

Gulfof**Mexico**



Operations: HSE

**Compressed Gases and Air Safe Work
Practice (SWP)**

AMENDMENT RECORD

| Amendment Date | Revision Number | Amender Initials | Amendment |
|----------------|-----------------|------------------|--|
| 01-Mar-17 | 4 | CH | Included general requirements for pressure relief devices on compressed gas cylinders in Section 3.1(D). Updated format to current GoM HSE Template. |
| 17-Mar-15 | 3 | KT | Reformatted to meet new GoM document control template. In Purpose / Scope added statement on where to look for additional information. Reorganized sections to align with job process, Added section on disposal, Added definition of gas cylinder. Added additional references. |
| 15-June-12 | 2 | | Reformatted document to meet new GoM document control template standardization guidelines. |
| 23-Apr-12 | 1 | | Reviewed with no changes to content. Changed Authority and Custodian. Added Key Reference to Respiratory Protection Program in Section 6. |
| 19-June-08 | 0 | | New Technical Reference added to the GoM Safe Practices Manual. |

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1 Purpose / Scope

The purpose of this Safe Work Practice (SWP) is to establish requirements to safely work with compressed gases and air within the Gulf of Mexico Region. Refer to manufacturers operational / maintenance procedures and guidelines and the Occupational Safety and Health Administration (OSHA), Department of Transportation (DOT), and Compressed Gas Association (CGA) regulations and rules for additional information.

Compressed breathing air for SCBA application shall conform to the GoM Respiratory Protection Program.

2 Key Responsibilities

2.1 Operating Supervisors

Ensure that compressed gases and air are used for the application for which they are intended by implementing and enforcing the Compressed Gases and Air practice.

2.2 Workforce

Ensure that compressed gas cylinders under his or her control are in safe condition to the extent that this can be determined by visual inspection.

3 General Requirements

3.1 Components

- A. All oxygen/acetylene cutting torches shall have a flashback arrestor installed in each regulator, and a check valve installed on each torch/hose connection.
- B. Connections and couplings used with compressed gas cylinders shall be rated for the pressure and material in the cylinders.
- C. Utility stations and other gas cylinders that may be connected must be equipped with unique couplings to avoid inadvertent connection of the wrong cylinders.
- D. Safety relief devices for compressed gas containers.
 - a. Compressed gas cylinders, portable tanks, and cargo tanks shall have pressure relief devices installed.

3.2 Labeling / Marking

Compressed gas cylinders shall be marked:

- A. Legibly with either the trade name or chemical name of their contents. Whenever practical, the marking shall be on the shoulder of the cylinder.
- B. By means of stenciling, stamping, or labeling and shall not be readily removable.

3.3 Inspection / Testing

- A. Check hoses regularly to confirm that they are in good condition.
- B. All cylinders shall undergo a simple visual inspection prior to use which includes looking for:
 - a. Dents, bulges, cuts, cracks and welds
 - b. Excessive rust or pitting
 - c. Leaking or defective valves
 - d. Required cylinder markings and readability
- C. Compressed gas cylinders shall be hydrostatically tested every 5 years, with the following exceptions:
 - a. Cylinders that have a star stamped next to the last hydrostatic test date may be tested every 10 years instead of 5, if they meet certain DOT criteria. Check with your cylinder supplier to see if your cylinder meets these criteria.
 - b. Lightweight wrapped aluminum cylinders must be hydrostatically tested every 3 years and steel cylinders every 5 years. The dates shall be stamped on the cylinder itself. These records are maintained by the local supplier of the cylinders.

3.4 Safe Use

- A. Compressed air shall only be used for cleaning parts when no other means are acceptable.
- B. Compressed air shall never be used for cleaning clothes or body parts. Never point a compressed air nozzle at another person.
- C. Eye and face protection shall be worn to prevent injury from flying particles.
- D. All compressed air outlets used for parts cleaning shall be regulated to no greater than 30 psi (pounds per square inch) and a sign shall be posted designating so, or a cleaning tip that is self-regulating to 30 psi must be utilized.
- E. Before using compressed air for parts cleaning, make sure that debris shall not be blown onto someone else. If necessary, cover nearby equipment with a canvas to prevent damage from debris.
- F. Before operating an air hose, examine all connections to make sure they are tight and will not come loose under pressure. Hold the nozzle when turning air on or off.
- G. Do not kink a hose to stop the airflow. Always turn air off at the control valve.
- H. Never use hoses to raise or lower tools.

3.5 Refilling

- A. Non-refillable cylinders shall not be refilled with any material after use of the original contents.
- B. Breathing-air cylinders shall be refilled in accordance with the GoM Respiratory

Protection Program. ***Under no circumstances shall breathing air cylinders be refilled with shop or facility air.***

3.6 Transport and Storage

- A. Oxygen cylinders shall not be stored near highly combustible material, especially oil or grease, or near reserve stocks of carbide or acetylene.
- B. Oxygen cylinders in storage shall be separated from fuel gas cylinders, such as acetylene, or combustible materials at a minimum distance of 20 feet or by a non-combustible barrier at least 5 feet high having a fire resistance rating of at least one-half hour.
- C. Compressed gas cylinders shall be stored away from heat sources in well-ventilated and dry spaces.
- D. All compressed gas cylinders shall be stored with the valve closed and the protective valve cover screwed on, hand-tight.
- E. Compressed gas cylinders shall be stored in a vertical valve-end-up position. Empty cylinders shall be marked "EMPTY," stored with their valves closed, valve caps securely in place, and separated from full cylinders.
- F. Compressed gas cylinders shall be stored secured to a stationary object or secured in a specially constructed storage rack, in the upright position, to prevent them from falling over.
- G. Cylinders shall not be placed where they might become part of an electric circuit. Compressed gas cylinders shall be secured to a cradle, boat, or similar platform when transported by a crane or derrick. Slings or electric magnets shall not be used for this purpose.
- H. Valve protection caps shall not be used for lifting cylinders from one vertical position to another.
- I. Hoses shall be coiled and stored when not in use. Hoses shall not be left uncoiled where they can become a tripping hazard.

3.6.1 Bottle Racks

- A. Bottle racks shall be of sound construction, free of defects or heavily corroded members.
- B. Racks shall be inherently stable and not easily tipped to its side.
- C. Racks shall have at least two lifting pad eyes or lifting hook arrangements for hoisting.
- D. Bottle keeping bars shall be secured by a railing or channel slotted into the rack frame held in place by non-load bearing threaded nut and bolt or a safety pin (T-handle bolts or nuts are not acceptable).
- E. Chain can only be used as a secondary means of securing of bottles.
- F. Racks shall have a lip at the bottom to keep cylinders from kicking out.
- G. Racks containing manifolds of cylinders shall be equipped with overhead dropped object and side-impact protection.

3.7 Disposal

For disposal of compressed gas or air cylinders refer to the GoM Waste Management Guidelines or contact the GoM Waste Advisor.

4 Definitions

| Term | Definition |
|-------------------------|--|
| Compressed Gases or Air | Gases or air held above atmospheric pressure and used for industrial applications. |
| Gas Cylinder | Any closed metal vessel used to convey compressed gas, gas liquefied under pressure, or gas dissolved under pressure in solvent. |

5 Key Documents / Tools / References

- OSHA 29 CFR 1910.101 Compressed Gases (General Requirements)
- DOT 49 CFR 173.34 "Qualification, maintenance and use of cylinders"
- GoM Respiratory Protection SWP (UPS-US-SW-GOM-HSE-DOC-00128-2)
- GP 32-49 Guidance on Practice for In Service Inspection and Testing of Special and Other Equipment
- Compressed Gas Association
 - P-1-2006
- British Compressed Gas Association
- BS EN 1968-2002 Transportable gas cylinders. Periodic inspection and testing of seamless steel gas cylinders
- BS EN 1802:2002: Transportable gas cylinders. Periodic inspection and testing of seamless aluminum alloy gas cylinders