

HARTFORD FIRE DEPARTMENT

FIRE	SOP: 107
Respiratory Program	PAGE: 1-5
APPROVED BY: Scott D. Cooney, Fire Chief	EFFECTIVE DATE: 1/4/13

PURPOSE

To establish a uniform policy to provide guidance to personnel for the expected use, care and maintenance of department self-contained breathing apparatus. Minimum requirements and training standards are outlined to provide consistent guidance and expectations for all personnel.

RESPONSIBILITY

It is the duty of all of members to thoroughly familiarize and abide by the following policies and procedures pertaining to the Respiratory Program.

DEFINITIONS AND RELATED DOCUMENTATION

- ✓ SCBA- Self Contained Breathing Apparatus
- ✓ IDLH- Immediately Dangerous to Life and Health
- ✓ OSHA 29CFR 1910.132 & 29CFR 1910.134
- ✓ NFPA 1981: Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services

INTRODUCTION

Firefighters must be prepared to enter atmospheres that pose an immediate threat to life or health. Personnel shall wear positive pressure demand type breathing apparatus that the Town provides for the firefighter. These units shall be worn when entering contaminated atmospheres. In accordance with 1910.134 (b) (2) OSHA regulations and the adopted NFPA 1981 standard, the Hartford Fire Department will purchase only positive pressure type SCBA. Therefore, it shall be required that whenever a firefighter enters a known or suspected toxic atmosphere he/she shall:

- ✓ Don positive pressure breathing apparatus provided by the Department prior to entering.
- ✓ Use the self-contained breathing apparatus in accordance with procedures set forth in the following Standard Operating Procedure.

These procedures are intended for the guidance of the entire fire department. Ignorance of the policies and procedures set forth in the Standard Operating Procedures will not be an excuse for non-compliance. This document was prepared in accordance with Occupational Safety and Health Regulations (29CFR1910.132 & .134: Respiratory Protection). Guidance for this document was taken from the National Fire Protection Association, 1981: Standard on Open Circuit Self Contained Breathing Apparatus for Emergency Services.

RESPIRATORY PROGRAM

In accordance with 1910.134(a) (2) which meets the requirements of paragraph (b) of section 1910.134, the following shall apply:

Minimum Requirements:

- All Hartford Fire Department personnel shall be evaluated annually for “fit for duty” status by the designated agency physician to maintain interior firefighter status. An annual list of qualified interior firefighters will be published in the professional credentials section of the SOP manual, (in accordance with OSHA 1910.134(b) (10)).
- All Hartford Fire Department personnel must complete an annual Quantitative fit test. Personnel shall be fit tested to the size and style mask they are issued. Personnel may be subject to additional fit testing based on changes in facial features or replacement of mask size or mask style. (OSHA 1910.134(A)).

Structural Firefighting Guidelines:

When entering an IDLH atmosphere, such as harmful dust, fogs, fumes, mists, gasses, smokes, sprays or vapors, the primary objective shall be to prevent atmospheric contamination to personnel of the Hartford Fire Department. SCBA shall be worn in all building fires until the air has been declared non IDLH using approved air monitoring devices. Multi-gas detectors shall be utilized to determine air quality. It is the responsibility of the Incident Commander to confirm air quality levels prior to allowing companies to remove SCBA during overhaul operations. The following tolerances shall be used as a guideline in the determination of declaring the atmosphere safe for the removal of SCBA.

- Carbon monoxide levels less than 35 ppm.
- Hydrogen Cyanide levels of 5 ppm or less
- Hydrogen Sulfide levels of 10 ppm or less
- Oxygen level above 19.5%

On hazardous materials incidents, breathing apparatus will be worn until the atmosphere has been declared non IDLH using approved air monitoring devices and only under the order of the Incident Commander.

Approved Respirators

In accordance with OSHA 1910.134(b) (11), all SCBA shall be recognized as an approved unit by OSHA. The present Scott Air-Pak 4.5's AP 50, AP75 and SKA Paks, meet this approval.

Training and Instruction

The user shall be instructed, trained and certified in the proper use of the SCBA as well as the limitations. The shift officers shall insure personnel are proficient in the use of department SCBA. Instruction and training for the firefighters consists of, but is not limited to, the following:

1. Explanation and discussion of the respiratory hazards that are likely to be encountered by the firefighter and what happens if the respirator is not used properly.
2. The function, capabilities and limitations of the positive pressure respirators.
3. The methods for donning, doffing, ensuring proper fit and normal operations as well as emergency procedures for SCBA.

4. SCBA maintenance, care and required documentation.

Cleaning and Disinfecting

Respirators shall be regularly cleaned and disinfected (in accordance with 1910.134(b) (5)). This shall be done by following the recommended cleaning and disinfecting practices of Scott Aviation.

- In most cases the SCBA may be cleaned using normal tap water and a nonabrasive cloth or sponge. All components can be wiped down and air dried.
- SCBA masks may also be cleaned using tap water. All components should be air dried if possible or wiped down using a nonabrasive cloth.
- SCBA exposed to possible hazardous materials must be decontaminated using appropriate procedures as determined based on the product exposure.

Storage

The Hartford Fire Department stores SCBA in compartments or jump seats provided for the units on apparatus. The purpose of proper storage is to keep the units clean and in a state of readiness. NOTE: (In accordance with 1910.134(b) (6)) in freezing weather, before placing SCBA back in service, make sure all functional components are completely dry before returning to service.

Inspection

The Hartford Fire Department respiratory program includes an inspection process that conforms to the Scott Aviation Owner Service manual. SCBA inspections shall be performed weekly and/or after every use. This includes after any incident or training exercise where SCBA are used extensively. Inspection of SCBA shall be recorded in the department RMS system. The following system will be used at the Hartford Fire Department to assure a chain of reliable record keeping. This system delegates responsibilities to selected individuals who should be contacted should the need arise.

1. Each SCBA is assigned a letter, which shall correspond with a maintenance record report form in the Department RMS.
2. After each weekly inspection of the SCBA, the employee shall record the proper information in the RMS inspection log.

In addition to the above, the firefighter shall be responsible for the following:

1. Personnel shall only use the approved respirators / SCBA in accordance with the instruction and training received.
2. Personnel shall guard against misuse or damage to department SCBA.
3. Personnel shall report any and all malfunctions and/or damage to the SCBA Program Manager using the established reporting system.
4. Each interior firefighter who is assigned an SCBA mask shall be responsible for its cleanliness and proper functionality; this includes the voice amplifier if applicable. Personnel shall only wear the size and type mask used during their most recent fit test.
5. Only personnel certified by Scott Aviation to do field repairs and maintenance on Scott

Air-Pak units shall be permitted to work on SCBA units. SCBA repaired by field service personnel shall be double checked by a second person to ensure accountability and safe guard against overlooked deficiencies.

Fire Ground Surveillance:

It shall be the responsibility of all fire officers to keep a surveillance of the firefighter's condition and degree of exposure and/or stress on the fire ground (in accordance with OSHA 1910.134(b) (9)).

Safe Use of Respirators

Personnel shall use the provided SCBA per the manufacturer's recommendations. Knowledge of SCBA safety features and limitations is essential. When the air supply vibra-alert alarm activates indicating 20-25% of the air cylinder's capacity is remaining, the firefighter shall notify his/her company officer and the company shall return to a safe atmosphere immediately.

It is the policy of this department that whenever SCBA are being used, personnel shall work in a minimum of teams of two. This is in accordance with Appendix D to Sec. 1910.134 (Mandatory). SCBA should not be worn unprotected in atmospheres containing contaminants for which the respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.

SCBA certified personnel shall not have a growth of beard, thick sideburns, or have forehead hairs that project under the face-piece; nor should glasses with temples be worn when using SCBA. The absence of one or both dentures can seriously affect the fit of a face-piece.

Two in/ two out OSHA regulation

OSHA states that "once firefighters begin the interior attack on an interior structural fire, the atmosphere is assumed to be IDLH and paragraph **29 CFR 1910.134(g)(4)** [two-in/two-out] applies." OSHA defines interior structural firefighting "as the physical activity of fire suppression, rescue or both inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage." OSHA further defines an incipient stage fire in **29 CFR 1910.155(c)(26)** as a "fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers, Class II standpipe or small hose systems without the need for protective clothing or breathing apparatus." Any structural fire beyond incipient stage is considered to be an IDLH atmosphere by OSHA. Additionally **1910.134(g)(4)(iii)** states that all employees engaged in interior structural firefighting shall use positive pressure self-contained breathing apparatus.

Therefore, Hartford Fire Department personnel shall adhere to two in/ two out as outlined in the OSHA regulation for fires that have progressed beyond the incipient stage. Refer to Hartford Fire Department SOP, 102- Initial Fire Attack for specific personnel responsibilities.

Procedure for firefighter injuries / illnesses while wearing SCBA

When the wearer of department SCBA experiences an emergency situation that affects the health and well-being of personnel, it is important to secure and maintain all evidence. This includes securing all equipment for a pending investigation to determine possible malfunctions causing injury or death while operating in the line of duty. Upon recognizing a firefighter emergency personnel shall follow May Day procedures outlined in SOP 307, May Day Procedures. Once the firefighter emergency has been mitigated steps shall be taken to secure the SCBA involved.

- The SCBA shall immediately be secured making sure not to tamper with any of the valves or shut-offs. Should there be a need to change the position of any valve or device on the SCBA, report the changes made, the number of turns needed to close a valve and the reason for doing so. The level of the tank pressure gauge as well as the status of the pack alarm must be documented. A complete report of the status of the SCBA unit shall be issued to the Chief in writing.
- Once the SCBA has been secured it shall be taken directly to the Safety Officer or the Incident Commander in his absence.
- The Safety Officer is responsible for maintaining the SCBA as evidence in a secure location until proper authorities investigate the incident.
- At no time shall anyone come in contact with the SCBA without prior approval of the Fire Chief or designee.

Updated 3/21/07
 1/4/13