

LOCAL VESSELS ADVISORY COMMITTEE

Consolidated Amendments of Code of Practice

Introduction of Standards for Vessels Using Alternative Fuels and Safety and Operational Guidelines for Bunkering of Alternative Fuels

Purpose

This document outlines the proposed amendments by the Marine Department (MD) to the Code of Practices (COP). The aim of these revisions is to establish the safety standards for vessels powered by alternative fuels and to introduce LNG bunkering operation guidelines.

Background

2. In the 2023 Policy Address, the Chief Executive announced the government's plan to develop a green maritime fuel bunkering center, which will cater to the bunkering needs of both local and ocean-going vessels with environmentally friendly fuel options. Furthermore, the Transport and Logistics Bureau's Action Plan on Maritime and Port Development Strategy released in December 2023 and Action Plan on Green Maritime Fuel Bunkering released on November 2024, underscored the strategic initiative to transform Hong Kong into a green shipping hub, with the ambitious aim of achieving zero-carbon emissions.

3. To fulfill the objectives of decarbonization, the traditional petroleum-based ship fuels may be substituted with eco-friendly alternative fuels, such as liquefied natural gas (LNG), hydrogen, ammonia, methanol, and ethanol that emit significantly lower levels of carbon, with the ultimate goal of zero emissions. These alternative fuels differ markedly from conventional marine petroleum fuels in several ways. They possess distinct physical, chemical properties and energy releasing processes, require unique handling and storage, and also present different risks and potential environmental hazards when it is accidentally released from ships.

4. As the existing vessel safety standards were written for ships using conventional fuels, there is a need to introduce new standards to ensure the safety of vessels using alternative fuels.

5. Consequentially, the requirements on bunkering operations involving alternative fuels shall also be developed.

Proposed Standards and Guidelines

Alternative Fuels

6. The International Code of Safety for Ships Using Gases or Other Low-flashpoint Fuels (IGF Code) represents the prevailing global safety standard for vessels using alternative fuels with low flash points. In the interest of ensuring the safety of local vessels that utilize such fuels, it is proposed that the IGF Code be adopted as the benchmark for local vessel compliance. The proposed special requirements for vessels using gases or other low flashpoint fuels safety standards for vessels using alternative fuels will be added to the COP for Class I, II, III, and IV vessels as a new chapter. The proposed amendment is provided in **Annex 1**.

LNG Bunkering

7. As one of the alternative fuels, LNG bunkering service will be provided in Hong Kong soon. To ensure safe bunkering operation, a new COP is introduced to outline the comprehensive safety requirements for LNG bunkering operations in Hong Kong, between an LNG bunker supplier and an LNG bunker receiver. The newly proposed COP, titled : Safety and Operational Guidelines for Bunkering of Alternative Fuels, makes references to the widely adopted international and industrial standards and provides practical guidance for the operators to comply with the relevant regulatory requirements related to LNG bunkering operations. The proposed new COP is provided in **Annex 2**.

Way Forward

8. Subject to member's comments and acceptance, the amended Part of COP will be gazetted and come into effect on 15 January 2025.

CHAPTER XXX**SPECIAL REQUIREMENTS FOR VESSELS USING GASES OR OTHER
LOW FLASHPOINT FUELS****1 Application to ships using gases or other low-flashpoint fuels**

- 1.1 Unless expressly provided otherwise, this chapter applies to the vessels using gases or other low-flashpoint fuels (“**Alternate Fuels**”) as fuel except gas carriers (“**IGF Vessel**”).
- 1.2 IGF Vessel shall comply with the requirements of this chapter in addition to any other applicable requirements of this code of practice.

2 Requirements for ships using gases or other low-flashpoint fuels

- 2.1 An IGF Vessel shall comply in entirety with the requirements of the International Code of Safety for Ships Using Gases or Other Low-Flashpoint Fuels (“**IGF Code**”) as amended or equivalent.
- 2.2 An IGF Vessel shall hold a valid classification certificate issued by an Authorized Organization (AO).
- 2.3 The procedures as required under Part C of the IGF Code shall be endorsed by a suitably qualified AO for the compliance of IGF Code.
- 2.4 The crew of an IGF Vessel shall meet the applicable training requirements related to IGF Code in accordance with the STCW Convention and Code, as amended.
- 2.5 The owner of an IGF Vessel shall ensure that:
 - (a) the procedures listed in section 2.3 of this chapter are fully implemented on board the vessel;
 - (b) drills and emergency exercises related to Alternate Fuels shall be conducted at least once in every two months; and
 - (c) the crew of the vessel are adequately trained and experienced for the operation of the specific vessel related to the IGF Code.

3 Periodical Survey

- 3.1 During periodical survey of an IGF Vessel, full compliance of IGF Code shall be verified, including Part C and Part D of the IGF Code.

CODE OF PRACTICE ----

**Safety and Operational Guidelines for Bunkering of
Alternative Fuels**

(issued under Section 8 of the Merchant Shipping (Local Vessels) Ordinance, Cap 548)



Marine Department, HKSAR
(January 2025 Edition)

Record on Updating and Amendments

This code of practice is issued under section 8 of the Merchant Shipping (Local Vessels) Ordinance, (Cap. 548). It was first notified in the Gazette Notice on XX January 2025 to take effect on 15 January 2025. Subsequent amendments are notified to the industry through further notice in the Gazette from time to time and are recorded in this amendment history sheet.

Amend. No.	Gazette No.	Gazette Date	Effective Date	Topic Areas / Pages
1				
2				
3				
4				

FOREWORD

- (1) The maritime industry is undergoing significant transformation as it seeks to adopt cleaner and more sustainable fuel alternatives. In recognition of this shift, the Marine Department introduces this Code of Practice (COP) to provide guidelines for bunkering operations of certain alternative fuels in the waters of Hong Kong.
- (2) This COP aims to establish a standardized framework of critical aspects of bunkering that ensures safety, efficiency, and environmental protection during bunkering operations. It is essential for all stakeholders involved, including ship owners, ship managers, bunker suppliers and bunkering receivers, to adhere to these guidelines to promote best practices within the industry.
- (3) This COP will be progressively expanded to include more types of alternative fuel as required.
- (4) Please note that many foundational elements, including applicable statutory legislation, standards and definitions are already outlined in the Chapter 1 of the existing Code of Practice – Safety Standards for Class II Vessels (COP II). To avoid redundancy, this document will focus on new specific industrial standards and terms that are particularly relevant to bunkering operations of specific alternative fuels.

**CODE OF PRACTICE –
SAFETY AND OPERATIONAL GUIDELINES FOR BUNKERING OF
ALTERNATIVE FUELS**

**CHAPTER I
GENERAL**

Section		Page
1	Introduction	5
2	Statutory legislation standards	5
3	Definitions	5
4	Application	6

CHAPTER II

LNG BUNKERING OPERATIONS

1	General	7
2	Documentation Requirements	7
3	Approval for bunkering operations	8
4	Operational Requirements	9
5	Requirements for crew members	10

CHAPTER I

GENERAL

1 Introduction

- 1.1 The legislation relating to the control, licensing and regulation of local vessels in Hong Kong is contained in the Merchant Shipping (Local Vessels) Ordinance, Cap. 548 (the Ordinance) and its subsidiary legislations. This "Code of Practice – Safety and Operational Standards for bunkering of Alternative Fuels " (this Code) is issued under section 8 of the Ordinance.
- 1.2 This Code has been developed by the Hong Kong Marine Department (MD) in consultation with the local maritime industry through representation in relevant advisory committees.
- 1.3 In accordance with the legal status prescribed in section 9 of the Ordinance, requirements set out in this Code shall be followed.
- 1.4 The legislative requirements quoted in this Code should be subject to authentic provisions of the legislative instrument and its latest amended. These requirements are mandatory and must be complied with.

2 Applicable Standards

The following standards and guidelines, and their amendments from time to time (if any) are applicable as appropriate:

- “IGC Code” - International Code of the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk
- “IGF Code” - International Code of Safety for Ships Using Gases or Other Low-Flashpoint Fuels
- “ISM Code” – International standard for the safe management and operation of ships, and for managing pollution prevention
- “ISO 20519” - International Standard on the Specification for Bunkering of Liquefied Natural Gas-Fueled Vessels
- “ISO/TS 18683” - Guidelines for safety and risk assessment of LNG fuel bunkering operations
- “SGMF LNG Bunkering” - Guideline LNG as a Marine Fuel, Safety and Operational Guidelines – Bunkering published by the Society for Gas as Marine Fuel
- “IAPH Checklist” - International Association of Port and Harbour Bunkering Checklist
- The prevailing rules and standards of authorized organizations
- Other equivalent standards subject to prior agreement of MD.

3 Definitions

3.1 In this Code-

“alternative fuels”, means gases or other low flash-point fuels other than conventional fuels and biofuels;

“approved”, in relation to bunkering operation means approved by the MD;

“authorized organization (AO)” means a classification society authorized (by means of authorization document) by the Director to carry out statutory survey work for local vessels;

“LNG”, means Liquefied natural gas

“owner”, as defined in section 2 of the Ordinance;

“STCW” means International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers

“waters of Hong Kong” means waters of Hong Kong within the meaning of Schedule 2 of the Interpretation and General Clauses Ordinance (Cap. 1).

4 Application

- 4.1 This Code will apply to all local vessels engaged in alternative fuels bunkering operations in waters of Hong Kong.

CHAPTER II

LNG Bunkering Operations

1 General

- 1.1 This Chapter outlines the comprehensive requirements of licensing and operation for LNG bunkering operations in waters of Hong Kong, between an LNG bunker supplier (“LBS”) and an LNG bunker receiver (“LBR”). The safety requirements are based on the requirements of the IGC Code, IGF Code and ISO 20519.
- 1.2 To conduct LNG bunkering operations in Hong Kong, LBS must:
- Obtain approval from the MD for performing every LNG bunkering operation according to Section 3; and
 - Plan and execute the LNG bunkering operation in accordance with ISO 20519; and
 - Maintain valid certificate as required by IGC Code at all time during LNG bunkering operations.
- 1.3 The owner and the coxswain of the LNG bunker supply vessel are responsible for the safety of all activities related to the LNG bunkering operations.
- 1.4 All bunkering operations must be agreed upon by both the LBS and LBR in accordance with the approved LNG bunker management plan before commencing.

2 Licensing requirements

To demonstrate the ability to systematically plan and safely execute the LNG bunkering operations, the LBS shall provide the following documentation for the application of Operating Licence:

2.1 LBS Vessel Certifications

- Certificate of Survey under the Survey Regulation;
- Declaration of Fitness for Carriage of Dangerous Goods under the Survey Regulation;
- Relevant certificate as required by IGC Code; and
- Relevant certificate as required by ISM Code.

2.2 Reports of Maritime traffic impact assessment (MTIA) and the Quantitative Risk Assessment (QRA)

The LBS shall submit reports of MTIA and QRA prepared for the intended LNG bunkering operations in accordance with the ISO/TS 18683 for the acceptance by MD.

2.3 Proposed LNG Bunker Management Plan

The LBS shall submit a proposed LNG Bunker Management Plan¹ (without the information of LNG bunker receiving end) that comprehensively outlines the procedures and safety

¹ The scope of LNG Bunker Management Plan shall be in accordance with the recommendation of SGMF

measures in accordance with ISO 20519 for the pre-bunkering phase, bunkering phase and bunkering completion phase of the LNG bunkering operation. The proposed LNG Bunker Management Plan shall include:

- a. Proposed operation of bunker supply vessel: The intended location of proposed LNG bunkering operation according to the accepted reports of MTIA and the QRA.
- b. Safety Protocols: Detailed steps to ensure safe bunkering operation, including hazard assessments and emergency response action procedures.
- c. Operational Procedures: Specific guidelines for conducting LNG transfers, including equipment checks and communication protocols between vessels, in accordance with ISO 20519 and International Association of Port and Harbour (IAPH) bunkering checklist or equivalent.
- d. Compatibility Assessment Checklist Templates: Comprehensive mechanism and check lists to ensure that potential bunker receiver's vessel, system and operations are compatible with bunker supply vessel.
- e. Certificates and functional test reports of bunkering equipment.
- f. Personnel Training: Requirements for the training and certification of personnel involved in the bunkering process.
- g. Emergency Contingency Plans: Measures to contain and mitigate any accidents that could affect the safety of the vessel and surrounding areas.
- h. Mechanism for documentation of all bunkering related operations.

2.4 Typhoon Evacuation Plan

The LBS shall submit a typhoon evacuation plan for the bunker supply vessel including the requirement that the vessel shall seek safe refuge or leave Hong Kong Waters prior to the issuing of No. 3 tropical cyclone warning signal.

2.5 Safety Management System Manual

The LBS shall submit a copy of safety management system manual that covers LNG bunkering operations.

3 Approval for LNG bunkering operations

3.1 The LBS is required to obtain approval from the MD for LNG bunkering operations with each pair of LBS and LBR vessels.

3.2 To apply for approval, the LBS must submit the following documents to the Vessel Traffic Centre of the MD at least 72 hours advance:

- a. Bunkering Compatibility Checklist/Report: These documents must be endorsed by an AO and demonstrate the compatibility of physical and operational interfaces between the LBS and the intended LBR, and their vessels.
- b. Joint Bunkering Plan²: This plan must be endorsed by representatives from both the LBS and the LBR, ensuring mutual agreement and compliance with safety standards.

Approval for each bunkering operation is valid for a period not exceeding 12 months. The Approval may be cancelled by the MD if any condition of the approval or applicable

² The scope of Joint Bunkering Plan shall be in accordance with the recommendation of SGMF

requirement in this Code is not complied with.

4 Operational Requirements

4.1 Safety Zone

A safety zone around the bunkering and receiving facilities / vessels for each LNG bunkering operation must be established to ensure ignition sources are adequately controlled. The extent of the safety zone shall base on the recommendation from the QRA and agreed by both the LBS and the MD.

4.2 Security Zone

LBS and LBR are required to maintain a security zone, of at least 50m extending outwards from the contour of the safety zone or from the both shipside of the LBS vessel and LBR vessel, whichever is larger. Physical barriers and ISPS borders should also be taking into consideration. They are also responsible for monitoring all activities and operations within this vicinity to identify and mitigate any potential risks to the LNG bunkering operation.

4.3 Participation in Vessel Traffic Services (VTS)

The bunker supply vessel is required to participate in the Vessel Traffic Service (VTS) of MD. Additionally, it must maintain continuous VHF watch on the appropriate VHF channels whenever the vessel is within Hong Kong Waters.

4.4 Bunkering Operation

The LBS must operate in accordance with the LNG Bunker Management Plan. Both the LBS and LBR must operate in accordance with the established procedures outlines in the Joint Bunkering Plan and complete the LNG Bunker Checklist for pre-bunkering phase within 48 hours in advance of a planned LNG bunker operation. The Checklist shall be kept on both vessels and produced for inspection by an authorized officer of the MD.

4.5 Notifications

The LBS is required to adhere to the following notification procedures with the MD:

Pre-Notification of LNG Bunkering Operation

24-Hour Advance Notice: The LBS must notify the Vessel Traffic Centre of the MD (VTC) at least 24 hours prior to the commencement of any LNG bunkering operation by email. This notification should include the specific time and location of the bunkering operation, and a 24-hour contact number to ensure immediate communication in case of any emergency.

Reporting of Bunkering Phases

Commencement and Completion: The LBS must report both the start and the completion of each LNG bunkering operation to the VTC via appropriate VHF channel.

Incident Reporting

Immediate Notification: In the event of any incident during the LNG bunkering operation, the LBS must report the incident immediately to the relevant government department(s).

5 Requirements for crew members

In addition to the manning requirements as specified under the vessel's certificate;

- 5.1 Crewmember assigned specific duties and responsibilities related to cargo or cargo equipment on gas carriers shall hold an endorsement in training (Basic) for gas carrier cargo operations according to STCW.
- 5.2 Crewmember with immediate responsibility for loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations on gas carriers shall hold an endorsement in training (Advanced) for gas carrier cargo operations according to STCW.
