Respiratory Protection Program Documentation

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Respiratory Protection Program

Purpose:

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

> *Definition of IDLH Atmosphere:* [1]*OSHA 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) shall be the first line of defense against these respiratory hazards. 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 OR N100 (AS DETERMINED BY FIT FACTOR) respirator masks, are only applicable during events where employees are subject to or believe there is a risk of airborne illness.

Scope and Application:

This program applies to all employees who are required to wear SCBA while operating in an IDLH atmosphere. All employees who perform duties requiring the use of SCBA's are subject to the guidelines within the Buxton Fire-Rescue Respiratory Protection Program ("The Program"). Buxton Fire - Rescue shall be responsible for any required expenses resulting from the employees' participation in The Program.

This program also applies to the use of N95 OR N100 (AS DETERMINED BY FIT FACTOR) respirator masks to protect employees from airborne illness.

Responsibilities:

The Fire-Rescue Chief shall have the overall responsibility of the administration of 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

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

Program Administrator:

The Program Administrator is the Fire-Rescue Chief and can be contact via cellular phone at (207) 294-1175 or via email at chiefbfr@gmail.com.

The Program Administrator is responsible for administering The Program. Duties of the program administrator include:

- Identifying work areas, processes or tasks that require workers to wear SCBA's or N95 OR N100 (AS DETERMINED BY FIT FACTOR) respirators, and evaluating hazards.
- Selection of respiratory protection options (at time of revision SCBA is only option for IDLH atmosphere, and N95 OR N100 (AS DETERMINED BY FIT FACTOR) is only option for air borne illness')
- Monitoring SCBA use to ensure that they are used in accordance with their certifications.
- Arranging for and/or conducting training.
- Ensuring proper storage and maintenance of SCBA's.
- Conducting qualitative fit testing with Bitrex or saccharin (for N95 OR N100 (AS DETERMINED BY FIT FACTOR)) or quantitative testing with a PortaCount machine or other like testing unit (for SCBA).
- 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 station, 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 a copy of the Buxton Fire-Rescues' program, a copy of the Respiratory Protection Standard, a list of hazards encountered in the work environments, and 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, and information regarding type and weight of protective clothing.

Supervisors:

Supervisors (by definition are all officers of Buxton Fire-Rescue) 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 face mask.
- Continually monitoring work areas and operations to identify respiratory hazards.
- Report to the Program Administrator or the Chief should an employee have difficulty wearing or when 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 manner in which they were trained. Each employee must also:

- Care for, maintain, and store respirators as instructed and/or trained.
- Inform their supervisor if the respirator 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-

Buxton Fire-Rescue currently uses Scott 4.5 SCBA's. All SCBA's are NIOSH certified and shall be used in accordance with the terms of that certification. Employees shall annually be fit tested to this brand of SCBA. Utilizing either an AV2000 or AV 3000 mask (as are found on apparatus), or fit tested to their personally assigned mask. SCBA will be selected during all events with a suspected or defined IDLH atmospheres, as defined earlier in this document by OSHA.

Buxton Fire-Rescue currently uses N95 OR N100 (AS DETERMINED BY FIT FACTOR) respirator masks for use where airborne illness is suspected or defined.

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 SCBA and N95 OR N100 (AS DETERMINED BY FIT FACTOR) respirators. 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: For years structural firefighting has been known to pose a potential respiratory hazard. This hazard has only increased with the amount 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 Buxton Fire – Rescue 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) 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: 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 containers: (which are not classified as structure fires) when involved in fire may present respiratory hazards. Firefighters engaged in these operations shall use SCBA while performing these operations.

Carbon Monoxide incidents: Carbon Monoxide 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 HazMat Group Supervisor.

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 us 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 victim, use of SCBA is required (Buxton Fire-Rescue) does not train or act as a confined space rescue team, however will enter a space to affect a rescue of a viable victim.

Airborne Pathogens: N95 OR N100 (AS DETERMINED BY FIT FACTOR) respirators may be indicated in rescue situations where airborne pathogens are present, but an IDLH atmosphere is not present.

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. OIC's 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 see in the departments Personal Protective Equipment Matrix as determined by process specific standard operating guidelines and policy.

Program Flow:

Employees must follow the following (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 respirator (SCBA Scott AV2000 and AV3000 and/or N95 OR N100 (AS DETERMINED BY FIT FACTOR) respirator)
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 on the job. 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 work in an area requiring use of a respirator.

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

1. To the extent feasible, the Buxton Fire-Rescue 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 fill out, along with a stamped and addressed envelope for mailing the questionnaire to the Medical Professional or an envelope with several people collected at the training session. Questionnaires collected will be taken to the Medical Professional by the Program Administrator or mailed together. Employees will be permitted to fill out the questionnaire on Town time.

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.

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

- Prior to being allowed to wear any a respirator.
- Required annually in January
- When there are changes in the employee's physical condition that could affect respirator fit (obvious changes in body weight, facial scarring, etc.).
- Conducting qualitative fit testing with Bitrex or saccharin (for N95) or quantitative testing with a PortaCount machine or other like testing unit (for N100 or SCBA).

Employees will be Fit Tested with the make, model, and size of the respirators that they will actually 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, and special rescue situations, or any incident which may cause exposure to a respiratory hazard.

General Use Procedures:

Employees will use their respirators under conditions specified by this program, and in accordance with the training they receive on the use of the Scott SCBA or the N95 OR N100 (AS DETERMINED BY FIT FACTOR) respiratory. In addition, the respirator shall not be used in a manner for which it is 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 (depending on which test works best for them).

Employees who detect operational problems with, or experience failure of, the respirator shall immediately notify their supervisor, sound their PASS Alarm, and leave the hazardous environment with their partner. If failure is determined prior to entry to the IDLH atmosphere, the respirator must be placed out of service so that no other employee will use the respirator.

Employees are not permitted to wear any jewelry, ear protection, eye glasses, or protective hoods in a manner that may interfere with the face to face piece seal. Facial hair or any other hair style 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 State or as directed by the OIC
- 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 each 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 that 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 Emergency Rescue, and immediately leave the structure.
- After the incident, document in writing, to the Chief, 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 a respiratory hazard, or as directed by the OIC

Cleaning, Maintenance, and Storage

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

- Disassemble SCBA, removing cylinder, mask, and PASS.
- Wash the face piece and associated parts in a mild detergent with warm water.
- Disinfect the face piece in a diluted bleach solution.
- Rinse completely in clean warm water.
- Air dries in a clean area.
- Reassemble the SCBA, test the function, replace any defective parts, and test the function.
- Place back on the apparatus, masks and regulators are to be stored in a bag, or within an enclosed cab.

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.

Maintenance

SCBA are to be properly maintained at all times in order to ensure that they function properly and adequately 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 in the SCBA Maintenance Log:

- Face piece:
  Cracks, tears or holes
  Facemask distortion
  Cracked, loose, damaged lens

- 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
  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 and SCBA with a defect he/she is to bring the defect to the attention of his/her supervisor. Supervisors will give all defective SCBAs 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 an 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.

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, to prevent exposure to road dirt and/or contaminates.

Training

Annually, in March, each employee shall attend and successfully complete, SCBA training that is based on current NFPA Standards. Training will be both 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.

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 SCBA, 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, and
- Training