

Hiawatha Fire & Rescue

Policy 401
Occupational Health and Safety
Respiratory Protection Program
5/25/2001

Introduction-

OSHA 1910.134 sets strict requirements for the safe and efficient use of respiratory protection equipment in hazardous atmospheres. Included in those requirements is the need for a written respiratory protection program. The purpose of this document is to satisfy that requirement.

The goal of the Respiratory Protection Program is to provide all members of the Hiawatha Fire Department adequate respiratory protection and a working knowledge of the basic use and maintenance for the self contained breathing apparatus provided by the Hiawatha Fire Department.

Order of Operations-

It shall be the Standard Operating Procedure of the Hiawatha Fire Department that all members will appropriately don the proper self contained breathing apparatus when entering an atmosphere that is deemed to be Immediately Dangerous to Life and Health (IDLH). As a guide line any of the five following atmospheric conditions shall define a hazardous atmosphere:

1. Heat
2. Smoke
3. Toxic Gasses
4. Radioactive Particles
5. Oxygen Deficiency

Program Authority

1. The Fire Chief shall be the individual with overall responsibility of the program.
 2. Each firefighter shall be responsible for understanding and following the requirements of this program and related Hiawatha Fire Department Standard Operating Procedures.
1. The procedures used for selecting respirators-
- The Hiawatha Fire Department provides the MSA positive pressure self-contained Breathing Apparatus (SCBA) to the members for respiratory protection. This is the only self-continued breathing apparatus approved for use by a member of the Hiawatha Fire Department. The positive pressure SCBA provides the best available respiratory protection.
- Firefighters will not remove their SCBA while in one of the five IDLH atmospheres listed above until the hazard has been mitigated and removal has been authorized by the incident commander.
- A. SCBA limitations
1. Each SCBA holds 44 cubic feet of air at 2200PSI
 2. SCBA weight is approximately 35 lbs.

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3. Approved working temperatures range from –25 to in excess of 175 degrees Fahrenheit
 4. Fully charged cylinders will last approximately 15 to 20 minutes under mild labor conditions. At approximately 500psi a low air alarm will sound. This alarm is to alert the wearer that approximately five minutes of breathing time remains and the wearer should begin a safe means of egress from the hazard area.
- B. While wearing a SCBA the firefighter should be aware that they will have:
1. Limited visibility
 2. Poor communications
 3. Additional weight of 30 to 40 pounds.
- C. The user shall also be aware that the duration of the air supply is affected by the following conditions:
1. Physical condition of the user
 2. Degree of physical exertion
 3. Emotional stability
 4. Condition of the SCBA
 5. Cylinder pressure prior to use
 6. Training and experience of the user

2. Medical Evaluations-

All members of the Hiawatha Fire Department are required to have a physical examination that includes the evaluation of the member to use a SCBA. The medical examination will be given under the direction of a state-licensed physician. Dr. Richard Louvar has been chosen as out department physician. The Hiawatha Fire Department will provide the following to the physician:

1. A copy of the Hiawatha Fire Department's Respiratory Protection Program.
2. The actual weight of a MSA SCBA with air Cylinder. Approximately 35 lbs.
3. A description of the MSA positive pressure, open circuit SCBA. See MSA Ultralight II Inspection and Maintenance Procedures.
4. Expected physical work anticipated while wearing an SCBA. See Essentials of Firefighting.
5. Additional protective clothing that will be worn in conjunction with the SCBA (Turn out Clothing) See Essentials of Firefighting.
6. Temperature ranges and humidity ranges expected during use. See Essentials of Firefighting.
7. A copy of the OSHA respiratory protection standard (29 CFR 1910.134). See attached copy.

3. Fit Testing-

The purpose of the Fit Test is to determine what size facepiece properly fits an individual.

Annual Fit Testing is required of all Hiawatha Fire Department personnel. Since the Hiawatha Fire Department provides only a positive pressure SCBA for use a qualitative fit test will be administered. Isoamyl Acetate Fit Test will be conducted on all Fire department members.

Prior to participating in a Fit Test the individual shall have completed the medical evaluation. Due to current budget constraints all members of the Hiawatha Fire Department will be administered a Peak Flow test. If the Peak Flow is found to be outside normal limits a Spirometry test will be conducted by the department physician.

All members will also be required to complete Health Evaluation Questionnaire. These will be provided to the department physician and any problems that identified will be addressed.

4. Use of SCBA's-

The facepiece seal on the member's face must be in direct contact with the person's face. Facial hair that comes between the two sealing surfaces is not acceptable. This portion of the Respiratory Protection Program is to be adhered to as per the Hiawatha Fire Department's Standard Operating Procedure regarding facial hair and the use of SCBA's.

5. Special Procedures for Interior Structural Firefighting-

The Hiawatha Fire Department Standard Operating Procedure dated 3/27/98 addresses the 2 in 2 out rule. As OSHA requirement of a Respiratory Protection Program and a NFPA 1500-1997 standard, the 2 in 2 out rule will be strictly followed.

Before the Hiawatha Fire Department begins an interior structural fire fighting attack, it is to ensure that at least two trained responders are standing by outside the IDLH atmosphere that can render immediate assistance to those in need. Of the two standby responders, only one can be assigned additional duties; this is consistent with NFPA 1500-1997 standard's criteria.

Only in the case where an emergency rescue is needed before the entire team of 4 members is on scene may the 2 in 2 out rule not apply.

6. Maintenance and Care of SCBA's-

The storage of the SCBA must protect it from damage, contamination, and environmental elements that could degrade the respirator or its components. Covers are to be placed over SCBA's when they are not in use.

A. A monthly (or after each use) inspection shall be conducted for the following:

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1. Cleanliness
2. Damage
3. High and medium pressure hoses
4. Regulator gauge pressure
5. Emergency by-pass operation
6. Low pressure warning alarm
7. Straps inspected and extended
8. Unit ready for emergency use

B. There is to be a written record required for each monthly inspection, which is to include:

1. Date of inspection
2. Signature and identification number of person making the inspection
3. Any findings or problems that require remedial action
4. Identifying means of the inspected SCBA.
See Appendix 1-1.

C. Refilling of Cylinders

Prior to refilling cylinders should be inspected for the following:

1. Evidence of exposure to extreme heat.
2. Evidence of exposure to toxic, caustic or any other hazardous chemical or gas.
3. Physical damage to the cylinder.
4. Hydrostatic date within the cylinder limitations (5 year for steel cylinders, 3 years for composite cylinders)
5. Log the refill on in the Hiawatha Fire Department Cylinder Refill Log

7. Breathing Air Quality-

All compressed breathing air is to be Type 1-Grade D standard. This is to be determined by semi-annually submitting a sample of the compressed breathing air for evaluation. A sample is to be submitted after all substantial maintenance to the air compressor.

All compressed air cylinders are to be tested and maintained to meet U.S. Department of Transportation's criteria for compressed air cylinders.

1. All cylinders of steel shall be hydrostatically tested every five years. All composite cylinders shall be hydrostatically tested every 3 years.

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2. All cylinders showing signs of possible physical damage from usage shall be tagged and immediately removed from service until such time as they can be hydrostatically tested.
3. All cylinders shall have a hydrostatic test date showing the most recent test.
4. No Cylinder shall be refilled if it exceeds the hydrostatic test date.

8. Identification of Filters, Cartridges, and Canisters-

This section of the OSHA mandated Respiratory Protection Program is not applicable to the Hiawatha Fire Department. The Hiawatha Fire Department does not use this type of respiratory protection at this time.

9. Training and Information-

All members of the Hiawatha Fire Department must be able to demonstrate knowledge in the following:

1. Why using SCBA's is necessary
2. How a poorly fitting SCBA compromises protection
3. How a poorly maintained SCBA compromises protection
4. How using an SCBA in a manner or environment that it is not designed and approved for compromises protection
5. What the limitations and capabilities are of the SCBA
6. How to operate the SCBA in an emergency situation including when a SCBA failure occurs
7. Proper way to inspect a SCBA
8. methods for donning and doffing a SCBA
9. methods to check the facepiece seal of the SCBA
10. The department's procedure for cleaning, disinfecting, maintenance and storage of SCBA's
11. The medical signs and symptoms that could limit or prevent the proper use being made of the SCBA
12. General requirements of the revised OSHA respiratory protection standard. See checklist on Appendix 1-2.

10. Program Evaluation-

The Hiawatha Fire Department will evaluate the Respiratory Protection Program to ensure that it is being properly implemented and that it meets the department's goals and objectives that have been established for safe SCBA use.

Members using SCBA's are to be consulted on a regular, ongoing basis to provide feedback on how well the program is being administered and where it needs improvements. All aspects and parts of the Respiratory Protection Program are to be evaluated, problems corrected and the

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program operated in an effective manner to better ensure the safety and health of department personnel using SCBA's.

11. Recordkeeping-

A confidential file is to be created for each member. This file is to contain medical records for each person wearing a SCBA. All exposure and medical records are to be contained in this file. These records are to be kept for 30 years and each member is to have access to his or her personal file.

Fit Testing Records- this record is to be retained until the next annual fit test. This record is to include:

1. Name and identification number of the person being tested
2. Type of fit test being performed
3. The make, model, and size of the SCBA facepiece that was fit tested
4. The date of the test
5. Pass/fail results of the QLFT