

Chapter 8

RESPIRATORY PROTECTION PROGRAM

8-1. Purpose. To implement a comprehensive and effective Respiratory Protection Program (RPP) and ensure that personnel are protected from respiratory hazards through the proper use of respirators.

8-2. References.

- a. 29 CFR 1910.134, Respiratory Protection.
- b. 29 CFR 1910.1025, Lead Standard.
- c. AR 11-34, The Army Respiratory Protection Program.
- d. ANSI Z88.2-1992, American National Standard for Respiratory Protection.
- e. 42 CFR Part 84, National Institute for Occupational Safety and Health (Respirator Certification Standard).
- f. ANSI/CGA G-7.1-1989, Commodity Specification for Air.
- g. 29 CFR Parts 1910 and 1926, Respiratory Protection; Final Rule (8 Jan 98)

8-3. Background. Industrial operations frequently present occupational health hazards to workers in various forms of airborne contamination. The primary preferred methods to protect workers from these hazards are:

a. Elimination. Eliminating the operation or the materials used that create the air contamination will remove the hazard. Sometimes the elimination is impossible due to the requirements of the mission or the nature of the operation. If this is not the case, the next preferred method is substitution.

b. Substitution. Substituting less hazardous materials for the materials used will remove or reduce respiratory hazards. If substitution is absolutely not possible due to mission or operational requirements, the next preferred method is engineering controls.

c. Engineering Controls. Engineering controls include such controls as sophisticated ventilation systems, barriers or mechanical isolation that are designed and engineered to prevent workers from breathing air contaminants. Where engineering controls are not feasible due to time, funding, or engineering

conflicts, then the next preferred method is administrative controls.

d. Administrative Controls. Where the above controls are impossible or impractical, or in the process of being implemented, administrative controls may be used as the next preferred method of worker protection. Harmful effects of exposure to air contaminants are based on type of contaminant, amount of exposure to the contaminant and time of exposure to the contaminant. With the guidance and assistance of OSH professionals, the reduction of exposure by limiting type, amount and, primarily, time of exposure to the contaminant(s) will minimize the potential of harmful effects to personnel. For example, one person working 8 hours in a shop where air contaminants are present will be exposed more than each of 2 persons working in the shop for 4 hours each. Additionally, if a worker is performing a task in a shop that produces air contaminants, removing other workers in the immediate area is a form of administrative control to protect the other workers.

e. Respiratory Protection Equipment (RPE). Personal Protective Equipment (PPE) is the last line of defense and least preferred form of protection for personnel. Where the controls listed above are impossible, impractical or delayed, and when protection is required, PPE shall be issued by the Respiratory Protection Program Manager (RPPM), who is located in the Safety Office.

8-4. Responsibilities.

a. The Safety Office is responsible for developing, evaluating and assuring implementation of the program through the appointed Respiratory Protection Program Manager. The RPPM, an occupational safety and health specialist, shall establish and maintain the RPP for the depot and tenant activities as follows:

(1) Screen work operations and interview personnel to determine that appropriate personnel are placed in the program.

(2) Ensure that all personnel in the program have had the proper medical clearance, are trained, fit-tested, and issued the proper equipment for the hazards involved for each operation.

(3) Ensure all employees using RPE are fit tested and trained on an annual basis, as required.

(4) Maintain a data base file of personnel on the program for monitoring and inspection purposes.

(5) Designate and train an alternate person to perform

fit testing in the absence of the RPP.

(6) Assist supervisors in developing SOPs regarding respiratory protection for their operations.

(7) Ensure that quarterly air quality assurance tests on all designated breathing air compressors are being conducted.

b. Supervisors have the responsibility to assure the respirator program is administered at their site including assurances that proper respirators are used, stored, and maintained at their site. They are responsible to see that proper training occurs and proper surveillance of work areas are performed in accordance with this regulation.

c. Employees are responsible to comply with the elements of the program (i.e. following departmental SOPs); wearing the proper respirators in the required areas; and to use, store, and maintain respirators properly. All personnel required to wear respiratory protective equipment shall:

(1) Use the equipment, at all times of real or potential exposure, exactly as instructed.

(2) Inspect the equipment for wear and deterioration of their components before and after each use.

(3) Keep the face piece stored in a self-sealing plastic bag to protect against damage or contamination when not in use. Store bags in a clean location, not in tool boxes. Store contaminated cartridges separately or dispose of them.

(4) Clean and maintain personally assigned equipment each time it is used.

(5) Immediately advise the supervisor of any special problems that arise that may prevent proper protective use of the equipment; i.e., glasses, vision, facial hair, dental problems or conditional problems with the equipment itself.

(6) Remedy all correctable physical limitations to ensure ability to maintain physical qualifications as required above. If proper physical qualifications are not maintained, the employee will be disqualified from work that requires the use of RPE.

(7) Change cartridges and filters on a regular basis, per the respirator change-out schedule, or at the first sign of break through, i.e. taste or smell of contaminants seeping into the face piece, obvious clogging of paint overspray, or

difficulty in breathing due to resistance from build-up on the filtering media.

(8) Report to work, clean shaven, if their daily duties include the use of respirators that require a face-to-respirator seal. If duties do not require the daily use of respirators, but may require one to be used during the day, they shall either report to work clean shaven or have the ability to shave if the need for respirator usage arises.

d. Fire Department. Upon request, the Fire Department can provide employee training in the proper use, donning, inspection and operation of SCBA equipment.

e. U.S. Army Health Clinic. The Health Clinic will conduct on initial medical examination to determine if an employee can be placed in the RPP. Periodic examinations shall also be provided as set forth in referenced standards. Results of these physicals (i.e., pass/failure) shall be provided to the RPM prior to fit testing.

8-5. Hazard Analysis. Industrial Hygiene and the Safety Office shall survey and inspect operations where the use of respiratory protection is mandatory to protect the health of workers. The types of hazards that are associated with respiratory protection are as follows:

a. Airborne Contaminants. The air in the breathing zone of workers may be contaminated by gases, vapors, dusts, mists or fumes that result from industrial/occupational operations or a combination of any of these. Air contaminants may produce harmful effects in relatively low concentrations or cause long term permanent effects from chronic (long term) exposures. NOTE: A hazardous atmosphere exists when levels of contaminants exceed the legally established Permissible Exposure Limit (PEL) or Threshold Limit Value (TLV).

b. Oxygen Deficiency. Breathing air is composed of nitrogen, oxygen, and trace amounts of other natural gases. Oxygen deficiency occurs when the oxygen level falls below 19.5%. This requires the use of air supplied respiratory protection equipment. Usually, these situations will occur in confined or enclosed spaces, by displacement of oxygen by gases/vapors or where the presence of large amounts of air contaminants exist, such as smoke or chemical spills.

Note: Some airborne materials may or may not be hazardous even though irritation to eyes or respiratory systems of personnel may occur. Nuisance dusts or airborne particulates may irritate people and not be health hazardous. Odors, by

themselves, are not necessarily an indication of the presence of hazardous atmospheres. If situations such as these arise, immediate consultation with the Safety Office and Industrial Hygiene is the proper course of action.

8-6. Respiratory Protection Equipment. The term respirator is used for all equipment that attaches to the face or covers the head with the purpose of providing clean breathing air. Respirators are divided into 2 categories, air-purifying and air-supplying respirators.

a. Air-Purifying Respirators. Air purifying respirators use filters or absorbent to remove harmful substances from the air. Cartridges and filters are color coded and labeled with respect to their purifying capabilities. For example, a person performing touch-up paint operations will use organic vapor (OV) paint cartridges and filters, whereas a welder will use fume cartridges. All respirators, cartridges and filters will be selected by the RPPM. It is critical that the RPPM has accurate information regarding the operation in order to properly selection the respirators/cartridges. Air purifying respirators do not supply oxygen and may not be used in oxygen-deficient atmospheres or in ones that are immediately dangerous to life or health (IDLH).

b. Employees shall be provided with a Powered Air-Purifying Respirator (PAPR) in lieu of other respiratory protection, whenever the employee chooses to use a PAPR and this respirator will provide adequate protection to the employee. Requests for use of PAPRs shall be forwarded to the RPPM for approval prior to the assignment of this equipment to an employee.

c. Air-Supplying Respirators. These respirators are face masks that fit either snugly to the face or loosely over the head. They provide breathing air via a pump and hose or by use of self-contained breathing apparatus (SCBA). Breathing air must be Grade "D" breathing air by Federal specifications. These respirators are used in situations where air-purifying respirators are not sufficient due to the levels or nature of contaminants. Fill stations and compressors used to supply breathing air for SCBA must have quarterly tests of air by a certified laboratory to ensure that grade "D" level is maintained.

d. Fiber dust masks (disposable type) are prohibited except where approved by RPPM on a case-by-case basis. (Medical O.R. masks with metal strips in nasal areas, are not authorized for filtration of nuisance dusts).

8-7. Policies.

a. Work place evaluation. All work places and work operations shall be evaluated by Safety and Industrial Hygiene personnel to determine the requirement for respiratory protection equipment.

b. Medical surveillance. All personnel designated to be placed in the RPP must first receive a medical evaluation to determine if they are physically capable of wearing respiratory equipment. This exam is performed in the health clinic and is required prior to any personnel being placed in the program. Follow up medical exams will be administered on an annual basis. The examining physician will complete a DA Form 4700 indicating the employees physical capabilities and provide a copy to the RPM.

c. Equipment. All RPE shall be provided by the Government as required to protect the health of workers. Wherever possible, equipment shall be issued for exclusive use by individuals. Users are responsible for proper daily use, care, cleaning and storage of their equipment. Only NIOSH/MSHA-approved equipment shall be used. Changes in stocked brands and models of RPE shall require the concurrence of the RPPM.

d. Fit Testing. Individual fit testing is required in all cases where air-purifying respirator equipment is used. Fit testing will determine whether leakage can occur due to poor fit or obstacles interfering with proper seal to the face. Fit testing is not required for air-supplied respirator equipment, except for employees wearing SCBAs, at which time annual quantitative fit testing is required. Factors that may interfere with proper fit and facial seal fit testing include facial hair, eyeglass temple bars that protrude through the seal of full face masks, dentures (or lack of), or other physical features. Personnel who cannot be properly fitted for these reasons shall be disqualified from performing tasks requiring respirators until and unless these conditions can be corrected so a proper facial seal is maintained. Fit testing and training for all users shall be documented on DA Form 4700; the original will be filed in the employees medical record (located in the Health Clinic Bldg. 11). A copy will be filed in the employee's respiratory protection file which is located in the Safety Office and maintained by the RPPM. Upon successful completion of fit testing, the employee will be issued AMSEL-TY (formerly SIOTY) Form 707, Respirator Issue Card. This card will be maintained by the supervisor of the respective work area, after the employee draws a respirator from the Tool Crib.

e. Facial hair. Facial hair (beards, mustaches, sideburns,

bangs, etc.) does not allow a proper seal for the half-mask or full face piece respirators. Therefore, facial hair interfering with the seal of the respirator shall be removed to ensure a good seal.

f. Spectacles (Corrective Lenses). A spectacle kit (adapter for spectacles) will be issued to anyone requiring corrective spectacles and assigned a full-face respirator (negative pressure), or SCBA. Wearing of contact lenses with any RPE is prohibited under all circumstances.

g. Training. Workers required to use respirators shall be trained and instructed in the following: hazards to which they are exposed; selection, proper use, fit, limitations, maintenance, and cleaning and storage of respirator equipment. Affected employees are required to receive annual training using the inter-active computer program which shall be coordinated with the Training Division. Training for users of SCBA equipment, such as in the Fire and Emergency Services Division, shall be trained by qualified instructors.

h. Inspections.

(1) Users of RPE and air-purifying equipment shall inspect such equipment prior to each use in order to ensure proper condition and functional capability.

(2) If any malfunction or improper condition exists, the RPE shall be repaired or rendered usable prior to use in a contaminated atmosphere. Replacement or repairs shall be performed only by experienced persons with parts specific to that respirator.

(3) SCBAs and emergency use/escape respirators shall be formally inspected, by users, once every 30 days, regardless of use, and a record of such inspection maintained. Records shall include date of inspection, serial number of unit and name of inspector. Copies of such inspections shall be forwarded to the Safety Office monthly. SCBAs shall also be inspected after each actual use and returned to ready condition.

i. Storage. Each department/command where RPE is used shall have clean locations where respirators are stored. A person shall be assigned to monitor the department program and maintain the records for each person. No person shall use respirator equipment without these documents being readily available. Respirators shall not be stored in tool boxes. All replacement parts must be made by the same manufacturer as the respirator.

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j. Central issue point. The maintenance main tool crib is designated as the central issue point. Employees and supervisors shall draw out RPE as needed.

k. Temporary Transfer. If an employee is temporarily detailed to a shop where respiratory protection is not needed or required, the respirator and the issue card shall be turned into the supervisor of the original shop.

l. Permanent Transfer. If an employee is permanently transferred out of a shop and into a shop where respiratory protection is not needed or required, the respirator shall be turned into the main tool crib and the issue card turned into the RPPM (Respiratory Protection Program Manager). The employee is to report to the Health Clinic for a termination pulmonary function test.

m. Central cleaning point. Maintenance Ultrasonic Section is designated as the centralized RPE cleaning point.

n. Standard operating procedures. A standard operating procedure (SOP) for all work places where RPE of any kind is used shall be visibly posted in the work place at all times and shall include operations performed, hazards likely to be present, RPE used and emergency information.

