



# Carroll County Department of Fire & EMS Standard Operating Procedure

## DOCUMENT DETAILS

<b>Standard Operating Procedure: 6.09</b>	<b>Effective Date: February 23, 2026</b>
<b>Subject: Respiratory Protection Policy</b>	<b>Section: Health &amp; Safety</b>
<b>Authorized: Assistant Chief Dennis Brothers</b>	<b>Revision Date: N/A</b>

**Applicability:**             Volunteer             Career

## I. PURPOSE

This program adopts requirements consistent with the provision established in 29 CFR 1910.134, Respiratory Protection Standard, issued by the United States Department of Labor, Occupational Safety and Health Administration. This program outlines provisions for the selection, fit testing, repair, and safe use of all components of respiratory protection equipment and the medical evaluations, training, certifications and record keeping required for the emergency services personnel who use them.

## II. DEFINITIONS

**IDLH: Immediately Dangerous to Life or Health;** An atmosphere concentration of any toxic, corrosive, or asphyxiant substance that:

1. Poses an immediate threat to life or
2. Would cause irreversible or delayed adverse effects or
3. Would interfere with an individual's ability to escape from the dangerous atmosphere.

Atmospheres with a concentration of oxygen by volume of less than 19.5% will be considered as IDLH. Where reasonable suspicion exists, an atmosphere will be considered IDLH until proven otherwise. (Ex: CO detector sounding, etc.)

NOTE: An interior operation with any amount of smoke or fire would be considered an IDLH situation. The only exception shall be an incipient stage fire as outlined by OSHA's following classification: 29CFR 1910.155 (26) as a "fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguisher, class ii standpipe or small hose system without the need for protective clothing or breathing apparatus."

**RPE:** Respiratory Protection Equipment

**SCBA:** Self Contained Breathing Apparatus

**QNFT:** Quantitative Fit Testing

**SAR:** Supplied Air Respirator

### III. PROCEDURES

#### A. Hazard Evaluation Procedures And Selection Of Respirators 1910.134 (C)(1)

1. Hazard Evaluation: All areas that Emergency services Personnel are exposed to, or will be performing duties, shall be evaluated for a reasonable estimate of personnel exposures to respiratory hazards, and an identification of the contaminant's chemical state, and physical form. When unable to reasonably identify personnel exposure, the atmosphere must be considered IDLH.
2. Selection of Respirators: All Emergency Services Personnel shall be in full protective gear with RPE donned and operating before entering any IDLH area as described above.
  - a. All RPE provided for IDLH atmospheres shall be NIOSH certified.
  - b. All RPE shall meet the requirements of NFPA 1981, standard on open circuit breathing apparatus, at time of purchase.
  - c. A full facepiece pressure demand SCBA certified by NIOSH for a minimum service life of 30 minutes or more.
  - d. A combination full facepiece pressure demand supplied air (SAR) with auxiliary self-contained air supply.

#### B. Medical Evaluation 1910.134 (E)

1. All Emergency Services Personnel that are required to wear REP shall be provided with a medical evaluation, to determine that person's ability to use RPE safely. This evaluation shall be performed at no cost to Emergency Services personnel.
2. Carroll Occupational Health is responsible for the Physical Program currently in place for all Carroll County Emergency Services personnel and has been provided with information concerning the use of RPE, to better make a final determination of one's ability to safely use a respirator, including:
  - a. Type and weight of respirators in use
  - b. Duration and frequency of use
  - c. Expected physical work effort
  - d. Additional protective equipment and clothing
  - e. Temperature and humidity extremes encountered
  - f. Copy of this program
3. In accordance with established Physical Program procedures, all Emergency services personnel shall obtain a medical evaluation annually, prior to having fit test performed.
4. Personnel who refuse to be medically evaluated cannot be assigned to work in areas where they are required to use RPE.

5. A confidential medical file shall be maintained for all personnel and be under the control of the medical provider. All recommendations shall be maintained in each file, and a copy given to personnel. All personnel will have the opportunity to discuss the recommendations with the medical provider. All personnel will receive written copies of all their medical evaluations.

**C. Fit Test Procedures 1910.134 (F)**

1. Quantitative Fit Testing (QNFT), meaning an assessment of the adequacy of the RPE fit by numerically measuring the amount of leakage into the RPE, will be the means of testing used to satisfy the Respiratory Standard. This type of fit testing provides the best possible means of assuring that the facepiece personnel are using is of proper size and is providing the proper protection.
2. A list of personnel who have received a successful medical evaluation shall be obtained from the Physician in charge of the Physical Program prior to any fit test, only personnel whose name appears on this list may be fit tested.
3. A fit test must be performed on all personnel using RPE. It must be repeated at least annually, and whenever:
  - a. A facepiece different than the one used for the most recent fit test is to be used. (Ex: Make, model, style, or size.)
  - b. A change in physical condition affecting facepiece fit.
  - c. Personnel shall only wear the style and size facepiece for which they have been fit tested. If personnel must wear another style or size facepiece, they must first be fit tested in that facepiece before using it.
4. Personnel shall be fit tested in each type and style facepiece they are expected to wear. (Ex: A member of the ATR team will receive a fit test or tests for the style facepieces in use at that member's department, and an additional test in the style SAR used by the ATR team.
5. This standard does not require personal issue facepieces, but it should be kept in mind that if a department uses different style facepieces from the same manufacturer, each member from that department shall receive a fit test in each style that they might be expected to wear. (Ex: Ultravue and Ultraelite).
6. Fit testing of RPE shall be accomplished by performing a quantitative fit testing in the negative pressure mode. Regardless of the mode of operation that is used for respiratory protection.
7. Any equipment such as "sports" glasses must be worn during fit test.

**D. Procedures For Proper Use Of Respirators In Routine And Reasonably Foreseeable Emergency Situations 1910.134(G)**

**1. Facepiece Seal Protection**

- a. Emergency Services Personnel shall not be permitted to use RPE if any of the following conditions exist:

- i. Facial hair that comes between the sealing surface of the facepiece and face or interferes with valve function. Facial hair for the purpose of this program is defined by OSHA as more than one day's growth.
- ii. Any condition that interferes with face-to-facepiece seal or valve function, including the wearing of jewelry, the use of protective hoods under the facepiece harness, or any other condition that may interfere with the seal of the facepiece.
- iii. If personnel wear corrective glasses, goggles, or other personal protective equipment, it shall be worn in a manner that does not interfere with the seal of the facepiece to the face.
- iv. If personnel wear any safety equipment with their RPE, they must have their fit test performed while wearing the equipment, to determine if it interferes with the facepiece seal. (Ex: Sports glasses).
- v. All personnel shall perform a seal check each time they don the facepiece, to ensure the proper protection will be provided. This procedure shall be the facepiece remain in a slightly collapsed condition with no inward leakage of air detected.

## **2. Continuing Respirator Effectiveness (G)(2)**

- a. Appropriate surveillance shall be maintained of personnel working in RPE, as to the degree of exposure or stress that may affect respirator effectiveness.
- b. Personnel shall leave the area requiring RPE if they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece.
- c. If personnel experience any of the above conditions, the problem must be corrected before re-entry into the atmosphere is permitted.

## **3. Procedures For Idlh Atmospheres (G)(3)**

- a. One person, or when needed, more than one person must be located outside the IDLH atmosphere.
- b. Visual, voice, or signal line communication must be maintained between personnel in and out of the IDLH atmosphere.
- c. The personnel outside the IDLH atmosphere must be trained and equipped to provide effective emergency rescue and must be in place before entry is made. Personnel outside the IDLH atmosphere must be equipped with SCBA, and appropriate retrieval equipment for removing personnel from the IDLH atmosphere.

## **4. Procedures For Interior Structural Firefighting (G)(E)**

- a. OSHA has defined, "interior structural firefighting," to mean: "The physical activity of fire suppression, rescue, or both, inside of a burning building or enclosed structure, which are beyond the incipient stage." This is firefighting to control or extinguish a fire in an advanced stage of burning, producing large amounts of smoke, heat, and toxic products of combustion. Firefighter exposure during this

activity is extremely hazardous. The atmosphere is considered IDLH, and the use of RPE is required. By contrast, incipient stage firefighting involves the control or extinguishment of a fire in the initial or beginning stage, using portable fire extinguishers or small hose lines without the need for personal protective equipment. It is the Incident Commander's responsibility, based on training and experience, to judge whether a fire is an interior structural fire, and how it will be attacked.

- b. All personnel that enter a burning building as described above shall operate in teams of no less than two. There must be at least two firefighters stationed outside during interior structural firefighting, and they must be trained, equipped, and prepared to enter if necessary to rescue the firefighters inside. However, the Incident Commander has the responsibility and flexibility to determine when more than two outside firefighters are necessary, given the circumstances of the fire. For the purpose of this program, this will be known as the Two-In/Two-Out Policy.
  - i. There is an explicit exemption in the standard that if life is in jeopardy, firefighters have the discretion to perform the rescue, and the **RIC & 2In/2Out Functions Policy 4.1.6** requirement is waived.
  - ii. This does not require four personnel on each piece of equipment. However, if a piece of equipment has a short crew, they may only attack the fire from the outside and perform size-up until the required numbers of personnel who can function are at location. This does not include an emergency rescue as stated above.
  - iii. The Incident Commander (when not in a tactical role) and FADO will not be included as part of the 2 out.
  - iv. The two firefighters entering an IDLH atmosphere to perform interior structural firefighting must always maintain visual or voice communications with each other and be in constant radio contact with the outside firefighters.

**E. Procedures For Cleaning, Disinfecting, Storing, Inspecting, Repairing, And Otherwise Maintaining Respirators 1910.134 (H)(1)**

1. **Cleaning & Disinfecting:** RPE must be cleaned and disinfected as often as necessary to keep them in a sanitary condition.
  - a. RPE shall be properly cleaned and disinfected before being worn by another user. The use of individually wrapped cleaning towelettes is allowed but must not be the only means of cleaning and disinfecting.
  - b. RPE used in fit-testing and training shall be cleaned and disinfected after each use.
  - c. All RPE shall be cleaned and disinfected, as required by the given manufacturer.
2. **Storing:** All RPE shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals. They shall be packed and stored to prevent deformation of the facepiece and exhalation valve.

- a. All RPE shall be stored in accordance with any applicable manufacturer instructions.
3. **Inspection:** All RPE maintained for use in emergency situations shall be inspected at least monthly, and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use.
    - a. RPE inspection shall include a check of respirator function, tightness of connections, condition of the various parts including, but not limited to: facepiece, head straps, valves, connecting tube, cartridge, canisters, and filters.
    - b. A check of the elastomeric parts for pliability and signs of deterioration.
    - c. All RPE shall be maintained in a fully charged state and shall be recharged when the pressure falls below 90% of the manufacturer's recommended pressure level.
    - d. A record of inspection shall be maintained, including: The name of person who performed the inspection, the findings, and required medial action.
  4. **Repairs:** All RPE that fail an inspection or otherwise found to be defective, shall be removed from service and repaired or adjusted in accordance with manufacturer's recommendations.
    - a. Repairs and adjustments to RPE are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts, designed for the respirator.
    - b. Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer, or a technician trained by the manufacturer.

**F. Procedures To Ensure Adequate Air Quality, And Flow For Atmosphere-Supplying Respirators 1910.134 (I)**

1. Compressed breathing air must at least meet the requirements for Grade D breathing air. The ANSI/CGA G.7- 1-1989 specifies the contents of Grade D breathing air as oxygen (volume/volume) of 19.5 to 23.5% hydrocarbon (condensed) of 5mg/m<sup>3</sup> of air or less; carbon monoxide of 10ppm or less; carbon dioxide of 1,000ppm or less; and the lack of a noticeable odor.
  - a. The air compressor shall be located to ensure that the air intake is in an area that is not contaminated with combustion exhaust gases produced by vehicles or the compressor itself.
  - b. A tag containing the signature of the person authorized to change the in-line sorbent beds and filters and the date of the latest change must be maintained at the compressor.
  - c. For air compressors that are not oil lubricated, a CO alarm is not required. However, you are required to ensure that CO levels do not exceed 10ppm.
  - d. Frequent monitoring of the breathing air, the use of CO filters, or the use of a high temperature alarm or shut off shall be in place.
  - e. If an oil-lubricated compressor is used, it must have either a CO alarm, high temperature alarm, or both. If only the high temperature alarm is used, the air must

be tested for the presence of CO at intervals sufficient to ensure that CO levels do not exceed 10ppm.

- f. Breathing air compressors, air storage systems, and refill stations shall be regularly inspected and maintained in accordance with the manufacturer's recommendations.
- g. An independent laboratory, to ensure that it meets the required specifications, shall test air produced by department's compressor and refill systems at least quarterly.
- h. A certificate of compliance certifying that the air has been analyzed by a reputable testing agency and complies with the required specification, shall accompany air obtained from other sources. These certificates shall be maintained at the location where the air is stored, until it is expended.

**G. Training Of Personnel In The Proper Use Of Respirators, Including Donning, Doffing, And Limitations On Their Use And Maintenance 1910.134**

- 1. The following is provided as a possible guide for individual department's annual certification training. This can be a three-level training program.
  - a. **Level I:** Normally takes place in a classroom setting. This allows the student to become familiar with the SCBA/SAR. This allows the instructor to determine the student's comprehension of the unit. Skills are best learned by actual use of the SCBA/SAR as soon as possible after the classroom session.
    - i. Operation of SCBA/SAR and related equipment
    - ii. Identification of components including:
      - A. Facepieces
      - B. Regulators
      - C. Warning devices
      - D. Harnesses
      - E. Cylinders
    - iii. Demonstrate the operation of all types of SCBA/SAR used by the department, to include:
      - A. Donning & doffing procedure while wearing full protective clothing equipment.
      - B. Activation of warning devices (PASS) should be addressed.
    - iv. Demonstrate emergency procedures that are required if the apparatus fails to function normally.
    - v. Demonstrate techniques used to assist others if their apparatus fails.
    - vi. Demonstrate procedure for pre-incident and post-incident inspections in SCBA/SAR.
    - vii. Demonstrate the procedure for refilling breathing apparatus cylinders.
  - b. **Level II:** Operation and functioning while wearing SCBA/SAR
    - i. Utilization of breathing apparatus maze.
    - ii. Entrance into a confined space.

- iii. Use of SCBA/SAR while wearing encapsulated suits.
- iv. Advancing of hose lines up ladders and through a building, search and rescue, and ventilation. (No fire, smoke only).
- v. EMS providers can do simulated patient care while wearing SCBA.
- c. **Level III: Practical training evolutions**
  - i. Simulations of emergency operations while wearing SCBA/SAR with full protective clothing.
    - A. Incorporate live fire for firefighters.
    - B. Confined space entry and rescue for rescue personnel.
    - C. Haz-mat operations for haz-mat technicians.
    - D. Patient packaging and care for E.M.S. providers.

#### **H. Identification Of Filters, Cartridges, And Canisters 1910.134 (J)**

- 1. All filters, cartridges, and canisters must be properly labeled and color-coded with the NIOSH approval label. That label is not to be removed, obscured, or defaced while in service.
- 2. All filters, cartridges, and canisters shall be maintained so that the expiration date is examined and expired units are replaced.

#### **I. Procedures For Regularly Evaluating The Effectiveness Of This Program 1910.134 (L)**

- 1. An evaluation of the written respiratory program to ensure that it is properly followed and maintained must be done on a basis to ensure that all personnel are being provided with the best possible respiratory protection. Periodic updates shall be provided concerning the progress of the program. This program was designed to comply with the OSHA standard.

#### **J. Administrator**

- 1. The administrator for the Respiratory Protection Program will be the Assistant Chief of Training, Health & Safety of the Department of Fire and Emergency Medical Services, whose office is located at 50 Kate Wagner Road, Westminster.

#### **K. Recordkeeping 1910.134 (M)**

- 1. All records of medical evaluations, fit test results, equipment calibration, etc., shall be maintained and available to OSHA to stay in compliance with the 1910.134 standard.
  - a. **Medical Records**
    - i. Carroll Occupational Health, who is responsible for the established physical program, shall maintain all medical records.
    - ii. Records of medical evaluation required by this program shall be retained and made available in accordance with 29CFR 1910.1020.

#### **2. Fit Test Records**

- a. All records of fit testing shall be maintained by the program administrator, and shall be available to department chiefs, and OSHA.

- b. All personnel will be given a copy of their fit test results at time of fit test.
- c. Fit test records will be maintained until next annual fit test.

**3. Equipment Calibration**

- a. All fit test equipment shall be calibrated and maintained as per manufacturer's recommendations. All such records shall be maintained and be available.

**4. Maintenance Records**

- a. All records of cleaning, disinfecting, storing, inspecting, repairing, and other maintenance, shall be maintained by each department, as required by section III.E. of this program.

**5. Training**

- a. Each department as required by section III.G. of this program shall maintain all training records.

**6. Air Quality**

- a. Each department as required by III.F. of this program shall maintain all records of adequate air quality.

**IV. RESCISION**

This Standard Operating Procedure rescinds all directives regarding Respiratory Protection Policy or similar content previously issued for personnel of the Carroll County Department of Fire & EMS.

**V. RELATED STANDARD OPERATING PROCEDURES / DOCUMENTS**

**VI. ATTACHMENTS**