Council of the European Union

Brussels, 28 November 2024
(OR. en)

15187/1/24
REV 1

LIMITE

MAR 190
OMI 109
SOC 804

WORKING DOCUMENT

From:	General Secretariat of the Council
To:	Delegations
No. prev. doc.:	15187/24
No. Cion doc.:	15149/24
Subject:	Draft Union submission to the International Maritime Organization's 11th session of the Sub-Committee on Human Element, Training and Watchkeeping proposing interim guidelines on training for seafarers on ships using new technologies and alternative fuels - Presidency compromise proposal

In view of the Shipping Working Party meeting on 29 November 2024, delegations will find attached a Presidency compromise proposal.

Changes compared to the Commission proposal are indicated in **bold underline** (added text) and ~~strikethrough~~ (deleted text). Changes compared to the previous version (document 15187/24) are highlighted in yellow.

General scrutiny reservation: all delegations.

Deadline for submission to IMO: **6 December 2024**.

SUB-COMMITTEE ON HUMAN ELEMENT, TRAINING AND WATCHKEEPING
11th session
Agenda item 7

HTW 11/7/X
XX November 2024
Original: ENGLISH
Pre-session public release: ☒

DEVELOPMENT OF A SAFETY REGULATORY FRAMEWORK TO SUPPORT THE REDUCTION OF GHG EMISSIONS FROM SHIPS USING NEW TECHNOLOGIES AND ALTERNATIVE FUELS

Interim guidelines on training for seafarers on ships using new technologies and alternative fuels [1]

Submitted by Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands (Kingdom of the), Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the European Commission~~, acting jointly in the interest of the European Union~~

SUMMARY

Executive summary:	The co-sponsors propose to develop and adopt interim guidelines on training for seafarers, regardless of their function, on ships using new technologies and alternative fuels. The interim guidelines will cover all the alternative fuels and related new technologies, without creating specific training provisions for each fuel.
Strategic direction, if applicable:	3
Output:	3.8
Action to be taken:	Paragraph 12
Related documents:	HTW 10/10, MSC 107/20, MSC 108/20

Background

1 The Maritime Safety Committee, at its 107th session, agreed to include in its biennial agenda for 2024-2025 a continuous output on "Development of a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels", assigning the Committee as the coordinating organ, in association with the CCC, HTW, III, SSE and SDC Sub-Committees as and when requested by the Committee and invited MEPC to consider being an associated organ (MSC 107/20, paragraph 17.6).

2 During the 10th session of the Sub-Committee on Human Element, Training and Watchkeeping (HTW 10), it was agreed that this output could be utilized to develop training provisions for seafarers on ships using alternative fuels, taking into account the ongoing work by MSC, the CCC Sub-Committee and any other relevant bodies (HTW 10/10, paragraph 6.32).

[1] **The Shipping Working Party notes that the present submission does not fall in its entirety under EU exclusive competence. However, Member States agree to coordinate on this issue on a voluntary basis and this should not be construed as exercising shared Union competence.**

3 The Maritime Safety Committee, at its 108th session, endorsed the agreement by the HTW Sub-Committee to proceed with the development of training provisions for seafarers on ships using alternative fuels (MSC 108/20, paragraph 5.4).

Discussion

4 Seafarers are already required to work on ships using new technologies and alternative fuels; however, there has not been any consistent development of guidance or training provisions. Seafarers should be adequately trained and prepared to prevent and act in case of incidents, in order to safely handle these new fuels and engines.

5 The co-sponsors see merit in firstly addressing the urgent needs of training with interim guidelines for seafarers on ships using new technologies and alternative fuels. The interim guidelines will cover all the alternative fuels and related technologies, including any new that is being developed and used in the future.

6 The CCC Sub-Committee and the Maritime Safety Committee have already developed interim guidelines on several alternative fuels, such as methyl/ethyl, ammonia and hydrogen. The co-sponsors have considered the possibility to develop separate interim training guidelines for each alternative fuel. However, they consider that, at this point, this would result in additional time upon adoption and entry into force of those separate training provisions, as well as training fragmentation and possible limitations of the alternative fuel's market.

7 Any specific interim guidance or training provision would need to have a corresponding Model Course. In turn, the training and education institutions should develop programmes on the separate training provisions for each alternative fuel (existing or future). This will require significant amount of time and expertise, and will result in a fragmentation of the provided training. There is also a risk that an alternative fuel that seems to be used consistently now, it might be rendered unused in the future.

8 Therefore, the co-sponsors consider that, at first, generic interim guidelines on training for seafarers, regardless of their function, on ships using new technologies and alternative fuels, should be developed and adopted. The proposed text of the interim guidelines can be found in the Annex of this submission. **However, due to technology implementation, since there is need to introduce standards for training on battery energy storage systems and fuel cells the guidelines includes these standards.**

9 The interim guidelines are seperated in general and specific training. The general training should include ship and equipment familiarization, a general understanding of the alternative fuels, such as its toxicity, and of the routine operations using the alternative fuels (bunkering). However, because every alternative fuel is different, the seafarers responsible for designated safety duties associated with the care, use or in emergency response working on ships using new technologies and alternative fuels should receive a training specifically designed on the alternative fuel(s) used in the ship. The proposal in the Annex provides specific minimum knowledge, understanding and proficiency areas that those seafarers should be trained on.

10 Following the successful completion of the training based on these interim guidelines, documentary evidence should be issued to attest its completion.

11 The co-sponsors do not exclude that in the future there might be a need to develop a more detailed interim guidance for each alternative fuel; however, any decision taken on this topic should be dealt with caution and taking into consideration the fragmentation of knowledge and training. The interim guidelines could in the future be incorporated in the STCW Convention and Code.

Action requested of the Sub-Committee

12 The Sub-Committee is invited to consider the information provided in the document and the annex and take action, as appropriate.

ANNEX

INTERIM GUIDELINES ON TRAINING FOR SEAFARERS ON SHIPS USING NEW TECHNOLOGIES AND ALTERNATIVE FUELS

1 Introduction

1.1 The purpose of these Interim Guidelines is to provide an international standard for the development and approval of training for seafarers on ships using new technologies and alternative fuels.

1.2 The basic philosophy of these Interim Guidelines is to provide general provisions and knowledge, understanding and proficiency areas (KUPs) to be addressed, as a minimum, when developing and approving the training of seafarers, including training courses, drills and emergency exercises, on ships using new technologies and alternative fuels. The goal is to ensure a sound, safe and environmental operation of those ships minimizing the risk to its crew, the ship, and the environment, having regard to the nature of the fuels involved.

1.3 These Interim Guidelines follow the goal-based approach (MSC.1/Circ.1394/Rev.2) by specifying goals and functional requirements for each section forming the basis for the training for seafarers on ships using new technologies and alternative fuels, as mentioned below.

2 General

2.1 Application

Unless expressly provided otherwise, these Interim Guidelines apply to seafarers on ships using new technologies and alternative fuels specified below to which part G of SOLAS chapter II-1 applies, as well as interim guidelines on ships using alternative fuels adopted by the IMO.

2.2 Definitions and terminology

For the purpose of these Interim Guidelines, the terms used have the same meaning as in SOLAS chapter II-2, the STCW Convention and Code and the Interim Guidelines for the safety of ships using alternative fuels as adopted by IMO.[2]

“New technologies and alternative fuels” mean fuels, power installations and systems listed in annex 1 to document MSC 108/5 including methyl/ethyl alcohol, hydrogen, ammonia, fuel cell installations, low flashpoint oil fuels (including biofuels), LPG, battery energy storage systems and wind-assisted propulsion systems. Any new fuel or technology being developed will be added in this definition. For ease of reference, they will be referred to as “alternative fuels” in the Interim Guidelines.

3 Goal and functional requirements

3.1 Goal

The goal of these Interim Guidelines is to provide an international standard for the development and approval of training of seafarers working on ships using alternative fuels **and new technologies** to ensure that those seafarers operate such ships with at least the same level of safety and reliability as seafarers on ships equipped with new and comparable conventional oil-fueled main and auxiliary machinery installations, regardless of the specific fuel, installation or

[2] MSC.1/Circ.1666, ~~MSC.1/Circ.1666,~~ MSC.1/Circ.1647, MSC.1/Circ.1621

system.

3.2 Functional requirements

3.2.1 The training should address the specific characteristics and risks that the seafarers might endure while working on ships using alternative fuels **and new technologies**.

3.2.2 The training should be relevant to the different competence functions, as defined in the STCW Code, and at the different levels of responsibility.

3.2.3 The training and specific familiarization should be imparted by qualified personnel experienced in the handling and characteristics of the alternative fuels **and new technologies** used and the safety procedures involved, to the satisfaction of the Administration.

3.2.4 A more detailed interim guidance for each alternative fuel should be developed, if necessary, avoiding at the same time, the fragmentation of knowledge and training.

4 General provisions for training

4.1 Goal

The goal of this section is to provide for a generic training on all the seafarers on ships using alternative fuels **and new technologies** regardless of their function.

4.2 Functional requirements

4.2.1 All seafarers serving on board ships using alternative fuels **and new technologies** should, prior to being assigned shipboard duties, receive appropriate ship and equipment specific familiarization as specified in regulation I/14.1.5. of STCW Convention.

4.2.2 All seafarers should receive training in general knowledge and understanding of the specific alternative fuel **and new technologies** that the ship is using. In particular, training should include specific knowledge on the alternative fuel's properties and health hazards, such as toxicity, the personal protective equipment that should be used.

4.2.3 All seafarers should receive training on the necessary precautions and measures to reduce risks and to protect themselves, as well as to respond to emergencies taking into account the specificities of the respective alternative fuel **and new technologies**, in particular theoretical and practical training in simulated real conditions regarding fire prevention, fire fighting, and in entry in enclosed, hazardous, toxic areas or spaces.

4.2.4 All seafarers should receive training in the relevant routine operations using the specific alternative fuel, in particular, those concerning bunkering operations or charging, as well as on the relevant regulations, rules and requirements related to the specific alternative fuel, power installation or energy storage system.

4.2.5 All seafarers should receive training on measures to be taken in the event of leakage/spillage or release of the alternative fuels.

4.2.6 Drills and emergency exercises on board ships using alternative fuels **and new technologies** ~~must~~ **should** be conducted at regular intervals in conformity with the requirements of the SOLAS Convention and procedures of the safety management system manual.

5 Specific standards for training on alternative fuels

5.1 Goal

The goal of this section is to provide for specific minimum standard KUPs that the training should address depending on the specific characteristics of the alternative fuels, as well as the ships using them.

5.2 Technical requirements

5.2.1 Seafarers employed on ships within the scope of these Interim Guidelines should receive training to understand physical and chemical properties of each respective alternative fuel and also on the risks and emergency procedures associated. On that basis, the seafarers responsible for designated safety duties associated with the care, use or in emergency response working on ships using alternative fuels should receive a training specifically designed on the alternative fuel(s) used in the ship. The minimum KUPs areas that the training should include, depending on their function, are:

.1 operation, functioning and monitoring of the respective alternative fuel's system and/or engine;

.2 operation and procedures for onboard safety systems;

.3 alternative fuel's specific aspects and requirements related to voyage planning, when necessary;

.4 planning, documenting, executing and monitoring the safe bunkering of the respective alternative fuel;

.5 performing maintenance and repairs on the respective alternative fuel's systems. This could include, inter alia, knowledge of preventing fuel release or contamination.

.6 condition and prepare the tanks, when necessary;

.7 operating ventilation systems related to the respective alternative fuel;

.8 operation and maintenance of auxiliary systems related to the alternative fuel's system;

.9 operational limitations inherent to the alternative fuel;

.10 fire prevention procedures and firefighting operations on a ship using alternative fuels;

.11 methods of storage, their connections and cleaning installations of the respective alternative fuel; and

.12 understanding physical and chemical properties of each respective alternative fuels for its safe handling.

The Administration may, in respect of ships of less than 500 gross tonnage, except for passenger ships, if it considers that a ship's size and the length or character of its voyage are such as to render the application of the full requirements of this section unreasonable or impracticable, exempt the seafarers on such a ship or class of ships from some of the requirements, bearing in mind the safety of people on board, the ship and property and the protection of the marine

environment.

6 Specific standards for training on battery energy storage systems

6.1 Goal

The goal of this section is to provide for specific minimum standard KUPs that the training should address depending on the specific characteristics of the battery energy storage systems, as well as the ships using them.

6.2 Technical requirements

6.2.1 Seafarers employed on ships within the scope of these Interim Guidelines should receive training to understand physical and chemical properties of battery energy storage systems and also on the risks and emergency procedures associated, including the thermal runaway. On that basis, the seafarers responsible for designated safety duties associated with the care, use or in emergency response working on ships using battery energy storage systems should receive a training specifically designed on the system(s) used in the ship. The minimum KUPs areas that the training should include, depending on their function, are:

.1 battery chemistry, including charecteristics, charge rates (max charge and discharge), chemistries and potential failure mechanism;

.2 battery energy storage system, principle and safety concept;

.3 notions on other batteries technologies (redux, plating, organic and others);

4. design considerations, common characteristics (sizing, roundtrip, efficiency), projected life and performance;

.5 safety, battery scorecards, fire protection and ventilation, relevant safety standards;

.6 relevant batteries standards such as:

.1 NEC 855 Standard for the Installation of Stationary Energy Storage Systems (relevant chapters);

.2 UL9540 and 9540A Energy Storage Systems and Equipment;

.3 IEC relevant standards;

.7 major components in a BESS (batteries, fire suppression, inverters, step-up transformers, secondary containment, controllers, housings, battery management system, energy management system, sub-station, HVAC and BMTS);

.8 operations and maintenance, including safeguards measures during such operations;

.9 emergency response with specific attention to the fire caused by thermal runaway for the lithium-ion battery.

The Administration may, in respect of ships of less than 500 gross tonnage, except for passenger ships, if it considers that a ship's size and the length or character of its voyage

are such as to render the application of the full requirements of this section unreasonable or impracticable, exempt the seafarers on such a ship or class of ships from some of the requirements, bearing in mind the safety of people on board, the ship and property and the protection of the marine environment.

7 Specific standards for training on fuel cells

7.1 Goal

The goal of this section is to provide for specific minimum standard KUPs that the training should address depending on the specific characteristics of the fuel cell systems, as well as the ships using them.

6.2 Technical requirements

6.2.1 Seafarers employed on ships within the scope of these Interim Guidelines should receive training to understand physical and chemical properties of fule cells systems and also on the risks and emergency procedures associated, including the potential explosion. On that basis, the seafarers responsible for designated safety duties associated with the care, use or in emergency response working on ships using fule cells systems should receive a training specifically designed on the system(s) used in the ship. The minimum KUPs areas that the training should include, depending on their function, are:

.1 fuel cells chemistry, including charecteristics and potential failure mechanism;

.2 operation of a Proton Exchange Membrane (PEM) Fuel Cell, safety concept and operating conditions;

.3 design considerations, common characteristics, projected life, electricity producing regions of the fuel cell and performance and automation associated to the management system;

.4 relationship between the operating conditions of the fuel cell sub-systems;

.5 safety, fire protection and ventilation, relevant safety standards;

.6 relevant fuel cells system standards;

.7 operations and maintenance, including safeguards measures during such operations;

.8 emergency response with specific attention to the fire/explosion caused by primary fuel and/or reformed fuel.

The Administration may, in respect of ships of less than 500 gross tonnage, except for passenger ships, if it considers that a ship's size and the length or character of its voyage are such as to render the application of the full requirements of this section unreasonable or impracticable, exempt the seafarers on such a ship or class of ships from some of the requirements, bearing in mind the safety of people on board, the ship and property and the protection of the marine environment.

~~6~~ 8 Documentation/Evidence of training

~~6.1~~ 8.1 Goal

The goal of this section is to ensure that the seafarers are able to prove that they have completed training of the relevant alternative fuel.

~~6.2~~ 8.2 Technical requirements

Administrations shall ensure that documentary evidence should be issued indicating that the holder has completed successfully the training required under these Interim Guidelines.