

Falmouth Fire-EMS Operating Guideline

Respiratory Protection

Objective:

To provide all members with a clear guideline to operate safely during firefighting or other emergency operations in an area where an Immediately Dangerous to Life and Health (IDLH) environment or other respiratory hazard may exist.

General Information:

This respiratory protection program is designed to provide a standard operating policy for the Falmouth Fire-EMS Department. This policy is designed to ensure that all firefighters engaged in emergency operations will be provided personal protection equipment to eliminate respiratory hazards. These hazards include, but are not limited to, by-products of combustion (smoke, heat, toxic gasses, and oxygen deficiency, which present a working environment that is Immediately Dangerous to Life and Health (IDLH). This policy establishes when respiratory protection shall be used and shall meet the intent of the Maine Department of Labor, Maine Bureau of Labor Standards (BLS) Respiratory Protection Standard, 29 CFR 1910.134 and amendments.

The use of Self-Contained Breathing Apparatus (SCBA) shall be worn in all IDLH atmospheres. Engineering controls, such as ventilation, may be used when the Incident Commander (IC) is able to determine, by metering, that no respiratory hazard exists. Metering must be specific and the IC must be certain that no respiratory hazard exists before respiratory protection can be removed. Ventilation during structural firefighting shall NOT be considered as a substitute for the use of respiratory protection.

Definitions:

IDLH - Immediately Dangerous to Life and Health, means 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. This would include structural fire, chimney fire, dumpster fires, hazardous material incidents, vehicle fires, or any other operations, which may pose a respiratory hazard.

Rescue Team – This team shall consist of at least two (2) firefighters in full protective clothing with SCBA, have portable radios and rescue equipment immediately available. One member shall remain outside the entry point, while the other member(s) may perform limited outside duties, designated by the IC, as long as those duties do not jeopardize the safety of the interior firefighters.

Buddy System – Operating in teams of two or more firefighters. Under this system, no single firefighter shall be assigned a task to perform alone in an IDLH atmosphere. Members operating under the Buddy System shall maintain voice or visual contact with the other team member(s).

Medical Evaluation – Shall mean the completion of the attached Medical Questionnaire forms found in Appendix C of 29 CFR 1910.134 and reviewed by a Physician or other Licensed Health care Professional (PLHCP).

Medical Examination – Shall mean a physical examination by a PLHCP, selected by the Falmouth Fire-EMS Department.

Fit Testing – A test conducted on each individual who is expected to wear a respirator. The fit test will be done using the face piece selected for that individual, to insure a proper seal. Fit testing shall meet the QLFT (qualitative) or QNFT (quantitative) fit testing protocols found in Appendix B or C of 29CFR 1910.134.

RESPONSIBILITIES

Fire Chief

The Fire Chief shall have the overall responsibility of the administration of the Respiratory Protection Program including:

- ◆ Development of the Respiratory Protection Program.
- ◆ Development of policies, rules, and regulations.
- ◆ Developing and implementing a budget to administer the Respiratory Protection Program.
- ◆ Appointment of the Respirator Program Administrator.
- ◆ Determining those individuals required to participate in the program.
- ◆ Assist the program administrator in the respirator protection program.

Program Administrator

The EMS Captain is responsible for administering and overseeing the respiratory protection program. The program administrator may delegate certain responsibilities and duties to other company officers. Duties of the program administrator shall include:

- ◆ Identify work areas or operations that require individuals to wear respirators.
- ◆ Select the respiratory protection options.
- ◆ Develop and implement the respiratory protection program.
- ◆ Ensure that all individuals expected to use respirators are given a medical evaluation.
- ◆ Provide a copy of the program and Job Task Analysis to the PLHCP.
- ◆ Ensure that physical exams are conducted if required by the PLHCP.
- ◆ Implement a fit testing schedule for all individuals expected to wear a respirator.
- ◆ Institute a respirator training and retraining program.
- ◆ Ensure proper storage and maintenance of respirators.
- ◆ Develop and maintain all respirator training and respirator records.
- ◆ Evaluate and update the program annually.
- ◆ Shall ensure that the compressed air maintains Grade D quality and that the air compressor is serviced at regular intervals following the manufacturer's recommendations and air tested at least annually.

Company Officers

Company Officers are responsible for ensuring that the respiratory protection program is implemented. In addition to being knowledgeable about the program requirements for their own protection, Company Officers shall ensure that the program is understood and followed by all individuals under their charge. Duties of Company Officers include:

- ◆ Ensure that individuals under their supervision have received appropriate training, fit testing, and medical evaluations according to the established schedule.

- ◆ Ensuring the availability of SCBA for all personnel working in an IDLH atmosphere.
- ◆ Enforcing the proper use of SCBA when necessary.
- ◆ Ensuring that SCBAs are properly cleaned, maintained, and stored according to the respiratory protection program.
- ◆ Continually monitoring work areas and operations to identify respiratory hazards.
- ◆ Report to the Program Administrator or Deputy Administrator any individual having difficulty wearing or when using SCBA.
- ◆ Ensure that all Personnel operating in IDLH incidents follow the Department SOG for Fire Scene rehab.

Employees

- ◆ Each employee shall wear his/her SCBA when and where required and in the manner that they were trained.
- ◆ Each employee shall care, maintain, and store their SCBA as instructed.
- ◆ Shall inform the Company Officer if the SCBA face piece no longer fits well and request to be refitted with the proper fitting face piece.
- ◆ Inform the Company Officer should you have difficulty when wearing or using an SCBA.
- ◆ Inform the Company Officer or Program Administrator of any respiratory hazards that you feel are not adequately addressed in the workplace and any other concerns that you have regarding the program.

PROGRAM ELEMENTS

Selection of Respirator Procedures

The Falmouth Fire Department currently uses Scott brand 4.5 model of SCBA. The Scott 4.5 is certified by NIOSH and shall be used in accordance with the certification. Personnel shall be fit tested annually. Should the individual require a different mask than the standard, the Department shall issue to the individual member the proper fitting mask.

HAZARD EVALUATION WHERE SCBA WILL BE REQUIRED

Structural Firefighting

Due to the unknown respiratory hazards posed by structural firefighting, all members of the Falmouth Fire-EMS Department engaged in interior structural firefighting (as defined in the definition section of this program) shall use SCBAs. The SCBA shall remain in use until overhaul is complete and the fire is determined to be out by the Incident Commander, or the respiratory hazard has been eliminated and deemed safe by the use of meters.

Firefighters who are performing exterior operations at a structural fire may be required to use SCBA, depending on the operation and the potential respiratory hazard as determined by the Incident Commander, Safety Officer, or Company Officer.

Each and every firefighter using SCBA shall be required to go through Fire Scene Rehab after each air cylinder is used, and before reentering the structure. Firefighters must

complete all aspects of rehab. as written in the Rehab SOG. On scene medical personnel (if available) have the final approval before a firefighter can return to the IDLH atmosphere.

Vehicle Fires

Vehicle fires are known to produce toxic gasses that may be IDLH. Firefighters who are engaged in vehicle firefighting operations shall use SCBA while performing this operation.

Dumpster Fires or Trash Container Fires

These fires (if not classified as a structure fire) when involved in a fire, shall require firefighters to wear SCBA while performing these operations.

Hazardous Materials Incidents

Firefighters who respond to or operate at a hazardous materials incident may be exposed to a variety of known and unknown respiratory hazards. SCBA shall be worn by all personnel operating in the Hot Zone, Warm Zone, and Decontamination Zone as determined by the Incident Commander.

Chimney Fires

Firefighters operating at the chimney shall be required to wear SCBAs.

Carbon Monoxide Incidents

Due to the fact that carbon monoxide presents a potential respiratory hazard, personnel operating at CO Alarms shall wear SCBA until the structure has been declared safe and by verifying with a Carbon Monoxide Meter.

Special Rescue Situations

Special rescue situations may include below grade, confined space, and other areas where the Incident Commander cannot ensure the quality of the atmosphere. In these cases, personnel shall be required to wear SCBA. Engineering controls such as ventilation may be used with constant monitoring and may ensure with certainty the quality of the atmosphere in the rescue environment.

Other Respiratory Hazards

Nothing in this policy is intended to restrict the Incident Commander, Safety Officer, or Company Officer from requiring personnel to use SCBA when he/she suspects a potential respiratory hazard. Officers are encouraged to adequately size up the situation and consider the safety of personnel when making decisions regarding SCBA. When in doubt, order SCBAs to be worn.

UPDATING THE HAZARD ASSESSMENT

The Program Administrator shall review and update the hazard assessment annually or as needed.

MEDICAL EVALUATION

Personnel who may be subject to or required to wear SCBA must pass a medical evaluation before being permitted to wear SCBA in training or on the job. Personnel are not permitted to wear SCBA until a PLHCP has determined that they are medically able to do so. Any personnel refusing a medical evaluation will not be allowed to work in an area requiring SCBA.

A PLHCP at Falmouth Fire-EMS Occupational Health Provider will provide the medical evaluation. Medical evaluation procedures are as follows:

- ◆ The medical evaluation will be conducted using a questionnaire provided in Appendix C of the respiratory protection standard 29CFR 1910.134.
- ◆ To the extent feasible, the Falmouth Fire-EMS Department will assist employees who are unable to read the questionnaire (by providing help in reading the questionnaire). When this is not possible, the employee will be sent directly to the PLHCP for medical evaluation.
- ◆ All affected employees will be given a copy of the medical questionnaire to fill out, along with a stamped and addressed envelope for mailing the questionnaire to the Department PLHCP. Employees will be permitted to fill out the questionnaire on employer time.
- ◆ Follow-up medical evaluations will be provided to employees as required by this standard, or as required by the PLHCP.
- ◆ All employees will be granted the opportunity to speak with the physician about their medical evaluation, if they so request.
- ◆ After an employee has received clearance and begun to wear SCBA, additional medical evaluations will be provided under the following circumstances.

Annually after age 40.

Every two years between the ages of 36-40.

Every five years up through age 35

Or:

- The employee reports signs and/or symptoms related to their ability to use an SCBA, such as shortness of breath, dizziness, chest pains, or wheezing.
- The PLHCP or supervisor informs the Program Administrator that the employee needs to be reevaluated.
- Information from the program, including observations made during fit testing and program evaluation, indicates a need for reevaluation.
- A change occurs in the workplace that may result in an increased physiological burden on the employee.

All examinations, evaluations and questionnaires are to remain confidential between the employee and the PLHCP.

FIT TESTING

Fit testing is required for all employees wearing SCBA.

Fit testing will be conducted in accordance with the following schedule:

- ◆ Prior to being allowed to wear SCBA.
- ◆ Annually
- ◆ When there are changes in the employee's physical condition that could affect respiratory fit (obvious changes in body weight, facial scarring, etc.).

Employees will be fit tested with the specific make, model, and size SCBA that they will actually use.

The Program Administrator will conduct fit tests following the QLFT or QNFT protocols found in Appendix B or C of the respiratory protection standard.

RESPIRATORY USE

SCBA use is required for all employees engaged in the following firefighting activities: structural fires, hazardous materials incidents, vehicle fires, dumpster fires, and special rescue situations, or any incident which may cause exposure to a respiratory hazard.

General Procedures

Employees will use their SCBAs under conditions specified by this program, and accordance with the training they receive on the use of each particular model. In addition, the SCBA shall not be used in a manner for which it was not certified by NIOSH or by its manufacturer.

All employees shall conduct "User Seal Checks" each time that they wear their respirator. Employees shall use either positive or negative pressure check as specified in Appendix B-1 of the Respiratory Protection Standard.

Employees who detect operational problems with, or experience failure of, the SCBA shall immediately notify their supervisor, sound their PASS Alarm, and leave the hazardous environment with their partner.

Employees are not permitted to wear any jewelry, ear protection, eyeglasses, or protective hoods in a manner that may interfere with the face to face piece seal. Facial hair or any other hairstyle may not interfere with the face to face piece seal.

Interior Structural Firefighting

Employees engaged in Interior Structural Firefighting shall:

- ◆ Use SCBA for all fires beyond the Incipient Stage or as directed by the Incident Commander.
- ◆ Continue to use SCBA until the completion of "Overhaul".
- ◆ Work in a minimum of pairs and maintain voice or visual contact with members of each team.

- ◆ Be supported by two stand-by members who are available for immediate rescue of interior firefighters, at each point of entry as determined by the Incident Commander. Each stand-by member shall be dressed in full protective clothing and have SCBA immediately available to them. The function of one of the stand-by members shall be accountability of the firefighters inside the structure. The other stand-by member may assume other duties including Incident Commander or Pump Operator provided this individual is able to perform rescue assistance without jeopardizing the safety or health of any firefighter working at the incident.

Nothing herein shall prohibit the Incident Commander from establishing a Rapid Intervention Team (RIT) to replace the two firefighters outside, provided a RIT Team is established for each entry point as determined by the Incident Commander.

In the event the Incident Commander determines the need to perform Emergency Rescue Activities prior to the arrival of the entire team, the Incident Commander **must:**

- ◆ Notify dispatch of entry without the two stand-by members.
- ◆ Enter with or without a charged hand line, perform the Emergency rescue, and immediately leave the structure.
- ◆ After the incident, document in writing, to the Fire Chief, a detailed explanation regarding the deviation of policy.

Use other than Interior Structural Firefighting

For incidents requiring SCBA use other than Interior Structural Firefighting, employees shall use SCBA whenever they may be exposed to environments which may become IDLH or other respiratory hazards, as directed by the Incident Commander.

When the Incident Commander cannot ensure the employees ability to escape from the hazardous environment, one employee shall be stationed at the point of entry to maintain accountability and be readily available to perform immediate rescue.

AIR QUALITY

SCBA cylinders shall be filled with Grade D compressed air only. The Program Administrator shall ensure that the compressed air maintains Grade D quality and that the air compressor is serviced following the manufacturer's recommendations and air tested at least annually.

CLEANING

SCBA are to be cleaned and disinfected after each use following the manufacturer's recommendations or as follows:

- ◆ Disassemble SCBA, removing cylinder, mask and PASS device (if possible).
- ◆ Wash the face piece and associated parts in mild detergent with warm water.
- ◆ Disinfect the face piece with a diluted bleach solution.
- ◆ Rinse completely in clean warm water.

- ◆ Air-dry in a clean area.
- ◆ Reassemble the SCBA, test the function, and replace any defective parts, test function.
- ◆ **Secured** back on the apparatus, masks are to be stored in a bag, or within an enclosed cab.

Field cleaning of SCBA is to be done using 70% Isopropyl Alcohol wipes. There will be no sharing of SCBA masks in the field without proper field cleaning.

The Program Administrator will ensure an adequate supply of cleaning and disinfecting material at the fire station, as well as field cleaning material. If supplies are low, employees should notify their supervisor who will in turn notify the Program Administrator.

MAINTENANCE

SCBA are to be properly maintained at all times in order to ensure that they function properly and adequately protect the employees. Maintenance involves a thorough visual inspection for cleanliness and defects. Worn or deteriorated parts will be replaced prior to use. No components will be replaced, or repairs made beyond those recommended by the manufacturer, except by those trained by the manufacturer to do such repairs. Repairs beyond the scope of our trained personnel will be conducted by the manufacturer or their designee.

The following items are to be checked after each use and weekly/monthly. The findings of these checks are to be properly recorded in the SCBA Maintenance Log:

- ◆ Facepiece;
 - Cracks, tears, or holes
 - Distorted facepiece
 - Cracked, loose, or damaged lens
 - Clean condition
- ◆ Head straps;
 - Breaks or tears
 - Broken buckles
- ◆ Valves
 - Residue or dirt
 - Damage to valve or valve material
- ◆ Gauges, regulators & Air Lines
 - Damage to or inaccuracy
 - Leaks
- ◆ PASS Alarm
 - Operation
 - Battery condition
- ◆ Body Harness
 - Tears, rips, fraying or otherwise damaged straps

Broken buckles

- ◆ Cylinder
 - Air supply full (at least 90% capacity)
 - Hydrostatic test date
 - General cylinder condition

SCBA's that are defective or that have defective parts shall be taken out of service immediately. If during an inspection or during use, an employee discovers an SCBA with a defect he / she is to bring the defect to the attention of his / her supervisor. Supervisors will give all defective SCBA to the Program Administrator. The Program Administrator will decide whether to:

- ◆ Temporarily take the SCBA out of service until it can be repaired
- ◆ Perform a simple repair on the spot.
- ◆ Dispose of the SCBA or part due to irreparable condition.

When a respirator is taken out of service, it will be appropriately tagged indicating the problems, and stored in the SCBA maintenance room until it can be repaired or sent out for service.

OVERHAUL FREQUENCY

The SCBA shall have overhaul maintenance performed at regular intervals following the Manufacturer's recommendations.

STORAGE

SCBA shall be **secured** in their designated place on the apparatus. Masks shall be stored in plastic or nylon bags, or enclosed apparatus cabs to prevent exposure to road dirt or other contaminants.

TRAINING

Annually, each employee shall attend and successfully complete SCBA training that is based on current NFPA Standards. Training will be both knowledge and hands-on based. Training will include a review of the written Respiratory Protection Plan including:

- ◆ The need for respirator use, and how improper fit, usage, or maintenance can compromise the protective effectiveness of the SCBA.
- ◆ Limitations and capabilities of SCBA
- ◆ How to effectively use SCBA
- ◆ How to inspect, Don, Doff, use, and perform proper seal checks.
- ◆ Procedures for maintenance field cleaning, and storage.
- ◆ How to recognize medical symptoms that may compromise the safety of the wearer.

PROGRAM EVALUATION

The Program Administrator shall annually and as needed re-evaluate the respiratory program to ensure that:

- ◆ Current written programs are being effective and properly implemented.
- ◆ Employees are properly using SCBA and,
- ◆ The program continues to be effective.

RECORDKEEPING

The Program Administrator shall keep and maintain all documentation in the areas of:

- ◆ Medical evaluations (PLHCP recommendation only)
- ◆ Fit testing records
- ◆ Training records
- ◆ Overhaul/Flow test records
- ◆ Weekly/monthly inspections
- ◆ Compressor service records (if applicable)

These guidelines may be changed or altered by the Fire Chief at any time.