

# Palau International Ship Registry



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## MARINE NOTICE 151.1

**To: ALL SHIPOWNERS, MANAGERS, MASTERS, DEPUTY REGISTRARS, AND RECOGNIZED ORGANIZATIONS.**

**Subject: INTERNATIONAL CODE OF SAFETY FOR SHIPS USING GASES OR OTHER LOW-FLASHPOINT FUELS (IGF Code)**

### 1. Reference

- 1.1 SOLAS, International Convention for the Safety of Life at Sea, Consolidated Edition 2014, as amended
- 1.2 IGF CODE, as amended
- 1.3 STCW Convention, 2011 Edition, as amended
- 1.4 STCW Code, 2011 Edition, as amended
- 1.5 IMO Resolution MSC.392(95), *Amendments to the International Convention for the Safety of Life at Sea, 1974, as amended*, adopted June 11<sup>th</sup>, 2015
- 1.6 IMO Resolution MSC.396(95), *Amendment to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarer (STCW), 1978, as amended*, adopted June 11<sup>th</sup>, 2015
- 1.7 IMO Resolution MSC.297(95), *Amendments to Part A of the Seafarer's Training, Certification and Watchkeeping (STCW) Code*, adopted June 11<sup>th</sup>, 2015

### 2. Purpose

- 2.1 This Marine Notice establishes the requirements for operating ships using gases or other low-flashpoint fuels.

### 3. Applicability

- 3.1 This Marine Notice applies to ships to which Part G of SOLAS Chapter II-1 applies; specifically ships using low-flashpoint fuels:
  - a. for which the building contract is placed on or after 01 January 2017;
  - b. in the absence of a building contract, the keels of which are laid, or which are at a similar stage of construction on or after 01 July 2017; or
  - c. the delivery of which is on or after 01 January 2021.
- 3.2 Except for gas carriers:
  - a. a ship, irrespective of the date of construction, including one constructed before 01 January 2009, which converts to using low-flashpoint fuels on or after 01 January 2017 shall be treated as a ship using low-flashpoint fuels on the date on which such conversion commenced; and
  - b. a ship using low-flashpoint fuels irrespective of the date of construction, including one constructed before 01 January 2009, which, on or after 01 January 2017, undertakes to use low-flashpoint fuels different from those which it was originally approved to use before 01 January 2017 shall be treated as a ship using low-flashpoint fuels on the date on which such undertaking commenced.



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- 3.3 In accordance with SOLAS Regulation II-1/56.4, the IGF Code shall not apply to gas carriers, as defined in SOLAS regulation VII/11.2:1
- using their cargoes as fuel and complying with the requirements of the International Code for the Construction and Equipment of Ships Carrying Liquid Gases in Bulk (IGC Code); or
  - using other low-flashpoint gaseous fuels provided that the fuel storage and distribution system design and arrangements for such gaseous fuels comply with the requirements of the IGC Code for gas as cargo.
- 3.4 Bunker vessels supplying liquefied gas fuels are gas carriers and subject to the IGC Code.

## 4. Requirements

- 4.1 On 11 June 2015, at its 95th meeting, the Maritime Safety Committee (MSC) of the International Maritime Organization (IMO) adopted the International Code of Safety for Ships Using Gases or Other Low-Flashpoint Fuels (IGF Code or the "Code"), which entered into force on 01 January 2017. This Code establishes goals, functional requirements, and regulations for the design and operation of ships using gases or other low-flashpoint fuels. IMO Resolution MSC.392(95) amended the International Convention for the Safety of Life at Sea (SOLAS) Chapters II-1, II-2, and the Appendix, thereby making the IGF Code mandatory under SOLAS.
- 4.2 Ships to which this Marine Notice applies shall be designed in accordance with the applicable requirements of the IGF Code and the design shall be approved by a Recognized Organization.
- 4.3 Ships to which this Marine Notice applies shall be constructed in accordance with the applicable requirements of the IGF Code. Construction shall be approved and supervised by an approved Recognized Organization and upon completion of construction, the Recognized Organization, shall issue either a Safety Construction Certificate for Passenger Ships or a Safety Construction Certificate for Cargo Ships, indicating that the ship complies with "part G of chapter II-1 of the Convention using "LNG" as fuel."

## 5. Operating Requirements

- 5.1 Every ship covered by this Notice shall carry a copy of the IGF Code on board. Electronic versions are acceptable.
- 5.2 Maintenance procedures and information for all gas related installations shall be available on board and shall include all areas and systems that may be subject to gas leaks and their associated hazards.



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- 5.3 Each ship shall be provided with a suitably detailed fuel handling manual, to ensure that trained personnel can safely operate the fuel bunkering, storage, and transfer systems.
- 5.4 Each ship shall be provided with suitable emergency procedures, covering all aspects of the fuel handling systems. In addition, emergency procedures shall be in place to provide for the emergency shutdown (ESD) of any equipment that has the potential to become hazardous under certain abnormal conditions.
6. Maintenance Requirement
- 6.1 All maintenance and repair procedures shall include considerations for tank locations and adjacent spaces, taking into account the safe operation and other hazards that may be relevant to the ship.
- 6.2 An inspection/survey plan for the liquefied gas fuel containment system shall be developed and approved by the Palau Ship Registry Administrator, or by the Recognized Organization acting on its behalf. The inspection/survey plan shall identify aspects to be examined and/or validated during surveys throughout the life of the liquefied gas fuel containment system. It shall also identify any necessary in-service survey, maintenance, and testing that was assumed when selecting liquefied gas fuel containment system design parameters. All in-service survey, maintenance, and testing of the fuel containment system must be carried out in accordance with that plan.
- 6.3 The procedures and information shall include maintenance of electrical equipment that is installed in explosion hazardous spaces. The inspection and maintenance of electrical installations in explosion hazardous spaces shall be performed in accordance with a recognized standard. For further information, refer to IEC 60079 17:2007 Explosive atmospheres – part 17: Electrical installations inspection and maintenance.
7. Bunkering Operations
- 7.1 Before any bunkering operation commences, the Master of the receiving ship or their designated representative, and the representative of the bunkering source (Persons in Charge (PIC)) shall:
- agree in writing to the transfer procedure, including cooling down and if necessary, gassing up, the maximum transfer rate at all stages, and volume to be transferred;
  - agree in writing action to be taken in an emergency; and
  - Complete and sign the bunkering safety checklist.
- 7.2 In accordance with §6.8.1 of the IGF Code, the storage tanks for liquefied gas shall not be filled to more than a volume equivalent to 98% full at the reference temperature during the bunkering operations.



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- 7.3 Upon completion of bunkering operations, the ship PIC shall receive and sign a Bunker Delivery Note for the fuel delivered, containing at least the information specified in the form in the Appendix to this Notice, completed and signed by the bunkering source PIC.
- 7.4 The fuel handling manual required shall be part of the vessel's Safety Management System (SMS) and shall include, but not be limited to:
- overall operation of the ship from dry-dock to dry-dock, including procedures for system cool down and warm up, bunker loading and, where appropriate, discharging, sampling, inserting, and gas freeing;
  - bunker temperature and pressure control, alarm, and safety systems;
  - system limitations, cool down rates, and maximum fuel storage tank temperatures prior to bunkering, including minimum fuel temperatures, maximum tank pressures, transfer rates, filling limits, and sloshing limitations;
  - operation of inert gas systems;
  - firefighting and emergency procedures, including the operation and maintenance of firefighting systems, and the use of extinguishing agents;
  - specific fuel properties and special equipment needed for the safe handling of the particular fuel;
  - fixed and portable gas detection operation and maintenance of equipment;
  - emergency shutdown and emergency release systems, where fitted;
  - a pro forma bunkering safety checklist, a copy of which is to be reviewed, completed, and signed during each bunkering operation; and
  - a description of the procedural actions to be taken in an emergency situation, such as leakage, fire or potential fuel stratification resulting in rollover.
- 7.5 Documentation of successful verification shall be indicated by the mutually agreed and executed bunkering safety checklist signed by both PICs.
- 7.6 PICs shall have direct and immediate communication with all personnel involved in the bunkering operation, and such communication shall be maintained between both PICs at all times during the bunkering operations.
- 7.7 Communication devices used in bunkering shall comply with recognized standards for such devices acceptable to the Palau Ship Registry Administrator. The ship shore link (SSL) or equivalent means to a bunkering source provided for automatic ESD communications, shall be compatible with the receiving ship and the delivering facility ESD system.
- 7.8 Hoses, transfer arms, piping, and fittings provided by the delivering facility used for bunkering shall be electrically continuous, suitably insulated, and shall provide a level of safety compliance with recognized standards.



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7.9 Warning signs shall be posted at the access points to the bunkering area listing fire safety precautions during fuel transfer.

7.10 During the transfer operations, personnel in the bunkering manifold area shall be limited to essential staff only. All staff engaged in duties or working in the vicinity of the operations shall wear appropriate personal protective equipment (PPE). A failure to maintain the required conditions for transfer shall be caused to stop operations, and transfer shall not be resumed until all required conditions are met.

## 8. Enclosed Space Entry

8.1 Under normal operational circumstances, personnel shall not enter fuel tanks, fuel storage hold spaces, void spaces, tank connection spaces, or other enclosed spaces where gas or flammable vapors may accumulate. Personnel may enter these enclosed spaces only if the gas content of the atmosphere in such space is determined by means of fixed or portable equipment to ensure oxygen sufficiency and absence of an explosive atmosphere.

8.2 Personnel entering any space designated as a hazardous area shall not introduce any potential source of ignition into the space unless it has been certified gas-free and maintained in that condition.

## 9. Inerting and Purging of Fuel Systems

9.1 The primary objective in inerting and purging of fuel systems is to prevent the formation of a combustible atmosphere in, near, or around fuel system piping, tanks, equipment, and adjacent spaces.

9.2 Procedures for inerting and purging of fuel systems shall ensure that air is not introduced into piping or a tank containing gas atmospheres, and that gas is not introduced into air contained in enclosures or spaces adjacent to fuel systems.

## 10. Hot Work on or near Fuel Systems

10.1 Hot work in the vicinity of fuel tanks, fuel piping, and insulation systems that may be flammable, contaminated with hydrocarbons, or that may give off toxic fumes as a product of combustion, shall only be undertaken after the area has been secured and proven safe for hot work and all approvals have been obtained.

## 11. Training

11.1 Seafarers on board ships to which the IGF Code applies shall be adequately qualified, trained, and experienced.



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11.2 Vessel owners and operators shall ensure that seafarers on board ships using gases or other low-flashpoint fuels shall have completed training to attain the abilities that are appropriate to the capacity to be filled and duties and responsibilities to be taken up, taking into account the provisions given in the STCW Convention and Code, as amended by IMO Resolutions MSC.396(95)6 and MSC.397(95)7 respectively.

## 12. Contact

12.1 Any inquiries concerning the subject for this Marine Notice should be directed to the Head Office of Palau Ship Registry Administrator at [technical@palaureg.com](mailto:technical@palaureg.com)

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