

Respiratory Protection Policy

Summary

This policy describes the processes for identifying airborne hazards, selecting and using proper respirators, medical evaluations of employees and fit testing of respirators, training, and recordkeeping requirements. The policy outlines the requirements necessary to implement a respiratory protection program. Instructions and procedures specific to each work area are located in the worksite-specific procedures

1.1 Overview

In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (e.g., enclosure or confinement of the operation, general and local ventilation) or administrative control measures (e.g., substitution of less toxic materials).

When effective engineering and/or administrative controls are not feasible, or while they are being instituted,

appropriate respirators shall be provided and used pursuant to this policy when such equipment is necessary to protect the health of the employee.

1.1.1 Validation

No employee of US BT shall be issued or required to wear a respirator unit until:

- The need for such protection is validated.
- The affected employee has met the criteria set forth by the Occupational Safety and Health Administration (OSHA) in Title 29 of the Code of Federal Regulations (CFR) 1910.134.

1.2 Identification of Airborne Contaminants

1.2.1 Types of Contaminants

There are two main types of respiratory hazards: oxygen deficiency and airborne contaminants. This policy covers only airborne contaminants.

The main types of airborne contaminants are:

- dusts: particles, released during work operations such as grinding and sawing
- mists: particles of liquid, released during operations such as spray painting
- vapors: gaseous forms of a liquid, such as paint solvents

- fumes: vaporized condensed metals, as present in welding operations
- gases: such as nitrogen, methane, carbon

1.2.2 Workplace Evaluations / Hazard Assessments

Each workplace where airborne contaminants are suspected to exist must be evaluated for possible airborne contaminants utilizing sources provided to the Branch Safety Coordinator/Administrator by BT EH&S Management. A hazard assessment will be conducted in workplaces with the possibility of overexposure.

Once a respiratory hazard has been identified, the work area must be monitored for any changes in concentration level or for new hazards. Changes in work processes, substitution of materials, or changes in the ventilation of an area may necessitate re-testing. Supervisors are responsible for monitoring day-to-day operations and reporting changes to the Branch Safety Coordinator/Administrator.

1.3 Selecting Proper Respiratory Protection

1.3.1 Controlling Airborne Hazards

When considering the control of airborne hazards, engineering and administrative controls will first be considered as a means to reduce the hazards.

Engineering controls can include enclosure, substitution, process modification, and ventilation. Administrative controls include scheduling changes to reduce time spent in contaminated areas.

1.3.2 Required Use of Respirators

In situations where engineering and administrative controls do not sufficiently reduce exposure to levels below Permissible Exposure Levels (PELs), respirators are required.

1.3.3 Selection of Respirators

- Only NIOSH approved respirators will be used.
- Single strap disposable comfort masks are not approved respirators.
- Respirators will be selected based on the respiratory hazards to which the employee is exposed, and the workplace and user factors that affect performance.
- An employee shall wear only a respirator which has been fit tested and approved for the employee and the hazards of the exposure.
- Respirator types, models, sizes, and cartridges are not interchangeable.

The following factors are to be considered when determining the proper respiratory protection:

- Employee exposure (e.g., concentration, route of exposure)
- Physical form and chemical state of the contaminant

If the employee exposure cannot be identified or estimated, then the atmosphere must be considered IDLH.

++Special Note: Once an IDLH atmosphere has been identified or estimated requiring the use of atmosphere supplying respirators, the Branch Safety Coordinator/Administrator must employ the use of specially trained contractors. BT employees are forbidden by this policy from wearing atmosphere supplying respirators. The following information about atmosphere supplying respirators is provided for comparison information purposes only.

For protection against particulates, one of the following respirators shall be provided:

- An atmosphere supplying respirator (see **++Special Note** above)
- An air purifying respirator equipped with a filter certified by NIOSH as a HEPA (High Efficiency Particulate Air) filter
- An air purifying respirator equipped with a filter certified for particulates by NIOSH
- For contaminants consisting primarily of particulates with a mass median aerodynamic diameter (MMAD) of at least 2 micrometers, an air purifying respirator with any filter certified for particulates by NIOSH

For protection against gases and vapors, one of following respirators shall be provided:

- An atmosphere supplying respirator (see **++Special Note** above)

- An air purifying respirator that is either equipped with a chemical cartridge that has an end of service life indicator (ESLI) certified by NIOSH for the contaminant, OR if there is no appropriate ESLI, then a replacement schedule must be in place for cartridges and filters based on information that will assure the cartridges are changed before their end of service life. The replacement schedule must be included in the worksite-specific instructions. BT EH&S Management will assist in determining the cartridge change schedule.

1.3.4 Voluntary Use of Respirators

- Employees will be allowed to use respirators voluntarily if the respirator itself will not create a hazard.
- Employees may use a “dust mask” on a voluntary basis. However, prior to usage, the employee must contact his supervisor and the supervisor must contact the BSC/A. In addition, the employee must obtain from the BSC/A and sign a receipt for a copy of the OSHA Appendix D “(Mandatory) Information for Employees Using Respirators When Not Required Under Standard” prior to usage.
- Employees voluntarily wearing respirators other than dust masks are subject to the requirements of this policy, including medical evaluations, training, and maintenance procedures.
- Fit tests are required for voluntary users.

1.4 Maintenance and Care of Respirators

1.4.1 Cleaning and Disinfecting

Each employee shall be provided with a respirator that is clean, sanitary, and in good working order.

Respirators shall be cleaned and disinfected using the procedures recommended by the manufacturer.

The frequency for cleaning and disinfecting is as follows:

- Respirators used by only one employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition, but always prior to being stored after use.
- Shared respirators must be cleaned and disinfected prior to use.
- Emergency use respirators must be cleaned and disinfected after each use.
- Respirators used in fit tests and training exercises must be cleaned and disinfected after use.

1.4.2 Storage

Respirators shall be stored so as to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. Respirators shall be stored in such a manner as to prevent deformation of the face piece and valves.

Emergency use respirators shall be kept accessible to the work area, in compartments or covers that are clearly

marked as containing emergency respirators, and stored in accordance with the manufacturer's instructions.

1.4.3 Inspection

Respirators used in routine situations shall be inspected before each use and during cleaning.

Emergency use respirators shall be inspected at least monthly and in accordance with the manufacturer's instructions.

Emergency use respirators shall also be checked for proper function before and after each use.

Escape-only respirators shall be inspected before being brought into the work area.

A respirator inspection includes the following:

- A check of respirator function, tightness of connections, and the condition of the various parts, including the face piece, head straps, valves, connecting tubes, cartridges, canisters, and filters
- A check of the elastic parts for pliability or deterioration

1.4.4 Repairs

Respirators that fail inspections or are otherwise found to be defective shall be removed from service and discarded, repaired, or adjusted by appropriately trained persons with NIOSH approved parts, according to manufacturer's specifications.

Valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or manufacturer's technicians.

1.4.5 Identification of Filters, Cartridges, and Canisters

Filters, cartridges, and canisters must be labeled and color coded with the NIOSH approval label. The label is not to be removed and must remain legible.

1.5 Limitations of Air Purifying Respirators

1.5.1 IDLH Atmospheres

Air purifying respirators shall not be used in oxygen deficient atmospheres, IDLH atmospheres, or unknown atmospheres. All confined spaces shall be considered IDLH unless proven otherwise. If assistance is required to determine an unknown atmosphere, contact BT EH&S Management.

1.5.2 Respirator Types

Respirator types, models, and sizes are not interchangeable. An employee shall only wear a respirator which has been fit tested and approved for the employee's use.

1.5.3 Cartridges and Filters

Cartridges and filters are specific to certain hazards. Use the cartridge approved for the task. Do not interchange manufacturer's cartridges or filters.

1.5.4 Concentration

There are limits to the concentration levels that can be used with half-mask and full-face respirators. Consult the cartridge's Maximum Upper Limit and BT EH&S Management to determine if you have the proper level of protection.

1.5.5 Face Seal Protection

Anything that breaks the seal of a respirator will reduce its effectiveness. Facial hair, temple bars of glasses, and head coverings are not to be worn.

Corrective lenses can be fitted inside a full-face respirator with a special insert kit.

1.6 Medical Evaluations

Using a respirator may place a physiological burden on employees that vary with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee. Due to this, the following information specifies the minimum requirements for medical evaluation that US BT will implement to determine the employee's ability to use a respirator.

1.6.1 Initial Evaluations

A medical evaluation of every employee affected by this policy must be performed to determine the employee's ability to use a respirator, prior to the employee being fit

tested or being required to use a respirator in the workplace.

All medical evaluations shall be discontinued when the employee is no longer required to use a respirator.

Medical evaluations shall be conducted by a physician or other licensed health care professional (PLHCP).

Each BT branch office should independently contract a local PLHCP to administer respirator wearer medical evaluations.

Medical questionnaires and examinations shall be administered confidentially and during normal working hours.

- Employees shall obtain and complete a medical questionnaire, which is available through www.osha.gov.
- All completed questionnaires shall be sealed in a "confidential" envelope and submitted to a US BT HR representative or designated US BT EH&S representative (or taken by the employee to the designated occupational medical provider).
- The US BT HR or designated US BT EH&S representative shall forward all questionnaires delivered to them to the designated occupational medical provider for review, if not taken by employee.
- The US BT HR or designated US BT EH&S representative shall provide the following

information to the designated occupational medical provider, prior to the clinic making a recommendation concerning an employee's ability to use a respirator:

- The type and weight of the respirator to be used by the employee
 - The duration and frequency of respirator use
 - The expected physical work effort
 - Additional protective clothing and equipment to be worn
 - Temperature and humidity extremes that may be encountered
 - A copy of the BT Respiratory Protection Policy
 - A copy of OSHA's Respiratory Protection Standard 29 CFR 1910.134
- The designated occupational medical provider shall provide a written recommendation:
 - Regarding the employee's ability to use the respirator
 - Including any limitations on respirator use related to the medical condition of the employee
 - Including any limitations on respirator use relating to the workplace conditions in which the respirator will be used
 - Including whether or not the employee is medically able to use the respirator

- Identifying the need, if any, for follow-up medical evaluations

1.6.2 Follow-up Medical Examinations

Follow-up medical examinations are necessary if an employee gives a positive response to any of the questions presented in a medical evaluation questionnaire.

The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

1.6.3 Additional Medical Evaluations

At a minimum, additional medical evaluations shall be required if:

- An employee reports medical signs or symptoms that are related to the ability to use a respirator.
- The physician, supervisor, or representative from BT EH&S Management recommends a re-evaluation.
- Information from the respiratory protection program, including observations made during fit testing and evaluation, indicates a need for employee re-evaluation.
- A change occurs in workplace conditions (e.g., physical work effort, protective clothing, and temperature) that may result in a substantial

increase in the physiological burden placed on an employee.

1.6.4 Medical Determination

The Branch Safety Coordinator/Administrator must obtain a written recommendation from the PLHCP on whether or not the employee is medically able to use the respirator. The recommendation shall include only the following information:

- **Any limitations on respirator use related to the medical condition of the employee or workplace conditions, including whether the employee is medically able to wear the respirator**
- The need, if any, for a follow-up medical examination
- A statement that the PLHCP has provided the employee with a copy of the recommendation

If the PLHCP finds an employee cannot use a negative pressure respirator, a PAPR will be provided, if suitable.

1.6.5 Employee Access

The employee shall receive a copy of the PLHCP's recommendation. The employee shall have an opportunity to discuss the questionnaire and examination with the PLHCP.

1.7 Fit Testing

1.7.1 Initial Fit Tests

Before wearing a respirator, employees are required to be fit tested with the same make, model, style, and size of respirator that will be used. A sufficient number of respirator models and sizes shall be available so that the respirator is acceptable to and correctly fits the user. Employees shall wear only respirators which have been fit tested and approved for use.

1.7.2 Fit Test Procedures

1.7.2.1 *Specific Definitions*

- Negative pressure respirator (tight-fitting) means a respirator in which the air pressure inside the face piece is negative during inhalation with respect to the ambient air pressure outside the respirator.
- Positive pressure respirator means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.
- Qualitative Fit Test (QLFT) means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.
- Quantitative Fit Test (QNFT) means an assessment of the adequacy of respirator fit by

numerically measuring the amount of leakage into the respirator.

- Loose-fitting face piece means a respiratory inlet covering that is designed to form a partial seal with the face.
- Tight-fitting face piece means a respiratory inlet covering that forms a complete seal with the face.
- User seal check means an action conducted by the respirator user to determine if the respirator is properly seated to the face.

Fit tests are either qualitative or quantitative, depending on the respirator type and use, and must follow the procedures outlined in the OSHA Respiratory Protection Standard 29 CFR 1910.134. Fit tests shall be performed by qualified fit test technicians. To be qualified, a fit test technician must have been trained in both qualitative and quantitative fit test procedures.

Frequency fit testing shall be conducted annually, and whenever changes in an employee's physical condition could affect respirator fit, and whenever requested by the employee because the fit is unacceptable.

1.7.2.2 Guidelines

- Before an employee can use any respirator with a negative or positive pressure tight-fitting face piece, the employee shall be fit tested with the same make, model, style, and size of respirator that will be used.

- A third party shall conduct and ensure employees pass an appropriate Qualitative Fit Test (QLFT).
- Fit testing shall be conducted prior to the initial use of the respirator and whenever a different respirator face piece (e.g., size, style, model, make) is used and at least annually thereafter.
- An additional fit test shall be conducted whenever any of the following occurs:
 - Significant weight change (20 pounds or more)
 - Significant facial scarring in the area of the face piece seal
 - Significant dental changes
 - Reconstructive or cosmetic surgery
 - Other conditions that may interfere with the face piece seal
- If after passing a QLFT, the employee subsequently notifies management that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator face piece and be retested.
- Respirators with tight-fitting face pieces shall not be worn by employees who have:
 - Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function.

- Any condition that interferes with the face-to-face piece seal or valve function.
- If an employee wears corrective glasses or goggles or other Personal Protective Equipment, it shall be worn in a manner that does not interfere with the seal of the face piece to the face of the user. If needed, US BT EH&S Management shall be consulted to determine on a case by case basis the providing for corrective lens for the inside of the respirator.

1.7.3 Records

Records of fit tests must be maintained by the Branch Safety Coordinator/Administrator, and should include names, dates, types of tests, results and make, model, style and size of the respirator fitted.

1.7.4 Prohibitions

Tight-fitting face pieces are not to be worn by employees:

- Who have facial hair that comes between the sealing surface and the face, or that interferes with valve function.
- Who have any condition that interferes with the seal, such as missing dentures, jewelry, or head gear.
- If corrective glasses, goggles, or other PPE interfere with the seal.

1.7.5 User Seal Check

Employees must perform a user seal check each time they put on the respirator according to the manufacturer's specified recommendations.

1.7.6 Continued Respirator Effectiveness

Appropriate surveillance of the work area and employee exposure shall be maintained by the supervisor and Branch Safety Coordinator/Administrator. Respirator effectiveness must be re-evaluated when there is a change in work area conditions or degree of employee exposure or stress.

1.7.7 Leaving the Respirator Work Area

Employees must be allowed to leave the respirator use area:

- To wash their faces and respirators as necessary to prevent eye or skin irritation.
- If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece.
- To replace the respirator or the filter cartridges or canisters.

A defective respirator must be replaced or repaired before returning to the work area.

1.8 Recordkeeping

Records of training and fit testing shall be kept by the Branch Safety Coordinator/Administrator for the duration of the wearer's employment plus 5 years. Records of medical evaluations shall be kept for the duration of the wearer's employment and 30 years following. (See the SII Records Management and Retention Work Instruction.)

1.9 Policy Evaluation

The Branch Safety Coordinator/Administrator shall conduct evaluations of the workplace as necessary to ensure the provisions of this written policy are being effectively implemented.

The policy evaluation shall include consulting with employees required to wear respirators to assess the employee's views on respiratory protection program effectiveness and to identify any problems. Any problems

identified shall be corrected. Factors to be assessed include respirator fit, appropriate respirator

1.9.1 Hazard Assessment

- Initially
 - whenever work processes change
 - written hazard assessment
 - Branch Safety Coordinator/Administrator

1.9.2 Cleaning and Disinfecting

- Respirators used by one employee must be cleaned as often as necessary
- Shared respirators must be cleaned prior to use
- Emergency respirators must be cleaned after each use

1.9.3 User Seal Check

- Each time a respirator is put on

1.9.4 Inspections

- Respirators must be inspected before each use and during cleaning
- Emergency respirators must be inspected monthly
- A record of inspections kept by supervisor

1.9.5 Medical Evaluations

- Initially
 - as necessary

- records kept by Branch Safety Coordinator/Administrator

1.9.6 Fit Testing

- Initially
 - annually
 - as necessary
 - records kept by Branch Safety Coordinator/Administrator

1.9.7 Training

- Initially
 - annually
 - as necessary
 - records kept by Branch Safety Coordinator/Administrator

1.9.8 Policy Evaluation

- Initially
 - annually
 - as necessary
 - records kept by Branch Safety Coordinator/Administrator