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
(June 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 10 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	G.N. 3893	27 June 2025	30 June 2025	Addition of new Chapter III for bunkering of Methanol and minor amendments to Chapter II.
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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 (MD) 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

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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. Notwithstanding this Code, the ship owner shall ensure that bunker operations comply with all other relevant regulations stipulated by the Hong Kong Government.

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:

(a) "IGC Code" - International Code of the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk

(b) "IGF Code" - International Code of Safety for Ships Using Gases or Other Low-Flashpoint Fuels

(c) "ISM Code" - International standard for the safe management and operation of ships, and for managing pollution prevention

(d) "ISO 20519" - International Standard on the Specification for Bunkering of Liquefied Natural Gas-Fueled Vessels

(e) "ISO/TS 18683" - Guidelines for safety and risk assessment of LNG fuel bunkering operations

(f) "SGMF LNG Bunkering" - LNG as a marine fuel, Safety and Operational Guidelines – Bunkering, published by the Society for Gas as Marine Fuel

(g) "IAPH Checklist" - International Association of Port and Harbour Bunkering Checklist

(h) The prevailing rules and standards of authorized organizations

(i) 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;

"Survey Regulation" means Merchant Shipping (Local Vessels) (Safety and Survey) Regulation (Cap. 548, sub. leg. G);

"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:

(a) Obtain approval from the MD for performing every LNG bunkering operation according to Section 3; and

(b) Plan and execute the LNG bunkering operation in accordance with ISO 20519; and

(c) 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 (LBMP) 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

(a) Certificate of Survey under the Survey Regulation;
(b) Declaration of Fitness for Carriage of Dangerous Goods under the Survey Regulation;
(c) Relevant certificate as required by IGC Code; and
(d) 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 LBMP

The LBS shall submit a proposed LBMP (without the information of LNG bunker receiving end) that comprehensively outlines the procedures and safety measures in accordance with ISO 20519 for the pre-bunkering phase, bunkering phase and bunkering completion phase

of the LNG bunkering operation. The proposed LBMP[1] 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 the waters of Hong Kong 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 the first LNG bunkering operation of each pair of LBS and LBR vessels.

3.2 The approval 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 requirement in this Code is not complied with.

3.3 To apply for approval, the LBS must submit the following documents to the Vessel Traffic Centre of the MD at least 72 hours in advance of the LNG bunkering operation:

(a) Bunkering Compatibility Report: To demonstrate the compatibility of physical and operational interfaces between the LBS and the intended LBR, and their vessels.

(b) Complete LBMP: At this stage the LBMP shall be completed with input from the LBR.

[1] The scope of LBMP shall be in accordance with the recommendation of SGMF

This plan must be endorsed by representatives from the LBS, the LBR and endorsed by a suitably qualified person or organization accepted by MD, ensuring mutual agreement and compliance with safety standards.

(c) Joint Plan Bunkering Operation (JPBO) [2] : This plan must be endorsed by representatives from both the LBS and the LBR, ensuring mutual agreement and compliance with safety standards.

4 Operational Requirements

4.1 Safety Zone

LBS and LBR are required to establish a safety zone around the bunkering and receiving facilities / vessels for each LNG bunkering operation 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 ship side of both the LBS vessel and LBR vessel, whichever is larger. 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. Physical barriers and ISPS borders should also be taken into consideration.

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 waters of Hong Kong.

4.4 Bunkering operation

The LBS and LBR must operate in accordance with the approved LBMP 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:

(a) 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.

(b) Reporting of Bunkering Phases
Commencement and Completion: The LBS must report both the start and the

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

completion of each LNG bunkering operation to the VTC via appropriate VHF channel.

(c) 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 as recognized by MD.

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 as recognized by MD.

CHAPTER III

METHANOL BUNKERING OPERATIONS

1 General

1.1 This Chapter outlines the comprehensive requirements of licensing and operation for ship to ship methanol bunkering operations in waters of Hong Kong, between a methanol bunker supplier ("MBS") and a methanol bunker receiver ("MBR"). The safety requirements are based on the requirements of the IGF Code and MSC.1/Circ.1621 as updated from time to time.

1.2 To conduct methanol bunkering operations in Hong Kong, a MBS must obtain approval from the MD for performing every bunkering operation according to Section 3. The MBS vessel shall maintain valid certificates as required by the IBC Code at all times during methanol bunkering operations.

1.3 The owner and the coxswain of the MBS vessel are responsible for the safety of all activities related to the methanol bunkering operations.

1.4 All bunkering operations must be agreed upon by both the MBS and MBR in accordance with the approved Methanol Bunker Management Plan (MBMP) before commencing operation.

2 Licensing requirements

To demonstrate the ability to safely execute the methanol bunkering operations, the following documentation shall be provided for the application of Operating Licence for the MBS vessel.

2.1 MBS vessel certificates

(a) Certificate of Survey under the Survey Regulation;
(b) Declaration of Fitness for the Carriage of Dangerous Goods under the Survey Regulation;
(c) Relevant certificate as required by IBC Code;
(d) Relevant certificate as required by ISM Code or document proof of complying with other relevant Safety Management System; and
(e) Relevant Classification Certificate issued by an AO as a Chemical Tanker that is suitable to provide Methanol Bunker Fuel.

2.2 Risk Assessment

The MBS shall conduct Risk Assessments in accordance with ISO 31010 or a standard acceptable by MD. The risk assessment shall be submitted as part of the MBMP as specified in section 2.3, and shall cover the following items:

- The location of the operation: Impact to port operations and marine traffic, neighboring facilities, number of people within the vicinity of the operation and weather / sea conditions.
- Layout and Equipment of vessels: Arrangements of bunkering equipment, function and design of mechanical/electrical control systems and their components.
- Bunker transfer process: Flow rate, pressures, time, temperatures.
- Operations: Arrival, mooring, rigging of hose connections, bunker transfer procedure, vapour management, post-transfer procedure, inert gas management, departure, risk to personnel, roles and responsibilities.

2.3 Proposed MBMP

The MBS shall submit a proposed MBMP (with or without the information of MBR) that comprehensively outlines the procedures and safety measures for the pre-bunkering phase, bunkering phase and bunkering completion phase of the Methanol bunkering operation. The proposed MBMP shall include:

(a) Proposed operation of bunker supply vessel: The intended location of proposed methanol bunkering operation.
(b) Risk Assessment: The MBMP shall include a comprehensive risk assessment covering the entirety of the proposed operation in accordance with section 2.2.
(c) Safety Protocols: Detailed steps to ensure safe bunkering operation, including hazard assessments and emergency response action procedures.
(d) Operational Procedures: Specific guidelines for conducting Methanol transfers, including equipment checks and communication protocols between vessels, in accordance with International Association of Port and Harbour (IAPH) bunkering checklist or equivalent.
(e) 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.
(f) Certificates and functional test reports of bunkering equipment.
(g) Personnel Training: Requirements for the training and certification of personnel involved in the bunkering process.
(h) Emergency Contingency Plans: Measures to contain and mitigate any accidents that could affect the safety of the vessel and surrounding areas.
(i) Mechanism for documentation of all bunkering related operations.

2.4 Typhoon Evacuation Plan

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

2.5 Safety Management System Manual

The MBS shall submit a copy of safety management system manual that covers Methanol bunkering operations.

3 Approval for Methanol bunkering operations

3.1 The MBS is required to obtain approval from the MD for the first Methanol bunkering operation of each pair of MBS and MBR vessels.

3.2 The approval 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 requirement in this COP is not complied with.

3.3 To apply for approval, the MBS must submit the following documents to the Vessel Traffic Centre of the MD:

(a) Complete MBMP: At this stage the MBMP shall be completed with input from the MBR. This plan must be endorsed by representatives from the MBS, the MBR and endorsed by a suitably qualified person or organization accepted by MD, ensuring mutual agreement and compliance with safety standards.

(b) Joint Plan Bunkering Operation (JPBO) [3]: To demonstrate the compatibility of physical and operational interfaces between the MBS and the intended MBR, and their vessels.

4 Operational Requirements

4.1 Safety Zone

MBS and MBR are required to maintain a safety zone around the bunkering and receiving facilities / vessels for each Methanol bunkering operation to ensure ignition sources are adequately controlled. The extent of the safety zone shall be calculated on risk based approach but shall in no case be smaller than the hazardous zones[4].

4.2 Security Zone

MBS and MBR are required to maintain a security zone that is based on the results of the Risk Assessment of the MBMP. MBS and MBR are responsible for monitoring all activities and operations within this vicinity to identify and mitigate any potential risks to the 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.

[3] The JPBO should be prepared according to the SGMF document: Methanol as a Marine Fuel, Safety and Operational Guidelines – Bunkering, or other equivalent standards accepted by MD.

[4] Hazardous Zone, as defined in MSC.1/Circ.1621 Interim Guidelines For The Safety Of Ships Using Methyl/Ethyl Alcohol As Fuel

4.4 Bunkering Operation

The MBS and MBR must operate in accordance with the MBMP and complete the Methanol Bunker Checklist for pre-bunkering phase within 48 hours in advance of a planned Methanol 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 MBS is required to adhere to the following notification procedures with the MD:

(a) Pre-Notification of Methanol Bunkering Operation
24-Hour Advance Notice: The MBS must notify the Vessel Traffic Centre of the MD (VTC) at least 24 hours prior to the commencement of any Methanol 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.

(b) Reporting of Bunkering Phases
Commencement and Completion: The MBS must report both the commencement and the completion of each Methanol bunkering operation to the VTC via appropriate VHF channel.

(c) Incident Reporting
Immediate Notification: In the event of any incident during the Methanol bunkering operation, the MBS 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 chemical tankers shall hold an endorsement in training (Basic) for chemical tankers cargo operations as recognized by MD.

5.2 Crewmember with immediate responsibility for loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations on chemical tankers shall hold an endorsement in training (Advanced) for chemical tanker cargo operations as recognized by MD.