

## Chapter 9-6

Effective Draft

### Standard Operating Policy for Respiratory Health Program

rev. 01/30/07

#### 1. Purpose

This SOP covers the policies and practices that PVFD will use to protect the respiratory health of members while they are engaging in PVFD related activities. This program is designed to meet the requirements of OSHA 29 CFR 1910.134, NFPA 1500, and NFPA 1852.

#### 2. Scope

This SOP applies to all PVFD personnel that engage in firefighting activities and to other PVFD staff who are in the immediate area of PVFD activities that may contain respiratory hazards. It is the responsibility of PVFD to ensure that all personnel are trained and have proper respiratory equipment available for use. It is the responsibility of all PVFD personnel to understand the purpose of this policy and to adhere to its instructions to safeguard their own health.

#### 3. Introduction

The term "respiratory health" refers to keeping a person's airway and lungs safe from airborne dust, toxins, or poisons. The lungs and airway are easily exposed and easily damaged when exposed to harmful foreign agents. Such exposures can cause acute symptoms such as the inability to breathe or immediate damage to the respiratory system. Since the respiratory system is not easily cleansed of inhaled foreign particles, chronic damage such as cancer and other debilitating diseases is possible when harmful agents are inhaled. The most effective way to deal with respiratory injury is to be proactive in its prevention.

Lifestyle choices can also have an effect on respiratory health. Smoking is known to adversely affect respiratory health, and is strongly discouraged by PVFD. PVFD members should not engage in work or hobbies outside PVFD that involve airborne contaminants without proper respiratory protection. Such activities can have adverse effects on a member's ability to use PVFD's respiratory equipment.

#### 4. Definitions

*Air-purifying respirator:* A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

*Demand Respirator:* An atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation.

*High Efficiency Particulate Air (HEPA) filter:* A filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter.

*Immediately Dangerous to Life or Health (IDLH):* An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

*Personal Protective Equipment (PPE):* The ensemble of garments and equipment that are worn by personnel to protect them from hazards. PPE is selected based on the hazards present. During routine firefighting, PPE is assumed to mean the complete outfit of turnout gear and the use of SCBA when respiratory hazards are present.

*Pressure Demand Respirator:* A positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation. Modern SCBA are an example of this.

*Qualitative Fit Test:* A test of the user's ability to keep an effective seal between the face and facepiece, measured by the user's ability to smell a known odorant due to leakage of the mask seal.

*Simple Face Mask:* A facemask that is designed to provide protection from airborne dusts and particles. Simple masks are not designed to provide eye protection or protection from the most virulent chemicals or toxins.

## **5. PVFD Respiratory Protection Policy**

1. All PVFD firefighters shall use respiratory protection equipment whenever they are performing PVFD functions in the presence of respiratory hazards or suspected hazards. The level of protective equipment to be used shall be based upon the hazard. Such equipment shall be used until it is determined that the hazard is no longer present.

2. Whenever possible, PVFD firefighters shall attempt to stay out of areas that contain respiratory hazards, or minimize their exposure to such hazards. This is especially true of support personnel that are not actively involved in controlling an emergency incident.

3. PVFD personnel shall not enter any IDLH atmosphere without using a SCBA. Teams of at least 2 personnel per team shall make such entries. Entry teams must have radio or visual contact with the Incident Commander outside the IDLH area. See SOP chapter 10-7 for further clarification. For IDLH atmospheres other than routine fires, entry shall not be made until it is determined that the PPE (especially SCBA) in use will provide appropriate protection.

4. SCBA shall be used whenever any of the following conditions are present:

- Smoke
- Super heated air
- Airborne toxins
- Unknown air quality
- Atmosphere may suddenly become toxic or IDLH
- Oxygen level below 19.5% or above 22.5%
- Lower Explosive Limit (LEL) above 10%

5. All PVFD firefighters who use SCBA must meet the following requirements:

- Must be trained in the use and care of SCBA, including emergency procedures.
- Must be trained to understand and recognize respiratory hazards.
- Must pass an annual physical that checks for suitability of respirator use.
- Must be fit with a properly sized SCBA mask, and undergo annual qualitative fit testing.
- Must not wear facial hair that interferes with the facepiece seal.
- Must not wear glasses that interfere with the facepiece seal.

6. PVFD firefighters may use simple facemasks during overhaul and other dust-producing activities as long as the only uncontrolled respiratory hazard present is non-toxic particulate matter or dust.

7. During EMS incidents, PVFD personnel shall use HEPA masks if it is suspected that TB, Influenza, or other potential airborne pathogens may be present.

8. PVFD's Health & Safety Officer (HSO) shall fulfill the role of the Respiratory Program Administrator, as required by OSHA in 1910.134. The medical records that are required by this program shall be secured by the HSO and PVFD Medical Surveillance Officer to ensure their privacy. Some of the other duties of this position may be delegated to the Breathing Apparatus Supervisor (BAS).

## **6. SCBA Use and Maintenance**

All PVFD firefighters shall be trained and participate in the proper use and basic maintenance of SCBA. This includes cleaning, refilling, inspecting for damage and proper operation. The only invasive repairs to be performed by PVFD personnel are as follows:

- Replacement of PASS system batteries
- Replacement of O-rings at cylinder connection fittings
- Replacement of harness components

A SCBA technician must perform all other repairs. The SCBA must be inspected and service tested after any repairs are performed.

The BAS shall keep records of the following information related to SCBA.

- Inventory of all SCBA and air cylinders, including serial numbers and service dates.
- Record of all repairs made to SCBA or cylinders.
- Air quality tests and compressor service.

All SCBA shall be inspected at least monthly and after each use. The inspection shall check for the following items:

- All components (including mask) are present, clean, and undamaged
- Air cylinder is full
- All warning systems function properly and have adequate battery life
- Regulator controls function properly
- Complete unit is stored in proper position, straps out, ready for next use

Each firefighter is issued their own SCBA mask. Masks shall not be shared unless both members agree prior to the use, and both members use the same mask size.

PVFD SCBA equipment is not to be used for non-PVFD functions unless a Chief Officer grants prior approval.

## **7. Breathing Air Supply**

The breathing air compressor and cascade system used by PVFD is maintained to the standards required by NFPA and OSHA. The compressor manufacturer determines the service intervals. Air quality is checked every 6 months. The BAS is responsible to ensure that this is done.

PVFD personnel shall not use the system until they have been properly trained.

The training shall cover the following items:

- Operating the compressor and condensation drains
- Operating the fill station and regulator
- Filling SCBA cylinders and cascade cylinders
- Cascading the air supply
- Inspecting cylinders to be filled
- Safe filling techniques