



Office of
Deputy Commissioner
of Maritime Affairs

THE REPUBLIC OF LIBERIA
LIBERIA MARITIME AUTHORITY

Marine Notice

SAF-011
Rev. 03/23

**TO: ALL SHIPOWNERS, OPERATORS, MASTERS AND OFFICERS OF
MERCHANT SHIPS, AND AUTHORIZED CLASSIFICATION SOCIETIES**

SUBJECT: Approval of Liquefied Gas Carrier Cargo Operations Manual

References: (a) Maritime Law 10.296(5)

- (b) [MSC Resolution 370\(93\)](#) – Amendments to the International Code for the Construction and Equipment of ships carrying Liquefied Gases in Bulk (IGC Code, as amended)

PURPOSE:

This Notice provides guidance to vessel owners, operators and managers in the development and approval of Liquefied Gas Carrier Cargo Operations Manual to meet the requirements of Chapter 18.2 of the IGC Code, as amended.

APPLICABILITY:

The IGC Code, as amended applies to ships regardless of their size, including those of less than 500 gross tonnage, engaged in the carriage of liquefied gases having a vapor pressure exceeding 0.28 MPa absolute at a temperature of 37.8°C and other products, as shown in chapter 19, when carried in bulk.

1.0 REQUIREMENTS:

- 1.1** Regulation 18.2 of the IGC Code, as amended, requires every liquefied gas carrier subject to this Code to be provided with copies of suitably detailed cargo system operation manuals such that trained personnel can safely operate the ship with due regard to the hazards and properties of the cargoes that are permitted to be carried.
- 1.2** Additionally, in accordance with the IGC Code, as amended, the ship's cargo operations manual shall be approved by the Administration and updated copies of the same shall be also kept on board. The cargo operations manual shall include the following but not limited to:
- a) Overall operation of the ship from dry-dock to dry-dock, including procedures for cargo tank cooldown and warm-up, transfer (including ship-to-ship transfer), cargo sampling, gas-freeing, ballasting, tank cleaning and changing cargoes;
 - b) Cargo temperature and pressure control systems;

- c) Cargo system limitations, including minimum temperatures (cargo system and inner hull), maximum pressures, transfer rates, filling limits and sloshing limitations;
 - d) Nitrogen and inert gas systems;
 - e) Firefighting procedures: operation and maintenance of firefighting systems and use of extinguishing agents;
 - f) Special equipment needed for the safe handling of the particular cargo;
 - g) Fixed and portable gas detection;
 - h) Control, alarm and safety systems;
 - i) Emergency shutdown systems;
 - j) Procedures to change cargo tank pressure relief valve set pressures in accordance with 8.2.8 and 4.13.2.3 of the IGC Code, as amended; and
 - k) Emergency procedures, including cargo tank relief valve isolation, single tank gas-freeing and entry and emergency ship-to-ship transfer operations
- 1.3 The cargo operations manual shall be submitted to the Administration for review and approval in accordance with Section 3 of this Notice.

2.0 CARGO OPERATIONS MANUAL PREPARATION

- 2.1 The manual shall be prepared taking into consideration the technical provisions in regulation 18.2 of the IGC Code, as amended.
- 2.2 A model format for the cargo operations manual is provided as Appendix I to this Marine Notice.
- 2.3 The manual shall be written and available in English and a working language understood by the master and officers, if the working language is not English.
- 2.4 Each manual must identify the ship to which it applies, using the ship's name and IMO number.

3.0 REVIEW AND APPROVAL

- 3.1 All manuals required under regulation 18.2 of the IGC Code, as amended, must be approved by the Administration or an [authorized RO](#).
- 3.2 The manual that is submitted to the Administration for approval shall be in English.
- 3.3 A hard copy of the manual may be sent to:

The Office of the Deputy Commissioner of Maritime Affairs, Republic of Liberia,

Liberian International Ship & Corporate Registry, LLC,
Attn: Plan Review
22980 Indian Creek drive, Suite 200
Dulles, Virginia
20166, USA

A soft copy of the manual may be sent to RegsandStandards@liscr.com.

- 3.4 If the manual is submitted to the Administration for review, the following documents are also required to be provided, as applicable:
- a) General arrangement plan
 - b) Cargo system details including any special equipment needed
 - c) Firefighting system details
 - d) IG and Nitrogen systems details
 - e) Gas detection system
 - f) Safety system (control, alarms)
 - g) Emergency procedures
- 3.5 To facilitate the review and plan approval process, it is recommended to complete the checklist in Appendix II to this notice which will be used by the Administration for plan approval and attach it to the submitted plan. The checklist identifies the applicable sections of the manual.

Questions regarding this instruction, IGC Code, as amended requirements, and fees for the manual review and approval should be referred to RegsandStandards@liscr.com or you may call +1-703-790-3434.

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APPENDIX I

MODEL FORMAT OF SHIP STRUCTURAL ACCESS MANUAL

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APPENDIX II

Approval of Liquefied Gas Carrier Cargo Operations Manual Basic Requirements from MSC Resolution 370(93) Liquefied Gas Carriers Cargo Operations Manual Questionnaire

VESSEL NAME: _____ DATE: ___/___/___

Questionnaire	Y	N	Page/item in plan
Preamble			
Introduction. An introductory paragraph summing up the intent of the plan.			
Ship Particulars:			
Ship specific information: ✓ Name; ✓ Flag; ✓ Port of Registry; ✓ Gross Tonnage; ✓ IMO Number; ✓ LOA ✓ Length between BP, ✓ Beam, ✓ Call Sign, ✓ Class notation;			
Index. An index of sections to be included to reference the contents of the manual.			
Purpose: A brief introduction for the ship's crew, explaining the need for the Liquefied Cargo Operations Manual and the importance of accurate record keeping.			
General arrangement Plan			
Tanks and Capacity Plan			
Particulars of Cargo Equipment and Machinery			
Applicable Rules and Regulations			
Hazardous Areas and Gas Dangerous Zone Plan			
Illustrations of the different hazardous areas on board			
Properties of LNG			

<p>General information containing the following:</p> <ul style="list-style-type: none"> ✓ Definitions; ✓ Physical Properties; ✓ Source of Ignitions; ✓ Chemical Properties; ✓ Principles of Refrigeration 			
Integrated Automation System (IAS)			
<p>General information containing the following:</p> <ul style="list-style-type: none"> ✓ Control Room Arrangement; ✓ Integrated Automation System (IAS); ✓ Custody Transfer System; ✓ Illustrations 			
Cargo and Ballast System			
<p>General information containing the following:</p> <ul style="list-style-type: none"> ✓ Cargo Containment System; ✓ Deterioration or Failure of Containment ✓ Cargo Piping System; ✓ Cargo Pumps; ✓ Cargo Compressors; ✓ Boil-Off/Warm-Up Heater; ✓ LNG Vaporiser; ✓ Forcing Vaporiser; ✓ Nitrogen Generator; ✓ Inert Gas and Dry-Air Generator; ✓ Fixed Gas Detection System; ✓ Valve Remote Control and Emergency Shutdown System; ✓ Ship-shore Link and Mooring Load Monitoring System; ✓ Relief Systems; ✓ Ballast System; ✓ Illustrations 			
Cargo Auxiliary and Deck system			
<p>General information containing the following:</p> <ul style="list-style-type: none"> ✓ Technical specifications; ✓ Temperature Monitoring System; ✓ Primary and Secondary Insulation Space Nitrogen Pressurizing and Control System; ✓ Cofferdam Heating System; ✓ Fire Fighting Systems; ✓ Cargo Machinery Fresh Water-Cooling System Illustrations 			
Cargo Operations			

<p>General information containing the following:</p> <ul style="list-style-type: none"> ✓ Technical specifications; ✓ Insulation Space Pressurising; ✓ Post Dry Dock Operation; ✓ Ballast Passage; ✓ Loading; ✓ Loaded Voyage with Boil-Off Gas Burning; ✓ Discharging with Vapour Return from Shore; ✓ Pre-Dry Dock Operations; ✓ One Tank Operation Illustrations 			
Emergency Procedures			
<p>General information containing the following:</p> <ul style="list-style-type: none"> ✓ LNG Vapour Leakage to Barrier; ✓ LNG Liquid Leakage to Barrier; ✓ Water Leakage to Barrier; ✓ Failure of Cargo Pumps - Emergency Cargo Pump Installation; ✓ Fire and Emergency Breakaway; ✓ Ship to Ship Transfer; ✓ LNG Jettison 			