



Buxton Fire-Rescue

Administrative Policy

Subject: Respiratory Protection Program (6)

Section/Number: Policy (2)

Date Approved: January 1, 2000

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Respiratory Protection Program

Purpose:

Buxton Fire-Rescue (BFR) has determined that employees who respond to structural fires, hazardous materials incidents, vehicle fires, dumpster fires, special rescue situations, medical emergencies with a suspected or confirmed airborne illness, and other incidents may be exposed to respiratory hazards during these operations. These hazards include smoke, heat, oxygen deficiency, unknown toxic gases, or airborne illnesses which in most cases present working environments that are Immediately Dangerous to Life and Health (IDLH).

Definition of IDLH Atmosphere: ¹OSHA Definition: *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.*

The use of Self-Contained Breathing Apparatus (SCBA) and face piece shall be the respirator used for all non-EMS respiratory hazard events. Engineering Controls such as ventilation may be used when the Officer in Charge (OIC) is able to determine, by metering, that no hazard exists. Metering must be specific to the hazard identified, and the OIC must be positively certain that no hazard exists. Ventilation during structural firefighting shall not be considered as a substitute for the use of SCBA.

The use of N95, ENVO N95, or SCBA mask with cartridge particulate filters shall be used during events where employees are subject to or believe there is a risk of airborne illness to the employee including M. tuberculosis, SARS-CoV-2 (COVID-19), or any other airborne illness identified by the Program Administrator and/or other governing bodies such as Centers for Disease Control and Prevention or Maine Emergency Medical Services.

The current risk assessment determines that BFR is a “*setting in which patients with suspected or confirmed TB disease are not expected to be encountered do not need a respiratory-protection program for the prevention of transmission of M. tuberculosis.*”²

Scope and Application:

This program applies to all employees who are required to wear an N95, ENVO N95, or SCBA facepiece with cartridge particulate filters, or SCBA and face piece while operating in an environment with a respiratory protection hazard. All employees who perform duties requiring the use of a respirator are subject to the guidelines within the BFR Respiratory Protection Program (“the Program”). BFR shall be responsible for any required expenses resulting from the employees’ participation in the Program.

¹ Definition from http://www.ehso.com/RespProtection_Glos.htm ; retrieved on 1/2/2013

² Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings, 2005

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Responsibilities:

The Fire-Rescue Chief shall have the overall responsibility to administer the Program including:

- Development of the Respiratory Protection Program
- Development of Policies, Rules and Regulations
- Budgeting for program implementation
- Determining those employees required to participate in the Program

Program Administrator:

The Program Administrator is the Fire-Rescue Chief and can be contacted via cellular phone at (207) 572-2418 or via email at nschools@buxtonfr.org .

Duties of the Program administrator include:

- Identifying work areas, processes or tasks that require employees to wear a respirator.
- Selection of appropriate respiratory protection equipment; BFR options identified below:
 - Fire/Rescue IDLH Atmosphere –
 - Scott X3 SCBA with AV 3000 HT face pieces
 - Emergency Medical Incidents –
 - Individually issued AV 3000 HT face piece with P100 cartridge particulate filter
 - Fit-tested N95 particulate respirator
 - Fit-tested ENVO N95 particulate respirator
- Monitoring SCBA use to ensure that they are used in accordance with individual employee certifications.
- Arranging for and/or conducting training.
- Ensuring proper storage and maintenance of SCBA's.
- Conducting/documenting quantitative and/or quantitative fit testing for each respirator used
- Administering the medical surveillance program.
- Maintaining records required by "the Program".
- Updating the written program, annually and as necessary.
- Will ensure an adequate supply of cleaning and disinfecting material at the fire stations, as well as field cleaning material.
- Shall ensure that the compressed air maintains Grade D Quality and that the air compressor is serviced and tested at least annually.
- Providing to the medical professional the necessary information about the standard including:
 - Copy of the Respiratory Protection Standard
 - List of hazards encountered in the work environments
 - For each employee requiring evaluation:
 - His or her work area or job title
 - Proposed SCBA type and weight
 - Length of time required to wear SCBA
 - Expected physical work effort
 - Potential temperature extremes
 - Information regarding type and weight of protective clothing.



Supervisors:

Supervisors (are all officers of BFR) are responsible for ensuring that the respiratory protection program is implemented. In addition to being knowledgeable about the Program requirements for their own protection, supervisors must also ensure that the Program is understood and followed by the employees under their charge. Duties of the supervisor include:

- Ensuring that employees under their supervision (including new hires) have received appropriate medical evaluations, fit testing, and training (in that order) according to the medical professionals recommended schedule.
- Ensuring the availability of respirators.
- Being aware of tasks requiring the use of respirators.
- Enforcing the proper use of respirators when necessary.
- Ensuring that respirators are properly cleaned, maintained, and stored according to the respiratory protection program.
- Ensuring that respirators fit well and do not cause discomfort.
- Ensuring that facial hair does not contact the seal of the facemask.
- Continually monitoring work areas and operations to identify respiratory hazards.
- Report to the Program Administrator, or assistant chief, should an employee have difficulty wearing or using a respirator.
- Coordinate with the Program Administrator how to address respiratory hazards or other concerns regarding the Program.

Employees:

Each employee has the responsibility to wear his/her respirator when and where required and in the way they were trained. Each employee must also:

- Care for, maintain, and store respirators as instructed and/or trained.
- Complete and document monthly inspections of apparatus mounted SCBA/facepieces and individually issued facepieces.
- Inform their supervisor if the face piece no longer fits well and request a new one that fits properly.
- Inform their supervisor should they have difficulty when wearing or using a respirator.
- Inform their supervisor, or the Program Administrator, of any respiratory hazards that they feel is not adequately addressed in the workplace and any other concerns that they have regarding the Program.

Program Elements:

Selection Procedures-

Fire/Rescue IDLH Atmospheres – BFR currently utilizes Scott X3 SCBA with AV 3000 HT face pieces. All SCBA's are NIOSH certified and shall be used in accordance with the terms of that certification. Employees shall be fit tested annually, utilizing a medium sized AV 3000 HT mask (as are found on apparatus), or fit tested to their personally assigned mask (smaller or larger mask, as determined by quantitative fit testing). SCBA will be selected during all events with a suspected or defined IDLH atmosphere, as defined by OSHA.



Emergency Medical Incidents – BFR currently uses one of the following respirators for medical incidents for use where airborne illness is suspected or determined, and the employee has made a predetermined choice to maintain the additional protection: 1) disposable N95 respirator, 2) ENVO N95 respirator, 3) Scott AV 3000 HT face pieces with canister particulate filters.

Hazard Evaluation-

The Program Administrator shall conduct hazard evaluations for each operation, process, work area, or job function to determine when respiratory hazards may occur and to make recommendations for policy changes regarding the use of 1) SCBA, 2) disposable N95 respirator, 3) ENVO N95 respirator, 4) Scott AV 3000 HT face pieces with canister particulate filters. The hazard identification will include:

- Identification and development of a list of hazardous operations where respiratory hazards may be encountered.
- Review of work processes to determine where potential exposures to respiratory hazards may occur. This review shall be conducted by surveying the workplace, reviewing the operations, and talking with employees and supervisors.
- Air monitoring to ensure the proper use of SCBA.
- Departmental Policy and Standard Operating Guidelines will identify required personal protective equipment needed for each type of incident/process employees are faced with.

Current Hazard Evaluation-

Structural Firefighting: Structural firefighting is known to pose a respiratory hazard. This hazard has only increased with the number of plastics and synthetic material used in construction and home furnishings. Ventilation, even the use of positive pressure ventilation, cannot ensure the lack of respiratory hazard. Therefore, all members of the BFR engaged in interior structural firefighting shall use SCBA, when entering an environment determined to be an IDLH atmosphere until overhaul is complete and air monitoring is complete with a multi gas meter(s) and Hydrogen Cyanide Meter (HCN) (if/when available) to determine that the air quality is safe for employees. Firefighters who are performing exterior functions at a structural fire may be required to use SCBA, depending on the operation and potential hazard as determined by the OIC, Safety Officer, or Company Officer.

Vehicle Fires: Vehicle fires are known to produce toxic gases that may be IDLH. Firefighters who are engaged in vehicle firefighting operations shall use SCBA while performing these operations.

Dumpster or other Container Fires: Dumpsters/containers, when involved in fire present respiratory hazards. Firefighters engaged in these operations shall use SCBA while performing these operations.

Carbon Monoxide Incidents: Carbon monoxide (CO) also known as the silent killer poses an IDLH atmosphere for employees. Firefighters who are operating at the scene of a carbon monoxide emergency are required to use SCBA until the atmosphere has been determined to be safe by air monitoring.

Hazardous Materials Incidents: Firefighters who respond to hazardous materials incidents may be exposed to a variety of known and unknown respiratory hazards. SCBA shall be worn by firefighters working in the Hot Zone, Warm Zone and Decontamination Line as determined by the OIC or the Haz Mat Group Supervisor.

- BFR employees are trained to the Hazardous Materials Operations Level Only.



- In the event of a hazardous materials call that requires technician level responders, Maine Emergency Management Agency will be notified in conjunction with York County Emergency Management Agency, to deploy the most suitable hazardous materials team available.
 - BFR is equipped to identify, evacuate, and secure a technician level event until appropriate teams are in place.

Special Rescue Situations: May include below grade and confined spaces where the OIC cannot ensure the quality of the atmosphere. In these cases, employees shall utilize SCBA. Engineering controls such as ventilation may be used provided constant monitoring can ensure with certainty the quality of the atmosphere in the rescue environment.

- If an emergent entry to a confined space is required to make a rescue of a viable victim, use of SCBA is required. BFR does not train or act as a confined space rescue team.
- In the event of a permit required confined space rescue situation, BFR will request assistance from Gorham Fire Rescue Department, through a signed Mutual Aid Agreement. Gorham has a trained and equipped confined space rescue team.
- BFR's SOG covering confined space rescue, SOG HR.LF.1.1 -- Confined Space Rescue Operations, can be found in the department Policy/SOG binder.

Airborne Pathogens: 1) disposable N95 respirator, 2) ENVO N95 respirator, 3) Scott AV 3000 HT face pieces with canister particulate filters are indicated in emergency medical incidents where airborne pathogens are known to be or suspected to be present.

- *Tuberculosis (TB):* The current TB risk assessment determined that BFR is a “*setting in which patients with suspected or confirmed TB disease are not expected to be encountered.*” Persons with suspected or confirmed infectious TB disease who are transported in an ambulance should wear a surgical or procedure mask, if possible, and drivers, Healthcare Workers, and other staff who are transporting the patient should wear a respirator. The ambulance ventilation system should be operated in a nonrecirculating mode, and the maximum amount of outdoor air should be provided to facilitate dilution.
- *Other airborne illnesses:* Persons with suspected or confirmed airborne illness, such as SARS-CoV-2, who are transported in an ambulance should wear a surgical or procedure mask, if possible, and drivers, Healthcare Workers, and other staff who are transporting the patient should be wearing a respirator. The ambulance ventilation system should be operated in a nonrecirculating mode, and the maximum amount of outdoor air should be provided to facilitate dilution.

Other Respiratory Hazards: Nothing in this policy is intended to restrict the OIC from requiring employees to use SCBA when he/she suspects a potential respiratory hazard. OICs are encouraged to adequately size-up each situation and to consider the safety of the employee when making decisions regarding SCBA use.

Updating the Hazard Assessment:

The Program Administrator shall revise and update the hazard assessment annually and as needed (i.e., any time through new technology or new processes, any changes occur that may affect the atmosphere in the working environment that may potentially affect employee exposure).

Immediate updates to the Hazard Assessment will be seen in the departments Hazard Assessment, A.P.11.1 Hazard Assessment for Personal Protective Equipment.

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Program Flow:

Employees must complete the following tasks (in order) prior to using a respirator:

1. Complete medical evaluation
2. Receive follow up from medical professional regarding the need for full physical exam, or for immediate use of respirator
3. Fit testing for applicable sized Scott AV 3000 HT face piece, disposable N95, or ENVO N95
4. Training with specific respirator
5. Unrestricted use for training, calls, etc.

Medical Evaluation:

Employees who are required to wear respirator must pass a medical evaluation before being permitted to wear a respirator. Employees are not permitted to wear a respirator until a medical professional has determined that they are medically able to do so. Any employee refusing a medical evaluation will not be allowed to use or work in an area requiring use of a respirator.

Based on the current risk assessment of LOW, employees with potential occupational exposure to M. Tuberculosis infection shall be screened using one BAMT or 2 Step TST upon hire and upon unprotected exposure to M. Tuberculosis.

A licensed medical professional will provide the medical evaluation. Medical evaluation procedures are as follows:

1. To the extent feasible, the BFR 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 medical professional for medical evaluation.
2. All affected employees will be given a copy of the medical questionnaire to complete, along with a stamped and addressed envelope for mailing the questionnaire to the Chiefs Office, where groups of questionnaires will be collected and either mailed or delivered to the Departments Occupational Health Provider. Employees will be compensated for completing the questionnaire.
3. Follow up medical evaluations will be provided to employees as required by this standard, or as required by the medical professional.
4. All employees will be granted the opportunity to speak with the medical professional about their medical evaluation if they so request.

After an employee has received clearance and begun to wear a respirator, additional medical evaluations will be provided under the following circumstances and as directed by a medical professional:

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

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

Fit Testing:

Fit testing is required for all employees wearing a respirator and will be conducted in accordance with the following schedule:

- Prior to being allowed to wear a respirator.
- Required annually.
- When there are changes in the employee's physical condition that could affect respirator fit (obvious changes in body weight, facial scarring, etc.).
- Quantitative or qualitative fit testing per respirator model/type

Employees will be fit tested with the make, model, and size of the respirators that they will use.

Respirator Use:

Respirator use is required for all employees engaged in the following activities:

- Structural firefighting
- Hazardous materials incidents
- Vehicle fires
- Dumpster fires
- Carbon monoxide emergencies
- Emergency medical incidents where a suspected or known airborne illness exists
- Special rescue situations
- Any incident that a respiratory hazard exists or has the potential to exist, or as the OIC requires

General Use Procedures:

Employees will use respirators under conditions specified by this program, in accordance with Administrative Policy 11.1 -- Hazard Assessment for Personal Protective Equipment, and in accordance with training received on the use of respirators determined for use by employees. In addition, the respirator shall not be used in a manner for which it is not certified by NIOSH or by its manufacturer.

Employees who detect operational problems with, or experience failure of the respirator shall immediately leave the hazardous environment, mark the respirator out of service, and obtain a properly operating respirator to complete the function assigned. After the emergency incident has terminated, the employee shall notify his/her supervisor of the failure of the respirator. If failure is of an SCBA while working in an IDLH atmosphere, the employee must follow the mayday procedure as outlined in SOG HR.LF.3.4 – Mayday Procedures.

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.

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Interior Structural Firefighting-

Employees engaged in Interior Structural Firefighting shall:

- Use SCBA for all fires that pose an IDLH Atmosphere.
- Continue to use SCBA until the completion of 'Overhaul' and air monitoring to determine that an IDLH atmosphere does not exist.
- Work in a minimum of pairs and maintain voice or visual contact with members of the team.
- Be supported by two standby members who are available for immediate rescue of interior firefighters. Each standby member shall be dressed in full-protective clothing and SCBA. The function of one of the standby members shall be the accountability of the firefighters inside the building. The other standby member may assume other duties including OIC 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 (2 in – 2 out).

Nothing herein shall prohibit the OIC from establishing a Rapid Intervention Team (RIT) to replace the two firefighters outside.

In the event the OIC determines the need to perform emergency rescue activities upon arrival before the assembly of the entire team when there is a known rescue, the OIC must:

- Notify dispatch of entry without the two standby members.
- Enter with or without a charged hand line, perform the emergent rescue, and immediately leave the structure.
- After the incident, document in writing, to the Program Administrator, a detailed explanation regarding the deviation of policy.

Use other than Interior Structural Firefighting-

For incidents requiring SCBA use other than for interior structural firefighting, employees shall use SCBA whenever they may be exposed to environments which may become IDLH or a respiratory hazard exists, or as directed by the OIC.

The use of N95, ENVO N95, or SCBA mask with cartridge particulate filters shall be used during events where employees are subject to or believe there is a risk of airborne illness to the employee including M. tuberculosis, SARS-CoV-2 (COVID-19), or any other airborne illness identified by the Program Administrator and/or other governing bodies such as Centers for Disease Control and Prevention or Maine Emergency Medical Services.

Cleaning, Maintenance, and Storage

SCBA Respirators are to be cleaned and disinfected after each use. The cleaning procedure is as follows:

- Disassemble SCBA, removing cylinder, and mask.
- Clean the back frame with water and mild detergent. Do not submerge the backpack frame assembly or any parts of the assembly including the regulator, pass device, or hose connections.
- Wash the face piece with 70 % Isopropyl Alcohol wipes, or 70% Isopropyl Alcohol spray solution with a clean towel. If mass decontamination is needed spray the mask with water only and allow to dry passively or with a pressurized airline. Once dried finish cleaning with 70% Isopropyl Alcohol.

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- Reassemble the SCBA, replace any defective parts, and test the function.
- Document SCBA inspection in Aladtec.
- Place back on the apparatus, masks and regulators are to be stored in a bag, or within an enclosed cab. If the facepieces are still damp leave them outside of the bag until dry.

If using an SCBA face piece in conjunction with canister filters, while working in an environment with airborne particulate contaminants, dispose of the particulate filters after one use, and replace the filters in the apparatus. The mask cleaning should follow the same steps as outlined above.

Field cleaning of respirators is to be done using 70% Isopropyl Alcohol wipes. There will be no sharing of respirator 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.

Disposable N95 Respirators shall be stored in a paper bag in-between uses and shall be discarded when soiled or after use while treating a patient with confirmed respiratory disease. ENVO 95 respirator filters shall be changed when soiled or when treating a patient with confirmed respiratory disease.

Maintenance

SCBA are to be properly always maintained to ensure that they function properly and adequately to protect the employee. 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 repair personnel will be conducted by the manufacturer or their designee.

The following items are to be checked, after each use and monthly. The findings of these checks are to be properly recorded on the SCBA Inspection form in Aladtec:

- Face piece:
 - Cracks, tears, or holes
 - Face piece distortion
 - Cracked, loose, or damaged lens
- Head straps:
 - Breaks or tears
 - Broken buckles
- Valves:
 - Residue or dirt inside the valve(s)
 - Damage to valve or valve material
- Gauges, Regulators & Air Lines:
 - Damage to or inaccuracy or regulators
 - Leaks

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- PASS Alarm:
 - Operation
 - Battery condition

- Body Harness:
 - Tears, rips, fraying or otherwise damaged straps
 - Broken buckles

- Cylinder:
 - Air supply full, or meeting the requirements of NFPA Standard
 - 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. Mark/tag all defective SCBAs out of service, with an out of service tag, and enter a work order in the work order program (Emergency Reporting), so the report can be sent to the Program Administrator. The Program Administrator will make repair arrangements with the SCBA vendor prior to putting the SCBA back in-service.

When a respirator is taken out of service, it will be appropriately tagged indicating the problems, documented in Emergency Reporting, and stored in a place to ensure it is not mistaken for an in-service SCBA.

Storage

Storage of SCBA shall be in their designated place on the apparatus. Masks and regulators shall be stored in plastic or nylon bags, or enclosed apparatus cabs/compartments, to prevent exposure to dirt and/or contaminants.

Spare SCBAs shall be stored in a designated location in fire stations.

Training

Annually, each employee shall attend and successfully complete, SCBA training that is based on current NFPA Standard(s) and current CDC Guidelines. Training will be knowledge based and hands-on. Training will include:

- The need for respirator use, and how improper fit, usage, or maintenance can compromise the protective effectiveness of the SCBA.
- Limitations and capabilities of the 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.
- How to recognize the respiratory hazards that require the use of respirator.
- Signs and symptoms of TB Disease
- M. Tuberculosis transmission
- Infection control policies including EMD EID Tools
- Importance of TB Screening for Healthcare Workers



- Responsibilities of employers and employees regarding M. Tuberculosis infection test conversion and diagnosis of TB Disease

Program Evaluation

The Program Administrator shall annually, and as needed, evaluate the respiratory protection program to ensure:

- Current written programs are being effective and properly implemented.
- Employees are properly using respirators, and the Program continues to be effective.

Record Keeping

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

- Medical Evaluations [Medical professional recommendation only]
- Fit Testing
- Training

Licensed Healthcare Professional

Concentra is the contracted healthcare provider to administer the Department's Exposure Control Program, Respiratory Protection Plan, as well as providing emergent/non-emergency medical care for a workplace injury, illness, or exposure.

Concentra Medical Care
85 Western Avenue
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Policy History:

<i>Original Approval Date:</i>	<i>January 1, 2000</i>
<i>Revision Date</i>	<i>June 22, 2010</i>
<i>Revision Date</i>	<i>January 4, 2013</i>
<i>Revision Date</i>	<i>February 11, 2014</i>
<i>Revision Date</i>	<i>October 31, 2015</i>
<i>Review Date</i>	<i>October 18, 2016</i>
<i>Revision Date</i>	<i>June 6, 2017</i>
<i>Revision Date</i>	<i>June 15, 2018</i>
<i>Review Date</i>	<i>June 10, 2019</i>
<i>Review Date</i>	<i>November 18, 2020</i>
<i>Revision Date</i>	<i>July 26, 2021</i>