



ENVIRONMENTAL HEALTH & SAFETY

Respiratory Protection Program (RPP)

Updated 05/20/2022

THE UNIVERSITY OF NEW MEXICO
Department of Environmental Health & Safety



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Director

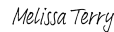


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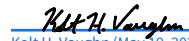


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DOCUMENT REVISION LOG

Document: **Respiratory Protection Program**

| Rev. No. | Effective Date | Revision Description | Pages Replaced | Completed by: |
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| 1 | 12/18/20 | Updated formatting, corrected information, and added attachments. | All | KM |
| 2 | 01/27/21 | Changed the logo size on paged i-viii, updated the bulleting to match other SOPs that EHS uses, added in the attachments, and reformatted them to the standard formatting (pages 10-17). | i-viii, 10-17 | Viktor Gough, Unit Administrator |
| 3 | 05/20/2022 | Revised and added definitions; Expanded § 1; Expanded § 4; Revised § 5.1; Added emergency use procedures (§ 5.2); Revised §§ 6, 7, & 8; Revised Appx. A; Revised test procedures (Appx. B & B.1.); Added Appxs. B.2. – B.5.; Added an FFR train-the-trainer component (Appx. C); Revised Appx. F.1.; Added Appxs. F.2., G, H, I, and J; Revised RPP for grammar/consistent language. | N/A | Kolt H. Vaughn, EHS Specialist |
| N/A | | | | |

ACRONYMS & DEFINITIONS

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| Air Contaminants | Generally, respiratory hazards that, when exposed, present a risk to human health, excluding infectious disease. Air contaminants include harmful dusts, fogs, fumes, mists, gases, smokes, sprays, vapors, and substances listed in 29 CFR 1910.1000 et seq. Table Z-1, Z-2, and Z-3 list Permissible Exposure limits (PELs) for Air Contaminants. Review the standards at https://www.osha.gov/annotated-PELs . |
| Air-purifying respirator | A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element. |
| Air-supplying respirator | A respirator that supplies the user with breathing air from a source independent of the ambient atmosphere and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units. |
| American Conference of Governmental Industrial Hygienists (ACGIH®) | A 501(c)(3) charitable, scientific organization that advances occupational and environmental health. Learn more: https://www.acgih.org/about/ . |
| Assigned Protection Factor (APF) | The workplace level of respiratory protection that a respirator or class of respirators is expected to provide to respirator users. Mathematically, Employee exposure = (Airborne Concentration)/APF |
| Cartridge/Canister | A container with a filter, sorbent, catalyst, or any combination of these items that removes specific contaminants from the air passed through the cartridge or canister. |
| Centers for Disease Control and Prevention (CDC) | The U.S. CDC is the public health agency of the United States. |
| Chemical Hygiene Plan (CHP) | A formal written program for managing the risks associated with the use of hazardous chemicals in laboratories and research. Available here: https://ehs.unm.edu/assets/documents/sop-copies/chem-hygiene-plan-r2-2021.pdf |
| Dust | Materials or substances created from solid material break down, producing fine airborne particles. |
| Dust Mask | See Filtering facepiece respirators (FFR) below. |
| Emergency | Any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled, significant release of an airborne contaminant. |
| Employee | Under the OSH Act, the term "employee" means an employee of an employer who is employed in a business of his employer, which affects commerce. In simpler terms herein: any person who receives compensation from UNM for their labor. The OSH Act is available here: https://www.osha.gov/laws-regs/oshact/toc . |

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| Environmental Health & Safety (EHS) | The UNM department tasked with administering the Respiratory Protection Program, among other tasks. Learn more here: https://ehs.unm.edu/ |
| Facepiece | The portion of the respirator that is in contact with the face and encloses the respiratory tract. |
| Filter | A porous material through which airborne contaminants are passed and removed by entrapment within the material. |
| Filtering facepiece respirators (FFR) (i.e., N95, dust masks, particulate filtering facepiece) | <p>A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium. FFRs must be NIOSH-approved. They are designated N, R, or P at levels 95, 99, or 100.</p> <ul style="list-style-type: none"> • N = not resistant to oil. • R = resistant to oil. • P = oil proof. • 95 and 99 refer to the efficiency of the filtration medium of the respirator or cartridge. For example, N95s filter at least 95% of 0.3 micrometer particles at 85 liters per minute ($\geq 95\%$ PM₃ at 85 lpm). <ul style="list-style-type: none"> ○ In other words, the percent efficiency is also equal to 100% minus leakage. Thus, an N95 has 5% leakage or less ($100\% - 95 = 5\%$ leakage). • 100 are High-Efficiency Particulate Air (HEPA) filters. Note: "100" actually denotes an efficiency rate of 99.97% or better. |
| Fit test | A qualitative or quantitative test to determine the fit of a respirator on a respirator user's face. |
| Fit test training | A training course administered by EHS to fit test and demonstrate appropriate use, maintenance, and storage of respiratory protection. |
| Food and Drug Administration (FDA) | The U.S. FDA is a federal agency of the Department of Health and Human Services. Amongst other priorities, FDA is responsible for advancing public health by helping to speed innovations that make medical products more effective, safer, and more affordable and by helping the public get the accurate, science-based information they need to use medical products and foods to maintain and improve their health. |
| Full face respirator | A respirator covering the entire face and includes eye protection as an integral part of the respirator. These may be negative- or positive-pressure and air-purifying or air-supplying respirators. |
| Fumes | Created when metals are vaporized under high heat (i.e., welding or soldering). As the vapor cools, it condenses into extremely small particles which are inhalable. |
| Gas/Gases | Substances that are similar to air in their ability to diffuse or spread freely through the atmosphere. Generally, these substances have boiling points lower than room temperature or have a high vapor pressure at room temperature. See "Vapors." |

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| Half face respirator | A negative pressure, air-purifying respirator that forms a seal with the area surrounding the nose and mouth. |
| Immediately Dangerous to Life and Health (IDLH) | 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. |
| Infectious Disease | Generally, a disease caused by the entrance into the body of pathogenic agents or microorganisms (such as bacteria, viruses, protozoans, or fungi) which grow and multiply there. This term may be narrowly defined by UNM, the UNM Health Science Center, and their delegated authorities (e.g., UNMH Epidemiologist). Examples of infectious disease include tuberculosis, SARS-CoV-2, and influenza. |
| Maximum Use Concentration (MUC) | The maximum atmospheric concentration of a hazardous substance that a respirator user can expect to be protected from 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. |
| Medical Clearance | Approval by a Professional or Licensed Health Care Provider (PLHCP) to wear a respirator after review of the completed medical questionnaire and/or a physical examination. |
| National Institute for Occupational Safety and Health (NIOSH) | The United States federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness. A division of the CDC. |
| Negative-pressure respirator | Any tight-fitting respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator. |
| Oxygen Deficient Atmosphere | An atmosphere with an oxygen content at or below 19.5%. |
| Permissible Exposure Limits (PEL) | A regulatory limit on the amount (or concentration) of a substance in the air. A list is maintained by OSHA (29 CFR 1910.1000). PEL values for various chemicals can be found here: https://www.osha.gov/chemicaldatabase |
| Positive pressure respirator | Any respirators that maintain a positive pressure in the facepiece during inhalation and exhalation. |
| Powered Air Purifying Respirator (PAPR) | A battery-operated respirator that draws contaminated air through a filter and delivers clean filtered air to the facepiece or hood at a required minimum flow to maintain positive pressure within the facepiece or hood. |
| Principal Investigator (PI) (i.e., Project Director) | A UNM-defined classification for independent researchers. PIs are judged to be qualified to conduct independent research or other educational projects. Learn more here: https://osp.unm.edu/pi-resources/pi-eligibility.html . Likewise, PI's serve the role of a Supervisor under this RPP, and the two terms are interchangeable herein. |

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| Respirator | A device that seals to or covers the face and is designed to protect the respiratory tract by filtering out or adsorbing/removing airborne contaminants. |
| Respirator User | See Trainee. |
| RPP Administrator | [1] Are explicitly designated as such under 29 CFR § 1910.134(c) et seq., [2] Are externally qualified by a third-party vendor, [3] Provide "train-the-instructor" training and evaluations, and [4] Provide fit testing and training to UNM respirator users. |
| RPP Instructor | [1] Are generally ¹ designated as such under 29 CFR § 1910.134(c) et seq., [2] Are annually trained, qualified, and evaluated internally by RPP Administrators, and [3] Provide fit test training to UNM respirator users. |
| Self-Contained Breathing Apparatus (SCBA) | An atmosphere air-supplying respirator for which the breathing air source is designed to be carried by the user. |
| Student | Persons enrolled in UNM programs requiring respiratory protection but who are not considered an employee are held to the standards of this program, despite being exempt from the OSH Act. |
| Supplied-air respirator (SAR) | Sometimes called "airline respirator," an SAR's breathing air source is not designed to be carried by the user. |
| Threshold Limit Value® (TLV®) | Threshold Limit Value for specified air contaminants, as recommended by the American Conference of Governmental Industrial Hygienists (ACGIH®). |
| Trainee | Respirator users who enroll in, and participate in, the EHS fit test training courses. For example, this person could be a UNM employee or student required to wear respiratory protection. |
| Vapors | The gaseous state of substances that are liquid or solid at room temperature. See "Gas." |
| Voluntary Use | If a hazard assessment has been completed by EHS and the exposure risk is below what is required for respiratory protection, then respirator users may choose to use respiratory protection voluntarily. Voluntary use of respirators is forbidden for unknown or unassessed hazards. Learn more here: https://ehs.unm.edu/voluntaryn95use.html |

¹ Note: 29 CFR 1910.134(c) et seq. is interpreted by the employer (i.e., UNM) to mean that an RPP Administrator may train and qualify other employees to become RPP Instructors. These instructors do not and may not possess RPP evaluation or revision duties. Rather, instructors' responsibilities are limited to providing fit test training to other employees. This interpretation is based on the [1] discretion plainly stated in that section and [2] complexity of the UNM RPP. As such, RPP Administrators must annually train and qualify employees as RPP Instructors, and then evaluate their instruction to meet the needs of the UNM RPP.

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1. SCOPE

This document and its attachments (re)establish the Respiratory Protection Program (RPP) for employees and students of the University of New Mexico (UNM), including the Health Science Center. The RPP trains employees and students (respirator users) to protect themselves from respiratory hazards in the workplace. It shall be followed by (1) respirator users and (2) all supervisors (including laboratory Principal Investigators) who require employees and students to wear respiratory protection.

At a minimum, UNM employees and students must enroll in UNM's fit test training before exposure to respiratory air contaminants or infectious diseases. Once trained and tested, respirator users must comply with the RPP when exposed to:

- (1) **Air Contaminants** above fifty percent of their:
 - a. Permissible Exposure Limit (PEL) as determined by OSHA,
 - b. Recommended Exposure Limit (REL) as determined by NIOSH, or
 - c. Threshold Limit Values (TLVs®) as determined by the ACGIH,
 - i. whichever is lower.²
- (2) **Infectious disease** above unsafe transmission levels as determined by UNM, the UNM Health Science Center, and their delegated authorities (e.g., UNMH Epidemiologist).³

If the above standards contradict one another or if more than one applies, the most protective standard shall be enforced. At their discretion, supervisors may set more stringent procedures than the most protective standards.

2. AUTHORITY

The State of New Mexico adopts federal occupational health and safety regulations.⁴ Likewise, the federal Occupational Safety and Health Administration, or OSHA, requires UNM to create and maintain an individualized, written program for employees who must use respirators per 29 CFR § 1910.134.⁵ Consequently, UNM delegates authority to EHS to administer this program.

² Examples of **air contaminants** include harmful dusts, fogs, fumes, mists, gases, smokes, sprays, vapors, and substances listed in 29 CFR 1910.1000 et seq. Table Z-1, Z-2, and Z-3 list PELs for Air Contaminants. Review all three standards together at <https://www.osha.gov/annotated-PELs>. Organizational acronyms:

- OSHA – Occupational Safety and Health Administration
- NIOSH – National Institute for Occupational Safety and Health
- ACGIH – American Conference of Governmental Industrial Hygienists

³ **Infectious disease** is generally caused by the entrance into the body of pathogenic agents or microorganisms, which grow and multiply there. Examples include tuberculosis, SARS-CoV-2, and influenza. Organizational acronym:

- UNMH – UNM Hospital

⁴ See 20.11.5.2.9 NMAC, available at <https://www.srca.nm.gov/parts/title11/11.005.0002.html>. Likewise, see OSHA's "New Mexico State Standards; Notice of Approval" (FR Notice # 62:39551-39553) at <https://www.osha.gov/laws-regs/federalregister/1997-07-23-0>.

⁵ 29 C.F.R. § 1910.134, available at <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134>.

3. RESPONSIBILITIES

3.1. Environmental Health & Safety (EHS) will:

- (1) Evaluate work environments for respiratory hazards to inform respirator users about the required protection. This work may involve assessing the exposure concentrations.
- (2) Determine whether engineering or administrative controls are feasible, and as appropriate, make recommendations for chemical substitutions, administrative controls, and/or engineering control revisions to minimize risk.
- (3) Designate RPP Administrators to provide a train-the-instructor module and audits for qualified entities to perform fit testing and training for their respirator users.
- (4) Train respirator users initially and annually in the proper use of required respiratory protection equipment.
- (5) Fit test respirator users initially and annually with the required respirator and/or as physical changes occur to individuals.
- (6) Evaluate the effectiveness of the program every three years.
- (7) Maintain a database documenting program trainer, course students, training materials, fit testing dates, and respirators the individual is qualified to wear.
- (8) Keep records for a minimum of 30 years.⁶

Note 1: EHS retains complete discretion to access and audit records and practices for compliance.

3.2. Employee Occupational Health Services (EOHS) & Student Health and Counseling (SHAC) will:

- (1) Provide initial medical evaluations for all employees whom EHS or supervisors identify as requiring respirator use on their jobs before personnel's initial respirator fit test training – and as otherwise determined by a medical provider.
- (2) Provide medical evaluations for all personnel who voluntarily use elastomeric and powered air-purifying respirators before use, and provide these persons with a copy of Appendix D of 29 CFR § 1910.134.
- (3) Inform EHS and supervisors:
 - a. When respirator users cannot wear a respirator,
 - b. If the medical provider determines limitations on respirator use.
- (4) Maintain a database documenting program participants and medical authorizations per 29 C.F.R. § 1910.1020.

⁶ 29 C.F.R. § 1910.1020(d), available at <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1020>.

3.3. Supervisors (including laboratory Principal Investigators) will:

- (1) Consult EHS before purchasing respirators.
- (2) Ensure that respirator users comply with this RPP in areas identified with potential and existing respiratory hazards.
- (3) Ensure that respirator users have initial and/or current medical clearance from EOHS, SHAC, or another Physician or Licensed Health Care Professional (PLHCP).
- (4) Ensure that an RPP Administrator or RPP Instructor trains newly-assigned persons required to use respirators.
- (5) Ensure that persons required to use respirators are fit tested and trained annually by an RPP Administrator or RPP Instructor.
- (6) Ensure that persons required to use respirators are provided with and authorized to wear the proper respirators for each application.
- (7) Ensure that proper care and maintenance of required respirators are performed.
- (8) Notify EHS of any problems occurring while respirators are in use.
- (9) Establish and maintain a Laboratory/Workplace Respiratory Plan.
 - a. For a template, use Attachment A – Lab/Workplace Respiratory Plan (Template).
 - b. The plan must be area-specific, listing the procedures required to ensure respiratory protection. EHS can assist in establishing or maintaining this plan.
 - c. These plans must list the appropriate respirators and cartridges/filters for each procedure, including change-out schedules.
 - d. For laboratories, the plan should be part of each lab's Chemical Hygiene Plan (CHP).

Note 1: Supervisors have the primary responsibility for ensuring workplace hazards are identified and controlled.

Note 2: At their discretion, supervisors may set more stringent procedures than the most protective standards required by this RPP.

3.4. Respirator Users (including Employees and Students) will:

- (1) Wear a respirator when exposed to:
 - a. Air Contaminants above fifty percent of their:
 - i. Permissible Exposure Limit (PEL) as determined by OSHA,
 - ii. Recommended Exposure Limit (REL) as determined by NIOSH, or
 - iii. Threshold Limit Values (TLVs®) as determined by the ACGIH,
 - iv. whichever is lower.
 - b. Infectious disease above unsafe transmission levels as determined by UNM, the UNM Health Science Center, and their delegated authorities (e.g., UNMH Epidemiologist).

If the above standards contradict one another or if more than one applies, the most protective standard shall be enforced.

- (2) Consult EHS when selecting a respirator for a particular use and utilize only the respirators they have been fit tested and trained to use.
- (3) Learn and know the purpose and limitations of the respirator(s) required for their jobs.
- (4) Comply with facial hair requirements (see Attachment E – Acceptable Facial Hair). Individuals with facial hair which may interfere with the face to facepiece seal on a respirator are prohibited by OSHA regulations from wearing it.
- (5) Check the respirator for wear, cracks, holes, leaks, or any other defects that could affect its effectiveness before each donning. In the event defects are noted, the user will bring them to the attention of their supervisor.
- (6) Conduct a positive and negative fit test before each use of a respirator. If a reusable respirator does not pass these tests, the user will bring this information to the attention of their supervisor. If a disposable respirator does not pass these tests, the user will discard the respirator and utilize a different respirator that can pass the tests.
- (7) Clean and disinfect reusable respirators after each use and at least monthly.
- (8) Store the respirator(s) in an approved manner and as indicated in this RPP.
 - a. For example, FFRs require storage in a paper bag in the event of reuse. Half and full-face respirators require storage in a plastic sealing bag. However, filters, cartridges, and canisters must be stored separately to prevent cross-contamination.

3.5. Vendors & Contractors will:

- (1) Develop and implement an RPP for their employees who must enter into or work in areas where exposure to hazardous materials cannot be controlled or avoided.
 - a. Their RPP must meet OSHA regulations and include the issuance of respirators, medical evaluation, fit testing, and training.

Note 1: EHS does not specify third-party vendors who may provide testing and training. However, a third-party vendor must be qualified to perform such services. To be qualified, they must comply with 29 CFR § 1910.134, especially parts (c) and (k). Third-party vendors who provide testing and training must immediately make a copy of their written program available to EHS for review upon request.

4. STANDARDS FOR THE PROPER USE OF RESPIRATORS (IN NON-IDLH ENVIRONMENTS)

Only trained and tested persons may use respirators. To obtain training and testing, respirator users must receive a Medical Clearance Form to wear a respirator (MCF) from a Professional or Licensed Health Care Provider (PLHCP) (see section 4.1). Upon attaining an MCF, respirator users must schedule a fit test (see sections 8.1) and appear in person for a training session with RPP Administrators, RPP Instructors, or a qualified third-party vendor (see Attachment C.3. List of RPP Administrators & Instructors). Respirator users will present the MCF to the trainer for review and then choose the appropriate respirator model to test in and receive training (see section 4.2.3). Once training commences, all respirator models require a user seal check to verify

proper fit before testing (see section 4.2.4). Testing and training requirements vary by respirator type, make, model, and size (see section 4.3).

Furthermore, the voluntary use of FFRs and half face respirators is permissible under certain circumstances. Voluntary use means the respirator users willingly opt to use a respirator for added respiratory protection as permitted within the OSHA regulations. In other words, the respirator user's supervisor or work environment does not require the use of a respirator (see section 4.4).

Detailed Standard Operating Procedures (SOPs) for fit test training are outlined in Attachment B – Respirator Fit Testing Standard Operating Procedures.

4.1. Medical Evaluations

For medical evaluation requirements relating to the voluntary use of respirators, see section 4.4 below. Otherwise, EOHS, SHAC, or another Professional or Licensed Health Care Provider (PLHCP) must medically evaluate and clear all persons required to wear a respirator before initial training, fit testing, and respirator use. To obtain a medical evaluation, the person will complete and submit a medical questionnaire (see 29 CFR § 1910.134 Appendix C) and, if necessary, complete additional screening at the discretion of the PLHCP. Then, a written medical determination of the person's ability to wear a respirator will be provided by the PLHCP. The written form affirming the determination to wear a respirator is a "Medical Clearance Form" or "MCF" (see Figure 1). This evaluation is provided to UNM employees and students free of charge.

3/17/22, 7:22 AM ReadySet

Clinical services provided and/or recorded by The University of New Mexico Health Employee Health Services, Albuquerque, New Mexico.
Record/Results Printed: 03/17/2022 07:22 am

Participant Name: [REDACTED] Date of Birth: [REDACTED] Population Type: Employee
Axon ID: [REDACTED]

RESPIRATOR USER MEDICAL CLEARANCE


| | |
|---|--|
| Appointment Date | 02/15/2022 13:19 |
| Reason for evaluation: | BASELINE |
| I have reviewed the health care worker's Respirator questionnaire and made the following determination: | PASS BASED ON QUESTIONNAIRE. MEDICALLY SUITABLE FOR RESPIRATOR USE WITH NO RESTRICTIONS. |
| Date OSHA Respirator Survey completed: | 02/07/2022 |
| Filter-mask non-cartridge (N, R, or P disposable) (N95) | FILTER-MASK NON-CARTRIDGE (N, R, OR P DISPOSABLE) (N95) |
| Air-purifying (powered) | AIR-PURIFYING (POWERED) |
| N95 respirator recommendations: | CLEARED FOR RESPIRATOR USE |
| PAPR recommendations: | CLEARED FOR RESPIRATOR USE |
| Reviewed by: | [REDACTED] MPH, PA-C |
| Date reviewed: | 02/15/2022 |

This Electronic Health Record was generated by the ReadySet Employee Health System.
This Electronic Health Record contains personal health information and is intended for authorized healthcare personnel only.
Contact University of New Mexico Health Employee Health Services for more information.

<https://unm.readysetcare.com/rollmyhealthresults> 1/1

Name: [REDACTED] DOB: [REDACTED] Student ID: [REDACTED]

Diagnosis: _____


**THE UNIVERSITY OF
NEW MEXICO**

Student Health & Counseling (SHAC)
MSC96-3670
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-3436 Fax: (505) 277-2620

Respirator Medical Recommendation Form

Student Name: [REDACTED]
Banner ID: [REDACTED]

The recommendations on this form are based on the responses provided by the student on the SHAC Respirator Medical Evaluation Questionnaire (OSHA Standard 1910.134 AppC). If you have any questions regarding this evaluation, please call University of New Mexico Student Health and Counseling at (505) 277-3136 and ask to speak to the Infection Control Nurse.

This form must be completed by a licensed healthcare provider (MD, NP, PA, or RN).

- Based on review of the Respirator Medical Evaluation Questionnaire (Mandatory) this individual is:
Approved for N-95 or PAPR respirator fit testing.

SHAC Provider: [REDACTED], RN
Date: March 07, 2022

Note to Students:
Individual respirator fittings and instructions are provided by UNM Environmental Health & Safety.

Please see their website on how to schedule, or contact your clinical coordinator if you have questions about how to schedule a fitting.

<https://ehs.unm.edu/occupational-safety/respiratory-protection.html>

Signed by: [REDACTED], RN on Mar-07-2022 at 12:43 PM
Locked by: [REDACTED], RN on Mar-07-2022 at 12:43 PM

1 of 1

Figure 1 - Example MCF from EOHS (left) and SHAC (right).

MCFs will be reviewed by the RPP Administrator or RPP Instructor immediately before commencing testing and training. Likewise, OSHA does not require an annual medical evaluation for non-IDLH environments (see section 5 for more details about IDLH environments). However, respirator users must be evaluated when a significant change occurs, as detailed in section 4.1.1.

(FAQ 1) How do I request a "Medical Clearance Form" or "MCF," and who issues them?

Submit a respirator medical questionnaire to a health care provider to receive an MCF. Request and submit questionnaires to EOHS, SHAC, or another Professional or Licensed Health Care Provider (PLHCP):

- EOHS – Employee Occupational Health Services issues MCFs for most staff (505.272.8043).
- SHAC – Student Health and Counseling issues MCFs for most university students and certain staff. Review SHAC's "N-95 Respirator Fit Testing" topic of this webpage: <https://shac.unm.edu/services/allergy-immunization/hsc-clinical-students.html>. Alternatively, call 505.277.3136.
- PLHCP – Professional or Licensed Health Care Providers can issue MCFs. These individuals are often not affiliated with UNM. They could be your primary care physician or an occupational healthcare practitioner, for example. To use a non-UNM PLHCP, coordinate with your supervisor.

(FAQ 2) Where do I find my MCF after it has been issued?

Upon a favorable review of the questionnaire by EOHS or SHAC, MCFs can be found at:

- EOHS
 - Log in to EOHS's ReadySet (<https://unm.readysetsecure.com/rs/>). Then, click: Test Results > Results > RESPIRATOR USER MEDICAL CLEARANCE > Print.
 - Can't log in? Can't find the form? Contact EOHS (505.272.8043).
- SHAC
 - Log in to the SHAC Health Portal (<https://shac.unm.edu/shac-health-portal.html>). Review your secured messages to find the form and print a physical copy to bring to the training.
 - Can't log in? Can't find the form? Contact SHAC (505.277.3136).

4.1.1. Frequency

Additional medical evaluations will be performed if:

- (1) Respirator users report any medical signs or symptoms that are related to their ability to use a respirator.
- (2) Observations made during fit testing or periodic program evaluations indicate that a respirator user needs to be re-evaluated.
- (3) A significant change in physical condition is observed. Significant changes in physical conditions might include facial scarring, dental changes, cosmetic surgery, or a change in body weight.
- (4) A change occurs in the workplace conditions that may result in a significant increase in exposure or physiological burden on the respirator user.
- (5) An EOHS or SHAC health care provider, supervisor, or RPP administrator informs an employer that a respirator user should be re-evaluated.

Note 1: All respirator users who may use a respirator in Immediately Dangerous to Life and Health (IDLH) scenarios must be medically cleared on an annual basis.

4.2. Training Requirements – General

4.2.1. Overview

Persons working in job classifications identified as requiring negative or positive-pressure respirators must:

- (1) Complete training to properly use a respirator, and
- (2) Pass a fit test for the make, model, and size respirator they plan to wear.

RPP Administrators, RPP Instructors, or a qualified third-party vendor may provide this training and testing. See Attachment C – RPP Administrators & Instructors.

Training must occur at least annually. Additional training and fit testing are required if changes (outlined in section 4.1.1) occur or if there is any indication that the respirator user cannot demonstrate that they have the understanding or skill to use a respirator. Training will include reviewing:

- (1) The RPP;
- (2) Respirator necessity;
- (3) How to inspect, don, seal, use, doff, maintain, and store a respirator;
- (4) Limitations and capabilities for each respirator;
- (5) How to identify medical signs and exposure symptoms;
- (6) The effects of improper fit, usage, or maintenance;
- (7) The procedure for malfunctions; and
- (8) Actions for managing onset illness while using a respirator.

4.2.2. Area-Specific Training

In addition to the general training mentioned above, respirator users must receive area-specific training from their supervisor. This training will inform the respirator user about:

- (1) Procedures and characteristics of area-specific hazards;
- (2) Areas available for storage and cleaning of respirators;
- (3) When cartridges/filters must be discarded; and
- (4) Where and how respirator users can get new cartridges/filters.

4.2.3. Selection of Proper Respirator, Filter, Cartridge, & Canister

- (1) All respirators, filters, cartridges, & canisters must be NIOSH-approved except for those used voluntarily.
- (2) A sufficient number of models and sizes will be made available by the supervisor.
- (3) Nuisance dust masks shall be used voluntarily per section 4.4.
- (4) Respirators, filters, cartridges, & canisters will be selected based on the respiratory hazards to which respirator users are exposed. See Callout Box 2 in Attachment B – Respirator Fit Testing Standard Operating Procedures (SOPs).

4.2.4. User Seal Checks

Respirator users will perform a positive and negative user seal check each time they don a respirator:

- (1) **Positive Pressure Check:** Place palm over the exhalation point (e.g., front of the FFR, exhalation valve[s], cartridges, filters) and exhale gently to cause a slight positive pressure buildup inside of the facepiece. A satisfactory fit occurs when:
 - a. An FFR bulges slightly, and air does not leak around the edges or the nose; or
 - b. A half or full face respirator bulges slightly, and air does not leak around the edges.
- (2) **Negative Pressure Check:** Place palm of hands over the inhalation point (e.g., front of the FFR, exhalation valve[s], cartridges, filters) and inhale gently to cause a slight negative pressure vacuum inside the facepiece. A satisfactory fit occurs when:
 - a. An FFR slightly collapses, and no inward air leaks are detectable; or
 - b. A half or full face respirator suctions or collapses towards the face, and no inward air leaks are detectable.

Note 1: If air leaks are detected, reposition the respirator on the face or adjust the tension of the headbands to eliminate leaks – repeat the test until a satisfactory fit is achievable.

4.3. Training Requirements – Air-Purifying Respirators

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, including:

- (1) Filtering Facepiece Respirators (FFRs) [e.g., N95 or P100 disposable respirators],
- (2) Elastomeric half face respirators (e.g., MSA Comfo Classic® with P100 filters),
- (3) Elastomeric full face respirators (e.g., 3M™ Full Facepiece 6000 with Multi Gas/Organic Vapor Cartridges), and
- (4) Powered Air-Purifying Respirators (PAPR) [e.g., 3M™ Versaflo™], and
- (5) Controlled Air-Purifying Respirators® (CAPR®).
 - a. A CAPR® is a proprietary version of a PAPR, which fulfills all of the same functions using a slightly different arrangement.

Air-purifying respirators are required for atmospheres with contaminants above fifty percent of PELs, RELs, and TLVs®, whichever is lower, but must not be used in oxygen-deficient atmospheres (i.e., oxygen equals 19.5% or less) nor used above a threshold value considered Immediately Dangerous to Life and Health (IDLH). Instead, consider air-supplying respirators in atmospheres with contaminants greater than the PELs, RELs, and TLVs®, whichever is lower, that are also oxygen-deficient or above the IDLH threshold (see section 5.2).

Air-purifying respirators only protect against the hazard(s) that the filter, cartridge, or canister is designed to remove. The filter, cartridge, or canister has a limited life span and must be changed regularly based on a manufacturer's designated change-out schedule, when a chemical's odor is detected, or if exposure symptoms are experienced.

4.3.1. Filtering Facepiece Respirators (FFRs)



Filtering facepiece respirators (i.e., dust masks, FFRs) means a negative-pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium. FFRs must be NIOSH-approved. They are designated N, R, or P at levels 95, 99, or 100.

- N = not resistant to oil.
- R = resistant to oil.
- P = oil proof.
- 95 and 99 refer to the efficiency of the filtration medium of the respirator or cartridge. For example, N95s filter at least 95% of 0.3 micrometer particles at 85 liters per minute ($\geq 95\%$ PM3 at 85 lpm).
 - In other words, the percent efficiency is also equal to 100% minus leakage. Thus, an N95 has 5% leakage or less.
- 100 are High-Efficiency Particulate Air (HEPA) filters. Note: "100" actually denotes an efficiency rate of 99.97% or better.

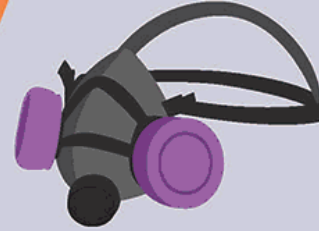
No respirator user will be tested (and is therefore prohibited from wearing an FFR) with a beard or facial hair that interferes with the face-to-facepiece seal or valve function. See Attachment E – Acceptable Facial Hair.

Likewise, FFRs are not to be used for paint spray, gases, vapors, or sand-blasting, as these respirators provide only limited protection from tiny dust particles and possibly mists or aerosols.

4.3.2. Elastomeric Half Face Respirators

Elastomeric Half Facepiece Respirator

- Reusable facepiece and replaceable cartridges or filters
- Can be used to protect against gases, vapors, or particles, if equipped with the appropriate cartridge or filter
- Covers the nose and mouth
- Fit testing required



A half face respirator is a negative pressure, air-purifying respirator that forms a seal with the area surrounding the nose and mouth.

No respirator user will be tested (and are therefore prohibited from wearing a half face respirator) with a beard or facial hair that interferes with the face-to-facepiece seal or valve function. See Attachment E – Acceptable Facial Hair.

4.3.3. Elastomeric Full-Face Respirators



Elastomeric Full Facepiece Respirator

- Reusable facepiece and replaceable canisters, cartridges, or filters
- Can be used to protect against gases, vapors, or particles, if equipped with the appropriate cartridge, canister, or filter
- Provides eye protection
- More effective face seal than FFRs or elastomeric half-facepiece respirators
- Fit testing required

A Full-face respirator covers the entire face and includes eye protection as an integral part of the respirator. These may be negative-pressure, positive-pressure, air-purifying, or air-supplying respirators.

No respirator user will be tested (and are therefore prohibited from wearing a full-face respirator) with a beard or facial hair that interferes with the face-to-facepiece seal or valve function. See Attachment E – Acceptable Facial Hair.

4.3.4. PAPRs & CAPRs

Powered Air-Purifying Respirator (PAPR)

- Reusable components and replaceable filters or cartridges
- Can be used to protect against gases, vapors, or particles, if equipped with the appropriate cartridge, canister, or filter
- Battery-powered with blower that pulls air through attached filters or cartridges
- Provides eye protection
- Low breathing resistance
- Loose-fitting PAPR does NOT require fit testing and can be used with facial hair
- Tight-fitting PAPR requires fit testing



PAPRs are air-purifying respirators that use a blower to force the ambient air through air-purifying elements to the inlet covering. Likewise, while fit testing is not required, training to use the system is required. Controlled Air-Purifying Respirators® (CAPRs®) are a proprietary version of a PAPR, which fulfills all of the same functions using a slightly different arrangement.

PAPRs are permitted for use with facial hair.

4.4. Voluntary Use of FFRs & Half face Respirators

Respirator users may voluntarily use respiratory protection limited to filtering facepiece respirators, nuisance dust masks, and elastomeric-half face respirators if the following conditions are all met:

- (1) The exposure level to all airborne hazards is below fifty percent of the Permissible Exposure Limits (PEL), REL (Recommended Exposure Level), or Threshold Limit Value (TLV®), whichever is lower.
- (2) The use of a respirator poses no hazard.
- (3) The respirator user reviews and signs Attachment D – Information for Voluntary Respirator Use.

The voluntary use of respirators in work atmospheres that are not hazardous does not require the respirator wearer to be fit tested. Voluntary use of FFRs does not require medical evaluations. However, voluntary use of elastomeric facepiece and powered air-purifying respirators require:

- (1) Medical evaluation and clearance, and
- (2) Practices that comply with the relevant sections of this RPP for proper maintenance.

5. STANDARDS FOR THE PROPER USE OF RESPIRATORS IN IDLH ENVIRONMENTS

IDLH (Immediately Dangerous to Life and Health) means an environment 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. IDLH atmospheres include:

- (1) Atmospheres in which the contaminant concentration exceeds the IDLH threshold or is unknown but may be life-threatening;
- (2) An atmosphere with an oxygen content at or below 19.5% (i.e., oxygen-deficient atmospheres).

5.1. Prohibitions

UNM employees, students, and contractors are prohibited from entering IDLH environments. Exceptions to this rule can be made on a limited basis with EHS's prior written approval (see section 5.2 below).

Utilizing air-purifying respirators in IDLH environments is strictly prohibited without exception. Instead, air-supplying respirators must be utilized. However, without EHS's prior written approval, the general use of Air-supplying Respirators is also prohibited.

Air-supplying respirators supply the user with breathing air from a source independent of the ambient atmosphere and include supplied-air respirators (SARs) and self-contained breathing apparatuses (SCBAs) units:

- (1) Supplied-air respirators (SAR) or airline respirators are air-supplying respirators for which the source of breathing air is not designed to be carried by the user.
- (2) Self-contained breathing apparatuses (SCBAs) are air-supplying respirators for which the breathing air source is designed to be carried by the user.

Note 1: EHS does not provide training for air-supplying respirators.

5.2. Exceptions

To use an air-supplying respirator, or to enter an IDLH environment, the respirator users, their supervisors, and their departments (or corporations) must develop a written program to comply with all federal, state, and local regulations. Then, the written program must be submitted to EHS for a full review. This review will occur as expeditiously as possible with the intent to maximize safety and minimize risk. EHS reserves the right to accept or reject all components of these written programs. Rejected program components must be remedied before using air-supplying respirators or entering IDLH environments. Final approval to utilize the program will be issued in writing at the full discretion of EHS.

5.2.1. Excepted Written Programs – General Rules

- (1) Generally, the requirements to wear a respirator in environments that are IDLH are the same as those outlined in section 4. Where IDLH requirements/procedures contradict section 4, the more stringent (i.e., the safest procedures) shall prevail.

- a. For example, all respirator users intending to operate in IDLH scenarios must be medically cleared on an annual basis, whereas users in non-IDLH environments are generally only required to obtain an MCF once. In this case of operating in an IDLH environment, the more stringent requirement (i.e., annual medical clearance) shall prevail.

5.2.2. Excepted Written Programs – Specific Requirements

- (1) In atmospheres that are considered IDLH, maximum respiratory protection must be worn by respirator users. Acceptable respirators must be a full face, pressure-demand SCBA, certified by NIOSH for a minimum service life of thirty minutes, or a combination full facepiece pressure-demand SAR with an auxiliary self-contained air supply.
- (2) If respirator users are required to enter an IDLH atmosphere, the "buddy system" must be followed. Entry will only occur with two persons entering the IDLH environment and with at least one person located outside of the IDLH atmosphere. Visual, voice, and/or signal line communication must be maintained between the person inside and the person outside. The respirator user located outside must be trained and equipped with the same level of respiratory protection to enable him/her to provide emergency rescue, if necessary.
- (3) All compressed breathing air will meet the ANSI/CGA requirements for Grade D breathing air (G-7.1-1989).
- (4) Purchased cylinders used to supply breathing air must be tested and maintained as described in the Shipping Container Specification Regulations of the U.S. Department of Transportation (see 49 CFR §§ 173 and 178) and must not be more than fifteen years old.

6. PROCEDURES FOR MAINTAINING RESPIRATORS

6.1. Replacement of FFRs, Filters, Cartridges, & Canisters

- (1) Immediately replace single-use FFRs, filters, canisters, or cartridges when:
 - a. breathing becomes difficult,
 - b. physical exposure symptoms are noticeable, or
 - c. according to the manufacturer's change-out schedule,
 - d. whichever occurs first.
- (2) For more details about FFR reuse and extended use, see Attachment I – FAQs about N95 Reuse & Extended Use.

6.2. Inspection

- (1) All respirators must be inspected before and after each use and at least monthly.
- (2) Check all parts for wear and defects. Inspect the headband, respirator, valves, connecting tube, and cartridges for deterioration. Rubber parts should be checked for elasticity and cracks. Stretching and manipulating rubber parts when stored for several

weeks will help prevent deterioration. The valves should be inspected for tears and any obstructions to proper sealing.

- (3) Check approval sticker on filters, canisters, or cartridges to verify that the correct element is employed for the potential or existing hazard.
- (4) When a respirator is used only for emergencies, a record of monthly inspections with dates, findings, and corrective actions shall be maintained by the owning department.

6.3. Maintenance

- (1) Supervisors should audit respirator usage periodically to ensure that respirators are being maintained properly by those respirator users required to utilize respirators for protection.
- (2) Ensure that maintenance procedures follow the manufacturer's recommendations and schedules.

6.4. Cleaning & Disinfecting

The maintenance and cleaning program must ensure the requirements provided in the manufacturer's inspection procedures and 29 CFR § 1910.134 Appendix B2 are adhered to as a minimum acceptable program.

The actual cleaning and maintenance of a collective/multiple use respirator may be performed by the individual using the respirator, or the task may be assigned to the section responsible for the storage and issuing of collective use respirators. Respirators used by more than one respirator user will be cleaned and disinfected before being worn by a different individual.

Individually issued respirators shall be cleaned and disinfected by the assigned user as often as necessary to be maintained in a sanitary condition.

Respirators used in fit testing and training shall be cleaned and disinfected after each use. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

6.4.1. Procedure for Cleaning (half and full face respirators and PAPRs):

- (1) Never use alcohol to clean the respirator. Alcohol will dry the respirator surface and cause immediate deterioration.
- (2) Remove filters, cartridges, or canisters. Disassemble the facepiece by removing components such as valve covers and diaphragms or other components as recommended by the manufacturer. Follow the manufacturer's standards for replacing defective parts.
- (3) Wash components in warm (110° F maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A soft bristle brush (not wire) may be used.
- (4) Rinse all components thoroughly with clean, warm water. Drain.
- (5) Air dry in a clean area. Excess water may be absorbed by a clean paper towel. Do not use hair dryers or compressed air to accelerate the drying process.
- (6) If the cleaner doesn't contain a disinfecting agent, respirator components should be immersed for ten minutes in a fresh, low-bleach concentration (ideal bleach concentration: 600ppm [i.e., ~30 ml of 8.25% bleach per one gallon of water]).

- (7) Rinse parts thoroughly in clean, warm water and let them drain.
- (8) Allow them to air dry or wipe dry with a paper towel or clean, lint-free cloth.
- (9) Reassemble and place the facepiece in a "zip-lock" type plastic bag for storage.
- (10) Respirators must be stored in a clean and sanitary condition. The respirator must be completely dry before storage. Do not store filters, cartridges, or canisters in the same sealed bag as the respirator under any circumstances.

6.5. Storage

DO NOT store respirators and parts near or in:

- (1) Dusty areas.
 - a. Dirty respirators can cause dermatitis. OSHA regulations require that respirators be stored in clean and sanitary conditions.
- (2) Direct sunlight.
 - b. Excessive heat will deform the respirator and prevent it from having a good face seal.
- (3) Temperature extremes.
 - c. Excessive heat will deform the respirator and prevent it from having a good face seal.
 - d. Excessive cold can cause cracks in the facepiece, causing leaks.
- (4) High humidity areas.
 - e. Extremely humid conditions will make it difficult to maintain a good face seal.
- (5) Toxic chemicals.
 - f. Toxic chemicals can cause dermatitis or facial burns.

Store the respirator in such a manner as to prevent the facepiece from being deformed or cross-contaminated. Do not hang the respirator from the straps. Respirators should be stored face down to prevent bowing or deformation of the inhalation valves.

Store the filters, cartridges, or canisters separately from the facepiece. The weight of these can deform the respirator over a period of time, and they can cross-contaminate a facepiece. These components should also be stored in a "zip-lock" type plastic bag to prevent passive absorption.

6.6. Repairing/Discarding

- (1) Only qualified personnel (e.g., EHS, supervisors, manufacturers) shall replace parts.
- (2) Only manufacturers' parts designated for that use shall be used. Parts are not interchangeable between manufacturers. Mixing different manufacturers' parts void the certification of the respirator and may adversely affect the function of the respirator.
- (3) Head straps must be replaced when damaged or when the elastic becomes defective. The manufacturer must make all other repairs.
- (4) If the respirator is damaged beyond repair, or if the facepiece becomes distorted, it must be discarded immediately.
- (5) Filtering facepiece respirators should be discarded if they are damaged in any way, if they become excessively dirty or contaminated, or if they become difficult to breathe

through. For more details about FFR reuse and extended use, see Attachment I – FAQs about N95 Reuse & Extended Use.

7. SAFETY PRECAUTIONS

Before starting any hazardous operations, be sure to employ the following safety measures:

- (1) Be sure the respirator functions properly before use.
- (2) Respirator users should familiarize themselves with emergency exit routes and procedures before entering hazardous work environments.
- (3) Unless you are medically cleared, properly trained, and fit tested, do not perform any hazardous duties.
- (4) When the wearer detects [1] a resistance in breathing, [2] a taste, or [3] an odor, or smells the chemicals being used, or needs extra effort to inhale, they shall vacate the hazardous area immediately.
- (5) DO NOT remove the respirator until out of the hazardous area.
- (6) DO NOT re-enter the hazardous area until the cause of the problem is identified and repaired.

8. PROGRAM ADMINISTRATION

8.1. Scheduling

All fit tests are scheduled through Learning Central unless one of the following is true:

- (1) The individual is a new respirator user and does not have a Learning Central account (usually, this is available to new respirator users within 72 hours of the start date).
- (2) The individual is outside of the UNM network and cannot create an account.

In these cases, the individual should email the RPP Administrator or RPP Instructor to be added to an existing course; if they are unable to make the pre-scheduled times, they should work with the trainer to find a time that works best for both parties. If the individual is an incoming student and does not have a Learning Central account, they can contact Employee & Organizational Development (EOD) and get added to Learning Central (eod@unm.edu | 505.277.1555).

Each Learning Central class has a unique ID and should be copied down before the start of the fitting; this will make for easy tracking in the Learning Central system. These are auto-generated by the software and are assigned for each 45-minute fitting; no two times will have the same number (i.e., the 1:00 time slot and the 1:45 time slot will have different numbers).

Regularly scheduled fit test training course cancellations should occur at least 72 hours in advance when possible, and notifications should be sent to course students.

For special fit test training sessions, the RPP Administrator or RPP Instructor should gather at least the following information before scheduling:

- (1) Number of respirator users in attendance;
- (2) Location;
- (3) Dates and times;
- (4) Types of respirators required for fit test training the respirator users; and
- (5) A comprehensive list of hazards potentially or actually present in the workplace.

8.2. Fit Test Reports

After a fit test training is successfully completed, the log and reports should be scanned and saved in the Shared Drive in the appropriate folder, separated out by the individual. These reports should then be uploaded to Learning Central. Respirator users and their supervisors should be notified via email about how to locate and access the reports. The email could include compliance or paperwork coordinators, HR representatives, or credentialing officials. The entire process should take no more than two normal business days. For more detailed information, see Attachment B.3. Complete & File the Fit Test Training Paperwork and Attachment B.4. Uploading Paperwork to Learning Central.

8.3. Program Evaluation

The RPP will be evaluated at least every three years from the date of the last review. The program will be modified as necessary. See Attachment F – Program Evaluation Forms.

ATTACHMENT A – LAB/WORKPLACE RESPIRATORY PLAN (TEMPLATE)

Location and Process/Procedure:

File with Safety Data Sheets, training documents, or Chemical Hygiene Plans (CHPs).

| | |
|----------------------------|--|
| Department: | |
| Supervisor: | |
| Supervisor Phone #: | |
| Emergency Contact: | |
| Emergency Contact Phone #: | |

1. **Purpose:** In the space provided, describe the work to be performed and its purpose.

2. **Hazard Identification:** Describe all hazards and procedures that require respiratory protection. List all possible air contaminants (and their concentrations) and infectious disease present in the environment. If unknown, state that fact clearly.

3. **Engineering & Administrative Controls:** Detail the engineering and administrative controls (e.g., vent hoods) used to mitigate respiratory hazards. Respirator use should be a last resort.

4. **Personal Protective Equipment (PPE):** Detail the required PPE (and under which conditions), including respirator type and filter, cartridge, or canister type.

5. **Fit Test Training performed by:**

☐ EHS

☐ Other: _____

6. **Standard Operating Procedure:** In the space provided, detail the standard operating procedures to provide adequate respiratory protection under normal circumstances.

7. **Repair & Maintenance:** In the space provided, detail the proper maintenance procedures for respirators, including the change-out schedule for the FFRs, filters, cartridges, or canisters.

8. **Emergency Procedures:** In the space provided below, detail emergency procedures necessary to protect respirator users' health and safety.

9. **Emergency Call Numbers:** For fire, medical, or life-threatening emergencies, call **911**. For non-life-threatening emergencies, call the UNM Police at **505-277-2241**.
10. **Emergency/Incident Reporting:** All emergencies, incidents, or near-incidents must be reported. During normal business hours, call **EHS** at **505-277-2753** to seek assistance and report the incident. After hours, weekends and holidays, call the **24/7 EHS Duty Officer pager** and enter your phone number after the outgoing message at **505-951-0194**. Alternatively, fill out a form anytime via **EHS's Accident, Incident & Spill Reporting website**: <https://ehs.unm.edu/accident-incident-spill-reporting/index.html>.
11. **Training Requirements:** All respirator users using respiratory protection must be fit tested and trained. All training must be documented and available for auditing by EHS.

12. Supervisor SOP Approval: By signing and dating below, I, the supervisor, certify that this plan for the use of respiratory protection is accurate and effectively provides standard operating procedures to be used by respirator users.

| | | |
|----------------------|-----------|------|
| Printed Name & Title | Signature | Date |
|----------------------|-----------|------|

By signing below, I, the respirator user, verify that I have read and understand the content of the RPP and the Lab/Workplace Respiratory Plan:

| Printed Name, Title, & Department | Training Completed... (list Date & Trainer) | Signature | Date (enter the date of signature) |
|--|---|------------------------------------|--|
| <i>Example:</i> Jane Doe, Student Nurse, Col. of Nursing | <i>Example:</i> On 05/16/2022 by EHS. | <i>Example:</i> <i>Jane Doe</i> | <i>Example:</i> 05/20/2022 |
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ATTACHMENT B – RESPIRATOR FIT TESTING STANDARD OPERATING PROCEDURES (SOPs)

This attachment details the SOPs for training and fit testing respirator users to wear air-purifying respirators. These procedures must be performed by RPP Administrators, RPP Instructors, or a qualified third-party vendor. These qualified trainers must comply with Appendix A to 29 CFR § 1910.134: *Fit Testing Procedures (Mandatory)*. Attachments Attachment B.1. Qualitative (i.e., Bitrex/Saccharine) Fit Test Method and Attachment B.2. Quantitative (i.e., PortaCount) Fit Test Method are condensed versions of 29 CFR § 1910.134 Appendix A but are not intended to supersede or contradict it.

Attachment C – RPP Administrators & Instructors – shows which UNM departments and staff are permitted to perform training and qualitative and quantitative testing.

The qualitative fit test only provides an Assigned Protection Factor (APF) of ten. Accordingly, only FFRs and half face respirators shall be qualitatively tested. All other respirator types should be quantitatively fit tested. Likewise, when an APF greater than ten is necessary, a quantitative fit test is required.

Attachment B.1. Qualitative (i.e., Bitrex/Saccharine) Fit Test Method

Trainers must:

- (1) Collect MCFs, then provide an overview of the training and testing process. PowerPoint materials are highly recommended.
- (2) Conduct a sensitivity screening test using the sensitivity solution.
 - a. The sensitivity solution is a diluted fit testing solution nebulized onto the tongue to ensure the respirator users can taste it.
 - b. Sensitivity screening should be done with the fit testing hood over the respirator user's head.
 - c. Use the Bitrex (i.e., bitter) solution first. If the respirator user cannot taste it, then reattempt using the Saccharine (i.e., sweet) solution.
 - d. Once the solution is detected, note the number of pumps required to taste the solution and proceed with the fit test.
- (3) Inform the respirator users to select equipment providing adequate protection (see Callout Box 2) and the most acceptable fit. Instruct respirator users to notify trainers if the fit is unacceptable. When feasible, fit test and train respirator users with models commonly available in their workplace.



Callout Box 1 – Facial Hair:

The fit test shall not be conducted on respirator users if they have any facial hair growth between the skin and the sealing surface. Facial hair growth includes stubble, beards, mustaches, or sideburns that cross the respirator sealing surface. For more information, see Attachment E – Acceptable Facial Hair.

Callout Box 2 – How to Select Proper Respirators & Filters:

1. Determine all respiratory hazards present and likely to be present in the workplace. For infectious disease, reference UNM, OSHA, CDC, and FDA guidance to determine protective equipment. For air contaminants, proceed with the following steps:
2. Determine the workplace's exposure level initially and then whenever process changes occur.
 - a. Note: may require monitoring tools and occupational exposure assessments.
3. For each hazard, identify the IDLH (Immediately Dangerous to Life and Health) value. Then, identify the PEL, REL, and TLV[®] values.
 - a. PEL, REL, and TLV[®] values are published by OSHA, NIOSH, and ACGIH, respectively.
 - b. When multiple values exist, the most protective value must always be used.
4. For the desired respirator model and type, determine the Assigned Protection Factors (APF).
5. Calculate the Maximum Use Concentration (MUC). The MUC is the maximum concentration of air contaminants that an employee will be protected from when using a specific class of respirator. If the MUC exceeds the IDLH value, an air-supplying respirator is required.
 - a. $MUC = PEL \text{ [or REL, or TLV}^{\text{®}}\text{]} * APF$
6. Select an FFR or filter/cartridge/canister appropriate for the hazard (i.e., particulate, gas).
7. Respirators users may utilize the identified equipment below the MUC or until changes occur to processes or ambient air contaminant levels.

- (4) Show respirator users how to:
 - a. don the respirator according to the manufacturer's recommendations,
 - b. position the respirator on the face,
 - c. set the strap tension (when applicable), and
 - d. determine an acceptable fit.
- (5) Have respirator users "seat" the respirator on their face:
 - a. Turn head side to side, then up and down slowly while taking a few deep breaths.
- (6) Allow the respirator users to wear the respirator for at least 5 minutes to assess comfort and fit before testing.
- (7) Assess the comfort of the respirator. Review:
 - a. The position of the respirator on the nose, face, and cheeks;
 - b. If room exists for other required PPE (when necessary); and
 - c. Whether or not the respirator user has room to talk.
- (8) Assess the fit of the respirator. Ensure:
 - a. The respirator is the proper size to span the distance between the nose and chin;
 - b. The seal conforms around the face shape;
 - c. Strap tension is adequate (not too tight nor loose);
 - d. Straps are not crossed;
 - e. The straps' tendency to slip is minimized.
- (9) Have respirator user conduct a user seal check per 29 CFR § 1910.134 Appendix B1:
 - a. **Positive Pressure Check:** Place palm over the exhalation point (e.g., front of the FFR, exhalation valve[s], cartridges, filters) and exhale gently to cause a slight positive pressure buildup inside of the facepiece. A satisfactory fit occurs when:
 - i. An FFR bulges slightly, and air does not leak around the edges or the nose; or
 - ii. A half or full-face respirator bulges slightly, and air does not leak around the edges.

- b. **Negative Pressure Check:** Place palm of hands over the inhalation point (e.g., front of the FFR, exhalation valve[s], cartridges, filters) and inhale gently to cause a slight negative pressure vacuum inside the facepiece. A satisfactory fit occurs when:
 - i. An FFR slightly collapses, and no inward air leaks are detectable; or
 - ii. A half or full-face respirator suctions or collapses towards the face, and no inward air leaks are detectable.
 - (10) Refer respirator users to EOHS or SHAC if they experience difficulty breathing.
 - (11) Using a nebulizer, spray Bitrex or Saccharine fit test solution into the fit test hood. If the person detects the taste, stop the test and re-fit the respirator.
 - (12) Proceed with the fit test *exercises** unless the person detects the solution: **
 1. Normal Breathing
 2. Deep Breathing
 3. Turning Head Side to Side
 4. Moving Head Up and Down
 5. Talking (Rainbow Passage)
 6. Bending over
 7. Grimace*
 8. Normal Breathing

* Each exercise will be conducted for one minute, excluding the grimace, which will be performed for 15 seconds.

** Each exercise should involve squeezing the same number of pumps (of the fit test solution) required to taste the solution, as noted in step (2)d. above.
 - (13) If the respirator user detects the Bitrex/Saccharine taste during the fit test, stop immediately and have them remove all gear and rinse their mouth out thoroughly. Once the respirator user can no longer taste the solution, have them don, reposition, and adjust their respirator for another attempt. Alternatively, based on the trainer's discretionary judgment for re-testing, respirator users may [1] try fitting into different types, models, or sizes or [2] use the quantitative test method.
- If the respirator user does not detect the taste of either Bitrex or Saccharine, they have passed the fit test.
- (14) Upon successful testing, instruct the respirator user about the proper doffing, cleaning, and storage procedures.
 - (15) Conclude training with a brief overview of the fundamentals for successfully wearing a respirator.

Attachment B.2. Quantitative (i.e., PortaCount) Fit Test Method

Trainers must:

- (1) Collect MCFs, then provide an overview of the training and testing process. PowerPoint materials are highly recommended.
- (2) Start the PortaCount (press and hold the button on the front) and the FitPro™ Ultra software.
- (3) Perform a daily check. Click the N95-Companion™ button if the test will utilize an N95 respirator (not required for non-N95 respirators). The daily check must reveal that each calibration test is adequate.
- (4) Under the "People" tab, search for the respirator user to see if they are in the system. If they are, proceed



Callout Box 1 – Facial Hair:

The fit test shall not be conducted on respirator users if they have any facial hair growth between the skin and the sealing surface. Facial hair growth includes stubble, beards, mustaches, or sideburns that cross the respirator sealing surface. For more information, see Attachment E – Acceptable Facial Hair.

to the next step. If not already entered, type the respirator user's first name, last name, and UNM Net ID into the PortaCount system.

- (5) Inform the respirator users to select equipment providing adequate protection (see Callout Box 2) and the most acceptable fit. Instruct respirator users to notify trainers if the fit is unacceptable. When feasible, fit test and train respirator users with models commonly available in their workplace.

Callout Box 2 – How to Select Proper Respirators & Filters:

1. Determine all respiratory hazards present and likely to be present in the workplace. For infectious disease, reference UNM, OSHA, CDC, and FDA guidance to determine protective equipment. For air contaminants, proceed with the following steps:
2. Determine the workplace's exposure level initially and then whenever process changes occur.
 - a. Note: may require monitoring tools and occupational exposure assessments.
3. For each hazard, identify the IDLH (Immediately Dangerous to Life and Health) value. Then, identify the PEL, REL, and TLV[®] values.
 - a. PEL, REL, and TLV[®] values are published by OSHA, NIOSH, and ACGIH, respectively.
 - b. When multiple values exist, the most protective value must always be used.
4. For the desired respirator model and type, determine the Assigned Protection Factors (APF).
5. Calculate the Maximum Use Concentration (MUC). The MUC is the maximum concentration of air contaminants that an employee will be protected from when using a specific class of respirator. If the MUC exceeds the IDLH value, an air-supplying respirator is required.
 - a. $MUC = PEL [or REL, or TLV^{®}] * APF$
6. Select an FFR or filter/cartridge/canister appropriate for the hazard (i.e., particulate, gas).
7. Respirators users may utilize the identified equipment below the MUC or until changes occur to processes or ambient air contaminant levels.

- (6) Ensure the respirator's model information is entered into the PortaCount system (under "Respirators"). If it is not, add the requested information. Note:
 - a. When adding respirators, the pass level is 500 for full face respirators and 100 for half face and N95 respirators.
 - b. Be sure to click the N95 button when adding N95 respirators.
- (7) Install the fit test probe on the desired respirator. Then, connect the (clear) test tube to the probe.
- (8) Show respirator users how to:
 - a. don the respirator according to the manufacturer's recommendations,
 - b. position the respirator on the face,
 - c. set the strap tension (when applicable), and
 - d. determine an acceptable fit.
- (9) Have respirator users "seat" the respirator on their face:
 - a. Turn head side to side, then up and down slowly while taking a few deep breaths.
- (10) Allow the respirator users to wear the respirator for at least 5 minutes to assess comfort and fit before testing.
- (11) Assess the comfort of the respirator. Review:
 - a. The position of the respirator on the nose, face, and cheeks;
 - b. If room exists for other required PPE (when necessary); and

- c. Whether or not the respirator user has room to talk.
- (12) Assess the fit of the respirator. Ensure:
 - a. The respirator is the proper size to span the distance between the nose and chin;
 - b. The seal conforms around the face shape;
 - c. Strap tension is adequate (not too tight nor loose);
 - d. Straps are not crossed;
 - e. The straps' tendency to slip is minimized.
- (13) Have respirator users conduct a user seal check per 29 CFR § 1910.134 Appendix B1:
 - a. **Positive Pressure Check:** Place palm over the exhalation point (e.g., front of the FFR, exhalation valve[s], cartridges, filters) and exhale gently to cause a slight positive pressure buildup inside of the facepiece. A satisfactory fit occurs when:
 - i. An FFR bulges slightly, and air does not leak around the edges or the nose; or
 - ii. A half or full face respirator bulges slightly, and air does not leak around the edges.
 - b. **Negative Pressure Check:** Place palm of hands over the inhalation point (e.g., front of the FFR, exhalation valve[s], cartridges, filters) and inhale gently to cause a slight negative pressure vacuum inside the facepiece. A satisfactory fit occurs when:
 - i. An FFR slightly collapses, and no inward air leaks are detectable; or
 - ii. A half or full face respirator suctions or collapses towards the face, and no inward air leaks are detectable.
- (14) Have respirator users conduct a "Real-Time FitCheck®" (under "PortaCounts"> "Real-Time FitCheck®"):
 - a. Use this PortaCount feature to ensure:
 - i. A seal is achievable, and
 - ii. The ambient atmosphere is suitable for performing the test.
- (15) Refer respirator users to EOHS or SHAC if they experience difficulty breathing during the test.
- (16) Once the Real-Time check is satisfactory. Conduct the test:
 - a. Under "PortaCounts"> "Fit Test":
 - (i) Click "Assign Person" and select the person's name;
 - (ii) fill in the information required under "Respirator and Protocol";
 - The protocol may be either "OSHA FAST FILTERING FACE" or "OSHA 29CFR1910.134." The former is a faster method.
 - (iii) Click "Assign";
 - (iv) Click "Start Test."
- (17) The software will indicate a pass/fail for each exercise. It will also issue a determination of pass/fail for the entire test. More than two failed exercises automatically fails the entire test. The respirator user passes if the software determines that to be true.
- (18) If the respirator user fails, stop the test. Then, have them don, reposition, and adjust their respirator for another attempt. Alternatively, based on the trainer's discretionary judgment for re-testing, respirator users may try fitting into different types, models, or sizes.
- (19) Upon successful testing, instruct the respirator user about the proper doffing, cleaning, and storage procedures.
- (20) Conclude training with a brief overview of the fundamentals for successfully wearing a respirator.

Attachment B.3. Complete & File the Fit Test Training Paperwork

Trainers must:

- (1) Review the paperwork for completion and accuracy.
- (2) Review all "Fit Test Reports."
- (3) Complete "Fit Test Log" with the respirator information from the individual fit test reports.
- (4) Save all documents to the S:\Drive.
 - a. Scan and save the Fit Test Log:
 - i. Scan to email at 600 DPI or better to ensure high-quality scans.
 - ii. Be sure to "recognize text" for the scanned document using Adobe Acrobat Pro.
 - iii. Save as "Fit Test Log" in PDF format to General Safety > 9) Fit Test Training > [Year] > [Month] > [Date]
 - b. Scan and save the Fit Test Reports:
 - iv. Scan to email at 600 DPI or better to ensure high-quality scans.
 - v. Ensure that all fit test reports are scanned in the format:
Page 1 - Fit test report, then
Page 2 – the user's Medical Clearance Form for respirator use.
Note: You can save time by scanning all individual fit test reports at once and "splitting" the document in Adobe Acrobat Pro.
 - vi. Be sure to "recognize text" for the scanned document using Adobe Acrobat Pro.
 - c. Save as PDF to General Safety > 9) Fit Test Training > [Year] > [Month] > [Date]
 - vii. Rename individual reports in the format "[Last Name] [First Initial] _N95_[Year]"
 - Note: If it is not an "N95" report, save it with the appropriate tag (e.g., P100, Half-Face, Full-Face, PAPR)

Attachment B.4. Uploading Paperwork to Learning Central

After completing and filing the paperwork to EHS's database, upload the paperwork for each respirator user and assign them credit via Learning Central:

- (1) Go to UNM Learning Central > Learning Administration
- (2) Go to Manage User Learning > Add Learning History for Multiple Courses
 - a. Change the "What kind of learning do you want to add to history?" to class
 - b. Key in the class number found at the top of each sign-in section
 - c. Click "Add" to add the class to the list
 - d. Under the "Search & Add Users," click "Auto Fill From Registration," which will pull a list of everyone signed up for that class section.
- (3) Click the "Next" button to go to the "Assign Credit" section
 - a. On the right-hand side, hit the + button to expand the class section to assign credit to individuals
 - b. The Completion Date and Time will auto-populate and cannot be changed

- c. If the trainee passes the fit test training, the Grade/Attendance/Completion will be CRS-CM (Competencies Met) – For Credit
 - d. If the trainee was absent, the Grade/Attendance/Completion should be CRS-NS (No Show) – Not-For-Credit
 - e. If the trainee attends but was unable to be fitted (i.e., they needed a PAPR and no one could fit them at the time), the Grade/Attendance/Completion will be CRS-RA (Return Advised) – Not-For-Credit
 - f. If the trainee attends and fails all respirator models, the Grade/Attendance/Completion will be CRS-CNM (Competencies Not Met) – Not-For-Credit
 - g. If the trainee did not show up BUT called/emailed ahead of time to try and reschedule, the Grade/Attendance/Completion will be CRS-R (Rescheduled) – Not-For-Credit
- (4) After the credit is assigned for each user, the "Apply Changes" button needs to be clicked in order for the system to update.
- a. Please note that you must select "Apply Changes" under the last user you are assigning credit for; it is next to the "Reset" button. The other two "Apply Changes" buttons will reset the entire system.
- (5) Hit the "Next" button and confirm that the Grade/Completion looks correct before hitting "Submit."

After Credit is assigned for each class, you can then go into the Edit Learning History and upload the reports for each user.

- (1) Go to Manage User Learning > Edit Learning History
- (2) Key in the class number in the Classes section and hit "Search"
 - a. This should populate everyone that was signed up for the class, regardless of what credit they were assigned
 - b. For each user, click on the box that looks like a pencil on paper
 - c. Click where it says "Fire Attachments (0)"
 - d. Click "Choose File" and find the file in the sections described under B.4.
 - e. Hit "Upload" and hit "Save"
 - f. If "Save" is not an option, it's automatically saved
 - g. Exit out of the "Upload" screen and click "Apply Changes", which will confirm the file is linked to the user
 - h. Click "Continue"
- (3) Using the browser's back button, go back until you hit the "Edit Learning History" page, and repeat the 3 steps for the rest of the users in each class.

Attachment B.5. Cleaning & Organizing After Each Use

Once the paperwork is complete and ready to be uploaded to Learning Central, the training room should be cleaned to accommodate other uses of the EHS Training Room. Fit test

materials (e.g., hoods, respirators) must also be cleaned per 29 CFR § 1910.134 Appendix B2. Likewise, the materials used to support the fit test training should be organized between uses and after the final use of each day to ensure longevity and hygiene.

Trainers must:

- (1) Clean the fit test hoods and all surfaces with sanitary wipes after each individual use.
 - a. Ensure that the residual fit test solution is removed from the clear face shield.
 - b. Sanitary wipes should be suitable for disinfecting against common respiratory diseases, such as influenza and SARS-CoV-2.
- (2) Clean the nebulizer with soap and water.
- (3) Restock used FFRs.
- (4) Put away all fit test materials (e.g., FFRs, paperwork, hoods) in the fit test bins. Place bins beneath a table, out of the way in case of other EHS training sessions in the room.

ATTACHMENT C – RPP ADMINISTRATORS & INSTRUCTORS

Attachment C.1. Definitions

RPP Administrators:

- (1) Are explicitly designated as such under 29 CFR § 1910.134(c) et seq.,
- (2) Are externally qualified by a third-party vendor,
- (3) Provide "train-the-instructor" training and evaluations, and
- (4) Provide fit testing and training to UNM respirator users.

RPP Instructors:

- (1) Are generally designated as such under 29 CFR § 1910.134(c) et seq.,
 - (2) Are annually trained, qualified, and evaluated internally by RPP Administrators, and
 - (3) Provide fit test training to UNM respirator users.
- See footnote 1 above.

Attachment C.2. "Train-the-Instructor" Rules & Purpose

The purpose of these rules is to increase access to fit test training across UNM, standardize procedures across UNM, and increase program efficacy.

UNM employees may not perform respiratory protection fit testing or training without at least an "RPP Instructor" qualification issued by EHS. Records are maintained in Table 1 below. Likewise, RPP Administrators may audit each RPP Instructor annually to ensure program efficacy. UNMH personnel are exempt from these requirements.

RPP Administrators, RPP Instructors, or a qualified third-party vendor must provide training and testing for respirator users and their supervisors in accordance with the RPP (i.e., this document). The only exception to this rule is UNMH personnel who otherwise follow 29 CFR § 1910.134.

To request "train-the-instructor" training from EHS, email ehsweb-L@list.unm.edu or call **505.277.2753**.

Attachment C.3. List of RPP Administrators & RPP Instructors

Table 1 below shows which UNM departments and staff are permitted to perform training and qualitative and quantitative testing.

Otherwise, EHS does not specify third-party vendors who may provide testing and training. However, a third-party vendor must be qualified to perform such services. To be qualified, they must comply with 29 CFR § 1910.134, especially parts (c) and (k). Third-party vendors who provide testing and training must immediately make a copy of their written program available to EHS for review upon request.

Table 1: List of RPP Administrators & RPP Instructors ‡

| UNM Department | Name | Role | Email | Phone # | Approved by [Instructor] | Approved for Test Method? | | Valid Until [date] |
|----------------|---|--------------------|--|--------------|-----------------------------------|---------------------------|--------------|--------------------|
| | | | | | | Qualitative | Quantitative | |
| EHS | Kolt H. Vaughn | RPP Administrator* | kolt@unm.edu | 405.567.5188 | Jeff Biedenbach, DC Environmental | Yes | Yes | N/A |
| EHS | Tommy Evans | RPP Administrator* | tevans5@unm.edu | 505.553.0433 | Jeff Biedenbach, DC Environmental | Yes | Yes | N/A |
| EHS | Jimmy Garcia | RPP Instructor** | jimmyg@unm.edu | 505.318.8128 | Kolt H. Vaughn & Tommy Evans | Yes | Yes | N/A |
| EHS | Gonzo Orona | RPP Instructor** | gonzo522@unm.edu | 575.499.4004 | Kolt H. Vaughn & Tommy Evans | Yes | Yes | N/A |
| ‡ | UNMH personnel are exempt from this list. | | | | | | | |
| * | RPP Administrators [1] Are explicitly designated as such under 29 CFR § 1910.134(c) et seq., [2] Are externally qualified by a third-party vendor, [3] Provide "train-the-instructor" training and evaluations, and [4] Provide fit testing and training to UNM employees. | | | | | | | |
| ** | RPP Instructors [1] Are generally designated as such under 29 CFR § 1910.134(c) et seq., [2] Are annually trained, qualified, and evaluated internally by RPP Administrators, and [3] Provide fit test training to UNM employees. See footnote 1 above. | | | | | | | |

ATTACHMENT D – INFORMATION FOR VOLUNTARY RESPIRATOR USE

Consistent with Appendix D to 29 CFR § 1910.134 and 1910.504, entitled "Information for Employees Using Respirators When Not Required Under the Standard," which is incorporated and adopted in New Mexico pursuant to NMAC § 11.5.2.9, please be aware of the following:

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposure to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

Respirator users should:

- (1) Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirator's limitations.
- (2) Choose respirators certified for use to protect against the contaminant of concern. NIOSH certifies respirators (NIOSH is the National Institute for Occupational Safety and Health of the US Department of Health and Human Services). A label or Statement of Certification should appear on the respirator or respirator packaging. It will state what the respirator is designed for and how much protection it provides.
- (3) Not wear a respirator into atmospheres containing contaminants for which the respirator is not designed to provide protection. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or microscopic solid particles of fumes or smoke.
- (4) Keep track of their respirator so that you do not mistakenly use someone else's respirator.

Respirator users using a respirator on a voluntary basis should sign the acknowledgment below, which should be retained on file by their supervisor.

I understand the above and am using a respirator voluntarily. I am not cleared to wear a required respirator and will contact EHS if I am required to wear an N95 or other respirator as part of my job duties. I attest that I have viewed the EHS training video (<https://youtu.be/d0CABcsJjtl>) and reviewed the latest information from EHS (<https://ehs.unm.edu/voluntaryn95use.html>).

Printed Name

Title

Signature

Date

ATTACHMENT E – ACCEPTABLE FACIAL HAIR

Facial Hairstyles and Filtering Facepiece Respirators

Intended for workers who wear tight-fitting respirators

| Hairstyle | Acceptable |
|--|------------|
| CLEAN SHAVEN | ✓ |
| STUBBLE | ✗ |
| LONG STUBBLE | ✗ |
| FULL BEARD | ✗ |
| FRENCH FORK | ✗ |
| DUCKTAIL | ✗ |
| VERDI | ✗ |
| GARIBALDI | ✗ |
| BANDHOLZ | ✗ |
| SOUL PATCH | ✓ |
| GOATEE (Careful! Chin hair may easily cross the seal) | ✗ |
| CHIN CURTAIN | ✗ |
| EXTENDED GOATEE | ✗ |
| CIRCLE BEARD | ✗ |
| ANCHOR | ✗ |
| BALBO (Careful! Chin hair may easily cross the seal) | ✗ |
| VAN DYKE | ✗ |
| IMPERIAL | ✗ |
| SIDE WHISKERS | ✓ |
| MUTTON CHOPS | ✗ |
| HULIHEE | ✗ |
| HORSESHOE (Careful not to cross the seal) | ✓ |
| ZAPPA | ✓ |
| WALRUS | ✓ |
| PAINTER'S BRUSH | ✓ |
| CHEVRON | ✓ |
| HANDLEBAR | ✓ |
| PENCIL | ✓ |
| LAMPSHADE | ✓ |
| ZORRO | ✓ |
| VILLAIN (Careful not to cross the seal) | ✗ |
| WET NOODLE | ✗ |
| ENGLISH | ✗ |
| DALI | ✗ |

*If your respirator has an exhalation valve, some of these styles may interfere with the valve working properly if the facial hair comes in contact with it.
*This graphic may not include all types of facial hairstyles. For any style, hair should not cross under the respirator sealing surface.
Source: OSHA Respiratory Protection Standard
https://www.osha.gov/pls/oshweb/owadisp.show_document?p_table=standards&p_id=12716
Further Reading: NIOSH Respirator Trusted-Source Webpage
https://www.cdc.gov/niosh/nppt/topics/respirators/disp_part/respsource3fittest.html

Original image vector by fredrisher/Shutterstock.com

Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

Updated 05/20/2022

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Attachment E.1. Can I Have Facial Hair & Wear a Respirator?

FFRs, half face, and full face respirators cannot be used if the respirator user has a beard or facial hair that interferes with the face to respirator seal. Instead, PAPRs (Powered-Air Purifying Respirators) with a loose-fitting hood attachment can be used by respirator users who have beards or other facial hair. PAPRs with a tight-fitting facepiece will be fit tested in the negative pressure mode.

The OSHA respirator standard prohibits tight-fitting respirators from being worn by workers who have facial hair that comes between the sealing surface of the facepiece and the face of the wearer. Facial hair that lies along the sealing area of a respirator, such as beards, sideburns, or some mustaches, will interfere with respirators that rely on a tight facepiece seal to achieve maximum protection.⁷

Research tells us that the presence of facial hair under the sealing surface causes 20 to 1000 times more leakage compared to clean-shaven individuals. Gases, vapors, and particles in the air will take the path of least resistance and bypass the part of the respirator that captures or filters hazards out. A common misconception is that human hair can act as a crude filter to capture any particles that are in the airstream between the sealing surface and the user's skin. However, while human hair appears to be very thin to the naked eye, hair is much larger in size than the particles inhaled. Facial hair is not dense enough, and the individual hairs are too large to capture particles as an air filter does; nor will a beard trap gases and vapors like the carbon bed in a respirator cartridge. Therefore, the vast majority of particles, gases, and vapors follow the air stream right through the facial hair and into the respiratory tract of the wearer. In fact, some studies have shown that even a day or two of stubble can begin to reduce protection.⁸

ATTACHMENT F – PROGRAM EVALUATION FORMS

The forms on the following pages should be used to assess the efficacy of the RPP. Attachment F.1. Laboratory/Workplace Site Evaluation Form should be used to assess laboratories and workplaces to ensure they are engaging the proper tools, skills, and techniques to protect respirator users. Attachment F.2. Training Course Evaluation Form may be utilized to evaluate fit test training courses for suitable curriculum and instruction.

⁷ DHHS (NIOSH) Publication No. 2018-129 DOI: <https://doi.org/10.26616/NIOSHPUB2018129>.

⁸ Ibid.

Attachment F.1. Laboratory/Workplace Site Evaluation Form

Evaluator:

Name: _____ Title: _____ Date: _____

Respirator user:

Name: _____

Department: _____

Lab/Workplace: _____

For what procedure is the employee using the respirator?

| YES | NO | |
|-----|----|--|
| | | Does the supervisor have an established and adequate Laboratory/Workplace Respiratory Plan in place? |
| | | Are the respirator type(s)/model(s) appropriate for the hazard(s)? |
| | | Are the cartridge(s)/filter(s) appropriate for the hazard(s)? |
| | | Does the respirator user complete positive/negative fit checks prior to use? |
| | | Are the respirator(s) clean and in good condition? |
| | | Are the respirator users up-to-date for fit test training? |
| | | Can the respirator users identify the type of respirator and filter, cartridge, or canister they are using, and what limitations exist? |
| | | Do the respirator users maintain documentation of inspections and cleanings (i.e., a respirator inspection, cleaning, and maintenance form)? |
| | | Are any of the respirator users wearing a respirator with unacceptable facial hair? |

Attachment F.2. Training Course Evaluation Form

Course Title: **Respirator Fit Test Training**

Instructor(s): _____ Date: _____

| | Agree | Disagree |
|---|-------|----------|
| This training... | | |
| 1. Enhanced my knowledge. | | |
| 2. Provided valuable info relevant to my workplace. | | |
| 3. Was too time-consuming (i.e., it took too long to complete). | | |
| The instructor(s)... | | |
| 4. Communicated effectively. | | |
| 5. Remained professional. | | |
| 6. Demonstrated expertise. | | |
| 7. Showed interest in the topic. | | |

What part of the course provided the most value or what could change?

Additional comments/suggestions?

ATTACHMENT G – FAQs ABOUT FIT TESTING

Filtering out Confusion: Frequently Asked Questions about Respiratory Protection

Fit Testing

Over 3 million United States employees, in approximately 1.3 million workplaces, are required to wear respiratory protection. The Occupational Safety and Health Administration (OSHA) (29 CFR 1910.134) requires an annual respirator fit test to confirm the fit of any respirator that forms a tight seal on the wearer's face before it is used in the workplace. This ensures that users are receiving the expected level of protection by minimizing any contaminant leakage into the facepiece. The following are some frequently asked questions about respiratory protection and fit testing.



What is a Respirator Fit Test?



A fit test is conducted to verify that a respirator is both comfortable and correctly fits the user. Fit test methods are classified as either qualitative or quantitative. A **qualitative** fit test is a pass/fail test that relies on the individual's sensory detection of a test agent, such as taste, smell, or involuntary cough (a reaction to irritant smoke*). A **quantitative** fit test uses an instrument to numerically measure the effectiveness of the respirator.

The benefits of a fit test include better protection for the employee and verification that the employee is wearing a correctly-fitting model and size of respirator.¹ Higher than expected levels of exposure to a contaminant may occur if the respirator has a poor face seal against the user's skin, which can result in leakage.

How Often Must Fit Testing Be Conducted?

In addition to fit testing upon initially selecting a model of respirator, OSHA requires that fit testing be conducted annually, and repeated "whenever an employee reports, or the employer or the physician or other licensed health care professional makes visual observations of changes in the employee's physical condition that could affect respirator fit (e.g., facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight)."²

The appropriate length of time between respirator fit tests has been a point of debate and discussion for many years due to its use of workplace time and resources, especially in reference to the commonly-used filtering facepiece respirator (FFR).³ In response to these concerns, [NIOSH completed a study](#) that confirmed the necessity of the current OSHA respirator fit testing requirement, both annually and when physical changes have occurred.²



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Once I am Fit Tested, Can I use any Brand/Make/Model Respirator as Long as it is the Same Size?

A successful fit test only qualifies an employee to use the specific brand/make/model and size of respirator that he or she wore during that test. Respirator sizing is not standardized across models or brands. For example, a medium in one model may not offer the same fit as a different manufacturer's medium model.

Can I Have Facial Hair and still be Fit Tested to Wear a Tight-Fitting Respirator?

The OSHA respirator standard prohibits tight-fitting respirators to be worn by workers who have facial hair that comes between the sealing surface of the facepiece and the face of the wearer. Facial hair that lies along the sealing area of a respirator, such as beards, sideburns, or some mustaches, will interfere with respirators that rely on a tight facepiece seal to achieve maximum protection.



Incorrect respirator use due to beard and strap placement

Research tells us that the presence of facial hair under the sealing surface causes 20 to 1000 times more leakage compared to clean-shaven individuals.⁴ Gases, vapors, and particles in the air will take the path of least resistance and bypass the part of the respirator that captures or filters hazards out. A common misconception is that human hair can act as a crude filter to capture any particles that are in the airstream between the sealing surface and the user's skin. However, while human hair appears to be very thin to the naked eye, hair is much larger in size than the particles inhaled. Facial hair is not dense enough and the individual hairs are too large to capture particles like an air filter does; nor will a beard trap gases and vapors like the carbon bed in a respirator cartridge. Therefore, the vast majority of particles, gases, and vapors follow the air stream right through the facial hair and into respiratory tract of the wearer. In fact, some studies have shown that even a day or two of stubble can begin to reduce protection.

Do Powered Air-Purifying Respirators (PAPRs) Require Fit Testing?

The answer to this question depends on the type of facepiece that the respirator has. Any facepieces that form a tight seal to the wearer's face, e.g., half-masks and full facepieces, must be fit tested. Loose-fitting PAPRs, in which the hood or helmet is designed to form only a partial seal with the wearer's face or hoods which seal loosely around the wearer's neck or shoulders, do not require fit testing.

Where can I Find More Information?

This information and more is available on the [NIOSH Respirator Trusted-Source webpage](#).

*NIOSH does not endorse or recommend the use of the irritant smoke fit test. NIOSH, in its formal comments to OSHA on the proposed revision of 29 CFR 1910.1915, and 1926, strongly recommended against the use of this fit test method because of the health risk associated with exposure to the irritant smoke. That recommendation was primarily based on studies conducted as part of a NIOSH HHE (HETA 93-040-2315) and described in Appendix A of the NIOSH comments to OSHA dated May 15, 1995 (docket H-049).

References

1. Duling MG, Lawrence RB, Slaven JE, Coffey CC [2007]. Simulated workplace protection factors for half-facepiece respiratory protective devices. *J Occup Environ Hyg.* 4(6):420-431.
2. OSHA [1998]. Respiratory Protection. 29 CFR 1910.134. Final rule. *Fed Regist* 63:1152-1300.
3. Zhuang Z, Bergman MS, Brochu E, Palmiero AJ, Niezgoda G, He X, Roberge RJ, Shaffer RE [2016]. Temporal changes in filtering-facepiece respirator fit. *J Occup Environ Hyg.* 13(4), pp.265-274.
4. Stobbe TJ, daRozza RA, Watkins MA [1988]. Facial hair and respirator fit: a review of the literature. *Am Ind Hyg Assoc J.* 49(4):199-204.

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ATTACHMENT H – FAQs ABOUT USER SEAL CHECKS

Filtering out Confusion: Frequently Asked Questions about Respiratory Protection

User Seal Check

Over 3 million United States employees in approximately 1.3 million workplaces are required to wear respiratory protection. The Occupational Safety and Health Administration (OSHA) (29 CFR 1910.134) requires an annual fit test to confirm the fit of any respirator that forms a tight seal on the wearer's face before it is used in the workplace.¹ Once a fit test has been done to determine the best respirator model and size for a particular user, a **user seal check** should be done every time the respirator is to be worn to ensure an adequate seal is achieved.



What is a User Seal Check?

A user seal check is a procedure conducted by the respirator wearer to determine if the respirator is being properly worn. The user seal check can either be a positive pressure or negative pressure check.

During a **positive pressure user seal check**, the respirator user **exhales** gently while blocking the paths for air to exit the facepiece. A successful check is when the facepiece is slightly pressurized before increased pressure causes outward leakage.

During a **negative pressure user seal check**, the respirator user **inhales** sharply while blocking the paths for air to enter the facepiece. A successful check is when the facepiece collapses slightly under the negative pressure that is created with this procedure.

A user seal check is sometimes referred to as a fit check. A user seal check should be completed each time the respirator is donned (put on). It is only applicable when a respirator has already been successfully fit tested on the individual.

How do I do a User Seal Check while Wearing a Filtering Facepiece Respirator?

Not every respirator can be checked using both positive and negative pressure. Refer to the manufacturer's instructions for conducting user seal checks on any specific respirator. This information can be found on the box or individual respirator packaging.

The following positive and negative user seal check procedures for filtering facepiece respirators are provided as examples of how to perform these procedures.



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How to do a positive pressure user seal check

Once the particulate respirator is properly donned, place your hands over the facepiece, covering as much surface area as possible. Exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure is being built up inside the facepiece without any evidence of outward leakage of air at the seal. Examples of such evidence would be the feeling of air movement on your face along the seal of the facepiece, fogging of your glasses, or a lack of pressure being built up inside the facepiece.

If the particulate respirator has an exhalation valve, then performing a positive pressure check may be impossible. In such cases, a negative pressure check should be performed.

How to do a negative pressure user seal check



Negative pressure seal checks are typically conducted on particulate respirators that have exhalation valves. To conduct a negative pressure user seal check, cover the filter surface with your hands as much as possible and then inhale. The facepiece should collapse on your face and you should not feel air passing between your face and the facepiece.

In the case of either type of seal check, if air leaks around the nose, use both hands to readjust the nosepiece by placing your fingertips at the top of the metal nose clip. Slide your fingertips down both sides of the metal strip to more efficiently mold the nose area to the shape of your nose. Readjust the straps along the sides of your head until a proper seal is achieved.²

If you cannot achieve a proper seal due to air leakage, you may need to be fit tested for a different respirator model or size.

Can a user seal check be considered a substitute for a fit testing?

No. The user seal check does not have the sensitivity and specificity to replace either fit test methods, qualitative or quantitative, that are accepted by OSHA (29 CFR 1910.134). A user should only wear respirator models with which they have achieved a successful fit test within the last year. NIOSH data suggests that the added care from performing a user seal check leads to higher quality donnings (e.g., reduces the chances of a donning with a poor fit).³

Where can I Find More Information?

This information and more is available on the [NIOSH Respirator Trusted-Source webpage](#).

References

1. OSHA [1998]. Respiratory Protection. 29 CFR 1910.134. Final rule, Fed Regist 63:1152-1300.
2. NIOSH [2010]. How to properly put on and take off a disposable respirator. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2010-133 <https://www.cdc.gov/niosh/docs/2010-133/pdfs/2010-133.pdf>
3. Viscusi DJ, Bergman MS, Zhuang Z, and Shaffer RE [2012]. Evaluation of the benefits of the user seal check on N95 filtering facepiece respirator fit. J Occup and Environ Hyg. 9(6):408-416.

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ATTACHMENT I – FAQs ABOUT N95 REUSE & EXTENDED USE

Filtering out Confusion: Frequently Asked Questions about Respiratory Protection

Respirator Reuse and Extended Use

Nationwide, approximately 1.3 million workplaces provide at least a portion of their employees with respiratory protection. One of the most common types of respiratory protection is the filtering facepiece respirator (FFR), which is designed to be discarded when it becomes unsuitable for further use due to considerations of hygiene, excessive resistance, or physical damage. However, due to the considerations of cost, convenience, and supply, respiratory protection program managers have great interest in the practices of reuse and extended use of National Institute for Occupational Safety and Health (NIOSH)-approved FFRs that are not damaged or soiled. The following are a few of the most frequently asked questions about respirator reuse.



Can Filtering Facepiece Respirators Safely be Reused?

Yes, in certain situations. **Reuse** refers to the practice of using the same respirator multiple times during a work shift. The respirator is stored between uses and put on (donned) again prior to the next potential exposure.

In most workplace situations, an FFR can be reused as part of an employer's respiratory protection program. Safe FFR reuse is affected by a number of variables that impact respirator function and contamination over time.^{1, 2} Unless the respirator manufacturer identifies a specified duration of use, for example "single use only", or the employer's respiratory protection program excludes reuse, users can wear an FFR until it is damaged, soiled, or causing noticeably increased breathing resistance.

FFRs should only be reused by the same wearer and should be stored in the following ways:

- According to manufacturer's recommendations;
- In a way that protects them from damage, dust, contamination, sunlight, extreme temperatures, excessive moisture, damaging chemicals, and;
- In a way that prevents deformation of the facepiece, straps, and exhalation valve, if present.

Regardless of the setting, the number of times an FFR is reused should be limited. There is no way of determining the maximum possible number of safe respirator reuses as a generic number to be applied in all cases.



When Should Employees not Reuse their Filtering Facepiece Respirators?

While limited FFR reuse is practiced safely in many workplaces, extra caution should be taken in workplaces where there are additional risks posed by handling a potentially contaminated respirator.



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For example, FFRs **should not** be reused in biosafety and animal biosafety levels 2 and 3 laboratories.³ Pathogens can remain on the respirator surface for extended periods of time and can potentially be transferred by touch to the wearer's hands and thus risk causing infection through subsequent touching of the mucous membranes of the face (i.e., self-inoculation). Similar to other personal protective equipment (PPE) used in these environments, such as gloves, FFRs should be discarded after each use and disposed of with other contaminated laboratory waste. There are also additional considerations when implementing FFR reuse in a healthcare setting. To learn more, see the [Recommended Guidance for Extended Use and Limited Reuse of N95 Filtering Facepiece Respirators in Healthcare Settings](#) as well as the [Hospital Respiratory Protection Program Toolkit](#).

How Long can Employees Wear the Same Filtering Facepiece Respirator?

Extended use refers to the practice of wearing the same respirator for repeated exposures, without removing (doffing) the respirator. Continuous or extended FFR use of several hours or more is common in many industries. In general, an employee can safely wear the same FFR until it is damaged, soiled, or causing noticeably increased breathing resistance.

The maximum length of continuous use in non-dusty workplaces is typically dictated by hygienic concerns (e.g., the respirator was discarded because it became contaminated), or practical considerations that call for automatic removal and break in wearing the respirator (e.g., need to use the restroom, meal breaks, etc.), rather than a pre-determined number of hours.



However, for dusty workplaces that could result in high filter loading (e.g., 200 mg of material captured by the filter), service time for N-series filters (such as the commonly-used N95) should be limited to 8 hours of use (continuous or intermittent).⁴ Extensions should only be granted by performing an evaluation in specific workplace settings that: (a) demonstrates extended use will not degrade the filter efficiency below the efficiency level specified in [42 CFR Part 84](#), or (b) demonstrates the total mass loading of the filter(s) is less than 200 mg.

The key consideration for safe extended use is that the respirator **must** maintain its fit and function.

Where can I Find More Information?

This information and more is available on the [NIOSH Respirator Trusted-Source webpage](#).

References

1. Fisher EM, Nishi JD, Lindley WG, Bachert EM, Shaffer RE [2014]. Validation and application of models to predict facemask influenza contamination in healthcare settings. *Risk Anal.* 34(8):1423-1434.
2. Fisher EM, Shaffer RE [2014]. Considerations for recommending extended use and limited reuse of filtering facepiece respirators in healthcare settings. *J Occup Environ Hyg.* 11(8):D115-D128.
3. Brady TM, Ramanach AL, Almaguer CM, Nazgoda G, Shaffer RE, Yocco PL, Fisher EM. [2017]. Transfer of bacteriophage MS2 and fluoroescence from N95 filtering facepiece respirators to hands necessitating its potential. *J Occup and Environ Hyg.* 14(11):886-896.
4. NIOSH [1996]. Guide to the selection and use of particulate respirators. Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 96-101. <https://www.cdc.gov/niosh/docs/96-101/default.html>. Author's courtesy of Shutterstock.

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ATTACHMENT J – FAQs ABOUT NIOSH-APPROVED FFRs & FILTERS

The link below provides an up-to-date, comprehensive listing of NIOSH-approved particulate filtering facepiece respirators (i.e., N95s, N99s, P100s). These types of air-purifying respirators protect by filtering particles out of the air the user is breathing. There are seven classes of filters for NIOSH-approved filtering facepiece respirators available at this time. Ninety-five percent is the minimal level of filtration that will be approved by NIOSH.

https://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/default.html

ATTACHMENT J.1. What does the "N95" actually mean?

N95 is a characterization of the filtering mechanism for a given respirator. However, other classifications exist, and it's important to know the difference.

To start, N95 means the respirator filters at least 95% of airborne particles, and it is not resistant to oil. Any combination of classification and rate listed in Table 2 is possible. For example, a P100 classification and rate mean the respirator filters at least 99.97% (i.e., 100%) of airborne particles, and it is strongly resistant to oil (i.e., oil-Proof).

Table 2 - Air-Purifying Filter Classifications and Removal Efficiency Rates

| Classification | Percent (i.e., Rate) of Removable Particulate Matter (PM) | | |
|---|---|----|-----|
| N (Not resistant to oil) | 95 | 99 | 100 |
| R (Resistant to oil) | 95 | 99 | 100 |
| P (oil-Proof) | 95 | 99 | 100 |
| 100 = High Efficiency Particulate Air (HEPA) Filter (actual removal rate: 99.97%) | | | |