



**RESPIRATORY PROTECTION  
PROGRAM FOR EBOLA RELATED  
PROJECTS**

**GC14-13014**

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## I. PURPOSE

- A. Employees performing Ebola related activities have the potential for exposure to respiratory biohazards during their various project activities. The purpose of this program is to ensure that all employees are protected from exposure to these respiratory hazards.
- B. Engineering controls, such as negative pressure ventilation and contaminant isolation, are the first line of defense. However, engineering controls have not always been adequate for some of our projects or have not always completely controlled the identified biohazards. In these situations, respirators and other protective equipment must be used. The cleaning activities requiring respirator use are outlined in Table 1 in the Scope and Application section of this program.
- C. In addition, employees may request to wear a respirator during certain operations that do not require respiratory protection for compliance with Occupational Safety and Health Administration (OSHA) standards or company policy. If the use of respiratory protection will not jeopardize the health or safety of the worker, respirators for voluntary usage will be provided. As outlined in the Scope and Application section of this program, voluntary respirator use is subject to certain requirements of this program.
- D. This program complies with provisions found in 29 CFR 1910.134 (Respiratory Protection standard). The respiratory protection standard is included in this document as Appendix A.

## II. SCOPE AND APPLICATION

- A. This program applies to all employees who are required to wear respirators during normal work operations or during non-routine or emergency situations. All employees engaged in actual Ebola related activities must be enrolled in the company's respiratory protection program.
- B. In addition, any employee who voluntarily wears a respirator when a respirator is not required is subject to the medical evaluation, cleaning, maintenance, and storage elements of this program and must be provided with certain information specified in this section of the program.
- C. Employees participating in the respiratory protection program do so at no personal cost. The expense associated with training, medical evaluations, and respiratory protection equipment will be

borne by the employer.

Table 1: Required Respirator Usage for Ebola Related Activities

Activity	Respirator
Proactive/Protective Cleaning to Address Community Concerns	Required: Full-face negative pressure respirator with HEPA filters*
	Recommended: Powered air purifying respirator (PAPR) with HEPA filters*
Known or Suspected Ebola Contamination Cleanup Procedures	Required: Full-face negative pressure respirator with HEPA filters*
	Recommended: Powered air purifying respirator (PAPR) with HEPA filters or supplied air respirator *
Standard Trauma Scene Cleanup Procedures	Required: Full-face negative pressure respirator with HEPA filters*
	Recommended: Powered air purifying respirator (PAPR) with HEPA filters*

\* If significant odors are present, an additional organic vapor filter is required to be attached to the HEPA filter.

### III. RESPONSIBILITIES

#### A. Program Administrator

The program administrator is responsible for administering the respiratory protection program. Duties of the program administrator include:

1. Identifying work areas, processes, or tasks that require employees to wear respirators; evaluating hazards
2. Selecting respiratory protection options
3. Monitoring respirator use to ensure that respirators are used in accordance with their certifications
4. Arranging for or conducting training and annual retraining
5. Ensuring proper storage and maintenance of respiratory protection equipment
6. Arranging for or conducting qualitative or quantitative fit testing as necessary
7. Maintaining records required by the program
8. Evaluating the program

9. Updating the written program as needed

B. Supervisors

Supervisors are responsible for ensuring that the respiratory protection program is implemented for employees under their supervision. In addition to being knowledgeable about the program requirements for their own protection, supervisors must also ensure that the program is understood and followed by the employees under their charge. Duties of the supervisor include:

1. Ensuring that the employees under their supervision have received appropriate training and respirator fit testing
2. Ensuring the availability of appropriate respirators and accessories
3. Being aware of tasks requiring the use of respiratory protection
4. Enforcing the proper use of respiratory protection when necessary
5. Ensuring that the respirators are properly cleaned, maintained, and stored according to the respiratory protection plan
6. Ensuring that respirators fit well and do not cause discomfort
7. Continually monitoring work sites and remediation activities to identify respiratory hazards
8. Coordinating with the program administrator on how to address respiratory hazards or other concerns regarding the program

C. Employees

Each employee has the responsibility to wear his or her respirator when and where required and in the manner in which they were trained. Employees must also:

1. Care for and maintain their respirators as instructed and store them in a clean and sanitary location
2. Inform their supervisor if the respirator no longer fits well and request a new one that fits properly
3. Inform their supervisor or the program administrator of any respiratory hazards that they feel are not adequately addressed in the workplace and of any other concerns they have regarding the program

#### IV. PROGRAM ELEMENTS

##### A. Respirator Selection Procedures

The program administrator will select respirators to be used during Ebola related project activities based on the hazards to which the employees are exposed and in accordance with all OSHA standards. At a minimum, employees will wear respirators in accordance with Table 1 of this document. For certain projects or conditions, the program administrator may choose to mandate that workers wear respirators that offer greater protection than described in Table 1.

##### B. National Institute for Occupational Safety and Health (NIOSH) Certification

1. All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in accordance with the terms of that certification. Also, all filters, cartridges, and canisters must be labeled with the appropriate NIOSH approval label. The label must not be removed or defaced while it is in use.

##### C. Medical Evaluation

Employees who are required to wear respirators must pass a medical exam before being permitted to wear a respirator on the job. Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respirator usage.

A licensed physician will provide the medical evaluations. Medical evaluation procedures are as follows:

1. The medical evaluation will be conducted using the questionnaire provided in Appendix C of the Respiratory Protection standard. The program administrator will provide a copy of this questionnaire to all employees requiring medical evaluations.
2. To the extent feasible, the company will assist employees who are unable to read the questionnaire by providing help in reading the questionnaire. When this is not possible, the employee will be sent directly to the company physician for medical evaluation.
3. All affected employees will be given a copy of the medical questionnaire to fill out, along with a stamped and

addressed envelope for mailing the questionnaire to the company physician. Employees will be permitted to fill out the questionnaire on company time.

4. Follow-up medical exams required by the standard or deemed necessary by the physician will be granted to employees.
5. All employees will be granted the opportunity to speak with the company physician about their medical evaluation if they so request.
6. The program administrator will provide the company physician with a copy of this program, a copy of the Respiratory Protection standard, a list of hazardous substances used in Ebola related project activities, and for each employee requiring evaluation his or her job title, proposed respirator type and weight, length of time required to wear respirator, expected physical work load (light, moderate, or heavy), potential temperature and humidity extremes, and additional personal protective equipment (PPE) required.
7. Any employee required for medical reasons to wear a powered air purifying respirator (PAPR) will be provided with such a respirator for all work activities requiring respiratory protection.
8. After an employee has received clearance and begun to wear his or her respirator, additional medical evaluations will be provided under the following circumstances:
  - a. Employee reports signs or symptoms related to their ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing
  - b. The company physician or supervisor informs the program administrator that the employee needs to be reevaluated
  - c. Information from this program, including observations made during fit testing and program evaluation, indicates a need for reevaluation
  - d. A change occurs in workplace conditions that may result in an increased physiological burden on the employee

A list of employees currently included in medical surveillance is provided in Table 2 of this program.

All examinations and questionnaires are to remain confidential between the employee and the physician.

#### D. Fit Testing

Fit testing is required for all employees who wear respirators. Employees who are required to wear respirators will be fit tested:

1. Prior to being allowed to wear any respirator with a tight fitting facepiece
2. At least annually
3. When there are changes in the employee's physical condition that could affect respiratory fit (*e.g.*, obvious change in body weight, facial scarring, cosmetic surgery, etc.)

Employees will be fit tested with the make, model, and size of the respirator that they will actually wear. Fit testing of PAPRs is to be conducted in the negative pressure mode.

The program administrator will conduct fit tests following the OSHA approved Bitrex Solution Aerosol Qualitative Fit Testing (QLFT) Protocol in Appendix B of the Respiratory Protection standard.

#### E. Respirator Use

Respiratory protection is required for all personnel while performing cleaning activities. The following employees are approved for respirator use while working:

Table 2: Personnel in the Respiratory Protection Program

Name	Respirator ID, if applicable	Annual Fit Test Date	Medical Evaluation Date
<i>(Insert Name)</i>	<i>(Insert ID)</i>	<i>(Insert Date)</i>	<i>(Insert Date)</i>

1. General Use Procedures
  - a. Employees will use their respirators under conditions specified by this program, and in accordance with the training they receive on the use of each particular model. In addition, the respirator shall not be used in a manner for which it is not certified by NIOSH or by its manufacturer.
  - b. All employees shall conduct user seal checks each time they wear the respirator. Employees shall use either the positive or negative pressure check (depending on which works best for them) specified

in Appendix B1 of the Respiratory Protection standard.

- c. All employees shall be permitted to leave the Ebola related project work area to a clean environment to maintain their respirator for the following reasons: to clean their respirator if the respirator is impeding their ability to work, change filters or cartridges, replace parts, or to inspect respirator if it stops functioning as intended. Employees should notify their supervisor before leaving the work area and follow all decontamination procedures as required in the Ebola Clean Up Policy.
- d. Employees are not permitted to wear tight-fitting respirators if they have any condition such as facial scars, facial hair, or missing dentures; that prevents them from achieving a good seal. Employees are not permitted to wear headphones, jewelry, or other articles that may interfere with the facepiece-to-face seal.

2. Emergency Procedures:

Respiratory protection may be needed in the event of an emergency while at the job site. An emergency consists of, but is not limited to hazardous substance spills or leaks, major containment breach, etc. Respiratory protection in these instances is for escape purposes only. Employees should immediately exit the area of the emergency. Once all employees have safely mobilized out of the emergency area, action should be taken to correct and/or minimize the nature of the emergency.

3. Respirator Malfunction

For any malfunction of a respirator (*e.g.*, facepiece leakage, improperly working valve, etc.), the respirator wearer should inform his or her supervisor that the respirator no longer functions as designed, and proceed to a safe area to maintain the respirator. The supervisor must ensure that the employee receives the needed parts to repair the respirator, or is provided with a new respirator.

4. Immediate Danger to Life and Health (IDLH)

Ebola related projects may need to occur in an area of confined space or other inherently hazardous areas. In such cases, employees shall follow the permit required

confined space entry procedures in the applicable Confined Space Program. Employees entering this area shall wear a pressure demand supplied-air respirator (SAR). In addition, an appropriately trained and equipped standby person shall remain outside the work area and maintain constant communication with the worker. In the event of an emergency requiring the standby person to enter the IDLH environment, the standby person shall immediately notify the program administrator and will proceed with rescue operations in accordance with rescue procedures outlined in the Confined Space Program.

5. Supplied Air Respirator Air Quality

For supplied-air respirators, only grade D breathing air shall be used. The program administrator will coordinate deliveries of compressed air with the company's vendor and require that vendor to certify that the air in the cylinders meets the specifications of grade D breathing air.

The program administrator will maintain a minimum supply of one fully charged replacement cylinder for each SAR unit. In addition, cylinders may be recharged as necessary.

6. Cleaning

Respirators are to be regularly cleaned and disinfected. Respirators issued for the exclusive use of an employee shall be cleaned as often as necessary. Shared respirators will be cleaned at the end of each work shift.

The following procedure is to be used when cleaning and disinfecting respirators:

- a. Submerge the respirator with filters attached in a container with antimicrobial solution appropriate for the Ebola virus. Allow the respirator to be covered by the antimicrobial solution for fifteen minutes or the manufacturer's recommended dwell time; whichever is longer.
- b. Disassemble respirator, removing any filters, canisters, or cartridges.
- c. Wash the facepiece and associated parts in mild detergent with warm water. Do not use organic solvents.
- d. Rinse completely in clean warm water.

- e. Wipe the respirator with disinfectant wipes (70% isopropyl alcohol) to kill germs.
- f. Air dry in a clean area.
- g. Reassemble the respirator and replace any defective parts.
- h. Place in a clean, dry plastic bag or other airtight container.

The program administrator will ensure an adequate supply of appropriate cleaning and disinfectant materials are available to employees. If supplies are low, employees should contact their supervisor, who will inform the program administrator.

#### H. Maintenance

Respirators are to be properly maintained at all times in order to ensure that they function properly and adequately protect the employee. Maintenance involves a thorough visual inspection for cleanliness and defects. Worn or deteriorated parts will be replaced prior to usage. No components will be replaced or repairs made beyond those recommended by the manufacturer.

The following checklist will be used when inspecting respirators:

- 1. Facepiece:
  - a. cracks, tears, or holes
  - b. face mask distortion
  - c. cracked or loose lenses/face shield
- 2. Headstraps:
  - a. breaks or tears
  - b. broken buckles
  - c. loss of elasticity
- 3. Valves:
  - a. residue or dirt
  - b. cracks or tears in valve material
- 4. Filters/Cartridges:
  - a. approval designation
  - b. gaskets
  - c. cracks or dents in housing

- d. proper cartridge for hazard
5. Air Supply Systems:
- a. breathing air quality/grade
  - b. condition of supply hoses
  - c. hose connections
  - d. settings on regulators and valves

Employees that are required to leave the Ebola related work area to perform limited maintenance on their respirator in an area that is free of respiratory hazards must follow all appropriate decontamination steps. Situations when this is permitted include to wash their face and respirator facepiece to prevent any eye or skin irritation, to replace the filter, cartridge, or canister, if they detect vapor or gas breakthrough or leakage in the facepiece, or if they detect any other damage to the respirator or its components.

I. Filter Change Schedule

Employees wearing a full mask respirator shall change cartridges on their respirators when they first begin to experience difficulty breathing while wearing their masks, or at some point before breathing resistance occurs. Filters will also be changed if damaged and at intervals recommended by the manufacturer. Organic vapor filter cartridges will be changed if the wearer detects an odor inside the mask regardless of whether or not the estimated length of service has been met.

J. Storage

Respirators must be stored in a clean, dry area and in accordance with the manufacturer's recommendations. Each employee will clean and inspect the respirator he or she wore during cleaning activities in accordance with the provisions of this program and will store his or her respirator in a resealable plastic bag.

K. Defective Respirators

Respirators that are defective or have defective parts shall be taken out of service immediately. If, during an inspection, an employee discovers a defect in a respirator, he or she will bring the defect to the attention of the supervisor. Supervisors will give all defective respirators to the program administrator. The program administrator will decide whether to:

- 1 Temporarily take the respirator out of service until it can be repaired.
- 2 Perform a simple fix on the spot such as replacing a headstrap.
- 3 Dispose of the respirator due to an irreparable problem or defect.

When a respirator is taken out of service for an extended period of time, the respirator will be tagged out of service, and the employee will be given a replacement of similar make, model, and size. All tagged out respirators will be kept in an area deemed appropriate by the program administrator.

Respirators may be repaired only by an appropriately trained person, who must use NIOSH-approved parts that are designed for the particular respirator being repaired. Valves, regulators, and alarms for air supplied systems must be adjusted and repaired only by the manufacturer or a technician trained by the manufacturer.

#### L. Training

The program administrator will provide training to respirator users and their supervisors on the contents of the Respiratory Protection Program and their responsibilities under it, and on the OSHA Respiratory Protection standard. Employees will be trained prior to using a respirator in the workplace. Supervisors will also be trained prior to using a respirator in the workplace or prior to supervising employees that must wear respirators.

The training course will cover the following topics:

1. Respiratory Protection Program
2. The OSHA Respiratory Protection standard
3. Respiratory hazards encountered during Ebola cleaning jobs and their health effects
4. Proper selection and use of respirators
5. Limitations of respirators
6. Respirator donning with user seal (fit) checks
7. Fit testing
8. Maintenance and storage
9. Medical signs and symptoms limiting the effective use of respirators

Employees will be trained annually or as needed. Employees must demonstrate their understanding of the topics covered in the training through hands-on exercises and a written test. Respirator training will be documented by the program

administrator and the documentation will include the type, model, and size of respirator for which each employee has been trained and fit tested.

## V. PROGRAM EVALUATION

The program administrator will conduct periodic evaluations of the project workplaces to ensure that the provisions of this program are being implemented. The evaluations will include regular consultations with employees who use respirators and their supervisors, work site inspections, air monitoring, and a review of records.

Problems identified will be noted in an inspection log and addressed by the program administrator.

## VI. DOCUMENTATION AND RECORDKEEPING

A written copy of this program and the OSHA standard is kept by the program administrator and is available to all employees who wish to review it.

Also maintained by the program administrator are copies of training and fit test records. These records will be updated as new employees are trained, as existing employees receive refresher training, and as new fit tests are conducted.

The program administrator will also maintain copies of the medical records for all employees covered under the respirator program. The completed medical questionnaire and the physician's documented findings are confidential and will remain at the physician's office. The company will only retain the physician's written recommendation regarding each employee's ability to wear a respirator.