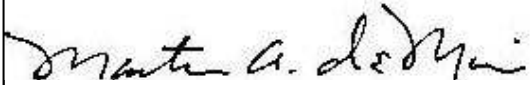


**Payson Fire Department
Standard Operating Procedures**

Category: SOP Section: Safety and Health Subject: Respiratory Protection Program	SOP # 2.5.8 Date Adopted: 08/02 Revision Hx: 8/04, 7/05, 10/05, 8/06 12/10, 9/11, 09/12 
---	--

PURPOSE

The purpose of this SOP is to establish the policy and procedures to be used in regard to the Payson Fire Department's (PFD) respiratory protection program. The program shall address the procedures for achieving compliance with OSHA 1910.134 Respiratory Protection Standard & NFPA Standard 1404 Fire Department Self-Contained Breathing Apparatus (SCBA) Program.

POLICY

It is the policy of the PFD to ensure that firefighters avoid any respiratory contact with products of combustion, superheated gases, toxic products or other hazardous contaminants. All personnel expected to respond to and function in areas of atmospheric contamination, shall be equipped with SCBA, and be trained in its proper use and maintenance.

PROCEDURE

Medical Evaluation of SCBA Users

Each member of the PFD who is expected to operate at an emergency scene and enter a potential or actual Immediately Dangerous to Life or Health (IDLH) environment shall be evaluated to determine the member's ability to use an SCBA and face piece. This medical evaluation may be accomplished by the administration of a medical questionnaire (OSHA Standard 1910.134, Appendix C) or a physical examination conducted by a Professionally Licensed Health Care Practitioner that elicits the same information. The medical evaluation shall be completed prior to any fit testing or assignment where the use of an SCBA may be required. The medical evaluation shall be completed at no cost to the member. Any member who refuses to be medically evaluated will be relieved of emergency response duties and assignment as a firefighter and subject to disciplinary action up to and including dismissal.

The Fire Chief (or his designee) and the Safety Officer shall be responsible to see that these evaluations are completed and that the proper documentation is routed to the Human Resources Department. The Human Resources Department shall administer the record keeping functions concerning these medical evaluations. The records shall be available to the employee and to OSHA inspectors.

See OSHA 1910.134 for details concerning the medical evaluation and questionnaire.

Fit Testing

Fit testing is required for all members using SCBA. Each member will be issued a SCBA face piece of the appropriate size for that individual. The fit testing must be completed prior to using the SCBA face piece and on an annual basis, or if there is a change in the member's physical condition that could affect face piece fit. No facial hair or jewelry shall be permitted that interferes with the proper seal of the face piece. The fit test will also be completed if different type or size of face piece is used.

The PFD shall use a quantitative fit testing process (QNFT) for the SCBA face piece. Qualitative Fit Testing will be performed for other types of masks, such as the N95 masks used for infection control. The Safety Officer and

Company Officers shall be jointly responsible to see that all members complete testing and the necessary documentation.

The process is generally as follows: (see the directions in the fit testing kit for exact instructions)

1. Assemble the fit testing kit, members face piece, and the member. Examine the contents of the fit test kit to assure that all components are present.
2. Review the fit testing instructions with the member.
3. Follow the process as outlined in the fit testing instructions. Basically, this involves selecting the proper size of face piece, performing the actual fit test, appropriate documentation, and cleaning of equipment.
4. Complete the PFD Respirator Fit Test Record.
5. Route the completed fit test record to the Safety Officer or his/her designee.

See OSHA 1910.134 for more details concerning the fit test procedure.

Procedures for Proper Use

The use of SCBA means that personnel shall have the face piece in place, breathing air from the supply provided. Where appropriate, Supplied Air Breathing Apparatus (SABA) may be used in place of SCBA.

Members shall make sure that they can obtain a seal with the face piece. This shall be checked by covering the regulator inlet area with the hand and sucking in. The face piece should retract toward the face without allowing air in. No facial hair, jewelry, glasses or PPE shall be allowed on the facial area that directly interfaces with the face piece.

Personnel using SCBA shall operate in at least pairs utilizing the "Buddy System", or the two in two out procedure.

SCBA shall be used by all personnel operating:

- In a contaminated atmosphere.
- In an atmosphere which may suddenly become contaminated.
- In an atmosphere which is oxygen deficient.
- In an atmosphere which is suspected of being contaminated or oxygen deficient.

This includes all personnel operating:

- In an active fire area.
- Directly above an active fire area.
- In a potential explosion or fire area, including gas leaks and fuel spills.
- Where products of combustion are visible in the atmosphere, including vehicle fires and dumpster fires.
- Where invisible contaminants are suspected to be present (example: CO during overhaul).
- Where toxic products are present, suspected of being present, or may be released without warning.
- In any confined space that has not been tested to establish respiratory safety.

In addition to the above, SCBA shall be worn by all personnel operating at fire incidents above ground, below ground or in any other area which is not, but which may become contaminated by products of combustion or other hazardous substances. In these circumstances only, the SCBA may be worn with the face piece removed. The wearing of the SCBA in these situations provides that it will be immediately available for use if conditions change or if personnel are to enter an area where the use of SCBA is required.

Premature removal of SCBA must be avoided at all times. This is particularly significant during overhaul when smoldering materials may produce increased quantities of CO and other toxic products. In these cases SCBA must be used or the atmosphere changed.

In routine fire situations, the decision to remove SCBA shall be made by company officers, with the approval of the sector officer and consultation with the Safety Officer, based on an evaluation of conditions. Prior to removal, fire areas will be thoroughly ventilated and, where necessary, continuous ventilation shall be provided. Atmospheric testing is highly recommended at any time there is doubt concerning the respiratory safety of the atmosphere. The on-scene Safety Officer shall be responsible for this determination. In complex situations, particularly when toxic materials may be involved, atmospheric testing is mandatory.

An evaluation of all PFD emergency responders in the use of SCBA shall be conducted at least annually. Each member shall be able to demonstrate a high level of proficiency and compatibility with the SCBA under conditions that simulate those expected as a job requirement.

Procedures For Inspecting, Cleaning, Storing, and Disinfecting SCBA

Daily Inspection:

1. Check air bottle pressure (4000 to 4500 acceptable), bottles should be refilled when the pressure is 90% or less than the rated capacity. SCBA should be washed with soap and water after use in any contaminated atmosphere.
2. Turn bottle valve fully on.
3. Check bottle, high-pressure hose and couplings for leaks.
4. Check that harness straps are fully extended and in good condition.
5. Check regulator for leaks.
6. Check to see that the PASS device is on and in a ready state.
7. Crack open red bypass valve, check operation, close bypass valve.
8. Turn bottle valve off.
9. Check to insure H.U.D. is displaying properly.
10. Slowly release pressure from regulator by pushing the bypass valve on the regulator, the low air pressure alarm bell should sound as the pressure drops.
11. Reset low air pressure and PASS alarms.
12. Check faces piece for damage and cleanliness.
13. Store SCBA in a ready condition in apparatus rack.

Cleaning Face Piece:

Face pieces shall be cleaned and disinfected after each use and periodically as needed to maintain in a ready condition. Members shall follow the following steps for cleaning SCBA face pieces. The face piece should be disassembled and the electronic components removed prior to cleaning.

- Step 1 Light Cleaning: Rinse using plain water.
- Step 2 Heavy Cleaning: Use dish soap and water solution to clean mask, rinse with clear water.
- Step 3 Disinfection: Use two tablespoons of bleach per one gallon of water and submerge for 2 – 3 minutes. Rinse in clear water and air dry.
- Step 4 The cleaned mask should be stored in a PFD issued SCBA mask bag with the member's structural firefighting PPE.

See OSHA 1910.134 for details concerning cleaning and disinfecting procedures.

Storage of SCBA:

SCBA shall be stored on apparatus in brackets or containers designed for such use in a ready and clean condition. SCBA face pieces issued to individuals shall be stored with the individual's structural PPE.

SCBA Cylinder Hydrostatic Testing:

SCBA cylinders shall be hydrostatically tested as recommended by the manufacturer. This usually is every three years for composite cylinders and five years for all metal and carbon fiber cylinders. The cylinders shall be emptied and transported to an approved testing facility for such testing. The SCBA maintenance coordinator will be responsible to see that such testing is completed and attend to record keeping functions.

Repair of SCBA or Cylinders:

If when inspecting an SCBA, the firefighter finds that the SCBA is malfunctioning, the firefighter should determine if the repair can be handled immediately or requires more expertise. If the repair is determined to be more complex, the unit will be taken out of service and tagged. The Company Officer or Battalion Chief shall be notified and a replacement unit placed on the apparatus if one is available. The SCBA maintenance coordinator or his designee should be notified as soon as possible. The repair tag should state the date, nature of the problem, and the person tagging the unit.

Annual Maintenance Inspection:

An annual inspection and servicing shall be conducted according to the manufacture's instructions by qualified personnel. Records of all performed maintenance shall be kept for each SCBA and be administered by the SCBA Maintenance Coordinator. The annual maintenance inspection shall include the following:

1. Disassembling of the SCBA into major components.
2. Flow testing of the regulator.
3. Disassembly and cleaning of the regulator.
4. Replacement of worn parts, or those recommended by the manufacturer, in the regulator assembly.
5. Disassembly of the low air alarm, and cleaning and replacement of components as necessary.
6. Cleaning and replacement of harness components as needed or scheduled.
7. Reassembly of the entire SCBA and testing for proper operation.
8. Record all performed maintenance on the forms provided and return the SCBA to service.

Procedures for Insuring Adequate Air Quality

Each quarter, samples of air shall be obtained from the breathing air compressor at all Stations and sent to an approved testing facility for examination. The air in PFD SCBA bottles (SCBA cylinders and cascade systems) will meet ANSI/CGI G.7-1-1989 Grade D Breathing Air requirements. The selected vendor will supply the container and instructions for obtaining the sample. The SCBA maintenance coordinator will be responsible for the sampling and record keeping functions.

Training On SCBA Use and Respiratory Hazards

Training:

Personnel shall be trained in the use of SCBA and recognition of respiratory hazards before they are assigned to operate in IDLH atmospheres. This training shall start in the recruit firefighter phase and continue on throughout their careers.

SCBA training will be conducted by Engine Company and Chief Officers on a continuing basis, through company, periodic department wide, and special training sessions.

Evaluations:

SCBA evaluations will be done on an annual basis. Periodic evaluations may be done at a Company or Chief Officer's discretion.

An annual evaluation in the use of SCBA shall be conducted for all members of the PFD who act as responders to emergency incidents and are expected to enter potential or real IDLH atmospheres. Each member shall be able to demonstrate a high level of proficiency and compatibility with SCBA under conditions comparable to those the member is expected to encounter. In addition, personnel shall have completed a face piece fit test for each type of face piece used by the department.

Donning of the SCBA within the 45-second time limit is the first portion of the evaluation to be conducted.

Personnel being evaluated have the option of donning the SCBA from the apparatus bracket or from a ground position. Evaluators will use the following benchmarks in evaluating proper donning of the SCBA.

1. Bottle valve is fully opened.
2. Shoulder straps and waist strap are properly adjusted and fastened.
3. Face piece in place and properly adjusted (no leaks around face piece).
4. Regulator is in place on the face piece and functioning (breathing air).
5. Nomex hood properly in place around the face piece (no skin showing).
6. Helmet in place with chinstrap adjusted.
7. Gloves in place.
8. PASS device is on.

Time begins when the firefighter grabs the pack and ends when all 8 benchmarks have been completed.

The second portion of the evaluation will either be a search and rescue drill or multi-task type drill. This will be conducted according to the following guidelines.

1. Full firefighting PPE and SCBA are required by all members participating in the search and rescue scenario. During the multi-task drill members can eliminate the trousers and boots.
2. Members will operate in pairs while participating in the search and rescue drill. Members may perform the multi-task drill alone.
3. During search and rescue drill, members will maintain contact with each other, and maintain an awareness of their position.
4. Upon completion of the exercise, participants will confirm their score with the evaluator.
5. Evaluators will be stationed along the course to maintain contact with participants to insure their safety and proficiency.

Training Officer: The Department Training Officer will be responsible for scheduling and coordinating the SCBA training and evaluation program.

Company Officer: The Company Officers will be responsible for their respective company members maintaining a high level of proficiency in the use of SCBA. All companies will be required to attend SCBA evaluations at least annually.

Firefighter: The firefighter will be responsible for maintaining a high level of proficiency in the use of SCBA. Each firefighter shall be able to perform routine inspection duties and perform satisfactorily during evaluations.

Program Evaluation

The respiratory protection program will be reviewed annually by the Safety, Training and SCBA Maintenance Officers. Comments from employees concerning the respiratory protection program are welcome and can be forwarded to the Safety and Training Officers. A cover sheet for this SOP stating the date reviewed and any changes made shall be maintained in the Master SOP file.

For additional information consult the OSHA 1910.134 Respiratory Protection Standard.