



**Environmental Health Safety  
& Risk Management**

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## RESPIRATORY PROTECTION PROGRAM

### NEW MEXICO STATE UNIVERSITY

Las Cruces, New Mexico

Environmental Health Safety

&

Risk Management (EHS&RM)

575-646-3327

[safety.nmsu.edu](http://safety.nmsu.edu)

Compliant to OSHA 29 CFR § 1910.134 and §1910.132



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## **NMSU Respiratory Protection Plan**

### **I. Purpose**

The purpose of this program is to preserve the health of personnel by preventing exposure to harmful levels of air contaminants or areas of low oxygen content. Where feasible, exposure to hazardous environments will be eliminated by the application of engineering controls, (e.g., enclosure or isolation of the operation, ventilation) or administrative controls (e.g., use of less hazardous materials, limiting time in hazardous environment). When these controls are not feasible, suitable respiratory protection must be provided.

This program complies with OSHA 29 CFR 1910.134 and 1910.132. Specifically, the program complies with 29 CFR 1910.134(c), which requires the employer (New Mexico State University (NMSU)) to develop and implement a written respiratory protection program, 1910.134(k) requiring an initial user fit test and annual refresher user training and fit testing and more often if necessary.



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## **II. Responsibilities**

A. NMSU Environmental Health Safety & Risk Management (EHS&RM) is the program administrator. This encompasses our main campus as well as our remote sites and branch campuses around the state of New Mexico.

B. EHS&RM as the program administrator is responsible for overseeing the development of the respiratory program as well as assuring the program is reviewed annually and updated when necessary

C. The supervisor is responsible for ensuring that all personnel under his/her control have received all applicable training and fit testing prior to performing work requiring respiratory protection and annually thereafter. Additionally, this person is responsible for providing respiratory protection for his/her employees at no charge to the employee.

1. Supervisors should contact EHS&RM for information on the mandatory employee training required prior to being fit tested and wearing a respirator.

EHS&RM conducts all respiratory training and fit testing for NMSU employees

2. The supervisor's responsibility includes conducting a job hazard analysis of the workplace to determine if hazards are present or likely to be present that may require an employee to wear a respirator. Supervisors may contact EHS&RM for assistance in completing a job hazard analysis.

3. If the hazard analysis determines that hazards are present that will require the use of a respirator, the supervisor must assure employee(s) use the correct type of respirators and cartridges that will protect the affected employee(s) from those identified hazards.

4. Supervisors may contact EHS&RM for assistance in evaluating air contaminants and determining the proper respiratory protection, as well as additional PPE that may be needed.

D. As appropriate an operational supervisor may be designated to oversee the respiratory safety for specific projects. The operational supervisor is responsible for ensuring that all personnel under his/her control have received all applicable training and fit testing prior to performing work requiring respiratory protection and annually thereafter. Additionally, the operational supervisor is responsible for providing respiratory protection for his/her employees at no charge to the employee.



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1. Operational supervisors should contact EHS&RM for information on the mandatory employee training required prior to being fit tested and wearing a respirator. EHS&RM conducts all respiratory training and fit testing for NMSU employees.
2. The operational supervisor's responsibility includes conducting a job hazard analysis of the workplace to determine if hazards are present or likely to be present that may require an employee to wear a respirator.
3. If the hazard analysis determines that hazards are present that will require the use of a respirator, the operational supervisor must assure employee(s) use the correct type of respirators and cartridges that will protect the affected employee(s) from those identified hazards.
4. The operational supervisor may contact EHS&RM for assistance in evaluating air contaminants and determining the proper respiratory protection, as well as additional PPE that may be needed.

**E. Participants and Users**

1. Participants are responsible for maintaining an awareness of the respiratory protection requirements for their jobs or work area. In addition, all participants are responsible for the inspecting, wearing, and maintenance of assigned respiratory equipment.
2. The supervisor shall provide to the employee the necessary items to assure that respirators are cleaned and disinfected and stored properly.

**F. Volunteer usage of a respirator**

1. Appendix D to § 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard
2. 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 exposures 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.
3. You should do the following:
  - a) Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.



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- b) Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
- c) Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
- d) Keep track of your respirator so that you do not mistakenly use someone else's respirator.

### III. Administration

A. EHS&RM provides the Respiratory Protection training. This training consists of the following:

- 1. Respiratory Protection Program & Respirator Fit Testing (Online)
- 2. Complete the online Respirator Protection Training & Fit Testing class
- 3. Respirator Medical Evaluation Questionnaire
- 4. Complete the Respirator Medical Evaluation Questionnaire
  - a) NOTE Initial Respiratory Safety & Fit class provides employees with the initial training & respirator fit test. EHS&RM must receive medical approval from a physician or medical practitioner before registration will be allowed. All employees that need respiratory protection for their job function must complete this training. After the initial fit testing, a refresher training and fit test must be completed annually thereafter.
- 5. When medically approved, EHS&RM will contact you to schedule an in-person respirator fit test.
- 6. Go to [safety.nmsu.edu](http://safety.nmsu.edu) and click the Training drop down menu. Click on Class Descriptions and scroll down until you find; **Respiratory Protection Program & Respirator Fit Testing (Online)** Hyperlink will take you to Training Central where you can register for the class and fill out/send off your medical evaluation questionnaire.

B. EHS&RM conducts respirator fit test using OSHA approved methods.



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1. Standard equipment similar to the examples above EHS&RM will provide testing with:
  - a) Quantitative fit testing method
    - (1) This method uses a Condensation Nuclei Counter (CNC) testing system which measures the concentration of ultrafine particulates in the ambient atmosphere and then measures the concentration of these ultrafine particulates (a.k.a. respirable particulates) in the breathing zone of the respirator while the test subject is actually moving and breathing. This method is used for full/half face, self-contained breathing apparatus (SCBA), airline and N95 respirators).
  - b) Qualitative fit testing method
    - (1) This method is a pass/fail method used on full/half face, SCBA, airline, powered air and N95 respirators that relies on senses - such as taste and smell - to detect air leakage from your respirator. 4 protocols for qualitative fit testing are recognized and approved testing agents by OSHA:
      - (a) Isoamyl Acetate) Isopentyl Acetate or Banana Oil)
      - (b) Sweet (Saccharin)
      - (c) Bitter (Denatonium Benzoate)
      - (d) Irritant Smoke
2. Powered air-purifying respirator (PAPR)
  - a) These are respirators that protect the user by filtering out contaminants in the air and use a battery-operated blower to provide the user with clean air through a tight-fitting respirator, a loose-fitting hood or a helmet.
    - (1) Use of tight-fitting PAPRs requires medical evaluation and fit testing;
    - (2) Use of loose-fitting PAPRs (hoods or helmets) does not require fit testing. However, a medical evaluation questionnaire must still be filled out for medical approval to wear a loose-fitting/helmet type PAPR.
- C. EHS& RM maintains a training and respirator fit test database and issues a fit test record and card to the trained individuals.

## **IV. Basic Respiratory Protection Program**



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- A. This program complies with OSHA 29 CFR 1910.134 and 1910.132. Specifically, the program complies with 29 CFR 1910.134(c), which requires the employer (New Mexico State University (NMSU)) to develop and implement a written respiratory protection program, 1910.134(k) requiring an initial user fit test and annual refresher user training and fit testing and more often if necessary.
- B. OSHA 29 CFR Part 1910.134(d)(1)(ii) requires that the employer select a National Institute for Occupational Safety and Health (NIOSH)-certified respirator. The respirator shall be used in compliance with the conditions of its certification.
- C. **Respirator Selection**
1. The selection of the type of negative-pressure, air-purifying respirator and filter media is made by evaluating the respiratory hazard(s) in the workplace to which the employee is exposed and identifying relevant workplace and user factors that affect the respirator performance and reliability. Respirator selection will be dependent on above factors. The Safety Data Sheets (SDS) should be consulted first to make this determination.
  2. EHS&RM should also be consulted as they play a critical role in the assessment of respirator and filter media type selection.
  3. EHS&RM maintains a sufficient number of respirator models and sizes for fit testing, to assure respirator correctly fits the user.
  4. Supplied breathing air respirators, airline or SCBA, are required for Immediate Danger to Life and Health IDLH atmospheres.
  - 5.
- D. **Respirator Availability**
1. The supervisor will assure a respirator is available to each new hire or transferee participating in any activity requiring respiratory protection.
  2. The supervisor will assure that replacement respirators, filters and cartridges are available as needed. All replacement parts, filters and cartridges must be designed for that respirator unit.
- E. **Personnel Training and Fit-Testing**
1. EHS&RM provides the Respiratory Protection training. This training consists of the following:
    - a) Respiratory Protection Program & Respirator Fit Testing (Online)





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- (1) Go to [safety.nmsu.edu](http://safety.nmsu.edu) and click the Training drop down menu. Click on Class Descriptions and scroll down until you find; Respiratory Protection Program & Respirator Fit Testing (Online) Hyperlink will take you to Training Central where you can register for the class and fill out/send off your medical evaluation questionnaire
  - b) Complete the online Respirator Protection Training & Fit Testing class
  - c) Respirator Medical Evaluation Questionnaire
2. Initial Respiratory Safety & Fit class provides employees with the initial training & respirator fit test. EHS&RM must receive medical approval from a physician or medical practitioner before registration will be allowed. All employees that need respiratory protection for their job function must complete this training. After the initial fit testing, a refresher training and fit test must be completed annually thereafter.
  - a) *Once medically approved, EHS&RM will contact you to schedule an in-person respirator fit test.*
3. An EHS&RM qualified trainer will conduct training and fit testing to instruct personnel in proper respirator fit which shall include demonstration and practice on how the respirator should be worn, adjusted, and how to determine proper fit. Each respirator user shall have a respirator of correct size, proper fit, and appropriate for use the respiratory hazards of their workplace. The correct filter or cartridges will also have been determined.
4. Each individual upon assignment to a respirator required area, will be briefed by his/her supervisor in regards to the respirator program and work task(s) to be done.
5. The supervisor upon assignment of the individual to the respirator required area will review the information on the individuals fit test record to assure the current respirator the individual has been fit tested for is appropriate. If a different respirator than the one indicated will be required, retraining and refitting will be conducted by EHS&RM for that respirator.
6. A written change out schedule for filter/cartridge replacement will be developed, implemented and maintained by the Supervisor or designee for respirator use.
7. Respirators must not be worn when conditions prevent an adequate face seal. A fit test will not be conducted if conditions exist which could compromise the face- respirator seal. Such conditions include a full beard, side burns or moustache extending into the respirator seal, scalp hair inside the seal area, or temple bars of eye glasses that extend through the sealing edge of the face piece.



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- F. Employees who wear respiratory protection must be retrained and fit tested annually. NMSU Hazardous Communication training is required as part of the respiratory protection/fit testing Program. This is an online training. Hazard Communication (Online)
- G. Respirator Inspection and Maintenance
1. Respirator users shall inspect units before and after each episode of use, and periodically spot check for fit, use, and condition.
  2. The user, in coordination with his/her supervisor, is responsible for ensuring the respirator is maintained in serviceable condition.
  3. Trained users are responsible for cleaning their respirators according to the manufacturer's instructions or department policy for respirators which are not discarded after single use. Alcohol or other solvents should not routinely be used to clean respirators. Mild soap or an approved cleaning solution recommended by the manufacture should be used.
  4. Individually assigned respirators not discarded after one episode of use shall be marked or stored in such a manner as to assure they are worn only by the individual to whom they are assigned.
  5. Individually assigned respirators not discarded after one episode of use shall be stored in a clean, sanitary container away from areas of contamination, sunlight, extreme cold or excessive moisture. Respirators shall be stored so that the face piece and exhalation valve rest in a normal position (face up).
  6. Respirators assigned to be used by more than one employee shall be cleaned and disinfected prior to subsequent use by another employee. Mild soap or an approved cleaning solution recommended by the manufacture should be used.
  7. Respirators that fail their inspection should be replaced with a new unit.
- H. Supplied Air Respiratory Equipment.
1. This section is for use of supplied air respirators such as Self-Contained Breathing Apparatus (SCBA) and Airline Supplied Respirators. The full face piece SCBA and airline respirators are available and will be used only by trained personnel when it is necessary to enter hazardous atmospheres. The following points pertain to use of this equipment.
  2. EHS&RM representative or qualified trainer will fully train all potential users and inspectors in the use and inspection of this equipment.
  3. When the equipment is used, it will be tested in an uncontaminated atmosphere prior to entering the hazardous area if possible.



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4. An individual will not work alone with this apparatus in a hazardous atmosphere. A second individual suitably equipped with a similar breathing apparatus and other rescue equipment must maintain visual, voice, or signal line communications with the first individual and must be available and capable of rendering assistance if necessary. The operation supervisor must plan so that the second individual will be unaffected by any likely incident
5. Trained users will clean and disinfect respiratory equipment after each use.
6. Respiratory equipment will be inspected after each episode of use and monthly by the user(s). Inspections shall ensure that air cylinders are fully charged and the regulator and warning devices function properly. Inspection and maintenance information will be recorded in a log book.
7. All supplied air must meet CLASS D requirements for breathing air.

**I. Fire Fighter Requirements**

1. All firefighting personnel must perform their duties as specified by the additional interior structural firefighting requirements listed in 29 CFR 1910.134(g)(4). At least two employees entering the IDLH atmosphere will remain in visual or voice contact at all times.
2. At least two employees are located outside the IDLH atmosphere for rescue and communications if needed.
3. All employees engaged in interior structural firefighting will use SCBAs.

**J. MONITORING**

1. Three types of monitoring comprise the medical aspects of this program.
  - a) Evaluations or medical examinations will be conducted by a qualified physician Healthcare Provider on all prospective participants to ensure they are physically fit and able to perform assigned tasks while using respiratory protection equipment prior to fit testing or assignment. This examination is one-time only unless employee health or work conditions change significantly in which case re-evaluation may be necessary.
  - b) If deemed necessary by the Healthcare Provider, periodic physical examinations may be given to regular employees in order to assist them in maintaining their health while using respiratory protection equipment on-the-job.



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- c) The user's department will provide all personnel working with hazardous chemicals an opportunity to receive medical attention if they develop signs and/or symptoms associated with exposure to a hazardous material. All medical examinations and consultations will be performed by a licensed physician. Healthcare Provider.
2. If an occupational exposure to hazardous chemicals or materials occurs, notify EHS&RM as soon as possible. EHS&RM is required to initiate an incident investigation for any occupational exposure to hazardous chemicals or materials.