

Introduction

The purpose of a respiratory program is to ensure that all employees are properly protected from respiratory hazards. According to 29CFR 1910.134, creating and maintaining an individualized written respiratory program is the responsibility of all employers who provide respirators to their employees. All respirators must be approved by the National Institute of Occupational Safety and Health (NIOSH), and the Mine Safety and Health Administration (MSHA).

29 CFR 1910.134(c) requires the employer to develop and implement a written respiratory protection program with required worksite-specific procedures and elements for required respirator use. The program must be administered by a suitably trained program administrator. In addition, certain program elements may be required for voluntary use to prevent potential hazards associated with the use of the respirator. Minimum respiratory requirements for all contaminants can be found in 29 CFR 1910.134, and in separate sections for specific contaminants (i.e. CFR 1910.1001 for asbestos; CFR 1910.1025 for lead, etc.). The employer will also need to read and comply with all federal, state and local regulations dealing with respiratory protection.

Getting Started

Before beginning a respiratory program, the employer will need to evaluate the workplace contaminants that are present. Air contaminants can include harmful dusts, fogs, fumes, mists, gases, smoke, sprays or vapors. Consult an industrial hygienist to evaluate work area exposure levels. Respirators are to be used only where engineering controls of respiratory hazards are not feasible, while controls are being installed or in emergencies. The following is an overview of the eleven requirements for an effective respiratory program.

Step 1: Respiratory Protection Program—“The employer is required to develop and implement a written respiratory program with required worksite-specific procedures and elements for required respirator use,” (29 CFR 1910.134(c)). The written program shall include the following elements: selection process; medical evaluations; fit testing; procedures for use; procedures and schedules for cleaning; disinfecting; storing; inspecting; repairing and discarding; procedures to ensure air quality, quantity and flow; training in respiratory hazards; training in use limitations; and, maintenance and procedures for regularly evaluating the effectiveness of the program. If respirators

are worn voluntarily, the employee must first determine that the respirator will not create a hazard. Information from appendix D must be supplied to the users and necessary elements such as determining that the users are medically able along with proper cleaning, storing and maintenance procedures, must be implemented. Written programs are not required for voluntary use of dust masks.

Step 2: Selection of Respirators—“The employer is required to evaluate respiratory hazard(s) in the workplace, identify relevant workplace and user factors and base respirator selection on these factors. In addition, they must be aware of the appropriate protective respirators for use in Immediately Dangerous to Life and Health (IDLH) atmospheres, and limits for the selection and use of air purifying respirators.” (29 CFR 1910.134(d)). Selection shall be based on the hazards to which the worker is exposed and workplace and user factors that affect respirator performance and reliability. NIOSH-certified respirators shall be selected. Employers shall make a reasonable estimate of their exposure; where an employer cannot identify or reasonably estimate the employee exposure, it should be considered an IDLH atmosphere. For IDLH atmospheres, either a full-facepiece, pressure-demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or a combination full-facepiece, pressure-demand (SAR) with auxiliary self-contained air supply may be selected. For non-IDLH atmospheres, selection shall be based on the chemical state and physical form of the contaminant. For protection from gases and vapors, the employer shall provide an atmosphere-supplying respirator or an air-purifying respirator, providing it has an end-of-service-life indicator or a replacement schedule has been established. For particulates, your equipment must be certified by NIOSH under 30 CFR Part II as a HEPA filter, or an air-purifying respirator equipped with a filter certified for particulates by NIOSH under 42 CFR part 84.

Step 3: Medical Evaluations—The employer shall provide a medical evaluation to determine an employee’s ability to use a respirator. This shall occur before the employee is fit tested or required to use the respirator in the workplace. The employer may discontinue an employee medical evaluation when the employee is no longer required to use a respirator (29CFR 1910.134(e)(1)). Medical evaluations by a physician or licensed Health Care Professional (HCP) must be done prior to fit testing or use. Follow-up medical examinations are necessary if any positive responses are revealed by the initial exam, or as considered necessary by the HCP. Evaluations should be administered confiden-

tially and conveniently during normal work hours and the HCP should ensure the employee understands the results of the examination. The HCP must note any limitations the employee may have and if there is a need for follow-up exams. The HCP must also provide the employee with a written copy of any recommendations. If medical conditions prevent an employee from using a negative-pressure respirator, a PAPR will be provided. Additional medical evaluations may become necessary if 1) the employee reports symptoms, 2) the HCP, supervisor or program administrator makes a recommendation, 3) observations or evaluations indicate need, or 4) a change in the workplace occurs that would affect physical burden.

Step 4: Fit Testing—“Before an employee may be required to use any respirator with a negative or positive pressure tight-fitting facepiece, the employee must be fit tested with the same make, model, style and size of the respirator that will be used.” 29 CFR 1910.134(f). The employer shall ensure that employees using a tight-fitting facepiece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT). QLFT can only be used where the fit factor is 100 or less. QNFT must be used where it is equal to or greater than 100 for half mask and equal to or greater than 500 for full-face masks. Fit testing of tight-fitting, atmosphere-supplying respirators and tight-fitting, powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative-pressure mode, regardless of the mode of operation (negative or positive) that is used for respiratory protection. 29 CFR 1910.134(f)(8). After initial fit testing, employees will be required to be fit tested annually thereafter. Fit testing should also be done whenever there is a change in the respirator type, a change in physical condition that could affect the fit or upon observations or reports.

Step 5: Use of Respirators—Employers are required to establish and implement procedures for the proper use of respirators. These requirements include prohibiting conditions that may result in facepiece seal leakage, preventing employees from removing respirators in hazardous environments, taking actions to ensure continued effective respirator operations throughout the work shift, and establishing procedures for the use of respirators in IDLH atmospheres or in structural firefighting situations. 29 CFR 1910.134(g). Employers shall not permit a respirator with tight-fitting facepiece to be worn by an employee who has facial hair or any condition that affects the facepiece seal or interferes with the valve function. If an employee wears corrective glasses or goggles or other PPE equipment, the employer shall ensure that such equipment is worn in a manner that does not interfere with the seal of

the facepiece. Appropriate surveillance for stress and exposure shall be maintained in the work area. Employees shall leave the respirator work area to wash the face if breakthrough, leakage or a changing in the breathing resistance occurs, and to replace parts. For IDLH special requirements include standby procedures, duties and training as well as communication and rescue. Employees must establish procedures for interior structural firefighting.

Step 6: Maintenance & Care—The employer must provide for the cleaning and disinfecting, storage, inspection and repair of respirators used by employees. 29 CFR 1910.134(h). The cleaning and disinfecting shall be done for exclusive use respirators as needed, for multiple use respirators before other uses, for rescue respirators after each use, and for those used for fit testing after each use. Respirators shall be stored to be protected from damage from the environment and in such a manner to prevent deformation of the facepiece. Emergency respirators are to be accessible and clearly marked. Inspection for routine use respirators shall be done before each use and when cleaning. Emergency respirators shall be inspected monthly, before and after each use. Escape respirators shall be inspected before each use. The inspection shall include all parts and a check of elastomeric parts for pliability and deterioration. Emergency respirators shall include a certification of inspection, name, date, etc. Repairs or adjustments shall be done by persons appropriately trained using NIOSH-approved parts.

Step 7: Breathing Air Quality and Use—The employer shall provide employees using atmosphere-supplying respirators (supplied-air and SCBA) with high purity breathing gases. 29 CFR 1910.134(i). Compressed breathing air shall meet at least the requirements for Type 1 – Grade D breathing air described in ANSI/Compressed Gas Association Commodity for Air, G-7.1-1989.

Step 8: Identification of Filters, Cartridges and Canisters—The employer shall ensure that all filters, cartridges and canisters used in the workplace are labeled and color-coded with NIOSH approved labels and that the labels are not removed and remain legible. 29 CFR 1910.134(j).

Step 9: Training and Information—The employer must provide effective training to employees who are required to use respirators. The training must be comprehensive, understandable and reviewed annually, or more often if necessary. 29 CFR 1910.134(k). Employees must be able to demonstrate why a respirator is necessary, consequences of improper fit, usage and maintenance. They must be aware of limitations and capabilities of the respirator. They must know how to use it in emergency situa-

tions or upon failure of the respirator. They must know how to inspect, maintain and store the respirator. They should be aware of medical signs or symptoms that would limit or prevent the use of the respirator. Retraining should occur whenever there are changes in the workplace, new types of respirators are used or as necessary.

Step 10: Program Evaluation—The employer is required to conduct evaluations of the workplace to ensure that the written respiratory protection program is being effectively implemented and that it continues to be effective. 29 CFR 1910.134(l). The employer shall conduct evaluations as necessary. They should regularly consult employees regarding respirator fit, selection, use and maintenance.

Step 11: Record Keeping—“The employer is required to establish and retain written information regarding medical evaluations, fit testing and the respirator program. This information will facilitate employee involvement in the respirator program, assist the employer in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.” 29 CFR 1910.134(m). Records of medical evaluations required by this section must be retained and made available in accordance with 29 CFR 1910.1020. Fit testing records shall be detailed and retained until the next fit test. A written copy of the current respirator program shall be retained by the employer.

Conclusion

Fit testing and fit checks are also a necessary part of respiratory protection. For more information on fit testing requirements, please contact Ben Meadows Technical Support at 1-800-241-6401.

Common Questions

- Q.** Can I use canisters or respirator parts from another manufacturer to repair my respirator?
- A.** No—doing so will void all NIOSH/MSHA approvals.
- Q.** Do I need a respiratory program if I only have employees using disposable dust/mist respirators?
- A.** If the employees are required to wear a respirator of any type, a written program is required. If employees voluntarily choose to wear a respirator, a written program is not required.
- Q.** What is IDLH?
- A.** IDLH is the concentration at which the contaminant is Immediately Dangerous to Life and Health. If the concentration meets or exceeds the IDLH, a Pressure-

Demand Self-Contained Breathing Apparatus (SCBA) or Air-line Respirator with escape should be selected.

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