

**TOWN OF WATERTOWN FIRE DEPARTMENT  
STANDARD OPERATING GUIDELINES**

**SECTION: Equipment Operations  
SUBJECT: Respiratory Breathing Air System  
REVISED: 7/2013**

**PURPOSE:**

To establish procedures for the use of:

- A. air compressor.
- B. High pressure storage system.
- C. Cascade systems.

**POLICY:**

- A. only those individuals who have been trained in the operational procedures of the respiratory breathing air system may operate said equipment.
- B. All personnel operating the respiratory breathing air system shall be responsible for seeing that these guidelines are followed.
- C. The air quality will be certified on a yearly basis by a third party tester.

**RESPONSIBILITY:**

- A. the fire chief will be responsible for ensuring that persons designated by them:
  - 1. conducts periodic training and qualifying of personnel.
  - 2. Conducts required periodic maintenance. Excellent.
- B. Each officer in charge will be responsible for seeing that the air system is operated by qualified personnel only.
- C. Air system operators will be responsible for the following:
  - 1. filling pressures.
  - 2. Condition of bottles as outlined in this standard operating guideline.
  - 3. Maintaining air system record log.
  - 4. Filling out a defective equipment form should be error system needed repair, and proper notification of such to the officer in charge.

**PROCEDURES:**

- A. filling SCBA cylinders from the cascade system:
  - 1. place bottles in the cradle in the fill station.
  - 2. Attach fill line to the bottles.
  - 3. Make sure relief knob is close.
  - 4. Open take valve on the bottles to be filled.
  - 5. OpenGL valve on the fill station.
  - 6. Open cascade bells on fill station that controls air coming from the cascade system.
  - 7. Phil bottles by increasing pressure using cascade bottles and sequence(bottle number one should be used first then bottle number two etc.).
  - 8. After bottle is full, shut off cylinder valve.
  - 9. Shut off valve on the fill station.
  - 10. Decrease pressure in the fill line with relief knob until the pressure is zero before disconnecting fill lines from the bottles.

11. Close all valves(do not over tight).
  12. Cascade bottles should be checked and filled any time to or more bottle pressures drop below 1000 psi.
- B. Filling SCBA cylinders from the air compressor:
1. check all valves to be sure they are close.
  2. Open compressor valve on fill station.
  3. Compressor by pressing "start" button.
  4. Place bottles and cradle in the fill station.
  5. Attach fill line to the bottles.
  6. Make sure relief valve is closed.
  7. Open take valve on the bottles to be filled.
  8. OpenGL valve on the fill station.
  9. Phil bottles by using variable regulator.
  10. After bottles are full, shut off tank valves.
  11. Decrease pressure in the fill line with pressure relief knob until pressure is zero before disconnecting fill lines from the bottles.
  12. Close all valves(do not over tighten).
  13. Return compressor switch to the off position.
  14. Drain fill station and fill lines to zero pressure.
- C. Refilling cascade system:
1. open storage cylinder valve that needs refilling.
  2. Open cascade and compressor valves on the fill station.
  3. Open valve on compressor.
  4. Start compressor by pressing the start button.
  5. When the system is full(6000 psi) compressor will shut off automatically.
  6. Shut off storage cylinder valves.
  7. Drain hoses and fill station to zero.
  8. Close all valves.
- D. Refilling rescue 1:
1. connect hose to compressor.
  2. Open all valves that correspond to cascade bottles being filled.
  3. Connect hoses to fill station on rescue1.
  4. Make sure relief knob is closed.
  5. Open fill valves on the fill station.
  6. Turn compressor on by pressing the start button.
  7. After bottles are full, close all bells and use relief knob to decrease the pressure in the fill line to zero before disconnecting.
  8. Shut off compressor.
  9. Restore all fill lines to respective positions.
- E. Take inspections:
1. all tags that are filled must:
    - a. have closed the valves if the pressure is zero.
    - b. Have valid hydrostatic testing date.
    - c. Have a company ID number, or department name.
    - d. Be in a good state of repair, do a visual inspection.
- F. General:
1. filling pressures:
    - a. cascade system filled to 6000 psi.
    - b. Rescue 1, and truck 1 yellow bottles filled to 4500 psi.
    - c. All SCBA cylinders are to be filled to 4500 psi.
  2. Air system log:

- a. completed anytime the compressor is used.
  - b. Cascade system is used to fill bottles.
  - c. Log is not necessary to be completed when cylinders are filled from the cascade system at fires or training exercises.
3. Safety:
- proper pressures must be adhered to in order to prevent over pressurizing a cylinder.