



Policies & Procedures

Article: 3.1

Effective Date: 08/30/2012

Revised Date:

RESPIRATORY PROTECTION

PURPOSE

This instruction sets forth guidelines & standards for the implementation of the Valencia County Emergency Services (VCES) Respiratory Protection Program. The purpose of the Respiratory Protection Program is to ensure that all VCES personnel required to use a respirator/Self Contained Breathing Apparatus in the course of their assigned task are protected from exposure to respiratory hazards. For the purposes of this document, SCBA and respirators are discussed synonymously.

SCOPE

This instruction applies department-wide extending to every element and all members of the VCES as applicable.

References.

29 CFR 1910.134, Respiratory Protection Standard.

Valencia County Respiratory Protection Program.

ACTION INFORMATION.

Responsible Officers: County Fire Chief and designated representative.

Action Officers: VCES Program Administrator.

SIGNIFICANT CHANGES.

This program incorporates new Respiratory Protection Program Guidelines developed to conform to the Respiratory Protection Standard, 29 CFR 1910.134. VCES will use these guidelines to establish and implement an OSHA respiratory protection program consistent with the needs of this Department.

RESPIRATORY PROTECTION PROGRAM

I. Administration of Program

The Chief shall appoint a primary and alternate program administrator to oversee the VCES respiratory protection program. The program administrators' primary duties under this program are to ensure firefighters requiring respiratory protection equipment and training are current and, SCBA inventories are properly maintained and accounted. The program administrator is responsible for evaluating the program's effectiveness. The person selected to perform the responsibilities of this position can be qualified either by appropriate training or experience or both and will report directly to the Chief. Each Fire District will comply with this program. Although responsibility for Respiratory Protection Program oversight rests with the Chief and program administrator, responsibilities may be delegated to other qualified individuals such as District Fire Chiefs or district officers with appropriate training and/or experience.

The responsibilities detailed in Section II-B, are guidelines for the members to follow. The program administrator's job is to ensure consistent coordination and direction of the program as well as to maintain the integrity of this program.

II. Responsibilities.

A. County Fire Chief shall:

- Review program annually and update as necessary;
- Provide advice to assist VCES members in complying with the program;
- Mandate the use of appropriate respiratory protective equipment;
- Appoint a program administrator(s) (primary and alternate) to establish and implement a Respiratory Protection Program for VCES and ensure that said program is implemented within each Fire District;
- Maintains program oversight and monitors adherence to the program and routinely evaluates the program to determine its effectiveness.



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B. Deputy Chief/Program Administrator shall:

- Ensure that the program is understood and followed by all VCES Firefighters,
- Ensure that all firefighters (including new hires) receive appropriate training, fit testing, and medical evaluations in accordance with OSHA 202, medical evaluation,
- Obtain new equipment and maintain non-individually-assigned equipment ready to be re-issued,
- Maintain all records required by this program for review by County Loss Control Safety Staff and OSHA as necessary.

C. District Fire Chief/ Alternate Program Administrator shall:

- Establish and provide training on respiratory protection systems in accordance with manufacturers guidelines and recommendation;
- Maintain training records of firefighters trained on the use of the SCBA;
- Schedule firefighters for recurring training;
- Maintain the training program in accordance with OSHA, NIOSH, and manufacturer requirements;
- Schedule annual fit testing for firefighters in accordance with OSHA.
- Administer the program in their areas of responsibility;
- Arrange and ensure personnel to attend training as applicable;
- Ensure that VCES members adhere to the program;
- Provide an annual evaluation of the respiratory protection program to the Deputy Chief;
- Immediately remove from service any faulty SCBA equipment and deliver to the department Inventory and Supply Coordinator with written explanation of incident within 24 hours of identification;
- Complete monthly inspections of "Operators inspection guide and trouble report" a.k.a. "vehicle check sheet" apparatus to ensure that the listed harnesses and listed bottles are being maintained on each unit as specified by the distribution plan;
- Ensure that members pull harnesses and bottles so that they can be repaired

D. Firefighters shall:

- Wear SCBAs when and where required, and care for and maintain the SCBAs as required by Department Policy. Before going into hazardous areas, firefighters, with the guidance of the on-scene officer, should identify those hazard locations work areas, processes, or tasks that require respiratory protection.
- Achieve a non-leaking face piece to skin seal with the mask at the beginning of each shift. Facial hair shall not be allowed at points where the SCBA face piece is designed to seal with the face. Individual members shall be responsible for ensuring operational readiness, care, and cleanliness of this equipment.
- Shall be responsible for the SCBAs within their district and shall check the condition of the SCBA at the beginning of the shift, after each use, and at any other time it may be necessary to render the equipment in a ready state of condition.
- Complete and maintain appropriate documentation such as daily/weekly or after use inspection report.
- Firefighters must notify their supervisor:
 1. If their SCBA mask no longer fits, and should request replacements that fit properly;
 2. If the Firefighters encounter any respiratory hazards during pre/post inspections that they believe have not been previously or adequately addressed;
 3. If they have any other concerns regarding the program.



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G. Required SCBA usage

The use of a SCBA means that all personnel shall have their face piece in place, breathing air from the supply provided and the PASS device activated. All personnel operating in the following atmospheres shall use self-contained breathing apparatus:

- In a contaminated atmosphere
- In an atmosphere which may suddenly become contaminated
- In an atmosphere which is, or suspected of, being oxygen deficient
- In an atmosphere which is suspected of being contaminated
- In an atmosphere that contains any product that has a published Permissible Exposure Limit (PEL)
- This includes personnel operating in the following areas:
 - In an active fire area or hot zone (The area immediately surrounding a hazardous materials incident or fire area. Which extends far enough to where adverse effects from hazardous materials release will not be expected. It is also referred to as the exclusion zone or the restricted zone.)
 - Directly above an active fire area (i.e. roof)
 - In a potential explosion or fire area, including gas leaks and fuel spills
 - Where the products of combustion are visible in the atmosphere including both vehicle fires and dumpster fires.
 - Where invisible contaminants are suspected to be present or may be released without warning, (i.e. carbon monoxide during overhaul).
 - Where toxic products are present, suspected to be present, or may be released without warning.
 - In any confined space that has not been tested to establish respiratory safety.

H. Removal of SCBAs

Anytime the member is potentially exposed to a hazardous atmosphere he/she shall be required to wear an SCBA or respirator. During any rehabilitation time the firefighter shall not be exposed to carbon monoxide from apparatus. Premature removal of SCBA shall be avoided at all times. This is particularly important during overhaul when smoldering materials may produce increased quantities of carbon monoxide and other toxic products. Prior to removal, fire areas shall be thoroughly ventilated and, where necessary, continuous ventilation shall be provided. Similarly, firefighters must leave the respirator use area if they are replacing an SCBA bottle.

V. Fit Testing

I. Purpose

The primary purpose of fit testing is to identify the specific make, model, style, and size of respirator best suited for each firefighter. In addition, fit testing also reinforces respirator training by having the firefighter review the proper methods of donning and wearing the respirator. Firefighters must be medically evaluated and found eligible to wear the respirator selected for their use prior to fit testing.

J. Requirements

Initial and annual fit testing is required for all negative or positive pressure tight-fitting face piece respirators. The OSHA respiratory protection standard requires that fit testing be performed before an employee first starts wearing a respirator in the work environment, whenever a different respirator facepiece is used, and at least annually thereafter. Failure to comply with the fit testing schedule or fail a fit test will cause the employee to be placed on leave status.

K. Demonstrating and Selecting a Respirator Model

The district department shall provide each member with their own face piece. Prior to the actual fit test, the firefighter must be shown how to put on a respirator, position it on the face, set strap tension, and determine an acceptable fit. Next, firefighter must be allowed to choose a respirator from a sufficient number of sizes so that the firefighter can find an acceptable and correctly fitting respirator. Once an acceptable respirator has been found which takes into account the



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position of the mask on the face, nose, and cheeks; room for eye protection; and room to talk, a user seal check must be conducted (refer to section VI on "Respirator Use").

L. Protocols

Fit testing with VCES will be quantitative (QNFT), and must be administered using an OSHA-accepted QNFT protocol. All firefighters will be quantitatively fit tested upon initial assignment/hire and annually.

M. Changing Respirator Model Selection, Retesting

If the firefighter finds the fit of the respirator to be unacceptable or fails to pass the test, he or she will be given a reasonable opportunity to select a different respirator and to be retested. In addition, retesting is required whenever there are changes in a firefighter's physical condition that could affect a respirator's fit. Such conditions include, but are not limited to, facial scarring, dental changes (e.g., wearing new dentures), cosmetic surgery, or an obvious change in body weight.

VI. SCBA USE

It is necessary to ensure that respirators are used properly on inspections. Firefighters must use their respirators under conditions specified by this respiratory protection program and in accordance with the training they receive. In addition, the respirator must not be used in a manner for which it is not certified by NIOSH or by its manufacturer.

The following conditions compromise the effective use of the respirator and jeopardize firefighter protection: face piece seal leakage; removing the respirator while in hazardous atmospheres; not properly performing user seal checks; or not properly repairing defective parts.

N. Facepiece Seal Protection

All Firefighters must conduct a user seal check every time a tight-fitting respirator is put on or adjusted to ensure that the respirator is seated properly on the face with no noticeable leaks. The user seal check procedure conducted must be either the positive and/or negative pressure checks described in training/or the manufacturer's recommended procedures (when equally protective). If leaks are present, the firefighter should adjust the respirator and try again.

Respirators with tight-fitting face pieces may not be worn by Firefighters who have conditions that would compromise the face piece-to-face seal. Examples of these conditions include facial hair (e.g., beard stubble, sideburns, or beard) that interferes with the face piece seal or valve function, absence of normally worn dentures, facial deformities (e.g., scars, deep skin creases, prominent cheekbones), or the use of jewelry or headgear that projects under the face piece seal.

Corrective glasses or goggles, or other personal protective equipment, must be worn in such a way that does not interfere with the seal of the face piece to the face. OSHA's current standard on respiratory protection allows the use of contact lenses with respirators where the wearer has successfully worn such lenses before.

Use of soft contact lenses shall be permitted during SCBA use, provided that the member has previously demonstrated successful long-term soft contact lens use. Successful long-term use is defined as the wearing of soft contact lenses for at least six (6) months without any problems

The use of hard contact lenses while wearing SCBA is prohibited.

O. Skin or Eye Irritation

Skin or eye irritation can result from wearing a respirator in hot, humid conditions as well as in contaminated environments. Such irritation can cause considerable distress to firefighters, causing them to remove or adjust the respirator or to refrain from wearing the respirator at all, thereby rendering it ineffective. To prevent skin or eye irritation associated with respirator use, firefighters should leave the respirator use area to wash their faces and respirator face pieces as needed.

P. Vapor or Gas Breakthrough

Whenever the firefighter can detect vapor or gas breakthrough (by odor, taste, and/or irritation effects) or a change in breathing resistance or leakage of the face piece, the firefighter must turn on the purge valve and leave the respirator use area to replace the respirator.

Q. Impairments

Because respirators must be in good working condition to function, they should not be used if they have been impaired in any way. Impairments include a broken strap, loss of respirator shape, or a face seal that can no longer be maintained.



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VII. Maintenance and Care Program.

To ensure that the respirator remains serviceable and delivers effective protection, maintenance program must be in place prior to respirator use. In addition to the OSHA requirements, the manufacturer's instructions for inspecting, cleaning, and maintaining should be consulted to ensure that the respirator continues to function properly. A proper maintenance program ensures that the firefighter's respirator remains as effective as when it was new.

R. Self-Contained Breathing Air Quality Assurance Testing

The delivery of breathing air from breathing air compressors shall be sampled on a quarterly basis and tested by a certified, independent agency in accordance with NFPA 1500-1997 & CGA G-7.1-1997 Grade E Air Quality Specification. This testing shall include an ambient air sample from the respective air source site.

S. Harness Functional Testing

Functional testing will be conducted based on manufacturer a recommendation which is every one (1) to two (2) years or more often if local, state, or federal standards are more stringent.

T. Bottle Hydrostatic/Visual Testing

Hydrostatic testing will be in accordance with most current applicable OSHA and NIOSH standards. The following schedule will apply:

5 years for Aluminum bottles

5 years for Steel

3 years for Aluminum composite bottles

Visual inspections will be in accordance with most current applicable OSHA, and NIOSH standards. The following cylinders will have a yearly visual inspection.

U. Inventory:

All SCBA harnesses and bottles will be assigned a three or four digit number that will coincide with the serial numbers. All SCBA harnesses will be given an assignment as per appendix "SCBA distribution plan". It is expected that all firefighters ensure that the assigned harnesses and bottles will be at their assignments. There will be instances (i.e. testing) that a harness or bottle be removed from its assignment. This is expected from time to time and only for a short duration. This information shall be noted on the vehicle check sheets. As soon as the harness and/or bottle is returned it will be placed back into service and once again noted on the vehicle check sheets.

V. The Firefighters Responsibilities for Maintenance and Care

Firefighters must clean and inspect their own respirators in accordance with the provisions of this program. Maintenance involves a thorough visual inspection for cleanliness, defects and replacing batteries in PASS devices. Worn or deteriorated parts must be replaced prior to use. No components are to be replaced or repaired beyond those recommended by the manufacturer. Repairs to regulators or alarms of atmosphere-supplying respirators are to be conducted by a certified manufacturer representative.

1. Cleaning.

Cleaning of all SCBA's will be accomplished in accordance with manufacturer's recommendation. (See attachment XXX for manufactures cleaning and disinfecting procedures.)

2. Storage

All respirators must be stored so that they are protected against damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. When respirators are packed or stored, the face piece and exhalation valve must be stored in a manner that will prevent deformation. Each respirator should be positioned so that it retains its natural configuration. Synthetic materials and even rubber will warp if stored in an unnatural shape, thus affecting the fitting characteristics of the face piece.

Every firefighter will keep the face piece with their turn out gear for use during assignments, including floating and in acting positions.



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3. Inspection Procedures/Frequency

To ensure the continued reliability of respiratory equipment, they must be inspected on a regular basis.

Daily inspections shall consist of inspecting the air cylinders, which must be maintained in a fully charged state and recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. In addition, the regulator and warning devices must be inspected to ensure that they function properly. A daily inspection record will be maintained. An ID on the daily vehicle check sheet will indicate this inspection being completed. Weekly operational inspection shall consist of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the face piece, head straps, and valves, connecting tube. In addition, the electrometric parts must be evaluated for pliability and signs of deterioration. Weekly inspection will be maintained. An I.D. # on the vehicle check sheet under weekly operational checks will indicate such inspection being completed. The record must include the date of the inspection, the I.D. Of the inspector, the findings of the inspection, any required remedial action, and a serial number or other means of identifying the inspected respirator.

4. Repair

Respirators that fail to pass inspection or are otherwise found to be defective shall be removed from service, repaired, or adjusted. Members may change batteries but only appropriately trained members, using only the respirator manufacturer's NIOSH-approved parts designed for that respirator shall do repairs or adjustments to respirators. The repairs also shall be made in accordance with the manufacturer's recommendations and specifications regarding the type and extent of repairs to be performed. Because components such as reducing and admission valves, regulators, and alarms are complex and essential to the safe functioning of the respirator, they are required to be adjusted and repaired only by the manufacturer or a technician trained by the manufacturer. When a respirator is taken out of service, the respirator shall be tagged "out of service," and the firefighter shall contact the Commander to take possession and a replacement will be made available.

The Commander in charge of the district will be notified to make final determination for replacement of defective or malfunctioning face pieces.

VIII. Training

Training is an important part of the respiratory protection program and is essential for correct respirator use.

All program administrators shall attend training provided by the respirator manufacturer on respiratory protection or an equivalent course. VCES members will receive training prior to using a respirator. The program administrator or other qualified individual will provide the necessary training to all Firefighters who may be assigned to wear respirators. As a result of this training, all members will be able to understand the operation of the respirator and be able to use it properly. Our training covers, at a minimum, the following topics (see attached plan from Scott Technologies, Inc.):

- The general requirements of the OSHA respiratory protection standard;
- A discussion of why the use of the respirator is necessary. Such training should address the identification of the hazards involved during inspections, the extent of employee exposures to those hazards, and the potential health effects of such exposures;
- Proper selection of respirators;
- Description of SCBA and its operation
- The procedures for inspecting the respirator, donning and doffing, checking the fit and seal, and actually donning/doffing, and changing cylinders.
- Information regarding the consequences of improper fit, usage, or maintenance;
- Limitations and capabilities of the respirator selected;
- How to use the respirator effectively in emergency situations, including situations when malfunctions occur;
- Proper procedures for maintenance (i.e. cleaning and sanitizing) and storage; and



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- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators (e.g., shortness of breath, dizziness).

W. Annual Retraining and Refresher Training

Retraining must be done annually and additional retraining might be required under certain conditions. Circumstances which would require retraining include situations where changes in the type of respirator assigned to the employee render previous training obsolete; when the employee has not retained the requisite understanding or skill to use the respirator properly; or any other situation in which retraining appears necessary to ensure safe respirator use.

Training in the operation and use of SCBAs must be ongoing and continuous. All respirator training will be documented and the documentation will include the type, model, and size of the respirator assigned to each employee.

IX. Program Evaluation

The program administrator must conduct evaluations of the respiratory protection program as necessary to ensure that the provisions of the current written Respiratory Protection Program are being properly implemented for all Firefighters required to use respirators. Evaluations must be conducted to ensure the continued effectiveness of the program. Evaluations of the program will determine whether the correct respirators are being used and worn properly and whether the training program is effective.

The program administrator must regularly consult with firefighters wearing respirators to ascertain the firefighters' views on program effectiveness and to identify any problems. This assessment must determine if the respirators are properly fitted. It must also evaluate whether firefighters are able to wear the respirators without interfering with effective workplace performance; respirators are correctly selected for the hazards encountered; respirators are being worn when necessary; and whether respirators are being maintained properly. The program administrator must correct any problems associated with wearing a respirator that are identified by firefighters or that are revealed during any other part of this evaluation.

X. Record keeping

SCBAs require daily/weekly inspections. The air cylinders must be maintained in a fully charged state and recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. In addition, the regulator and warning devices must be inspected to ensure that they function properly. For SCBAs maintained for emergency use, the program administrator must maintain a record of the inspection. The record must include the date of the inspection, the name of the inspector, the findings of the inspection, any required remedial action, and a serial number or other means of identifying the inspected respirator.

The program administrator must have access to records (i.e., fit testing and the written Respiratory Protection Program) required under 29 CFR 1910.134. This information will assist the program administrator in auditing the adequacy of the program.

Fit test records must be retained for respirator users until the next fit test is administered. These records consist of:

Name of the person tested,

Type of fit test performed (QNFT only accepted),

Make, model, and size of the respirator fitted,

Date of the fit test,

Pass/fail results if a QNFT is used; and

Fit factor and strip chart recording or other record of the test results if quantitative fit testing was performed.

Fit test records must be maintained to determine whether annual fit testing has been done, and whether the employee tested passed the QNFT with a fit factor that was appropriate for the type of respirator being used. If the employee's use of a respirator is discontinued (e.g., because of a change of duties or termination), fit test records need not be retained.

All written materials required to be maintained under the record keeping requirements must be made available, upon request, to affected firefighters for examination and copying.