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## Gas Cylinders

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### 1. Purpose

- 1.1. This Safety Alert is issued by the Bahamas Maritime Authority to highlight the risks associated with refilling gas cylinders. It is based on the initial findings of an ongoing investigation into a marine incident.

### 2. Introduction

A Bahamas registered cruise ship was undertaking regular maintenance of life-saving appliances at anchor. Whilst refilling a bank of nitrogen cylinders that form part of a lifeboat (back-up) launching system, one nitrogen cylinder exploded, resulting in serious injuries to one member of the crew.

### 3. Safety Factors

- 3.1. The investigation is ongoing, but attention is drawn to the following:
- Pressure vessel failure can be catastrophic. Companies must assess and manage the risk posed by refilling operations.
  - Gas cylinders must only be refilled by competent persons who understand the risks associated with the cylinder and its contents.
  - Gas cylinders must be given a full external visual inspection before refilling. This requires the cylinder to be removed from any bracket(s) to enable inspection of all hidden surfaces and the base of the cylinder.
  - The current frequency required for hydrostatic testing of gas cylinders may not identify gas cylinders that have degraded beyond their discard criteria in good time.
- 3.2. The details differ, but the circumstances are similar to a previous accident. See Transport Accident Investigation Commission's report, *Burst nitrogen cylinder causing fatality*, 9 February 2017 [www.taic.org.nz/inquiry/mo-2017-203](http://www.taic.org.nz/inquiry/mo-2017-203)

### 4. Validity

- 4.1. This Safety Alert is valid until further notice and may be updated as the investigation progresses.