



ENVIRONMENTAL
HEALTH & SAFETY

Respiratory Protection Safety Program

Purpose

The purpose of Florida Gulf Coast University's (FGCU) Respiratory Protection Safety Program is to enhance the protection of personnel health by ensuring proper training, selecting and fitting of respirators, in accordance with the provisions of Title 29, Code of Federal Regulations (CFR), Section 1910.134, Respiratory Protection.

To the greatest extent possible, breathing air quality shall be controlled through the use of proper engineering, work practice, and administrative controls. When effective controls are not feasible or while they are being implemented, appropriate respiratory protection shall be used.

Scope

The Respiratory Protection Safety Program is designed for FGCU personnel including full time, part time, temporary employees and students who use respirators. These include, but are not limited to, half-masks, full facepiece respirators, powered-air-purifying respirators (PAPR), airline respirators, and self-contained breathing apparatus (SCBA), and filtering facepieces.

Definitions

- A. Respirator: A device that protects personnel from inhaling harmful substances. These substances can be in the form of airborne vapors, gases, dust, fogs, fumes, mists, smokes, or sprays. Some respirators also ensure that personnel do not breathe air that contains dangerously low levels of oxygen.
 - 1. Air-Purifying Respirator: A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.
 - a) Filtering Facepiece (dust mask): A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.
 - * N95 is the most common type of filtering facepiece respirator. N means that it is not oil resistant and 95 refers to it being 95% effective at filtering particles at the 0.3-micron level. Other NIOSH-certified filtering facepiece respirators include R95, P95, N100 and P100.
 - 2. Powered Air-Purifying Respirator (PAPR): An air-purifying respirator is one that uses a blower to force the ambient air through air-purifying elements to the inlet covering.
 - 3. Supplied Air Respirator (SAR): An atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user. Also called an airline respirator.
- B. Qualitative Fit Test (QLFT): A pass/fail test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

Procedures/Requirements

A. Selection of Respiratory Equipment:

1. Respirators shall be selected on the basis of the hazards to which personnel may be exposed. The respirator shall be adequate to protect the health of personnel and to ensure compliance with all OSHA requirements. Respirator selection shall include consideration of the following factors:
 - a. The type of respiratory hazard, including physical and chemical properties of the contaminant and its effect on humans
 - b. The concentration of the contaminant
 - c. The duration of exposure and the period of time respiratory protection is needed
 - d. The activities of personnel during exposure and respirator use
 - e. The characteristics, capabilities, and limitations of the various types of respirators
 - f. The protection factor assigned to the respirator
2. All respirators and particulate filters used at FGCU shall be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in compliance with the conditions of its certification.
3. For protection against gases and vapors, the air-purifying respirator shall be equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant. If there is no ESLI appropriate for the conditions, a change schedule for canisters and cartridges will be formulated based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life.

B. Respirator Assignment and Use:

1. All FGCU personnel must first receive proper training, fit testing, and a current medical evaluation before wearing a respirator.
2. Personnel shall not wear a tight-fitting facepiece respirator whenever any condition exists which could affect the seal of the respirator or valve function (e.g., beards, sideburns, facial hair, missing dentures, skull caps, personal protective equipment, or eyeglass temple pieces that projects under the respirator).
3. Special spectacle kits or other devices shall be made available for individuals who wear corrective lenses, and who also must use a tight-fitting full-facepiece respirator.

C. Training and Information:

1. Personnel will be trained such that they can demonstrate knowledge of at least:
 - a. Why the respirator is necessary and how improper fit, use, or maintenance can compromise its protective effect
 - b. Limitations and capabilities of the respirator
 - c. Effective use in emergency situations
 - d. How to inspect, put on and remove, use and check the seals

- e. Proper maintenance and storage
 - f. Recognition of medical signs and symptoms that may limit or prevent effective use
 - g. The general requirements of the OSHA standard
2. Training shall be provided prior to use.
 3. Retraining is required annually, and when:
 - a. Changes in the workplace or type of respirator render previous training obsolete.
 - b. Inadequacies are found in personnel knowledge or use.
 - c. Other situations arise in which retraining appears necessary.

D. Program Evaluation:

Personnel are consulted during workplace evaluations and during annual training to assess their views on program effectiveness and to identify and correct any problems.

E. Recordkeeping:

Only medical clearance and successful fit test records shall be retained by EH&S and made available in accordance with OSHA R325.3451-3476, "Employee Medical Records and Trade Secrets".

F. Medical Evaluations:

1. All personnel, who will be expected to wear a respirator, either routinely or in an emergency situation, shall receive a medical evaluation at no cost to them. The licensed health care professional will determine whether the individual is physically able to wear a respirator. The medical evaluation shall be performed before the individual is initially fit-tested or required to use a respirator. Additional medical evaluations shall be provided if:
 - a. Personnel report medical signs or symptoms that are related to their ability to use a respirator; or
 - b. Information from the Respiratory Protection Safety Program, including observations made during fit testing and program evaluation, indicates a need for personnel reevaluation; or
 - c. The physician, health care professional, supervisor, or (EH&S) personnel determine the individual needs to be reevaluated; or
 - d. A change occurs in workplace conditions (e.g., physical work effort, protective clothing use, and temperature) that may result in a substantial increase in the physiological burden placed on the individual.
2. The medical evaluation shall consist of using a medical questionnaire and/or a medical examination to obtain the information required by OSHA. See Appendix C.
3. Follow-up examinations shall be provided to personnel whose initial medical evaluation demonstrates the need for a follow-up medical examination or as requested by the health care provider.

4. The medical questionnaire and examinations shall be administered confidentially during personnel normal working hours or at a time and place convenient to personnel and in a manner that ensures they understand its content.
5. Personnel shall be given the opportunity to discuss the questionnaire and the examination results with the physician or licensed health care professional.

G. Respirator Fit Testing:

1. (EH&S) shall ensure that personnel using a tight-fitting facepiece respirator pass an appropriate qualitative fit test for each type of respirator he/she may need to use.
2. Respirator Fit Testing shall be conducted prior to the time of initial use of a tight-fitting facepiece respirator, whenever a different respirator facepiece (size, style, model, or make) is used, and at least annually thereafter for as long as the individual may need to wear a respirator. Additional fit testing shall be conducted whenever the individual reports or observations indicate changes in his or her physical condition (e.g., facial scarring, dental changes, cosmetic surgery, or change in body weight) that could affect respirator fit.
3. If, after passing a fit test, the individual notifies (EH&S), their supervisor or a health care provider that the respirator fit is unacceptable, the individual shall have the opportunity to select a different respirator facepiece and to be retested.

Responsibilities

A. Supervisor:

1. Contact (EH&S) to determine type of respirator needed.
2. Arrange for purchase and payment of respirator physical, respirators, replacement parts, respirator cartridges, filters, and repairs.
3. Establish a clean, enclosed, personal cabinet or container for personnel to store their reusable respirator when not in use.
4. Ensure personnel under their supervision are using the required respirators appropriately.
5. Ensure that reusable respirators that require repair be removed from service until the repair has been made or replaced, as needed.

B. Employees and Students:

1. Wear the respiratory protection equipment provided, according to the instructions and training received.
2. Wear only the respirator trained upon and properly fitted to use.
3. Inspect, store, and maintain the respiratory protection equipment provided, according to the instructions and training received.
4. Report any change in health to the health care provider.
5. Report to (EH&S) if a change in physical characteristics alter the fit of the respirator.

6. Perform positive or negative pressure checks each time the respirator is put on, if using a tight-fitting respirator.
 7. Inform the supervisors whenever there is a concern about the atmospheric conditions within a work area, so that the area can be evaluated, and respirators prescribed as necessary.
 8. Inform the supervisor whenever a need for repair or replacement of issued respiratory protective devices is recognized.
 9. Eliminate conditions, such as beard growth, long side burns or large mustaches, which could prevent a good facepiece-to-face seal or could interfere with the proper function of the respirator.
- C. Environmental Health and Safety:
1. Determine what (if any) respiratory protection devices are necessary to perform each routine or non-routine work activity conducted by personnel.
 2. Provide initial and annual training and fit-testing.
 3. Maintain documentation for personnel who successfully complete the training to indicate that they have been fit tested and trained.
 4. Retain fit test records until the next fit test is administered.
 5. Conduct evaluations of the workplace as necessary to ensure the provisions of this Respiratory Protection Program are being effectively implemented and that the program continues to be effective.
- D. Medical Practitioner:
1. Provide an initial medical evaluation to determine the individual's ability to use a respirator, before the individual is fit tested or required to use the respirator.
 2. Review the individual's completed Medical Questionnaire annually to determine if the individual needs to be seen for an examination.
 3. Provide a written recommendation regarding the individual's ability to use the respirator to (EH&S).

Appendix B-1 to § 1910.134: User Seal Check Procedures (Mandatory)

The individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks listed in this appendix, or the respirator manufacturer's recommended user seal check method shall be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

Facepiece Positive and/or Negative Pressure Checks

- A. Positive pressure check.
 - a. Close off the exhalation valve and exhale gently into the facepiece.
 - b. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal.

- c. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.
- B. Negative pressure check.
- a. Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s). The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand.
 - b. Inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds.
 - c. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove.
 - d. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

Manufacturer's Recommended User Seal Check Procedures

The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures provided that the employer demonstrates that the manufacturer's procedures are equally effective.

Appendix B-2 to § 1910.134: Respirator Cleaning Procedures (Mandatory)

These procedures are provided for employer use when cleaning respirators. They are general in nature, and the employer as an alternative may use the cleaning recommendations provided by the manufacturer of the respirators used by their employees, provided such procedures are as effective as those listed here in Appendix B- 2. Equivalent effectiveness simply means that the procedures used must accomplish the objectives set forth in Appendix B-2, i.e., must ensure that the respirator is properly cleaned and disinfected in a manner that prevents damage to the respirator and does not cause harm to the user.

Procedures for Cleaning Respirators

- A. Remove filters, cartridges, or canisters. Disassemble facepieces by removing speaking diaphragms, demand and pressure- demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.
- B. Wash components in warm (43 deg. C [110 deg. F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.
- C. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain.
- D. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:
 1. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 deg. C (110 deg. F); or,

2. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43 deg. C (110 deg. F); or,
 3. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
- E. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.
 - F. Components should be hand-dried with a clean lint-free cloth or air-dried.
 - G. Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.
 - H. Test the respirator to ensure that all components work properly.

For Appendix C to Sec. 1910.134: Respiratory Protection Safety Program (Mandatory) -
See Appendix C-OSHA Respirator Medical Evaluation Questionnaire document