fitting PAPR ☐ SCBA

13.	Physician or Other Licensed Health Care Professional (PLHCP) Special Conditions/Comments:
Physici	an or Other Licensed Health Care Professional (PLHCP) Name:
Physici	an or Other Licensed Health Care Professional (PLHCP) Signature:
Date: _	



APPENDIX C Respiratory Protection Hazard Assessment Update Form

Use this form to provide updated information for personnel currently enrolled in the UW Respiratory Protection Program. This form must be completed at least annually, or more often, if the employee's work environment or job tasks change.

This respiratory protection hazard assessment update form is dependent upon input from the employee and the employee's Supervisor. It does not imply that the University of Wyoming, or its consultants, has completed a separate hazard assessment of the employee's work environment.

Part 1 (To be completed by Supervisor):		
Employee's Name:	Employee's Phone:	
Supervisor's Name:	Supervisor's Phone:	
Supervisor's Signature:	Date:	
Department/Unit:		
Please check the appropriate box and return to the Program Adm	inistrator:	
No changes have occurred in the employee's work environment	or job tasks.	
The employee's work environment or job tasks have changed. The employee is exposed to different hazards (provide specific information in the comments section below):		
Comments section (describe new hazards, environmental char	ges, respiratory protection equipment conce	rns, etc.):
Part 2 (To be completed by PLHCP): Review and comments:		
Review and Comments.		
Physician or Other Licensed Health Care Professional (PLHCP) N	lame:	
Physician or Other Licensed Health Care Professional (PLHCP) S	ignature:	
Date:		



APPENDIX D User Seal Checks

What is a User Seal Check?

User seal checks are required each time a user dons their tight-fitting respirator. Either the positive and negative pressure checks listed in this Appendix, or the respirator manufacturer's recommended user seal check method shall be used. User seal checks are not substitutes for fit testing.

A. Facepiece Positive and/or Negative Pressure Checks

Positive Pressure Check: Close off the exhalation valve and exhale gently into the face piece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the face piece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

Negative pressure check: Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the face piece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the face piece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

B. Manufacturer's Recommended User Seal Check Procedures

The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures provided the employer demonstrates that the manufacturer's procedures are equally effective.



APPENDIX E Voluntary Use of Respiratory Protection Equipment

Respiratory protection is an effective method for protection against various hazards when selected and worn properly. Sometimes, personnel may choose to wear respiratory protection to avoid hazardous exposures, even if the amount of hazardous substance does not exceed the limits established by OSHA standards. However, if respiratory protection is used improperly, not maintained, or not stored appropriately, the respiratory protection equipment itself can become a hazard. Therefore, voluntary use of respiratory protection at UW is not supported. Rather, if respiratory protection is requested, personnel must be enrolled in the UW Respiratory Protection Program with the appropriate hazard assessment, medical surveillance, and fit testing completed.



APPENDIX F OSHA Respiratory Protection Medical Evaluation Questionnaire

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

To be	Completed by Employee:		
Chec	k "Yes" or "No" for the following questions:	Yes	No
Can	you read?		
Do y	ou understand that:		
1.	Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient for you;		
2.	You are not required to share this form with your Supervisor and your Supervisor is not permitted to review your answers; and		
3.	Your employer will tell you how to provide this form to the physician or other licensed health care professional who will review and maintain the medical information?		
Part A	, Section 1 (Mandatory) The following information must be provided by every employee who use any type of respirator (please print).	has been s	elected to
Your	name: Today's date:		
Gend	ler:		
Your	height: feet inches Your weight: lbs.		
Your	job title:		
A pho	one number where you can be reached by the healthcare professional who reviews this question:	onnaire (inc	lude area
The l	pest time to phone you at this number:		
	your employer told you how to contact the healthcare professional who reviews this tionnaire?	Yes	No
Chec	k the type of respirator you will use (you may check more than one category):		
	, R, or P disposable respirator (filtering facepiece, non-cartridge type only)		
	Other type (for example: half or full-face piece type, powered air-purifying, supplied-air, self-cor pparatus)	ntained brea	athing
Have	you ever worn a respirator?	Yes	No
If you	answered "Yes", what type(s)?	I	



Part A, Section 2 (Mandatory) Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please mark "yes" or "no").

	stions 1 through 9 below <u>must</u> be answered by every employee who has been selected to any type of respirator. Please check "Yes" or "No" in response to the following questions.	Yes	No
1.	Do you <i>currently</i> smoke tobacco, or have you smoked tobacco in the last month?		
2.	Have you ever had any of the following conditions?		
	a. Seizures (fits)		
	b. Diabetes (sugar disease)		
	c. Allergic reactions that interfere with your breathing		
	d. Claustrophobia (fear of closed-in spaces)		
	e. Trouble smelling odors		
3.	Have you ever had any of the following pulmonary or lung problems?		
	a. Asbestosis		
	b. Asthma		
	c. Emphysema		
	d. Pneumonia		
	e. Tuberculosis		
	f. Silicosis		
	g. Pneumothorax (collapsed lung)		
	h. Lung cancer		
	i. Broken ribs		
	j. Any chest injuries or surgeries		
	k. Any other lung problem that you have been told about		
4.	Do you <i>currently</i> have any of the following symptoms of pulmonary or lung illness?		
	a. Shortness of breath		
	 Shortness of breath when walking fast on level ground or walking up a slight hill or incline 		
	 Shortness of breath when walking with other people at an ordinary pace on level ground 		
	d. Have to stop for breath when walking at your own pace on level ground		
	e. Shortness of breath when washing or dressing yourself		
	f. Shortness of breath that interferes with your job		
	g. Coughing that produces phlegm (thick sputum)		
	h. Coughing that wakes you early in the morning		
	i. Coughing that occurs mostly when you are laying down		
	j. Coughing up blood in the last month		
	k. Wheezing		
	Wheezing that interferes with your job		
	m. Chest pain when you breathe deeply		
	n. Any other symptoms that you think may be related to lung problems		

5.	Have you ever had any of the following cardiovascular or heart symptoms?	Yes	No
	a. Heart attack		
	b. Stroke		
	c. Angina		
	d. Heart failure		
	e. Swelling in your legs or feet (not caused by walking)		
	f. Heart arrhythmia (heart beating irregularly)		
	g. High blood pressure		
	h. Any other heart problem that you've been told about		
6.	Have you ever had any of the following cardiovascular or heart symptoms?	•	•
	a. Frequent pain or tightness in your chest		
	b. Pain or tightness in your chest during physical activity		
	c. Pain or tightness in your chest that interferes with your job		
	e. Noticing your heart skipping or missing a beat within the last two years		
	f. Heartburn or indigestion that is not related to eating		
	g. Any other symptoms that you think may be related to heart or circulation problems:		
7.	Do you <i>currently</i> take medication for any of the following problems?		
	a. Breathing or lung problems		
	b. Heart trouble		
	c. Blood pressure		
	e. Seizures		
8.	If you have used a respirator, have you ever had any of the following problems (If you	Yes	No
	have never used a respirator, please check no and proceed to question 9)?		
	a. Eye irritation		
	b. Skin allergies or rashes		
	c. Anxiety		
	d. General weakness or fatigue		
	e. Any other problem that interferes with your use of a respirator		
9.	Would you like to talk to the healthcare professional who will review this questionnaire about your answers to this questionnaire?	Yes	No



use eith	ons 10 through 15 below must be answered by every employee who has been selected to her a <u>full-face piece respirator</u> or a <u>self-contained breathing apparatus (SCBA)</u> . For		
employ is volur	rees who have been selected to use other types of respirators, answering these questions	Yes	No
10.	Have you ever lost vision in either eye (temporarily or permanently)?		
11.	Do you <i>currently</i> have any of the following vision problems?		
	a. Wear contact lenses		
	b. Wear glasses		
	c. Color blind		
	d. Any other eye or vision problem		
12.	Have you ever had an injury to your ears, including a broken eardrum?		
13.	Do you <i>currently</i> have any of the following hearing problems?		
	a. Difficulty hearing		
	b. Wearing a hearing aid		
	c. Any other hearing or ear problems?		
14.	Have you ever had a back injury?		
15.	Do you <i>currently</i> have any of the following musculoskeletal problems?		
	a. Weakness in any of your arms, hands, legs or feet		
	b. Back pain		
	c. Difficulty moving your arms and legs		
	d. Pain or stiffness when you lean forward or backward at the waist		
	e. Difficulty fully moving your head up or down		
	f. Difficulty fully moving your head side to side		
	g. Difficulty bending at your knees		
	h. Difficulty squatting to the ground		
	i. Difficulty climbing a flight of stairs or a ladder carrying more than 25 lbs.		
	j. Any other muscle or skeletal problem that interferes with using a respirator		



Part B Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

	Yes	No
1. 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 you answered "Yes" to the above, do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when working under these conditions	i? 🗆	
2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (i.e., gases, fumes, or dusts), or have you come into skin contact with hazardous chemicals?		
If you answered "Yes" to the above, please name the chemicals if you know them:		
3. Have you ever worked with any of the materials, or under any of the conditions listed below?	Yes	No
a. Asbestos		
b. Silica (i.e., sandblasting)		
c. Tungsten/cobalt (i.e., grinding or welding this material)		
d. Beryllium		
e. Aluminum		
f. Coal (i.e., mining)		
g. Iron		
h. Tin		
i. Dusty environments		
j. Any other hazardous exposures		
If "yes", please describe these exposures:	<u>.</u>	
4. List any second jobs or side business you have:		
5. List your previous occupations:		
5. List your previous occupations.		
6. List your current and previous hobbies:		



7.	Have you ever been in the military service?	Yes	No	
	If you answered "Yes" to the above, were you exposed to biological or chemical agents (either in training or in combat)?			
8.	Have you ever worked on a HAZMAT team?			
9.	Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications)?			
	If "yes", please name the medications if you know them:			
10.	Will you be using any of the following items with your respirator(s)?	Yes	No	
	a. HEPA filters			
	b. Canisters			
	c. Cartridges			
11.	How often are you expected to use the respirator(s) (Please check all boxes that apply to yo	u)?		
	a. Escape only			
	b. Emergency rescue only			
	c. Less than 5 hours per week			
	d. Less than 2 hours per day			
	e. 2 to 4 hours per day			
	f. Over 4 hours per day			
12.	uring the period you are using the respirator(s), is your work effort (please check the one closest to your type f work while using a respirator):			
	 Light (less than 200 kcal per hour). Examples of a light work effort are sitting while writ typing, drafting, or performing light assembly work; or standing while operating a drill pr (1-3 lbs.) or controlling machines. 			
	If above box is checked, how long does this period last during the average shift? hrs	s m	nin	
	b. Moderate (200 to 350 kcal per hour). Examples of moderate work effort are 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 at about 2 mph or down a 5-degree grade at about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.			
	If above box is checked, how long does this period last during the average shift? hrs	s m	nin	
	c. Heavy (about 350 kcal per hour). Examples of heavy work effort are 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 gra at about 2 mph; or climbing stairs with a heavy load (about 50 lbs.).	ade		
	If above box is checked, how long does this period last during the average shift? hrs	s m	iin	



13.	Will you be wearing protective clothing and/or equipment (other than the respirator when you are using your respirator?		Yes	No
	If "yes", please describe this protective clothing ar	nd/or equipment:		
14.	Will you be working under hot conditions (temperatures exceeding 77°F)?			No
15.	Will you be working under humid conditions?			No
16.	Describe the work you will be doing while you are	using your respirator(s):		
17.	Describe any special or hazardous conditions you confined spaces, life-threatening gases):	i might encounter when you are using youi	respirators	s(s) (i.e.,
18.	Provide the following information, if you know it, for wearing your respirator(s).	or each toxic substance that you will be exp	posed to wi	hile
Na	me of the first toxic substance:			
Est	Estimated maximum exposure level per shift:			
Du	ration of exposure per shift:			
Na	me of the second toxic substance:			
Est	timated maximum exposure level per shift:			
Du	ration of exposure per shift:			
Na	me of the third toxic substance:			
Est	Estimated maximum exposure level per shift:			
Du	Duration of exposure per shift:			
	e name of any other toxic substances that you will exposed to while using your respirator(s):			
19.	Describe any special responsibilities you will have while using your respirator(s) that may affect the safety and wellbeing of others (i.e., rescue, security, etc.):			
20.	By completing this form, you agree that the medic can be reviewed by a University of Wyoming heal or other licensed healthcare professional. This info medical files.	th care professional and/or a physician	Yes	No



Thank you for completing this form.

Please note: This document is confidential. Do not share with anyone other than the physician or other licensed health care professional (PLHCP). Do not forward a copy to your Supervisor or to the Program Administrator. Please provide this completed document to the PLHCP.



APPENDIX G Respiratory Protection Medical Status Update Form

Employ	ee's Signature:	Date:
Print Na	ame:	
;	Submit this form to the UW Physician or Other Licensed H	lealth Care Professional for review
	answered "No" to the above questions, a medical reevaluation again to the respirator for which you were previously fit tested.	
	answered "Yes" to any of the above questions, a medical reeval d health care professional (PLHCP) will be required.	aluation with a physician or other
3.	Has there been a change in workplace conditions, for examp clothing, or temperature that has resulted in a substantial including Yes No	
2.	Have you been notified by a physician or other licensed healt or the UW Respiratory Protection Program Administrator that reevaluated? Yes No	
1.	health changed in a manner that may interfere with your abilities respirator? Yes No	



APPENDIX H Medical Evaluation for Respiratory Protection Equipment Use

Employee Name:	Department:		
Job Title:	Date respiratory protection medical evaluation questionnaire (Appendix F) was completed:		
Describe the work environment in which the respiratory prot	ection equipment will be used:		
Check the type(s) of respiratory protection the employee is a	approved to use:		
☐ Filtering face piece respirator ☐	Tight-fitting PAPR		
Half-face APR	Supplied-air (compressed air)		
☐ Full-face APR ☐	Supplied-air (compressor)		
Loose-fitting PAPR	SCBA		
List applicable limitations (if any):			
Describe follow-up medical evaluation (if needed):			
Next medical evaluation date:			
Name/title of physician or other licensed health care provider (PLHCP) completing this medical evaluation:			
Signature/Title of PLHCP completing this medical evaluation:			
Date:			
Note: Medical evaluations (including PFTs) will be completed initially. At least annually thereafter, a medical status update review will be completed and documented (Appendix G).			
This form will be maintained with fit testing and training records.			



APPENDIX I Respiratory Protection Equipment Checklist

This form may be used for Respiratory Protection Equipment inspections. Additional comments may be noted in the comments section at the bottom of this form.

Name:		W Number:	Date:		
Type of Respirator		Inspection Items		Yes	No
Filtering Facepiece Respirator	Holes/tears in filter.				
	Deterioration or loss of elasticity in straps.				
Deterioration of metal nose clip.					
Air-Purifying Respirators (APRs) Clean face pic		э.			
(APRs)	Cracks, tears, o	r holes in rubber.			
	Distortion of fac	e piece.			
	Cracked, scratched, or loose-fitting lenses in face piece.				
	Breaks or tears in head straps.				
	Loss of elasticity in head straps.				
	Broken or malfunctioning buckles or attachments in head straps.				
Dust particles, dirt, or detergent residue on valves and valve seat. Cracks, tears, distortion, or loss of flexibility in valve material.		valve seat.			
		aterial.			
	Cracks or flexibi	lity of valve seats.			
	Missing or defec	ctive valve covers.			
	Proper filter for t	the hazard.			
	Approval design	ation on filter.			
	Missing or worn	gaskets on filters.			
	Worn threads or	n filter and face piece.			
	Cracks or dents	in filter housing.			
	Cartridge gaske	ts in place.			
	Deterioration of	canister harness.			
	Service life indicator present or end of service date noted.				
	Date filters insta	illed.			
Powered Air-Purifying	Tears, holes, or	cracks in breathing tube.			
Respirators (PAPRs)	Tears or holes in	n hood.			
	Charging unit is	functional.			
	HEPA filter pres	ent and changed as needed.			

Type of Respirator	Inspection Items	Yes	No
Supplied-Air Respirators	Clean face piece.		
(SARs) and Self-Contained Breathing Apparatuses	Exhalation valve allows air to exit mask and not enter.		
(SCBAs)	Regulator functions properly.		
	Condition of straps, buckles, and back plate.		
	Low pressure hose in working condition.		
	Cylinder pressure (PSI) is accurate and in working condition.		
	Harness gauge pressure functions properly.		
	Cylinder valve knob functions correctly.		
	Cylinder in good condition.		
	Leaks or other problems in purge valve.		
	PASS alarm present and working.		
	Cylinder fully charged.		
Air Supply Systems	Meets requirements for Grade D breathing air.		
(Compressors and Cylinders)	Breaks or kinks in air supply hoses.		
	Connections sufficiently tight.		
	Valves and airflow in working condition.		
Air-purifying element, carbon monoxide alarm, high temperature alarms present and working.			
	Air tanks or compressor are in working condition and have no signs of damage.		
	Containers marked with appropriate NIOSH certification.		
	Most recent change date of filter noted and signed.		
Additional Comments:			