



MARITIME SAFETY STANDARD FOR LIFESAVING AND RESCUE EQUIPMENT REQUIRED ABOARD FLOATING EQUIPMENT

1.0 PURPOSE

To establish the minimum lifesaving and rescue equipment required aboard vessels operating in Panama Canal waters.

2.0 BACKGROUND

Panama Canal Administrator's Directive AD-2004-04 of May 14, 2004.

3.0 SCOPE

These requirements apply to vessels owned or operated by the Panama Canal Authority, or owned by third parties operating in Canal waters.

4.0 LEGAL FOUNDATION

Agreement No. 12 of the Board of Directors of the Panama Canal Authority, Safety and Occupational Health Regulations, Chapter III, Article 22.1, and Chapter IV, Article 26.

5.0 DEFINITIONS

For the purposes of this Standard, the following definitions shall apply:

5.1 Vessel: Every description of water craft, used or capable of being used as a means of transportation on water.

5.2 Shipowner: a person or legally constituted corporation lawfully recognized as owner or operator of floating equipment.

5.3 Canal Waters: Those within the geographic area that follow the course of the Panama Canal from the Pacific Ocean to the Atlantic Ocean, including anchorage areas, the Port of Cristobal and the Port of Balboa, shores and areas where only activities compatible with the operation of the Canal may be carried out.

5.4 Length: In general terms, the length of a vessel along the centerline.

5.5 Centerline: The middle line of the ship from bow to stern. The keel is on the centerline.

5.6 USCG: United States Coast Guard.

5.7 OPXI-S: Maritime Safety Unit.

5.8 Crew: Seafarers manning a vessel, with the exception of the master.

5.9 Passengers: All persons on board who do not belong to the crew.

5.10 Persons: Everyone on board, whether crew members or passengers.

5.11 IRD: Individual rescue device or lifesaver



**MARITIME SAFETY STANDARD FOR LIFESAVING AND RESCUE EQUIPMENT
REQUIRED ABOARD FLOATING EQUIPMENT**

6.0 GENERAL

6.1 Vessels less than 7 meters long operating in Canal waters, and canoes or cayucos less than 20 meters long equipped with outboard motors and operating in Gatun Lake shall carry the following lifesaving and rescue equipment on board:

- 2 oars or paddles.
- 1 whistle or any other equipment capable of producing acoustic signals according to regulations.
- 20 meters of manila rope with a diameter of not less than 15 mm (5/8 inches), or a synthetic rope of equivalent breaking strength.
- 1 approved life jacket (USCG Type I or Type II) for each crew member and passenger, in a quantity equal to the maximum number of persons allowed on board during operations.
- 1 handheld lantern equipped with a red light.
- 1 red flag.

6.2 Vessels 7 meters long and up to 12 meters, shall carry the following lifesaving and rescue equipment:

- 1 approved life ring buoy (USCG Type IV) with an outside diameter of not less than 600 mm (24 inches) with a 20-meter buoyant lifeline with a diameter of not less than 8 mm (5/16 inches) attached. Check reference table and consult OPXI-S. Verify against standard 2600SEG306
- 1 mechanical whistle or any other appliance capable of producing regulatory acoustic signals
- 20 meters of manila rope with a diameter of not less than 18 mm (3/4 inches), or a synthetic rope of equivalent breaking strength
- 1 approved life jacket (USCG Type I or Type II) for each crew member and passenger, equal to the maximum number of persons allowed on board during operation
- 1 fog bell of at least 200 mm (8") of external diameter
- 1 handheld lantern equipped with red light
- 1 red flag
- 1 first aid kit for a minimum of 25 persons
- 1 boat hook

**MARITIME SAFETY STANDARD FOR LIFESAVING AND RESCUE EQUIPMENT
REQUIRED ABOARD FLOATING EQUIPMENT**

- Approved buoyant survival apparatus (USCG) are required on vessels with a capacity of 4 or more persons. The minimum number of buoyant survival apparatus on each side of the vessel shall be calculated on the basis of 50% of the total number of persons on board and may not exceed their rated capacity. Each buoyant survival apparatus shall have two oars not less than 1.21 meters (4 feet) in length.

6.3 Vessels 12 meters long or over and up to 20 meters shall carry the following lifesaving and rescue equipment:

- Approved life ring buoys (USCG Type IV) with an outside diameter of not less than 600 mm (24 inches). One life ring buoy shall have a 20-meter buoyant lifeline with a diameter of not less than 8 mm (5/16 inches) attached, and the other shall have a self-igniting light. This light must be designed to operate underwater and send signals at a flash rate of more than 50 times per minute on an arc of the horizon of 360 degrees. Check table of references and consult OPXI-S. Verify against standard 2600SEG306.
- 1 mechanical whistle or any other appliance capable of producing regulatory acoustic signals
- 25 meters of manila rope with a diameter not less than 21 mm or synthetic rope of equivalent breaking strength
- 1 approved life jacket (USCG Type I or Type II) for each crewmember and passenger, equal to the maximum number of persons allowed on board during operation
- 1 handheld lantern equipped with red light
- 1 red flag
- 1 fog bell of at least 200 mm (8") of external diameter
- 1 man-overboard rescue kit
- Approved buoyant survival apparatus (USCG) are required. The minimum number of buoyant survival apparatus on each side of the vessel shall be calculated on the basis of 50% of the total number of persons on board and may not exceed their rated capacity. Each buoyant survival apparatus shall have two oars not less than 1.21 meters (4 feet) in length. This buoyant survival apparatus is not required on vessels with a total rated capacity of not more than three (3) persons.
- 1 first aid kit for a minimum of 25 persons
- 2 boat hooks

6.4 Vessels over 20 meters and up to 50 meters long shall carry the following lifesaving and rescue equipment:

- Approved buoyant survival apparatus (USCG) are required. The minimum number of buoyant survival apparatus on each side of the vessel shall be calculated on the

**MARITIME SAFETY STANDARD FOR LIFESAVING AND RESCUE EQUIPMENT
REQUIRED ABOARD FLOATING EQUIPMENT**

basis of 50% of the total number of persons on board and may not exceed their rated capacity. Each buoyant survival apparatus shall have two oars not less than 1.21 meters (4 feet) in length.

- Approved life ring buoys (USCG Type IV) with an outside diameter of not less than 800 mm (30 inches). Two life ring buoys shall have a 30-meter buoyant lifeline with a diameter of not less than 8 mm (5/16 inches) attached, and the other two shall have a self-igniting light. This light must be designed to operate underwater and send signals at a flash rate of more than 50 times per minute on an arc of the horizon of 360 degrees. Check references and consult OPXI-S.
- 1 rescue kit for man overboard.
- 1 approved life jacket (USCG Type I or Type II) for each crew member and passenger, equal to the maximum number of persons allowed on board during operation. Verify against standard 2600SEG306.
- General emergency alarm kit
- 1 fog bell of at least 200 mm (8") of external diameter
- Muster list with emergency instructions and duties
- 2 self-contained breathing apparatus with spare cylinders
- 2 submersible pumps with a minimum capacity of 300 gpm
- 1 damage control box
- 1 first aid kit for a minimum of 50 persons
- 1 rescue ladder for man overboard
- 2 boat hooks

6.5 Vessels over 50 meters long shall carry the following lifesaving and rescue equipment:

- 1 approved life jacket (USCG Type I or Type II) for each crew member and passenger, equal to the maximum number of persons allowed on board during operation. Verify against standard 2600SEG306.
- Approved buoyant survival apparatus (USCG) are required. The minimum number of buoyant survival apparatus on each side of the vessel shall be calculated on the basis of 50% of the total number of persons on board and may not exceed their rated capacity. Each buoyant survival apparatus shall have two oars not less than 1.21 meters (4 feet) in length.
- General emergency alarm system
- Muster list with emergency duties and instructions



MARITIME SAFETY STANDARD FOR LIFESAVING AND RESCUE EQUIPMENT REQUIRED ABOARD FLOATING EQUIPMENT

- 2 self-contained breathing apparatus with spare cylinders
- Approved life ring buoys (USCG Type IV) with an outside diameter of not less than 800 mm (30 inches). Two life ring buoys shall have a 20-meter buoyant lifeline with a diameter of not less than 8 mm (5/16 inches) attached, and the other two shall have a self-igniting light. This light must be designed to operate underwater and send signals at a flash rate of more than 50 times per minute on an arc of the horizon of 360 degrees. Check references and consult OPXI-S. Verify against standard 2600SEG306.
- 2 submersible pumps with a minimum capacity of 300 gpm
- Damage control box
- 1 fog bell of at least 200 mm (8") of external diameter
- First aid kit for a minimum of 50 persons
- 1 rescue ladder for man overboard
- 2 boat hooks

6.6 All life ring buoys shall be stowed in a position that is readily accessible to crew members for launching, and none may be permanently secured to the vessel in any way. Lifejackets must be readily accessible in clearly marked stowage positions

6.7 Muster lists with duties, instructions, and drills:

6.7.1 Muster lists shall specify:

- 6.7.1.1** Details regarding the general alarm and public address system, as well as the measures the crew and the passengers must take when this alarm sounds;
- 6.7.1.2** The way the order to abandon ship will be given;
- 6.7.1.3** Placement of the muster instructions in very visible locations of all the ship, including the navigation bridge, the engine room and crew quarters;
- 6.7.1.4** Responsibilities of crew members, duty station, and all the details related to abandon-ship drills, firefighting, and man overboard.
- 6.7.1.5** The following tasks shall be pointed out:
 - 6.7.1.5.1** Closure of watertight doors, valves, and other similar openings of the vessel;
 - 6.7.1.5.2** General readiness of rescue gears;
 - 6.7.1.5.3** Summoning all passengers together;
 - 6.7.1.5.4** Communications equipment;
 - 6.7.1.5.5** Composition of firefighting crews, and
 - 6.7.1.5.6** Special tasks assigned in relation to the use of the equipment of the firefighting facilities.
- 6.7.1.6.** In passenger ships (such as the ferry and the Atlas), illustrations and instructions in appropriate languages shall be posted and the same shall be displayed clearly at the emergency assigned stations and



**MARITIME SAFETY STANDARD FOR LIFESAVING AND RESCUE EQUIPMENT
REQUIRED ABOARD FLOATING EQUIPMENT**

other spaces assigned to passengers so as to inform them about the meeting points, their behavior in case of an emergency, and the way of donning on the IRD (individual rescue device).

6.7.2 All crew members shall participate, at least once a week, in each of the drills mentioned in point 6.7.1.4.

6.7.3 As far as practicable, drills shall be conducted as if there were an actual emergency.

6.7.4 In each abandonment drill it shall be necessary to:

6.7.4.1 Muster the crew and the passengers (as in the case of the ferry and the Atlas) to the assigned stations with the general alarm, before announcing the exercise over the public address system, and confirm that they have understood what the order to abandon ship means;

6.7.4.2 Report to the assigned stations and prepare for the tasks indicated in the muster list:

6.7.4.3 Confirm that the passengers (in case of the ferry and the Atlas) and the crew are suitably dressed;

6.7.4.4 Confirm that they have donned on the IRD correctly;

6.7.4.5 Lower at least one of the lifeboats;

6.7.4.6 Practice the method of launching from within the lifeboat;

6.7.4.7 Practice the search and rescue of a crew member or passenger (in case of the ferry or the Atlas) that is trapped inside a cabin or quarter.

6.7.5 Each firefighting drill must include:

6.7.5.1 Reporting to the assigned stations and preparing for the tasks indicated in the muster list;

6.7.5.2 Starting of fire pumps and the use of two jets of water to determine that the system is in proper working order;

6.7.5.3 Checking the firemen's outfits and other personal rescue equipment;

6.7.5.4 Checking the ship's internal communication equipment;

6.7.5.5 Checking the operation of watertight doors, fire doors, and fire dampers and the main inlets and outlets of the ventilation systems, and

6.7.5.6 Checking the necessary arrangements for subsequent abandonment of the ship.

6.7.5.7 The equipment used during the drills must immediately be brought back to its fully operational condition, and any faults and defects discovered during the drills must be remedied as soon as possible.

6.7.6 Each man overboard drill must include:

6.7.6.1 Giving the signal to the bridge immediately and preparing for the duties indicated in the muster list;

6.7.6.2 Using the lifesaver ring, and

6.7.6.3 Using the Jason's Cradle man overboard rescue system.



**MARITIME SAFETY STANDARD FOR LIFESAVING AND RESCUE EQUIPMENT
REQUIRED ABOARD FLOATING EQUIPMENT**

6.7.7 These drills must be recorded in the ship’s logbook or in the drill record book.

6.7.8 Muster stations must meet the following requirements:

- 6.7.8.1** Must be located near the embarkation stations;
- 6.7.8.2** Free deck space of each muster station must be enough to accommodate every person summoned to it, that is, at least 0.35 m² per person;
- 6.7.8.3** Muster and embarkation stations must be easily accessible from the lodging and working areas;
- 6.7.8.4** Muster and embarkation stations must be properly illuminated with lighting provided by the emergency power source;
- 6.7.8.5** For passenger vessels (such as the ferry and the Atlas), muster stations must be located near the embarkation stations and must allow passengers easy access to the same, unless both stations are located in the same place.
 - 6.7.8.5.1** They must have enough room to concentrate the passengers and to give them advice, that is, at least 0.35 m² per person.

6.8 Each buoyant survival apparatus, life ring buoy, and life jacket required herein must be marked permanently with the name of the vessel carrying them.

6.9 Each buoyant survival apparatus, life ring buoy, and life jacket required herein shall be fitted with retro-reflective material or tape.

6.10 Each IRD required in the present standard must be fitted with light and whistle as stipulated in item 6.2.6 of standard 2600SEG306.

6.11 Reference Table to determine the minimum number of life preservers

LOA of Passenger Vessel	Minimum number of life ring buoys	Minimum number of life rings buoys with self-igniting lights
7 and up to 12 meters	1	
12 and up to 24 meters	2	1
24 and up to 60 meters	8	4
60 and up to 120 meters	12	6
120 and up to 180 meters	18	9
180 and up to 240 meters	24	12
More than 240 meters	30	15
LOA of Cargo Vessels	Minimum number of life ring buoys	Minimum number of life rings buoys with self-igniting lights
7 and up to 12 meters	1	
12 and up to 24 meters	2	1
24 and up to 50 meters	4	2
50 and up to 100 meters	8	4
100 and up to 150 meters	10	5
150 and up to 200 meters	12	6
More than 200 meters	14	7



MARITIME SAFETY STANDARD FOR LIFESAVING AND RESCUE EQUIPMENT REQUIRED ABOARD FLOATING EQUIPMENT

7.0 RESPONSIBILITIES

7.1 The ship owner or operator is responsible for:

7.1.1 Ensuring the vessel's compliance with the minimum lifesaving and rescue equipment requirements.

7.1.2 Keeping lifesaving and rescue equipment on board in good operating condition, at the right location, properly labeled, and in enough quantities.

7.2 The Maritime Safety Unit (OPXI-S) is responsible for:

7.2.1 Establishing the minimum requirements for the lifesaving and rescue equipment to be carried by vessels.

7.2.2 Responding to inquiries or requests for exceptions to this Standard, as specified in items 8.0 and 9.0.

7.2.3 Approving all of the muster lists, operation manuals, and reviewing firefighting and safety plans.

7.3 Floating equipment inspectors of the Maritime Safety Unit are responsible for:

7.3.1 Monitor compliance with this Standard, and the condition and proper number of the equipments required in item 6.0.

8.0 CONSULTATIONS

Any information or clarification of the content or application of this Standard must be requested in writing to the Maritime Safety Unit.

9.0 EXCEPTIONS

Any requests for changes or temporary exceptions to this Standard must be made in writing to the Maritime Safety Unit.

10.0 DURATION

This Standard shall remain in force until amended or revised.

11.0 REFERENCES

11.1 Law Decree No.61 of October 23, 1979, whereby Articles 8 and 9 of Law 54 of December 11, 1926, of the Panama Maritime Authority are regulated.

11.2 International Agreement for the Safety of Human Life at Sea (SOLAS 74).

11.3 International Life Saving Appliance Code (LSA).