ST. VINCENT AND THE GRENADINES

MARITIME ADMINISTRATION

CIRCULAR N° GEN 007

STORAGE, USE AND MAINTENANCE OF CYLINDERS CONTAINING ACETYLENE OR OXYGEN

TO: SHIPOWNERS, SHIPS' OPERATORS & MANAGERS, MASTERS & CREW
SURVEYORS TO FLAG STATE ADMINISTRATION, RECOGNIZED ORGANIZATIONS

APPLICABLE TO: All vessels
ENTRY INTO FORCE: DATE OF THE PRESENT CIRCULAR

Monaco, 2nd July 2009

Oxygen and acetylene are commonly used as part of the standard maintenance equipment on ships for welding, burning, and heating. Due to the inherent danger with these materials, they must be handled with great care and associated equipment, including hoses, fittings, and regulators, should be properly maintained.

When the equipment is ready for use, the cylinders are most properly located outside or in a deck locker with ventilation. When stored and not in use, oxygen and acetylene bottles should be stored separately in different lockers or in spaces separated by a fire division boundary or a wall.

The cylinders and equipment should always be protected from damage and secured to prevent movement when the vessel is underway. In spite of dangers involved with these materials, it has been found on some vessels that the condition, use, and storage of these materials were in need of improvement. Common deficiencies include: improper storage of cylinders, regulators damaged or unreliable, hoses cracked and in need of replacement and improper fittings.

In this respect Saint Vincent and the Grenadines Maritime Administration is highlighting the guidelines as follows:

1. Storage of Cylinders containing acetylene or oxygen

Cylinders containing acetylene or oxygen normally used for welding/gas cutting should be provided with a dedicated storage facility.

New fixed piping installation should be in accordance with the rules of the vessels' Classification Society.

2. Dedicated Storage Facility

If the vessel is fitted with a dedicated storage facility it should be:

- On or above the uppermost continuous deck in a lockable well ventilated room or cabinet and not subject to extremes of temperature;

- The storage facility should be constructed of steel, be separated from other spaces by gas tight divisions and should have direct access to the open deck.
- Where **two or more bottles of each gas** are intended to be carried in enclosed spaces, separate dedicated storage rooms should be provided for each gas.

3. **Alternative Storage Facility**

If a dedicated storage facility is not provided, the cylinders should be firmly secured in an open deck area, on or above the uppermost continuous deck, provided with purpose built storage racks and protected against mechanical damage and direct exposure to the sun, wind and weather. The storage position should consist of a wire cage with a solid roof forming an enclosure that can be locked to avoid interference by unauthorized persons.

4. **General Requirements**

The following should apply:

a) No electrical equipment should be provided in the storage spaces unless it is certified safe for use in flammable environments.
b) Gas cylinders, including empty cylinders, should be stored in an upright position and securely fastened with arrangements that permit the rapid disconnection of the cylinders.
c) A protective cover should be screwed to the head of each cylinder when it is not in use, or being moved.
d) Storage spaces should be clearly marked with warning signs indicating that Oxygen and Acetylene gases are stored inside. ''NO SMOKING'' signs should be displayed at the gas cylinder storage rooms.
e) It should be ensured that cylinder valves, controls and associated fittings should be kept free from oil, grease and paint. Valves should not be opened with oily hands. Keep oxygen cylinders away from fuel-gas cylinders or combustible materials (especially oil and grease).
f) Used cylinders should be stored as if they were full and the valves should be left closed.
g) The cylinders should be hydrostatically tested. Hydrostatic pressure test should not exceed a period of five (5) years.
h) The storage of acetylene and oxygen in machinery spaces is **not permitted**.
i) Relief valves should vent to a safe place on the open deck.
j) If two or more cylinders (of the same gas) are connected to a manifold the supply pipes between the cylinders should be fitted with non-return valves.
k) Cylinders should be placed on wooden boards or similar arrangement so that they are not in direct contact with the deck plating.
l) All components should be renewed at intervals recommended by their manufacturer.

Points to remember:

• Turn off all valves on completion of work

• Never use oxygen to blow dust from clothing.

5. **Maintenance**

It is recommended that a leak test of piping be performed at least once a year. This should be carried out by using the ordinary operating pressures for oxygen and acetylene respectively. The gas supply to the pipelines should be stopped by the central regulator being closed. The pressure in the pipelines should then remain constant for at least eight (8) hours or all joints/connections tested with a “soapy water” solution. If pressure drops or leaks are detected in the pipelines, the installation should be checked and repaired by a suitably qualified person.