POINT EIGHT POWER
Controlling the Power You Generate

HEALTH AND SAFETY MANUAL	
Title: Compressed Gas Cylinders	
Approved by: Greg Savoy	Rev. 1/1/08

1 Purpose/Scope:

The purpose of this program is to prevent injury from failing or failure of compressed gas cylinders and to establish requirements for handling, lifting and storing compressed gas cylinders safely.

This program covers all employees and contractors who handle, transport and/or use compressed gas cylinders.

2 Responsibilities:

2.1 Responsibilities:

2.1.1 Managers/Supervisors shall ensure that all employees are aware of the proper handling, storage and use requirements for compressed gas cylinders.

2.1.2 Managers/Supervisors shall ensure that initial training is conducted for all new employees and that retraining is conducted when employee behaviors suggest that retraining is warranted.

2.1.3 Employees shall follow all requirements regarding the safe handling, storage and use of compressed gas cylinders.

3 Requirements:

3.1 General:

3.1.1 The content of cylinders shall be clearly marked.

3.1.2 Cylinders shall not be accepted, stored or used if evidence of denting, bulging, pitting, cuts, neck, valve damage, leakage, or if the cap cannot be removed is observed.

- ❑ The cylinder must be taken out of service.
- ❑ The cylinder's owner shall be notified to remove the cylinder from the premises.

- ❑ If owned, the cylinder shall be de-pressured and inspected as required by this program.
- ❑ Cylinders that are no longer needed shall be marked DO NOT USE.

3.1 Handling:

3.1.1 Valve caps must be secured onto each cylinder before moving or storage.

3.1.2 Secure the cylinder in a blanket when being lifted by mechanical means.
- ❑ Slings, ropes or electromagnets are prohibited to be used for lifting compressed gas cylinders.

3.1.3 The preferred means to move compressed gas cylinders is with a cart, carrier or with a helper.

3.1.4 Compressed gas cylinders must not be allowed to strike each other.

3.2 Storing:

3.2.1 All cylinders must be secured upright in a safe, dry, well-ventilated area that limits corrosion and deterioration.
- ❑ Cylinders must be secured by means that will prevent the cylinder from falling.
- ❑ When securing the cylinder, the restraints shall not be attached to electrical conduit or process piping.

3.2.2 Storage areas shall be designated. Empty and non-empty cylinders shall be labeled and stored separately.

3.2.3 Oxygen cylinders must be stored a minimum of 20 feet from combustible gas cylinders or areas where there may be open flame or arcing.
- ❑ Cylinders may also be stored where the oxygen is separated from combustible gas cylinders by a 5 foot or higher wall with a fire resistance rating of 30 minutes.

3.3 Use:

3.3.1 Only regulators and fittings that correspond to the threads on the valve outlet shall be used.
- ❑ Never force or modify connections.

3.3.2 Only Regulators and gauges shall be used within their designated ratings.

3.3.3 The use of a pressure-reducing regulator is required at the cylinder, unless the total system is designed for the maximum cylinder pressure.

3.3.4 The main cylinder valve must be closed before attempting to stop leakage between the valve and regulator.

3.3.5 The cylinder and attachments must be protected from sparks, molten metal, excessive heat, flames or electrical currents.

3.3.6 Regulators shall be inspected prior to each use.

3.3.7 Only appropriate tools shall be used to open or close cylinder valves.

3.3.8 Cylinders must be transported in a vertical secured position using a cylinder basket or cart.

3.4 Inspection of Owned Compressed Gas Cylinders:

3.4.1 The following inspection procedures apply only to compressed gas cylinders owned by the Company, e.g., gas standard cylinders, gas sampling cylinders, propane, etc.

- ❑ These owned cylinders shall be visually inspected prior to charging, before each use and at least annually.
- ❑ Hoses and connections shall be inspected prior to each use.
- ❑ All inspections and testing must be documented.

3.4.2 High Pressure Cylinders: are those cylinders marked for service pressures of 900 psi and greater.

- ❑ High pressure cylinders shall be taken out of service and submitted for re-qualification testing when any of the following conditions are identified by visual inspection.
- ❑ Cuts, dings, gouges, dents bulges, pitting, neck damage, leakage or evidence of exposure to fire.
- ❑ Hoses and connections shall be inspected prior to each use.
- ❑ The cylinders shall be inspected and retested according to the requirements stated in 49 CFR 180.205 and .209.
- ❑ Re-qualification of non-damaged cylinders shall be conducted per the schedule in 49 CFR 180.209.

3.4.3 Low Pressure Cylinders: are those cylinders marked for service pressures of less than 900 psi.

- ❑ Low pressure cylinders fall into two categories, those requiring re-qualification and those that do not require re-qualification.
- ❑ Low pressure cylinders that do not require re-qualification shall be taken out of service and condemned when any of the following conditions are identified during inspection:
  - ✓ The tare weight of the cylinder is less than 90% of the stamped on weight of the cylinder.
  - ✓ Observed pitting, dents, cuts, bulging, gouges or evidence of exposure to fire.
  - ✓ Low pressure cylinders subject to re-qualification shall be taken out of service, inspected and retested when visual inspection identifies any of the following conditions;
  - ✓ Dents, bulges, pitting or neck damage.
- ❑ Re-qualification of non-damaged cylinders shall be conducted per the schedule in 49 CFR 180.209.

3.5 Training:

3.5.1 Employees handling/using compressed gas cylinders shall be trained on the use, handling, and storage of cylinders.

4 References:

4.1 29 CFR 1910.101 Compressed Gases

4.2 49 CFR 180.205 General Requirements for Re-qualification of Cylinders

4.3 49 CFR 180.209 Requirements for Re-qualification of Specification Cylinders

4.4 Compressed Gas Association pamphlets: C-6, C-8 and P-1

5 Exhibits:

None.