

**BAY CITY DEPARTMENT OF PUBLIC SAFETY  
BAY CITY, MICHIGAN**

SECTION 2 - PUBLIC SAFETY  
GENERAL ORDER

June 9, 2017  
INDEX NO. 2.19

**RESPIRATORY PROTECTION PROGRAM**

**I. PURPOSE**

The purpose of this General Order is to establish a respiratory protection program in accordance to the Michigan Occupational Health Standards (OSHA 29 CFR 1910.134).

**II. POLICY**

A. This policy is to prevent employee over-exposure to atmospheric contaminants which are potentially harmful to fire fighters' health. The main route of entry into the body for these contaminants is inhalation. Respirators are personal protective equipment (PPE) used to protect the respiratory system of an employee from harmful airborne contaminants. Classes of airborne contaminants this program is designed to protect against include:

1. Harmful Dusts
2. Fogs and Mists
3. Smoke and Fumes
4. Gases and Vapors
5. Radionuclides (Radioactive materials)
6. Toxic Particulates
7. Combination of Toxins
8. Oxygen Deficient Atmospheres

B. Excessive exposures resulting in the inhalation of these contaminants may cause mild to serious respiratory problems. They may range from acute to chronic illness and possible death.

**III. APPLICATION / USAGE**

A. All fire fighters shall use self-contained breathing apparatus (SCBA) in all atmospheres which deviate from normal conditions; such as toxic, superheated, oxygen deficient areas or areas that may potentially become hazardous. The following are examples of where use may be required but are not limited to:

1. Hot zones at structure fires
2. Vehicle fires
3. Hot and warm zones at hazardous material incidents
4. Confined space incidents

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5. Incidents with potential respiratory hazards
- B. The Bay City Department of Public Safety uses the Drager respirator. This respirator is a strictly positive pressure SCBA. When used in any environment, the SCBA should always be in good working condition. Verifications of proper working condition shall be determined by the firefighter when he / she reports for duty and before using the SCBA. Respirators are only to be used by those individuals who are trained in their use and have met the fit test requirement of this standard.

**IV. FIREFIGHTER EVALUATION / TRAINING**

- A. All Bay City fire suppression personnel are instructed and evaluated on obtaining a face piece seal during mandatory Michigan Fire Fighter Training Council Fire Fighter I & II courses. Successful completion of the SCBA Respirator section is a requirement for graduation. Testing and competencies are demonstrated through performance objectives. All personnel are required to complete Fire Fighter II as a condition of employment with the Bay City Department of Public Safety.
- B. A test to determine proper face piece seal will be conducted by all personnel before entering an atmosphere where SCBA are required. For SCBA use in the fire service, a tight face to mask seal is crucial. No impediment should be present which would prevent a proper face seal, such as:
1. Beards
  2. Sideburns
  3. Eyeglass frames
  4. Skull caps
  5. Other impediments
- C. Regular or periodic training is conducted in house by the Bay City Department of Public Safety on the use of SCBA in the areas of application, inspection, maintenance, location, donning, fit testing, storage, and proper cleaning and disinfection. Annually, each employee will demonstrate proficiency.

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D. The following shall be kept on file for all personnel authorized to perform duties in hazardous atmospheres:

1. Personal SCBA Performance Evaluation
2. Respirator Fit Test Record
3. OSHA Respirator Medical Evaluation Results

**V. MEDICAL EVALUATION**

A. Before a fit test is conducted or an individual is allowed to wear a respirator, a medical evaluation by a physician or a licensed health care professional (PLHCP) will be performed. A PLHCP will be identified by the Department and the evaluation will be at no cost to the employee and will be conducted during working hours or at a time and place convenient to the employee. The medical evaluation can be conducted in one of two ways, to be determined by the PLHCP:

1. Medical Questionnaire (found in OSHA Respiratory Standard mandatory appendix C).
2. Medical evaluation that obtains the same information contained in the medical questionnaire. This medical evaluation may be the result of a positive response to a question on the questionnaire. Follow-up medical exams may be required by the PLHCP in addition to the information requested on the questionnaire in order to determine whether an employee is capable of using an SCBA.

B. Before the medical evaluation, the Department will provide the following information to the PLHCP:

1. The Department's Respiratory Protection Program General Order.
2. The weight of the SCBA used by the Department.
3. The type of respirator used.
4. The expected physical effort anticipated when wearing the respirator.
5. Protective clothing that is to be worn while operating with an SCBA.
6. Temperature and humidity extremes that are anticipated while operating with a respirator.
7. A copy of the OSHA Respiratory Protection Standard.

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- C. Results of the medical evaluation will be provided to the Department in the form of a recommendation as to the individual's ability to operate wearing an SCBA. The recommendation shall be in writing and be kept in accordance with the OSHA requirements 29 CFR 1910.1020 "Access to Employee Exposure and Medical Records". The Department shall not receive any other detailed information from the PLCHP. The PLHCP is to provide a copy of the complete recommendation to the person who has been evaluated, and may discuss the results with the individual that has been evaluated.
  
- D. Annual review of the medical evaluation is not necessary. A medical re-evaluation may be required if:
  - 1. The health care professional recommends it.
  - 2. The user of the respirator reports medical signs or symptoms related to the ability to use a respirator.
  - 3. The supervisor or program administrator informs the Department that an individual needs to be re-evaluated.
  - 4. Observations made during the fit testing or program evaluation indicates an individual needs to be re-evaluated.
  - 5. Changes in the Department's General Orders, Operational Procedures or equipment that would substantially increase the physiological burden placed on the user of the respirator.

**VI. FIT TESTING**

- A. Fit testing is required of all Bay City Department of Public Safety personnel who may be expected to wear an SCBA as a part of their duties. The purpose of this fit test is to determine which size face piece is expected to provide the individual with the proper fit using a valid test protocol. Each individual must have completed a medical evaluation before having a fit test performed or wearing an SCBA into a potentially hazardous atmosphere.
  
- B. Fit tests will be either qualitative or quantitative and follow the guidelines found in paragraph (f) and in mandatory Appendix A, "Fit Testing Procedures", of the OSHA standard. Fit tests may be performed by an outside contractor or by Fire Operations personnel trained in administering fit tests.

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- C. Fit tests will be conducted annually for each user of an SCBA. A re-test after the initial fit test may be required as called for in paragraph (f) if:
1. A respirator user reports changes in his physical conditions, i.e. substantial weight gain / loss.
  2. The PLHCP recommends a re-test.
  3. The designated face piece is causing a problem for the user, i.e. skin irritation.
  4. The supervisor recommends a re-test.
  5. The user notifies the supervisor or other relevant authority that the respirator fit is not acceptable.

**VII. PROCEDURES FOR USE OF SCBA**

- A. Before an SCBA may be used in a potentially IDLH atmosphere, the SCBA shall be donned and the face piece seal checked according to the manufacturer's recommendations. Nothing that would interfere with the sealing surface between the face piece and the face will be permitted. This includes but is not limited to facial hair, eyeglass frames, skull caps, protective hoods, etc.
- B. Fire suppression personnel shall wear an SCBA for interior structural firefighting when there is the potential for an IDLH atmosphere. This will include any instance where the fire has progressed beyond the incipient stage. Incipient stage fires shall be defined as those which are in the initial or beginning stage and which can be extinguished by portable fire extinguishers, class II standpipes, or small hose streams. Interior structural firefighting shall be defined as the physical activity of fire suppression, rescue, or both inside of buildings or enclosed structures, which are involved in a fire situation beyond the incipient stage.
- C. The Bay City Department of Public Safety will abide by and enforce the standard commonly referred to as the 2-in / 2-out rule. This operating procedure will apply to all fires that require interior structural firefighting operations. The only exception to this rule is where an obvious life hazard exists and immediate rescue must be made.

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- D. The Incident Commander on scene will be held accountable for the enforcement of this rule. Compliance requires that there be two available fire suppression personnel in full turn-out gear, including SCBA and portable radio, in reserve before interior firefighting operations are initiated. One member of the rescue team may have other duties to perform as long as the abandoning of those duties will not jeopardize the safety of other fire fighters operating at the scene. Failure to comply with this rule shall result in the Incident Commander facing disciplinary action. Fire fighters entering an IDLH atmosphere for any reason shall incorporate the “buddy system”. There will be at least two fire fighters operating who have either verbal, visual, or physical contact with each other at all times. Voice contact does not include radio contact.

**VIII. MAINTENANCE AND CARE**

- A. Maintenance and care of SCBA shall be accomplished per the manufacturer’s recommendations. Cleaning of the SCBA and face piece shall be done when any of the following conditions exist:
1. After each use.
  2. As often as necessary to maintain a sanitary condition.
  3. Before the face piece is used by another person.
  4. After any fit testing or training.
- B. Cleaning of face pieces shall be done in wash tubs available in each station for this purpose only. Cleaning can be done using a mild soap / disinfectant liquid solution or with a mild dish soap solution. Harnesses and other parts should first have surface dirt brushed away and then cleaned with a mild cleaning solution. All cleaning shall be done in accordance with the manufacturer’s recommendations.
- C. All SCBA shall be stored in an approved manner. Approved storage of SCBA will include:
1. Brackets in the jump seats of enclosed apparatus.
  2. Brackets in the enclosed compartments of apparatus.
  3. Brackets in the back of patrol vehicles.
  4. Cases provided by the manufacturer, or one of similar design which will not allow the SCBA to become damaged.

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- 5. Outside of the apparatus on brackets, however, these SCBA shall be covered in such a manner that they will remain clean, sanitary, and free of physical damage.
  
- D. An individual face piece shall be issued to all individuals who will use an SCBA during their normal functions. This face piece is the responsibility of the individual. All face pieces shall be stored in the storage bags provided by the Department so that they are protected and are kept clean and ready for use. It is each individual's responsibility to maintain the cleanliness and sanitary conditions of their personal face piece.
  
- E. Repairs performed on any SCBA shall be done by personnel trained and qualified by the manufacturer. This Department has several personnel that are trained to perform maintenance on its SCBA. SCBA that are in need of repair should be tagged and sent to Station 1 for repair by designated personnel.

**IX. BREATHING AIR QUALITY AND USE**

- A. Breathing air quality shall be maintained in accordance with NFPA 1404, "Fire Department Self-Contained Breathing Apparatus Program". The compressor and filling station shall be inspected by an outside contractor at least annually and in line with the previously mentioned standard. All maintenance will be done according to manufacturer's recommendations. This will insure that breathing air quality is maintained. A record of the maintenance, inspection and filter changes shall be maintained and kept with the compressor. A tag shall be used to act as the written record of servicing. This tag will have the most recent service date and the signature of the person authorized to do the work.
  
- B. Compressed air cylinders used in conjunction with SCBA shall be tested and maintained in accordance with U.S. Department of Transportation's criteria for compressed air cylinders (49 CFR parts 173 and 178). Composite cylinders shall be inspected and hydrostatically tested every 3 years. Steel cylinders shall be tested every 5 years. Hydrostatic testing will be done by an outside contractor.

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**X. TRAINING AND INFORMATION**

- A. Training will be done annually in the following areas:
1. Why a respirator is necessary.
  2. How improper fit, use and maintenance affect the respirator.
  3. Limitations and capabilities.
  4. Use in emergency operations.
  5. How to inspect, don, doff and check seals while wearing an SCBA.
  6. Procedures for maintenance and storage.
  7. Recognition of signs and symptoms that may limit or prevent effective use.
  8. General requirements of the "Respiratory Protection Program".
- B. Individuals will demonstrate proficiency with the SCBA using a timed evolution annually. Training in certain areas noted in this section of the standard may be done at the time of the proficiency test or during the annual fit test. Training in SCBA evolutions done throughout the year will contain other portions of the mandatory training requirements.

By order of:

  
Michael J. Cecchini  
Public Safety Director