



Delaware State University

University Area Responsible: Risk and Safety Management

Policy Number and Name: 7-08: Respirator Policy

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Related Policies and Procedures: 7-06: Confined Space Policy, 7-29: Protective Equipment Hazard Assessment

1. Purpose

The purpose of the Respirator Policy is to protect Delaware State University (DSU) employees, students and outside contractors (while working on Campus) from exposure to respiratory hazards in compliance with the 29 CFR 1910.134 - Occupational Safety and Health Administration's (OSHA) Respiratory Protection Standard.

- 2. Scope and Application** - The Respirator Policy applies to the use of any type of respirator, including **dust masks**, at Delaware State University. The main objective will be to prevent atmospheric contamination through the presence of vapors, fumes, smokes, sprays, gases, mists, dusts, etc. that may cause harm to employees or students by mechanical means but if that cannot be accomplished the use respirators will be

authorized and implemented.

2.1 This Policy covers both the **Mandatory use** and the **Voluntary use** of respirators:

2.1.1 **Mandatory use:** when a respirator is necessary to protect the health of an employee from exposure to air contaminants above an exposure limit or otherwise necessary to protect employee health; or when an employee is directed to wear a respirator as a condition of employment.

2.1.2 **Voluntary use:** when a respirator is worn for comfort or other reasons by an employee, though conditions do not exist as described above, that require its use.

3. Policy - Delaware State University will provide Respirators when it is determined that they are necessary to safeguard the health of the employees and students. The type of respirator provided will depend on the type of activity and potential exposure to airborne hazardous materials. A respirator is a personal protective device used to protect the wearer from inhalation of harmful levels of airborne matter or contaminants. Respirators should be used only when it is determined that engineering controls such as ventilation, enclosure of an operation, or substitution with less toxic materials are not sufficient or not feasible or during the installation or construction of engineering controls. Respirators must be carefully selected, properly fitted, regularly inspected and cleaned, and repaired when broken. Wearers must be medically evaluated for respirator use and trained in the appropriate use, care, maintenance and limitations of respiratory protective devices. Work area environments must be periodically evaluated to determine the appropriate level of respiratory protection necessary.

3.1 The Safety/Risk Manager at Delaware State University is the designated administrator for this policy and as such will be responsible for its implementation and evaluation. He or she will review the Policy on an annual basis and apply any changes and or updates when deemed necessary.

3.2 The Safety/Risk Manager will be authorized to require or prohibit the use of respiratory protective equipment.

3.3 The purchase and use of respirators and other respiratory protective equipment must be approved by the Safety/Risk manager.

3.4 Permission from the Safety/Risk Manager must be granted before any employee is allowed to use any respiratory protective equipment.

3.5 Department Supervisors will work with the Safety/Risk Manager to identify employees and work areas where the use of Respirators or other respiratory protective equipment will be mandatory.

4. Procedure

4.1 Authorization - The Safety/Risk Manager will be authorized to require or prohibit the use of respiratory protective equipment.

4.1.1 The purchase and use of respirators and other respiratory protective equipment must be approved by the Safety/Risk

manager.

- 4.1.2 Permission from the Safety/Risk Manager must be granted before any employee is allowed to use any respiratory protective equipment.
- 4.1.3 Department Supervisors will work with the Safety/Risk Manager to identify employees and work areas where the use of Respirators or other respiratory protective equipment will be mandatory.

4.2 Training Responsibilities:

- 4.2.1 Department Supervisors will work with the Safety/Risk Manager to identify employees and work areas where the use of Respirators or other respiratory protective equipment will be mandatory.
- 4.2.2 Employees will be evaluated by the Physician or other Licensed Health Care Professional contracted by DSU and receive written approval for the use of respiratory protective equipment prior to commencing training.
- 4.2.3 After employees have received medical approval, the supervisor will schedule them for training with the Safety/Risk Manager.
- 4.2.4 All employees must receive training prior to using any respirator, including dust masks.
- 4.2.5 The Safety/Risk Manager must arrange for a **qualified instructor** to provide training for the use of Air Purifying Respirators (APRs), SCBA and Air-line Respirators. If the Safety/Risk Manager is a **qualified instructor**, he or she will provide the training.
- 4.2.6 Safety/Risk Manager and Supervisors will arrange for employee training:
 - 4.2.6.1 **Before** being assigned a respirator.
 - 4.2.6.2 **Annually**.
 - 4.2.6.3 **Whenever Retraining** is necessary because of changes in the workplace or a new type of respirator is required or if an employee's performance shows that he or she has not retained the necessary understanding or skill in the usage of a respirator.
- 4.2.7 Employees who are **not required** to wear a respirator choose to **voluntarily** wear dust masks must receive awareness level of training. This type of training will be provided by the Safety/Risk Manager and is only required once. A record of the training and the recipient must be kept by the Safety/Risk Manager. **If other types of respirators will be used voluntarily**, supervisors must ensure that employees are medically evaluated, trained, and fit-tested annually.

4.3 Medical Evaluations - An initial medical evaluation must be conducted by the physician or other licensed health care professional (PLHCP) under University contract before an employee is assigned tasks requiring the use of a respirator, or before an employee is allowed to voluntarily use a respirator.

- 4.3.1 Voluntary use of dust masks does not require this medical evaluation.
- 4.3.2 Medical evaluations must be conducted every three years for individuals who exclusively wear filtering face-piece respirators and annually for wearers of all other types of respirators.
- 4.3.3 Medical evaluations must be conducted whenever an employee reports medical signs or symptoms that are related to his or her ability to use a respirator and when a change occurs in the workplace that places a greater physiological burden on an employee.
- 4.3.4 The PLHCP will include in his written evaluation any recommended limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which a respirator will be used, including whether or not the employee is medically able to use a respirator and the need, if any, for follow-up medical examinations.
- 4.3.5 Supervisors and the Safety/Risk Manager will keep a **medical record** for each employee on file. **It must include: The name of the employee; the PLHCP's written recommendation; a copy of the employee's medical evaluation results, and results of any tests or follow-up physical examinations; and any employee medical complaints related to exposure to any respiratory hazards.**
- 4.3.6 The Safety/Risk Manager at Delaware State University is responsible for ensuring that medical records are maintained for the duration of employment plus thirty (30) years, in compliance with the 29 CFR 1910.1020 Standard.

4.4 Choosing a Respirator - The Safety/Risk Manager will make sure that only respirators certified by the National Institute for Occupational Safety and Health (NIOSH) are purchased and used. Respirators will be chosen based on:

- 4.4.1 The potential hazard the employee will be exposed to.
- 4.4.2 The environment and the type of contaminant or substance and its state (dust, mist, vapor, etc., or a combination of them).
- 4.4.3 The exposure limit and toxicity of the substance.
- 4.4.4 The possibility of oxygen deficiency or other environments that are immediately dangerous to life or health.
- 4.4.5 Restrictions applicable to the types of respirators being considered which could make them unsafe in the environment where work is to be performed.

4.5 Respirator Types:

- 4.5.1 **Air-Purifying Respirators (APRs)** cleanse contaminated air as it passes through an air-purifying device (such as a filter, cartridge, or canister). The respirator will not offer protection unless the proper air-purifying device made for specific air contaminants

(such as gases, vapors, dusts, mists and fumes) is used. Contact the Safety/Risk manager for assistance in selecting the proper air-purifying device.

4.5.1.1 **APRs provide no protection against oxygen deficiency or other atmospheres that are immediately dangerous to life or health (IDLH)--in other words, atmospheres that would not allow the wearer to escape if the respirator were to fail. Air-purifying devices used for protection against gases and vapors must be equipped with end-of-service-life indicators (ESLIs). Otherwise, a change schedule must be implemented to ensure continued effectiveness of the respirator.**

4.5.1.2 *Dust Masks* are APRs with the face-piece serving as the filtering medium. These may or may not contain exhalation valves built into the face-piece.

4.5.2 *Full-face-piece and half-mask negative pressure respirators* use a variety of air-purifying devices to absorb, adsorb, or filter contaminants from the air. A full-face-piece respirator provides protection from eye irritants and offers more protection from air contaminants than a half-mask respirator.

4.5.3 *Powered Air-Purifying Respirators* (PAPR) are positive pressure devices that use a blower to force ambient air through an air-purifying device, and then to the wearer's respirator face-piece, hood, or helmet. **The PAPR is the most protective of the APRs because the positively pressurized respirator prevents inward leakage of contaminants into the face-piece, hood, or helmet.**

4.5.4 *Atmosphere-Supplying Respirators* provide a supply of breathable air to the wearer from an uncontaminated source, independent of the ambient air. The OSHA Respiratory Protection Standard **requires employers to provide workers who are wearing atmosphere-supplying respirators with breathing air of high purity.**

4.5.4.1 There are **two types of atmosphere-supplying respirators:**

4.5.4.1.1 *Air-line Respirators* supply the wearer with breathable air through a hose from a compressor or compressed air cylinder. These respirators are equipped with half- or full- face-pieces, hoods, helmets, or loose-fitting face-pieces. Air-line respirators use one of three airflow control devices to regulate the airflow: 1) continuous-flow; 2) pressure-demand; or 3) demand. In a continuous-flow respirator, a constant but adjustable flow

of air is delivered to the respirator that maintains a slight positive pressure inside the respirator and thus prevents inward leakage. This type of equipment is best suited for use with an air compressor. When compressed air cylinders are used as the air source and air must be conserved, the pressure-demand type respirator is preferred. Pressure-demand maintains a slight positive pressure while supplying air at the demand of the wearer. A demand type respirator is **not** recommended since it does not maintain a positive pressure within the face-piece. Air-line respirators may not be used in **IDLH** atmospheres.

4.5.4.1.2 *A Self-contained Breathing Apparatus (SCBA)* provides a breathing air source that is carried by the user, offering greater mobility to the wearer than air-line respirators. **SCBAs may be used in IDLH atmospheres provided that they offer a minimum service life of 30 minutes. This is the equipment of choice for emergency situations.** SCBA respirators with less than 30 minutes of service life may be used to escape from IDLH atmospheres provided that they are NIOSH-certified for escape from the atmosphere in which they will be used. **An SCBA's advantage over an air-line respirator is that it can be used at greater distances from an air source.** Disadvantages are the weight, bulk, and the time limit associated with each air supply unit. **Additionally, higher levels of operator training are required to ensure safe use.**

4.5.5 Combined Respirators

4.5.5.1 *SCBA/Air-line combination units* provide SCBA back-up if the primary air-line supply fails. These respirators may be used in IDLH atmospheres and are good for situations that require extended work periods beyond the time provided by an SCBA alone.

4.5.5.2 *Air-Purifying/Air-line* combination units, provide an APR back-up if the air supply fails. These respirators may **not** be used in IDLH atmospheres. Furthermore, they may only be used in atmospheres for which the air-purifying device is approved.

4.6 Properly Fitting Respirators - Supervisors must ensure that each employee is *Fit Tested* to his/her assigned respirator prior to its first use. In addition, *User Seal Checks* must be performed by the employee prior to each use of the respirator.

4.6.1 Fit Tests --This section applies to all tight-fitting respirators, excluding dust masks used voluntarily. It also does not apply to helmets, or loose-fitting hoods, or to escape-only respirators.

4.6.1.1 Employees must pass a respirator fit test **prior to using a respirator and annually thereafter.**

4.6.1.2 The Safety/Risk Manager or his or her authorized designee will perform these tests using the Qualitative Fit Test method.

4.6.1.3 *SCBA and Air-Line respirators used in demand mode, or Full-face negative pressure respirators used in atmospheres more than ten times the OSHA Permissible Exposure Limit, the Safety/Risk Manager and the respective Departments must make special arrangements for fit testing using the Quantitative Fit Test method with the manufacturer or with a qualified fit testing agency.

4.6.1.4 Additional fit testing is required whenever an employee:

4.6.1.4.1 Experiences a weight change of 20 lbs or more;

4.6.1.4.2 has significant dental changes; or

4.6.1.4.3 has any other change in facial conditions that may interfere with face-piece sealing (i.e., broken facial bone, scarring, surgery, etc.).

4.6.1.5 Fit tests will be conducted with the same make, model, and size respirator that the employee will use on the job.

4.6.1.6 Employees with beards or other facial hair that interfere with a tight face-piece seal will not be allowed to use tight-fitting respirators, and **will not be fit tested.** Respiratory protection for employees with beards may be attained by using a powered air-purifying hood. **Employees must be trained in User Seal Checks by the Safety/Risk Manager.**

4.6.1.7 **Prior to each use,** a User Seal Check must be

performed by the employee to ensure an adequate seal is achieved each time the respirator is worn. **User Seal Checks are not substitutes for Fit Tests.**

4.6.1.8 Employees who must wear corrective glasses, goggles, or other protective equipment must do so in a manner that does not interfere with the face-to-face-piece seal or valve function of the respirator.

4.7 Cleaning and Disinfecting Respirators - Respirators (except dust masks) must be cleaned and disinfected:

4.7.1 As recommended by the manufacturer when issued for the exclusive use of one employee.

4.7.2 Before being worn by different individuals.

4.7.3 When used for fit testing and training.

4.7.4 Clean Respirators (except dust masks) by:

4.7.4.1 Removing filters or cartridges.

4.7.4.2 Removing components as recommended by the manufacturer and discarding or repairing any defective parts.

4.7.4.3 Washing components in warm (110°F max.) water with a disinfecting cleaner recommended by the manufacturer.

4.7.4.4 Rinsing components **thoroughly** in clean, warm, preferably running water.

4.7.4.5 Hand drying components with a clean lint-free cloth or air dry.

4.7.4.6 Reassembling all components, replacing filters and cartridges where necessary.

4.7.4.7 Testing the respirator to ensure that all components work properly.

4.8 Storage - Respirators must be stored to protect them from damage from the elements.

4.8.1 Emergency respirators must be stored in accordance with the manufacturer's recommendations in marked compartments that are easily accessible to the work area where they would be needed.

4.9 Respirator Inspections - When inspecting a respirator its proper functioning, and the condition of its components must be checked.

4.9.1 Respirators that are used often must be inspected before each use and during routine cleaning by the user.

4.9.2 SCBAs and emergency respirators must be inspected monthly and checked for proper function before and after each use. SCBA inspections will also include checking that cylinders are fully charged and that regulators and warning devices function properly.

4.9.3 The Safety/Risk Manager will be in charge of **SCBA inspections**

which must be certified and documented by tagging the respirator and keeping inspection reports.

- 4.9.4** Emergency escape-only respirators must be inspected before being carried into the workplace for use.
- 4.9.5** Supervisors must periodically inspect respirators to ensure that they are kept clean, stored properly, and in good working condition.
- 4.9.6** Employees must report any malfunction of a respirator or damaged respirator parts to his or her supervisor.
- 4.9.7** Supervisors must inform the Safety/Risk Manager of any worn-out or damaged respirator or respirator parts and take them out of service immediately. The Safety/Risk Manager will approve their replacement with NIOSH-approved parts or repaired by trained personnel as recommended/required by the manufacturer.

4.10 Program Evaluation - The Safety/Risk Manager will conduct periodic workplace evaluations to ensure that this policy is being effectively implemented. Evaluations must include:

- 4.10.1** Site inspections.
- 4.10.2** Review of respirator use records.
- 4.10.3** Regular consultations with employees who use respirators and their supervisors.
- 4.10.4** Air monitoring in the corresponding work sites.
- 4.10.5 Any problems identified during the evaluation will be forwarded to the employee's supervisor, and will include recommended corrective action and target dates for the implementation of those corrections.**