

## **MARITIME SAFETY STANDARD FOR SEAWORTHINESS AND NAVIGATION EQUIPMENT REQUIRED ABOARD FLOATING EQUIPMENT**

### **1.0 PURPOSE**

Establish the seaworthiness of floating equipment and the navigation equipment required aboard.

### **2.0 BACKGROUND**

This document supports the following:

**2.1** The Panama Canal Administrator's Directive, AD-2004-04, dated May 14, 2004.

### **3.0 SCOPE**

This Standard applies to floating equipment and small crafts owned or operated by the Panama Canal Authority (ACP), or owned by third parties operating in Canal waters for commercial purposes.

### **4.0 LEGAL FOUNDATIONS**

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

### **5.0 DEFINITIONS**

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

**5.1** Vessel: Any floating equipment, whether self-propelled or not, used or that can be used as a means of transportation on the water.

**5.2** Shipowner: A person or company in whom title of a vessel is vested.

**5.3** Canal Waters: Those within the geographic area that follows 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 overall (LOA): The horizontal distance between forwardmost and aftermost points on the hull of a vessel.

**5.5** Midship: The middle of the ship, either lengthwise or widthwise, or both.

**5.6** Seaworthiness: The condition of readiness of a vessel for sea condition.

**5.7** Steering system: Set of mechanical components, as well as the means provided with the tiller or sector to transmit the torque to the main piece of the rudder, necessities to move it and steer the vessel in normal conditions of service.

**5.8** Navigation bridge: The vessel's uppermost superstructure in which the main navigation instruments and rudder control systems are found.

**5.9** Main deck: The uppermost complete deck that extends from bow to stern.

**5.10** Servomotor: A motor used to transmit to the rudder the movements in the tiller or wheel of such rudder.

**MARITIME SAFETY STANDARD FOR SEAWORTHINESS AND NAVIGATION EQUIPMENT  
REQUIRED ABOARD FLOATING EQUIPMENT**

5.11 OPXI-S: Maritime Safety Unit.

**6.0 GENERAL**

6.1 Except for express provisions in this section, all vessels must comply with the requirements established in the Regulation on Navigation in Panama Canal Waters (Agreement No. 13, dated June 3, 1999).

6.2 Machinery spaces requirements:

6.2.1 Total organic compound (TOC) concentrations above 890 mg/m<sup>3</sup> or 300 ppm from gasoline vapors shall not be allowed.

6.2.2 Total organic compound (TOC) concentrations above 100 mg/m<sup>3</sup> from diesel vapors shall be considered deficient ventilation in machinery spaces or fuel tank compartments.

6.2.3 If the engine compartment is manned, total organic compound (TOC) concentrations above 100mg/m<sup>3</sup> from diesel vapors shall not be allowed.

6.2.4 If the engine compartment is manned, concentrations of carbon dioxide (CO<sub>2</sub>) above 5000 ppm or 25 ppm of carbon monoxide (CO), or a level of particles in suspension of 5mg/m<sup>3</sup> shall not be allowed.

6.2.5 Unless otherwise instructed, every power-driven vessel shall be provided with a main steering system and a backup steering system. Main and backup steering systems shall operate in such a manner that if one fails, the other will not become disabled.

6.2.6 If the main steering system is equipped with two or more identical servomotors, a backup steering system shall not be required, provided that:

6.2.6.1 The main steering system can move the rudder when any of the servomotors is not operating.

6.2.6.2 The main steering system is so fitted that any breakdown occurring in its pipe system or in one of the servomotors will be isolated, thus preserving its steering ability or enabling it to recover promptly.

6.2.7 Machinery spaces must be laid out in a manner that may allow access free of risks and obstacles to their components, controls, and other areas as needed to perform the required maintenance.

6.2.8 Machinery spaces shall be equipped with non-skid floors, as well as all ladder rungs and drip containment pans, as may be necessary.

6.2.9 Machinery spaces shall have at least two ways of accessing the deck, that is to say, at least two emergency exits.

6.3 Navigation bridge equipment

6.3.1 Gross tonnage (GRT) vessels of less than 150 tons GRT shall be equipped with a magnetic steering compass, as may be deemed reasonably feasible by OPXI-S.

6.3.2 Vessels of 150 GRT or over shall be equipped with a magnetic steering compass.

**MARITIME SAFETY STANDARD FOR SEAWORTHINESS AND NAVIGATION EQUIPMENT  
REQUIRED ABOARD FLOATING EQUIPMENT**

**6.3.3** Calibration of compasses on Panama Canal Authority vessels shall be performed in periods that may not exceed two years.

**6.3.4** Every power-driven vessel shall be equipped with a horn or device capable of producing acoustic signals as required by the Convention on the International Regulations for Preventing Collisions at Sea, 1972.

**6.3.5** Every vessel shall be equipped with navigation lights, as required by the Regulations on Navigation in Panama Canal Waters (Agreement No. 13, dated June 3, 1999).

**6.3.6** Every power-driven vessel shall have a bell properly installed on its own base or stand, as may be deemed reasonably feasible by OPXI-S.

**6.4** Radio communications equipment:

**6.4.1** Every power-driven vessel, 8 meters (26 feet) length or over and 300 tons GRT or over, involved in towing operations, shall be equipped with a radio communications system accessible from the navigation bridge for transmission over a 156-162 MHz frequency band on channels 12, 13, and 16.

**6.4.2** Every vessel 8 meters (26 feet) length or over, and every power-driven vessel of 100 GRT or over, shall be equipped with a UHF frequency radio communications system capable of communicating with Panama Canal Authority channels as may be deemed reasonably feasible by OPXI-S.

**6.4.3** Radio communications equipment is not mandatory on vessels without a main deck.

**6.5** Preventive measures of pollution from spills:

**6.5.1** Any discharge into Canal waters of dirty oil, bilge water, or hydrocarbons is prohibited.

**6.5.2** Shipowners shall provide the following for vessels and motorboats:

**6.5.2.1** Procedures for the discharge of hydrocarbons, dirty oil, and bilge water at collection depots on land.

**6.5.2.2** Bunkering procedures.

**6.5.2.3** Procedures in the event of accidental spills.

**6.5.3** As deemed appropriate and reasonable by OPXI-S, every vessel shall be equipped with oily water separators. Vessels without oily water separator equipment shall have a tank or container capable of containing the quantity of pollutants produced.

**6.6** Every vessel shall be fitted with the appropriate means to anchor.

**7.0 RESPONSIBILITIES**

**7.1** Shipowners or vessel operators shall:

**7.1.1** Ensure that a vessel meets the minimum navigation equipment and seaworthiness requirements.

**MARITIME SAFETY STANDARD FOR SEAWORTHINESS AND NAVIGATION EQUIPMENT  
REQUIRED ABOARD FLOATING EQUIPMENT**

7.1.2 Maintain navigation equipment in good operating condition.

7.1.3 Update spill pollution prevention procedures.

7.2 Maritime Safety Unit (OPXI-S) shall:

7.2.1 Establish the minimum seaworthiness requirements for Panama Canal Authority floating equipment.

7.2.2 Respond to inquiries or requests for exceptions to this Standard, according to 8.0 and 9.0.

7.2.3 Provide the necessary recommendations on the basis of minimum requirements not covered by this Standard.

7.3 OPXI-S floating equipment inspectors are responsible for monitoring compliance with the present Standard.

**8.0 INQUIRIES**

Any information or clarification of the content or application of this Standard must be requested in writing to OPXI-S.

**9.0 EXCEPTIONS**

Any requests for changes or temporary exceptions to this Standard must be made in writing to OPXI-S.

**10.0 TERM**

This Standard shall remain in effect until amended or revised.

**11.0 REFERENCES**

11.1 Convention on the International Regulations for Preventing Collisions at Sea (COLREGS 72).

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

11.3 Maritime Operations Manual (MROP) of the Department of Maritime Operations of the Panama Canal Authority.

11.4 Regulation on Navigation in Panama Canal Waters (Agreement No. 13, dated June 3, 1999).