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**Aerospace Medicine**

**RESPIRATORY PROTECTION PROGRAM**



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This instruction establishes procedures for the base level respiratory protection program. It implements AFPD 48-1, *Aerospace Medical Program*, the Air Force Occupational Safety and Health (AFOSH) Standard 48-1, *Respiratory Protection Program*, and Occupational Safety and Health Administration (OSHA) standard 29 CFR 1910.134, *Respiratory Protection*. This instruction applies to all units assigned or attached to the 914 Airlift Wing (AW) and the Base Operating Services (BOS) contractor.

**1. Objectives.** The purpose of the respiratory protection program is to provide a healthful work environment for personnel who are potentially exposed to contaminants exceeding the occupational exposure limit (OEL), work in oxygen-deficient areas, or work in confined spaces. Respiratory protection is only an interim, short-term solution when present engineering, or administrative controls, are inadequate to lower contaminant concentrations to permissible levels, and to protect workers from oxygen-deficient atmosphere.

**2. Application.** Respirators will be considered an acceptable method of protecting the health of personnel and under the following circumstances:

- 2.1. When required, or recommended, by Bioenvironmental Engineering Services (BES).
- 2.2. When it has been determined that no feasible engineering or work practice controls can be used to adequately control the hazard.
- 2.3. During intermittent, non-routine operations (1 hour per week).
- 2.4. During interim periods when engineering controls are being designed, installed, or repaired.
- 2.5. Emergencies.

**3. Definitions.** Reference AFOSH Standard 48-1 for definitions.

#### 4. Responsibilities:

##### 4.1. The 914 AW Commander:

- 4.1.1. Initiates, supervises, and executes the base level respiratory protection program.
- 4.1.2. Ensures personnel are adequately protected with respirators when circumstances of paragraph 2.2 are encountered.

##### 4.2. Bioenvironmental Engineering Services (914 SPTG/SGPB) Will:

- 4.2.1. Serve as the installation medical authority on respiratory selection, use, fit testing, limitations, and maintenance.
- 4.2.2. Interpret Air Force and OSHA standards applicable to respiratory protection and ensure compliance.
- 4.2.3. Train and fit-test all personnel on the respiratory protection program, initially and annually.
- 4.2.4. Identify work areas and specific tasks that require respiratory protection, to include type of respirator required.
- 4.2.5. Provide a copy of the respirator fit-test results, AF Form 2772, **Certificate of Respirator Fit Test**, to the respirator wearer's supervisor, upon satisfactory completion of respiratory protection training. This document must be renewed annually and will contain the type of respirators required, the National Institute of Occupational Safety and Health (NIOSH) test control number, the date of issue, and the signature of the SGPB instructor.
- 4.2.6. Identify respiratory protection areas to commanders, civilian and military personnel sections, and ground safety.
- 4.2.7. Perform an annual on-site visit in respiratory protection areas.
- 4.2.8. Maintain a master respiratory protection inventory for the base.
- 4.2.9. Review and approve all shop operating instructions (OI) (contact SGPB for a sample OI).
- 4.2.10. Maintain a respirator inventory for the base.
- 4.2.11. Train supervisors in need and use of respirators.

##### 4.3. Supervisors Will:

- 4.3.1. Maintain AFOSH Standard 48-1, this instruction, and shop OIs.
- 4.3.2. Ensure all respirator guidelines and requirements are met.
- 4.3.3. Write specific shop OIs based on BES evaluations and recommendations, situations requiring the use of respirators, respirator inspection, cleaning, storage, maintenance, annual training requirements, and fit-testing.
- 4.3.4. Document initial and annual training on AF Form 55, **Employee Safety and Health Record**, or electronic equivalent.
- 4.3.5. Ensure that respirator breathing air (if required) meets established standards (Technical Order 42B-1-22, Quality Control of Compressed and Liquid Breathing Air), and furnish sampling results to BES.
- 4.3.6. Ensure compressors used with supplied air comply with the following:

- 4.3.6.1. Compressor located in a position to prevent entry of contaminated air into the system.
- 4.3.6.2. Oil lubricated compressor shall have a high-temperature or carbon monoxide alarm, or both. Alarms should be audible to the respirator wearer.
- 4.3.6.3. If only a high a high-temperature alarm is used, the air from the compressor must be tested according to paragraph 4.3.5.
- 4.3.7. Send written requests to SGPB for surveys, when changes in respiratory protection requirements are suspected.
- 4.3.8. Ensure employees receive in-house recurring training in the use of emergency-use respirators, such as self-contained breathing devices, as provided by base Fire Department (CEF).
- 4.3.9. Ensure respirators for emergency use are inspected at least monthly. The record of inspection of emergency or rescue respirators shall be maintained on AF Form 1071, **Inspection/Maintenance Record**.
- 4.3.10. Ensure common use respirators are inspected immediately before use and after cleaning and sanitizing.
- 4.3.11. Appoint an individual to be responsible for the use, maintenance, inspection, and care of common use, emergency, or escape respirators.
- 4.4. Medical Provider Will:
  - 4.4.1. Provide professional guidance on the medical aspects of the respiratory protection program, according to AFOSH Standard 48-1.
  - 4.4.2. Perform all physical examinations related to the wearing of a respirator, to ensure employees are physically able to perform their work while wearing the prescribed respirator.
  - 4.4.3. Notify BES of any employee not medically qualified to wear a respirator.
- 4.5. Respiratory Protection Users Will:
  - 4.5.1. Wear the respiratory protection in-accordance-with the instructions and training received.
  - 4.5.2. Receive an initial (pre-employment) occupational health examination before using respiratory protection equipment, and annually thereafter.
  - 4.5.3. Wear only the respirator protection approved by SGPB, which appears on AF Form 2772.
  - 4.5.4. Maintain the NIOSH certification by not mixing parts from different manufacturers.
  - 4.5.5. Clean, store, maintain, and use respirators according to AFOSH Standard 48-1 and established section or unit OIs.
  - 4.5.6. Report to the supervisor any change in medical status that impacts on their ability to safely wear a respirator.
  - 4.5.7. Will not wear contact lenses while wearing the respirator.
  - 4.5.8. Inspect respirators prior to use and after cleaning. Immediately document this inspection on AF Form 1071, which will be maintained with each respirator.
- 4.6. Fire department will:
  - 4.6.1. Provide training on the use and maintenance of self-contained breathing apparatuses.

4.6.2. Ensure only personnel trained and certified by the manufacturer of self-contained breathing apparatus (SCBA) perform maintenance on the equipment.

4.7. Base supply will:

4.7.1. Control the issue of respirators.

4.7.2. Ensure BES has approved respiratory protection requests, before issuing respirators.

4.7.3. Ensure a substitute for a particular respirator, or respirator part, is not issued.

## **5. Administrative Procedures:**

5.1. Respirators may only be issued to and used by a shop after BES has reviewed and approved the respiratory protection request.

5.2. All respirators shall be issued a locally assigned IEX code.

## **6. Approved Respirators:**

6.1. Respirators designed for use in nuclear, chemical, and biological contingency environments, which do not carry NIOSH approval, shall not be used for industrial respiratory protection, including emergency operations.

6.2. Filter face piece respirators shall not be used when respiratory protection is required or recommended, even if the respirators have NIOSH certifications.

## **7. Selection, Use, and Limitations:**

7.1. Respirator selection involves the review of each operation to determine what hazards may be present and to select the type or class of respirators which offers adequate protection.

7.2. If the contaminant is an isocyanate (monomer or prepolymer):

7.2.1. Use a supplied air-respirator for spray painting, or touch-up, with polyurethane paints indoors, regardless of the environmental controls or the amount of paint applied. Individuals spray painting, under these conditions, will also wear coveralls, hoods, gloves, and boot covers. When spray painting is done indoors, in an open area, such as a hangar, all unprotected personnel shall be removed.

7.2.2. Use a full-face piece air-purifying respirator with organic vapor cartridges and HEPA filters when painting with polyurethane paints, only when the painting is performed outside for touch-up or stenciling in small increments. Individuals performing this work will also wear coveralls and gloves. If outside spray painting exceeds touch-up or stenciling quantities, the worker shall wear a supplied air respirator and other personal protective equipment, as described above.

7.2.3. Use a full-face piece, air-purifying respirator with organic vapor cartridges and HEPA filters when performing roll-on or brush painting applications, regardless of the painting location, environmental controls, or amounts applied. Also, coveralls, boot covers, and gloves shall be worn.

7.2.4. Use a supplied-air respirator when performing foam-in-place operations. Also, coveralls, hoods, gloves, and boot covers shall be worn.

7.3. The only type of respirator an individual with facial hair shall be permitted to wear is a supplied-air, positive pressure type, or a powered air-purifying respirator. The respirator shall have a hood or shroud, shall be operated in the continuous flow mode, shall not have a tight-fitting face piece, and shall not incorporate an anti-aspiration device which contacts the face or neck.

7.4. If contaminants cause eye irritation, full-face piece respirators shall be worn.

7.5. Spectacle with straps or temple bars that pass through the sealing surface of either negative or positive pressure, tight-fitting, full-face piece respirators shall not be used.

## **8. Care, Inspection, and Maintenance of Respirators:**

8.1. Each individual issued a respirator is responsible for its primary maintenance and care.

8.2. Where respirators are used collectively or kept ready for emergencies by the shop, the supervisor is responsible for establishing a respirator maintenance and cleaning program as specified in 29 CFR 1910.134 (f)(1-5).

8.3. Each respirator shall be cleaned and sanitized before being worn by a different individual.

8.4. The user shall inspect the respirator and properly document inspection prior to each use and after cleaning and sanitizing.

8.5. Emergency or rescue respirators shall be inspected at least monthly.

8.6. Replacement of parts or repairs shall be done only by personnel trained in proper respirator maintenance and assembly.

## **9. Medical Surveillance:**

9.1. The employee must complete a medical questionnaire, to be reviewed by a physician, prior to fit testing.

9.2. The medical questionnaire will be re-accomplished annually, and reviewed by a physician.

## **10. Training and Fit-Testing:**

10.1. Initial and annual training is accomplished in conjunction with fit testing.

10.2. All fit testing, including quantitative fit testing, shall be performed by BES.

10.3. Initial training and fit testing will be completed before an employee performs duties requiring the use of respiratory protection

10.4. Annual training and fit-testing will be accomplished for each shop during the month of their industrial hygiene visit.

10.5. Each employee will be given an AF Form 2772.

## **11. Program Evaluation Procedures:**

11.1. The annual BES Respiratory Protection Program review will be presented to the third quarter meeting of the Aeromedical Council (AMC) for the calendar year.

11.2. Annual reviews of shop respiratory protection OIs, or standard operating procedures (SOPs), will be conducted during the annual industrial hygiene survey.

11.3. Supervisors shall submit a list of workers using respiratory protection to BES, annually. BES will then review the Respiratory Protection Program Master Listing and make appropriate changes.

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