



## Charles County Department of Emergency Services STANDARD OPERATING PROCEDURES

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### Section 100 - Management & Administration

Vehicles, Apparatus & Equipment - 104.00		
S.O.P. # 104.15	<b>Use, Maintenance, Cleaning and Storage of SCBA and SCBA Cylinders</b>	PAGE: 1 OF 5
EFFECTIVE: 06/04/2003	Authorized: John Filer, Chief	
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#### 104.15.01 Purpose

To establish standards for personnel using Self Contained Breathing Apparatus (SCBA) with regards to use, maintenance, cleaning and storage.

#### 104.15.02 Cited Materials

- NFPA 1981: Standard on Open-Circuit Self-Contained Breathing Apparatus for the Fire Service
- NFPA 1500: Standard on Fire Department Occupational Safety and Health Program
- NIOSH Guide to Industrial Respiratory Protection
- Occupational Safety and Health Standard Title 29 CFR 1910.134
- The American National Standards Institute (ANSI) Z88.2-1992
- SOP #100.08 - Professional Appearance Standard

#### 104.15.03 Responsibility

1. It is the responsibility of the Department to provide proper respiratory protection to its personnel and train them on its proper use.
2. It is the responsibility of the Department to provide NFPA 1500 compliant physicals for all uniformed personnel utilizing respirator protection.
3. It is the responsibility of the Department to provide and perform annual respiratory fit testing to each employee utilizing respiratory protection.
4. It shall be the responsibility of all department officers and uniformed personnel to comply and enforce the regulations of this SOP.
5. It is the responsibility of all down range personnel operating in an IDLH or potentially IDLH environment to maintain the ability of a tight skin to mask seal.
6. It is the responsibility of the officer in charge to ensure that all down range personnel operating in an IDLH or potentially IDLH environment utilize SCBA when the hazard warrants.



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7. It is the responsibility of the Special Operations Coordinator to facilitate the preventative and annual maintenance of the Department's SCBA's.
8. It is the responsibility of every uniformed employee to care and maintain their issued face piece.

### 104.15.04 General

All SCBA equipment shall comply with the provisions of NFPA 1981: Standard on Open-Circuit Self-Contained Breathing Apparatus for the Fire Service that was in effect at the time the equipment was purchased. SCBA equipment shall also comply with the applicable rules, regulations, and standards established by other appropriate agencies.

### 104.15.05 Policy

1. It is the policy of the Department that all personnel expected or likely to respond to, and function in, areas of atmospheric contamination, shall be equipped with, and trained in, the proper use and maintenance of the self-contained breathing apparatus.
2. Members shall utilize only SCBA, which are of the approved, positive pressure type.
3. Only pure, compressed air shall be used to fill the air cylinders.
  - a. Said cylinders shall be filled and maintained in accordance with Department policy.
  - b. SCBA air cylinders shall be pressurized between 4000 and 4500 psi.
4. Fire Department SCBA shall be inspected daily and shall be briefly operated on a weekly basis by shift personnel.
5. SCBA's or their component parts, which are observed to be worn, defective, or damaged, shall be removed from service immediately and a suitable replacement SCBA or part shall be provided.
6. SCBA's and their spare air cylinders shall be properly secured to apparatus and vehicles in such a manner as to be readily available for quick operations yet shall be well secured enough to prevent injuries to personnel or accidental damage to apparatus and/or equipment.
7. Each SCBA approved employee shall be fitted with their own SCBA face piece.
8. All personnel that are SCBA qualified shall have facial hair in compliance with SOP #100.08 when using any SCBA, any growth of facial hair of more than one (1) day's growth or that which may interfere with a complete seal of the face piece shall be considered un-operational.



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### 104.15.06 Operations

1. Self-contained breathing apparatus shall be worn and used by all qualified employees when:
  - a. Entering confined spaces that are oxygen deficient, or where smoke, chemicals, toxic agents, toxic fumes or unknown types of gases or vapors are present.
  - b. At the scene of emergency incidents where personnel may be exposed to toxic vapors, gases, fumes, mist or dust caused by fires, explosions, leaks, spills or other means.
  - c. Any possible or anticipated IDLH atmosphere as determined by the nature of the call or by presence on the scene.
2. Do not prematurely remove breathing apparatus during routine fire situations until instructed. Carbon monoxide levels increase during overhaul, due to the incomplete combustion of smoldering materials.
3. When using SCBA with a thirty (30) minute rating, a good rule of thumb is to expect no more than one (1) minute for every 100 psi as indicated on the cylinder gauge.
4. When working in breathing apparatus, work in pairs.
5. Never remove the face mask or regulator to talk when in hazardous atmosphere.
6. When utilizing a life-line and rescue knot with a SCBA, secure the life line using the rescue knot to the member first, then don the SCBA.
7. When activating the SCBA for breathing, the PASS must be turned on, if not of the integrated type.
8. SCBA's in storage will have the furnished rubber outlet port cover in place to prevent contaminants from entering the regulator.
9. The Incident Commander will ensure that a rapid intervention team (RIT) will be established when members are operating in an IDLH atmosphere. The team shall consist of at least two (2) SCBA qualified personnel.
10. The RIT shall be in full protective clothing with SCBA on and ready to operate. The team will also have a RIT bag.
11. All cylinders shall be refilled in accordance with the recommendations of the manufacturer.
12. Defective or out-of-date cylinders shall not be filled and shall be removed from service. (NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, requires that cylinders be hydrostatically tested within the applicable periods specified by the manufacturer. For example, if a manufacturer required a cylinder to be tested every five (5) years and the last test date on the cylinder is older than five (5) years, the cylinder cannot be filled).
13. Breathing air compressors shall not be operated in a contaminated atmosphere. Prior to operation, personnel shall ensure that the intake area is free of obvious contaminants.
14. The breathing air that is produced by the department's compressors shall meet the air quality standards for SCBA equipment.



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### **104.15.07 Training**

1. All personnel expected to use respiratory protection shall be trained on its proper use.
2. Training will be scheduled on the use and maintenance of self-contained breathing apparatus.
3. Training and drills in the use of SCBA's shall be provided which simulate as near actual emergency conditions as possible.

### **104.15.08 Identification of SCBA**

1. All SCBA will be color coded for identification.
2. Each SCBA is assigned an identification number displayed on the harness, bottle and regulatory body.

### **104.15.09 Check and Maintenance**

1. All in service SCBA's shall be visually inspected on a daily basis.
2. In service SCBAs shall be briefly operated weekly. This operation will consist of the following:
  - a. Visual inspection of SCBA,
  - b. Hook up mask and regulator;
  - c. Place unit into service for a brief period of time and observe operation,
  - d. Activate PASS alarm.
3. It is the duty of each individual inspecting the SCBA to promptly report any deficiencies found with any piece of life safety equipment. If the equipment cannot immediately be repaired, it should be taken out of service.
4. SCBA's will be flow tested annually by a certified factory technician.
5. SCBA cylinders will be hydrostatically tested every five (5) years by a certified factory technician.
6. Records of maintenance shall be maintained by the Special Operations Coordinator.

### **104.15.10 Cleaning and Return to Service**

1. SCBA's shall be cleaned and the face mask shall be disinfected after each use, except when impractical under tactical conditions.
2. The facepiece assembly shall be washed with mild soap and water and thoroughly rinsed with clean warm water and dried with clean wiping cloths or disposable towels. Facepieces should be stored in such a manner that remaining moisture can drain from the flexible tube and never stored in a box while still wet.



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3. After washing, masks will be disinfected with cleaner/sanitizer solution.
4. Alcohol should not be used as a disinfecting agent. Rubber Parts should not be force dried with heat.
5. The air cylinder should be properly charged or replaced when returning an SCBA to service.

### **104.15.11 Repairs and Records**

1. A replacement SCBA will be provided whenever a SCBA is removed from service for repair.
2. The unit replaced must be tagged with the reason it is out of service and the Special Operations Coordinator should be notified.
3. SCBA repairs shall only be completed by a certified factory technician.
4. A complete inventory shall be kept of all SCBA units, cylinders, cascades, fill stations, special tools, spare parts, and related equipment.
5. The records shall include inventory and serial numbers, date of purchase, vendor, manufacturer, maintenance and repair history, history of parts replacement, upgrades, and performance tests.
6. Individual records shall be kept for each cylinder. The records shall include inventory or serial numbers, date of purchase, vendor, manufacturer, hydrostatic test dates, and a history of inspection and repair.
7. Individual maintenance and repair records shall be kept for the breathing air compressor, fill station, and any equipment used to produce or store breathing air.
8. A permanent file of all air quality tests shall also be kept.