

Maritime Safety

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18.1 Organization and Responsibilities

a. The Executive Vice Presidency for Operations (OP) is responsible for providing a safe and expeditious transit service to world shipping through the Panama Canal. This mission is accomplished through the application of maritime safety standards regulations that ensure the safety of transiting vessels and Panama Canal Authority (ACP) personnel and property across the Isthmus.

b. The Maritime Safety Unit (OPXI-S) of the Board of Inspectors is responsible for the creation, development and enforcement of the ACP Maritime Safety Standards, which

are based on international and local maritime safety standards. To accomplish this function, OPXI-S undertakes the ACP Floating Equipment Inspection Program. The main objective of this program is to prevent personal injuries, pollution and property damage associated with vessel accidents within the Canal compatibility area.

c. The Maritime Safety Unit falls under the Executive Manager/Chairman of the Board of Inspectors and is composed of one Maritime Safety Supervisor and four Floating Equipment Inspectors. They are responsible for ensuring that floating equipment and crafts of the ACP, contractors, and commercial companies with compulsory pilotage that operate in Canal waters, fully comply with ACP Maritime Safety Standards.

d. OPXI-S personnel operate from offices in La Boca 999-1 (Pacific side) and at the Dry Dock in Mount Hope 5082 (Atlantic side), and can be contacted at the following telephones: 272-4051 or 272-4059 and 443-7024; or through the following e-mail: oamaris@pancanal.com

18.2 Vessel Inspection

a. The Maritime Safety Unit conducts inspections on ACP, contractors and/or commercial vessels (with pilot exemption) and crafts to ensure that they meet, and that their crews understand, the ACP Maritime Safety Standards. This task may include reviewing and approving operational manuals and emergency procedures and training.

b. ACP Maritime Safety Standards set the periods of validity and survey intervals for the maritime safety certificates. In so doing, it aims to simplify the survey and certification processes.

c. To accomplish this task, OPXI-S conducts the ACP Floating Equipment Inspection Program, which consists of the following:

(1) **Initial Inspection.** A complete survey before the vessels are put into service of all items relating to the maritime safety certification, to ensure that vessels meet relevant requirements and will safely comply with their intended service life. This survey is performed on new constructions and ACP vessels.

(2) **Hull and Machinery Inspection.** A complete survey of all items relating to the maritime safety certification to ensure that the vessels are in a satisfactory condition and are fit for their intended service life. This survey is performed on ACP vessels only during dry dock.

(3) **Fire and Safety Equipment:** A complete survey of all items related for detection, alarm and extinction, including fixed fire systems, portables with gas, water or powder. Including survey for the safety equipment, lifejackets, rafts, lifebuoy, lights, navigation equipment's, radios, drills and others. This survey is performed on ACP, Contractors and commercial vessels in Canal waters.

(4) **Intermediate Inspection.** A survey of specific items relating to the maritime safety certification to ensure that the vessels are in satisfactory condition and are fit for their intended service life. This survey is performed on ACP vessels only.

(5) **Annual Inspection.** A general survey of the items relating to the maritime safety certification to ensure that the vessels have been maintained and remain fit for their intended service life. This survey is performed on vessels of ACP contractors and commercial companies that operate in Canal waters.

(6) **Underwater Hull Inspections.** A survey of the underwater structures of the vessels to ensure that they are in a satisfactory condition and are fit for their intended service life. The inspection can be performed with the vessels afloat. Floating Equipment Inspectors may request at any time survey reports and related documentation used for the analysis and evaluation of the inspected vessels' conditions.

(7) **Additional Inspections.** Surveys, either general or partial, to be made on vessels before or after they are repaired due to an accident, when important renewals are made to the vessels or seaworthiness conditions is needed.

18.3 Vessel Certification

a. Regular inspections to determine compliance with ACP Maritime Safety Standards will be conducted by Floating Equipment Inspectors and reports will be issued. These reports may include observations of potential safety hazards or bad practices found during the inspections.

b. Upon completion of the annual safety inspection, and provided that no deficiency is found, OPXI-S may issue a Certificate of Inspection (COI) or sticker indicating that the vessel has been examined and found to be in compliance with the established ACP maritime safety standards for seaworthiness. The COI shall be valid for one year; however, if the certificate or sticker deteriorates or becomes illegible, a copy shall be obtained from OPXI-S.

c. A vessel with deficiencies considered as major shall not be issued a COI and the vessel shall be taken out of service immediately.

d. A vessel with deficiencies considered as moderate or minor may be issued a Temporary Certificate of Inspection or sticker.

e. If deficiencies are corrected, a re-inspection will be made and the vessels may be issued a COI or a new sticker.

- f.** If the vessel is unable to correct the deficiencies within the agreed timeline, the owner or operator shall submit a written corrective action plan for evaluation and approval by OPXI-S.
- g.** If all deficiencies are not corrected within the agreed timeline, the temporary COI or sticker will be revoked and the vessels shall be taken out of service.

18.4 Maritime Safety Standards

- a.** The Maritime Safety Unit shall enforce the execution and compliance with ACP Maritime Safety Standards, that apply to all floating equipment and craft owned or operated by ACP, as well floating equipment that belongs to contractors or commercial companies operating within the Canal compatibility area.
- b.** ACP Maritime Safety Standards are established pursuant to the Regulations on Risk Control and Occupational Health (Agreement No. 12 of the ACP Board of Directors, Chapter IV, Articles 26, 27 and 28).
- c.** ACP Maritime Safety Standards establish minimum requirements on the condition of the hull, main and auxiliary engines; navigation, propulsion, drainage, rudder, firefighting and safety equipment; pollution prevention; emergency training and drills, and other issues; and also determine the maximum number of passengers and the minimum crew (manning) for each floating equipment.
- d.** OPXI-S manages the ACP Maritime Safety Manual, which summarizes the ACP Maritime Safety Standards.
- e.** In addition, OPXI-S personnel provide technical guidance in the interpretation and application of international maritime safety standards, which include:
- SOLAS
 - MARPOL
 - NFPA
 - STCW 78/95
 - IMDG
 - ISM/ISPS
 - Class Society Rules
 - IACS Rules
 - Flag State Rules and Circulars
 - USCG Safety Manual
 - U.S. Code of Federal Regulations
 - IEEE-45

- Vessel Construction Rules
- Fire Safety Code
- COLREGS Regulation
- Ballast Water Convention

e. Further information regarding the contents or application of the ACP Maritime Safety Standards may be requested in writing to OPXI-S at oamaris@pancanal.com.

18.5 Minimum Safe Manning Requirements

a. In compliance with international and national navigation standards, vessels and equipment that operate in Canal waters are required to be sufficiently, effectively and efficiently manned in order to ensure safe navigation and operation of these vessels in Canal waters, and to prevent loss of life and damage to the environment and property.

b. These vessels are required to prepare and submit a proposal for the minimum safe manning of the vessels in accordance with ISO 9001:2008 standards, as indicated in the following ACP work instructions:

(1) Determination of Minimum Crews on ACP Floating Equipment (SCI-10-002).

(2) Analysis of Requests for Minimum Crews on ACP Floating Equipment (SCI-OPXI-10-005).

c. Vessels must comply with the above ISO standards in order to be issued a Minimum Safety Manning Certificate, ACP Form 2533 (OPXI).

18.6 ACP New Constructions and Existing Vessels

a. ACP Maritime Safety Standards require that new construction and existing vessels:

(1) Be designed, constructed and maintained in compliance with structural, mechanical and electrical requirements and built in accordance with relevant approved drawings.

(2) Be submitted for appraisal of the manufacturing, construction, control and qualification procedures inspections, and tests, as required, which are applicable for vessels construction, including materials, welding and assembling.

b. Owners or operators are responsible for maintaining their floating equipment in good condition and in compliance with ACP Maritime Safety Standards during the vessel's service life.

18.7 ACP Vessel Accidents and Incidents

- a.** Accidents and incidents involving ACP floating equipment, or equipment owned by contractors or commercial companies, shall be investigated to prevent recurrence and/or minimize risk. Owners and operators shall promptly report accidents and incidents involving their equipment.
- b.** When the hull of floating equipment has suffered damage due to grounding, dry-docking, collision or other type of accident or incident, the equipment shall be taken out of service immediately. OPXI-S will perform extraordinary inspections of the equipment in order to determine their navigational safety and, if deemed necessary, recommend procedures for repairs.
- c.** OPXI-S may also be required to investigate accidents or incidents through the careful examination of the sequence of events, in such manner as to determine possible unsafe practices, faulty equipment, inadequate maintenance, lack of training or communication, or other operating conditions that may have contributed to the accident or incident.

18.8 Pollution Prevention

- a.** The Maritime Safety Unit is responsible for inspecting the pollution prevention equipment on board ACP, contractor and commercial vessels operating within Canal waters and ensuring their compliance with international, national and ACP standards with regard to pollution prevention.
- b.** Owners or operators of these vessels shall be responsible for complying with standard pollution prevention policies, in order to preserve the Canal environment in general, and the marine environment in particular. These policies seek to prevent the deliberate, negligent or accidental release of oil and other harmful substances from vessels that may cause pollution.
- c.** ACP pollution prevention policies are indicated in the Maritime Regulations for the Operation of the Panama Canal (Regulation on Sanitation and Communicable Disease Prevention).

18.9 Maritime Safety drills and Security Measures

- a.** ACP Maritime Safety Standards intend to reduce the consequences of emergencies through training and drills on board vessels. The objective is to provide crews with the necessary knowledge and skills to handle all types of emergencies and passenger care and handling during the emergency.

- b.** Crew members shall be trained on abandon-ship, on board fire, man overboard, damage control, risk assessment, security assessment and safety procedures. The latter shall include the location and operation of firefighting systems, safety appliances, safety talks, and the use of emergency breathing apparatus or emergency escape breathing device, as well as submersible pumps.
- c.** Muster lists and emergency instructions shall be exhibited in visible locations throughout the vessels, including the navigation bridge, engine room and crew accommodations.
- d.** Crew members with enclosed space entry or rescue responsibilities shall participate in enclosed-space entry and rescue drills on board at least once a month.
- e.** The security of the vessel is an essential and integral part of the process of developing and updating the ship security assessment. The company shall ensure that a ship security assessment is carried out.
- f.** The ship security assessment shall include an on-scene security survey and, at least, the following elements:
 - Identification of existing security measures, procedures and operations;
 - Identification and evaluation of key ship board operations that are important to protect;
 - Identification of possible threats to the key ship board operations and the likelihood of their occurrence, in order to establish and prioritise security measures; and
 - Identification of weaknesses, including human factors in the infrastructure, policies and procedures.
- g.** The ship security assessment shall be documented, reviewed, accepted and retained by the Company.
- h.** The ship security assessment should address the following elements on board or within the ship:
 - physical security;
 - structural integrity;
 - personnel protection systems;
 - procedural policies;

- radio and telecommunication systems, including computer systems and networks; and
- Other areas that may, if damaged or used for illicit observation, pose a risk to persons, property, or operations on board the ship or within a port facility.