

**BY ORDER OF THE COMMANDER
21ST SPACE WING**

21ST SPACE WING INSTRUCTION 48-1

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Aerospace Medicine

**PETERSON COMPLEX RESPIRATORY
PROTECTION PROGRAM**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction establishes responsibilities, procedures, and requirements for a thorough and effective Respiratory Protection Program in accordance with 29 CFR 1910.134/139, *Respiratory Protection*, and AFOSH Standard 48-137, *Respiratory Protection Program*. This instruction applies to all 21st and 50th Space Wing activities, 21st and 50th Space Wing geographically separated units, and Air Force Reserve and Air National Guard operations, to include all tenant organizations at these installations. This instruction does not apply to contractor personnel unless included in contract specifications or specifically referenced as applicable. All organizations in which personnel wear respirators or filtering face piece devices are required to maintain this instruction.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

- 1. Responsibilities.** Responsibilities are defined in AFOSH Std 48-137. Additional responsibilities are:
 - 1.1. The Base Program Administrator shall be the Flight Commander of the Bioenvironmental Engineering Flight (BEF) (10 AMDS/SGPB), or a trained individual from the BEF designated by the Flight Commander.
 - 1.2. Supervisors will:**
 - 1.2.1. Contact the Bioenvironmental Engineering Flight (BEF) for information and guidance regarding the respiratory protection program. In case of an emergency after duty hours, a BEF representative may be reached through the Peterson AFB Command Post.

1.2.2. Contact BEF to schedule initial and annual respiratory protection training and fit-testing for **personnel** under their supervision who wear respirators. Initial training and fit testing will be done prior to allowing personnel to perform work requiring respirator use. Annual training and fit-testing should be requested 30 days prior to expiration to ensure personnel remain qualified to perform duties.

1.2.3. Contact BEF to schedule initial Supervisor Respiratory Protection Training for all supervisors who have the responsibility of overseeing work activities of one or more persons who must wear respirators. This training is required whenever a new supervisor is appointed in a work area, even if the individual has supervised a different work area using respirators in the past.

1.2.4. Maintain this instruction and AFOSH Std 48-137 in work areas where respiratory protection is used. These documents are part of your work area written program. Maintain and enforce a work area Respiratory Protection Program Operating Instruction (RPP OI) for your specific work area covering the following items for all areas where respiratory protection is either required or recommended. The RPP OI and any modifications must be approved by BEF. BEF can provide an OI template and most of the technical information required (listed below).

1.2.4.1. Describe the situations or operations in which respiratory protection is required or recommended.

1.2.4.2. Include specific information regarding respirator selection. Include a reasonable estimate of employee exposure. The name, chemical state and physical form of the contaminant must be specified.

1.2.4.3. Specify respirators approved by BEF for use in each situation/operation.

1.2.4.4. Describe specific procedures for the proper use of respirators. Include mandatory user seal check procedures.

1.2.4.5. Specify procedures and schedules for respirator inspecting, cleaning, disinfecting, storing, repairing, discarding, and otherwise maintaining respirators. Include criteria workers are to use to determine when filters, cassettes, or cartridges must be changed. Ensure respirators are cleaned and disinfected using procedures in 29 CFR 1910.134/139, Appendix B-2 or procedures recommended by the manufacturer if equivalent in effectiveness. Ensure all filters, cartridges, and canisters used in the workplace are labeled and color-coded with the National Institute for Occupational Safety and Health (NIOSH) approval labeling.

1.2.4.6. Where atmosphere-supplying respirators (airline or SCBA) are used, specify procedures to ensure adequate quality, quantity and flow of breathing air.

1.2.4.7. Include training requirements in the respiratory hazards to which personnel are potentially exposed during routine and emergency situations. A copy of the lesson plan must be attached unless the OI is used as the lesson plan and covers all required items.

1.2.4.8. Include training requirements in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance. A copy of the lesson plan must be attached unless the OI is used as the lesson plan and covers all required items.

1.2.4.9. Procedures for regularly evaluating the effectiveness of the program.

1.2.4.10. Requirements and procedures for medical clearance and fit testing, to include frequency of fit testing and method to ensure all personnel are current.

1.2.5. Contact BEF to request an evaluation of potentially hazardous airborne substances due to personnel experiencing irritation or other symptoms from chemical use, changes in work practices, inoperative engineering controls, chemical/substance substitution, or newly acquired chemicals. Where BEF has identified that air sampling is required, notify BEF as far in advance as possible so that air monitoring can be accomplished covering the entire operation.

1.2.6. Provide initial and annual training IAW the lesson plan at [Attachment 1](#) for individuals who elect to wear filtering face piece devices (i.e. respirators which have a face piece made entirely of filtering or adsorbing material).

1.2.7. Examine feasibility of controls to reduce exposure (such as ventilation, changing chemicals, or changing work procedures) so that the respiratory protection can be reduced or eliminated.

1.2.8. Procure spectacle frames from the respirator manufacturer at organizational expense when spectacle inserts are required for full-face respirator wearers. Contact the 10th AMDS Aerospace Vision Element (10 AMDS/SGPO) requesting inserts be fitted with lenses fitting the employee's prescription.

1.3. Base Supply shall:

1.3.1. Ensure BEF has approved respiratory protection requests before issuing respirators.

1.3.2. Ensure a "suitable substitute" for a particular respirator or respirator part is not issued.

1.3.3. Provide and document training to appropriate supply and bench stock personnel on procedures used to ensure respirators and respirator parts are not ordered or issued without the approval of 10 AMDS/SGPB.

1.4. Any agency conducting breathing air sampling must send BEF (10 AMDS/SGPB) a copy of the sampling results no later than one week after results are received.

1.5. Peterson AFB Occupational Health Working Group (OHWG) establishes medical evaluation requirements and frequency.

1.6. The 10th AMDS Optometry Clinic at Peterson AFB will obtain spectacle insert lenses for full-face respirator wearers. The authorizing unit will pay for spectacle inserts.

1.7. The appropriate Medical Records unit will ensure completed medical questionnaires are permanently filed in individuals' medical records.

1.8. Respirator Wearers will:

1.8.1. Immediately report to BEF any changes in their physical condition that could affect their respirator fit (weight change of 20 pound or more, facial scarring, obtaining dentures, other changes that affect the shape of the face). Also report any difficulties wearing respiratory protection.

1.8.2. Furnish a current lens prescription to 10 AMDS/SGPO if corrective lenses are required.

1.8.3. Procure soft or gas permeable contact lenses to wear with respiratory protection at their own expense, if desired.

1.8.4. Comply with requirements in this instruction and the applicable work area operating instruction.

2. Base Program Elements:

2.1. Exposure Monitoring and Surveillance: The BEF will monitor exposure to potential airborne hazards as required by OSHA regulations and according to the local BEF instruction. Sufficient air sampling will be conducted in all areas where respiratory protection is used to determine whether and under what conditions Occupational Exposure Limits (OELs) are exceeded, as is feasible. When engineering controls are installed or administrative procedures (other than chemical substitution) are instituted to reduce or eliminate exposure, air monitoring will be conducted prior to removing personnel from the respiratory protection program.

2.2. Respirator Selection Criteria: Respiratory protection will be selected and approved by the BEF prior to purchase. Respirators will be selected to protect against the specific inhalation hazards present in the work area in accordance with procedures in AFOSH Std 48-137 and AFMOA/SGOE policy. NIOSH-certified respirators will be selected and used in compliance with their certification conditions. Additional specific selection procedures will be maintained in a written instruction in the BEF.

2.3. Medical Surveillance of Employees:

2.3.1. A medical evaluation to determine each employee's ability to use a respirator is required prior to fit testing or use of respiratory protection.

2.3.2. Part A of the questionnaire from 29 CFR 1910.134/139, Appendix C will be completed by each employee who will wear respiratory protection (available from Bioenvironmental Engineering). Questionnaires should be turned in to the Physical Exams Section (PES) at the Clinic. This is a one-time requirement upon assignment to duties requiring respiratory protection. Questionnaires will be kept confidential.

2.3.3. Each employee has the right to discuss the results of the medical questionnaire and exam with the provider. Contact PES to schedule an appointment if desired.

2.3.4. The medical provider will provide a written recommendation via AF Form 422, **Physical Profile Serial Report**, for employees medically screened for the respiratory protection program. The AF Form 422 will state any limitations on respirator use, and a copy will be provided to the employee. The provider will also provide written notification of medical qualification to wear a respirator to BEF.

2.3.5. Additional medical evaluations will be required if:

2.3.5.1. The employee has signs or symptoms related to his/her ability to use a respirator,

2.3.5.2. A health care provider, supervisor or respiratory program manager determines another evaluation is necessary,

2.3.5.3. Information from the respiratory protection program, including observations during fit testing and program evaluation, indicate a need for re-evaluation.

2.3.5.4. 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.

2.3.6. An abbreviated medical questionnaire may be required for annual medical surveillance. This will be determined on a case by case basis by the Occupational Health Working Group.

2.4. Fit Testing Procedures:

2.4.1. Fit test procedures in 29 CFR 1910.134/139, Appendix A will be followed. A copy of this standard will be maintained in the BEF office.

2.4.2. Fit tests will be done with the same make, model, size, and style of respirator to be worn. Personnel must consult with BEF to determine if they must bring their respirator facepiece to the BEF for fit-testing. Each individual must bring any glasses or other corrective lenses that will be worn with the respirator for the fit test. The individual must be clean shaven in the areas where a fitted facepiece will meet the face. If a quantitative fit test is being performed the individual must not smoke for at least 30 minutes prior to the test.

2.4.3. Fit tests will be accomplished at the BEF prior to requiring an employee to wear any tight-fitting facepiece respirator and at least annually thereafter. Additional fit tests are required if there are changes in physical condition (such as facial scarring, dental changes, cosmetic surgery, or obvious change in body weight) which could affect the fit.

2.4.4. BEF will not fit test any individual without proof of medical clearance complying with the current AFOSH and OSHA standards. If BEF does not have a clearance letter from the Flight Surgeons' Office (FSO) on file, personnel need to bring their medical records showing this clearance to their fit test appointment. If an adequate fit test cannot be achieved, BEF will notify the Physical Exam Section and the individual's supervisor.

2.4.5. Fit tests will be documented on AF Form 2772, **Certificate of Respirator Fit Test**. The original will be given to the employee and must be maintained with AF Form 55, Employee Health and Safety Record, or equivalent until the next fit test is administered. A copy of each AF Form 2772 will also be maintained in the case files at BEF with a copy of available recordings of quantitative fit tests. BEF case file documentation is kept for the duration of employment

2.4.6. No one will be fit-tested without medical clearance, and personnel who do not have a current fit-test may NOT wear respirators.

2.5. Procedures for Proper Use of Respirators in Routine and Emergency Situations:

2.5.1. Personnel who have facial hair that comes between the sealing surface of the facepiece and the face, or that interferes with valve function of the respirator will not wear tight-fitting facepiece respirators.

2.5.2. Employees who have any condition that interferes with the seal of the facepiece to the face will not wear tight fitting facepieces.

2.5.3. Corrective glasses, goggles or other personal protective equipment must be worn so that it does not interfere with the seal of the facepiece to the face.

2.5.4. A user seal check is required each time a tight-fitting facepiece is put on.

2.5.5. Employees will leave the respirator use area to wash their faces and facepieces as necessary, when vapor or gas breakthrough is detected (i.e. they smell chemicals), when breathing resistance changes (i.e. it becomes difficult or much easier to breathe), when there is leakage around the facepiece, or when filtering elements are replaced. Required repairs/maintenance must be accomplished before returning to the work area.

2.5.6. No employee covered by this instruction should enter an Immediately Dangerous to Life or Health (IDLH) atmosphere except fire department personnel for emergency response only. Requirements for IDLH atmospheres will be covered in their work area RPP OI.

2.6. Procedures and Schedules for Cleaning, Disinfecting, Storing, Inspecting, Repairing, Discarding, and Otherwise Maintaining Respirators. In addition to the requirements in paragraph 8 of AFOSH Std 48-137, the following requirements apply.

2.6.1. Routinely used respirators for all personnel covered by this instruction will be issued to individuals for use by one worker only. Exclusive use respirators will be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.

2.6.2. Respirators used by different individuals will be cleaned before being worn by different individuals, except emergency use respirators, which are to be cleaned after each use.

2.6.3. Routine use respirators will be inspected before each use and during cleaning.

2.6.4. Emergency use respirators will be inspected at least monthly, and will be checked for proper function before and after each use.

2.6.5. Emergency escape respirators will be inspected before being placed in the work area.

2.7. Procedures to Ensure Adequate Air Quality, Quantity, and Flow of Breathing Air for Supplied Air Respirators. Compressed gaseous breathing air shall meet at least the requirements for Type 1-Grade D breathing air. Other requirements of 29 CFR 1910.134/139, T.O. 42B-1-22, and AFOSH Std 48-137, Attachment 13 will be met, and addressed in work area RPP OI's.

2.8. Training:

2.8.1. Training of employees in respiratory hazards and proper use of respirators, to include donning & doffing, limitations & maintenance, is required at least annually. BEF will administer training in conjunction with annual industrial hygiene surveys. If respirator maintainers are assigned who do not wear respirators, they will be trained and required to demonstrate knowledge of the items listed in AFOSH Std 48-137, paragraph 7.3 plus the following:

2.8.1.1. Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.

2.8.1.2. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.

2.8.1.3. The general requirements of the OSHA standards (29 CFR 1910.134/139).

2.8.2. Emergency and Rescue Team (Fire Department) Respirator Training: This training will be conducted by the Fire Chief or his designatee. A lesson plan must be attached to Fire Department RPP OIs. BEF will provide consultation on request.

2.8.3. Training of Supervisors of Work Areas Where Respiratory Protection Is Worn: BEF will train all supervisors of areas where respiratory protection is worn. This is a one-time requirement.

2.9. Procedures for Regularly Evaluating the Effectiveness of the Program:

2.9.1. Annually, BEF will evaluate the work areas where respirators are worn. During these visits employees will be asked if there are any problems with the program, and checks will be made to ensure the written program is being properly implemented. BEF will also determine whether exposure levels have changed significantly or other conditions affecting respirator effectiveness have changed. BEF will do an annual review of the program IAW AFOSH Std 48-137, par 9.5.

2.9.2. The Public Health Flight (PHF) will evaluate work areas during periodic surveys and consult with employees to determine whether there are any problems with the respiratory protection program.

2.10. Voluntary Use of Filtering Face Piece Devices (FFPDs). Personnel who desire to wear a FFPD for comfort will be trained on the information contained in [Attachment 1](#) and FFPD training will be documented on AF Form 55, **Employee Safety and Health Record**, or equivalent.

JERRY M. DRENNAN, Brigadier General, USAF
Commander

ATTACHMENT 1

LESSON PLAN FOR FILTERING FACE PIECE DEVICE USERS

A1.1. Filtering face piece devices are not considered by the US Air Force to be respiratory protection for purposes of AFOSH Std 48-137, *Respiratory Protection Program*. These devices may be worn strictly for comfort purposes if an Air Force employee desires to wear them.

A1.2. Filtering face piece device users must be trained by their supervisor initially and annually on the limitations and potential hazards of these devices.

A1.3. Filtering Face Piece Device (FFPD) Limitations and Potential Hazards:

A1.3.1. FFPDs are made entirely of filtering material, which removes dusts and particles ONLY, or adsorbing materials, which can “soak up” and remove some specific gases and vapors. You must select the appropriate FFPD for the environment you are working in.

A1.3.1.1. Some examples of things a particulate/dust FFPD will NOT remove include carbon monoxide, solvents (in paint, cleaning solutions, etc), fuel vapors, alcohol vapors, and acids.

A1.3.1.2. Some examples of things a particulate/dust FFPD may remove to a level that could increase your comfort include wood dust, cement dust, dirt (from sweeping or work that kicks up the soil), spray enamel mist (the pigment only), and fiberglass. This will only happen IF you are able to maintain a good face-to-face piece seal.

A1.3.1.3. An organic vapor FFPD may reduce the amount of solvent-based paint vapors, solvent or petroleum-based cleaner vapors, fuel vapors and similar materials so that the odor is not annoying.

A1.3.1.4. Contact Bioenvironmental Engineering if you are not sure which FFPD to use.

A1.3.2. FFPDs are NEVER to be worn during tasks for which respiratory protection is required, as specified by the Bioenvironmental Engineering Flight (BEF).

A1.3.3. FFPDs are NEVER to be used in atmospheres that could pose an immediate danger to life and health.

A1.3.4. FFPDs are NEVER to be used in atmospheres containing less than 19.5 percent oxygen.

A1.3.5. Follow the manufacturer’s instruction for replacing FFPDs. In general, if you detect breathing resistance (i.e., it becomes more difficult to breathe through the FFPD), or you begin to smell chemicals, you must replace the FFPD.

A1.3.6. The FFPD should be worn and maintained IAW the manufacturer’s instructions. The nose-piece and cup should be fitted to the face as closely as possible. Straps should be positioned IAW manufacturer’s instructions so that the FFPD does not shift around on the face. Straps will not be worn over head coverings or hard hats.

A1.3.7. An FFPD will provide little or no protection if the wearer is not clean-shaven.

A1.3.8. If you suspect you or your co-workers may be overexposed to a particular chemical (for instance, if you are experiencing physical symptoms), you must contact BEF so they can air sample

and measure your exposure level. Of course, if you are experiencing a suspected occupational illness, that *must* be reported to Public Health and investigated.