

Recent Topics at IMO

— Outline of Discussion at IMO Committees —

Rule Development and ICT Division, External Affairs Department, ClassNK

1. INTRODUCTION

This article introduces recent topics discussed at International Maritime Organization (IMO). At the previous issue, a summary of the topics discussed at 77th Marine Environment Protection Committee (MEPC 77) held in November 2021 and 104th Maritime Safety Committee (MSC 104) held in October 2021 was provided.

This article provides a summary of the decisions taken at 78th Marine Environment Protection Committee (MEPC 78) held from 6 to 10 June 2022 and 105th Maritime Safety Committee (MSC 105) held from 20 to 29 April 2022 as below.

2. OUTCOMES OF MEPC 78

2.1 Greenhouse Gases (GHG) Emission Reduction Measures

Reduction of greenhouse gas (GHG) emissions to address global warming is a universal challenge, and the measures to reduce GHG emissions from international shipping have been deliberated at IMO.

IMO has introduced the Energy Efficiency Design Index (EEDI), the Ship Energy Efficiency Management Plan (SEEMP) and the Data Collection System for fuel oil consumption of ships (DCS) so far. Further, the Initial IMO Strategy on the reduction of GHG emissions from ships, which includes the emission reduction target and the candidate measures to reduce GHG emissions, was adopted at MEPC 72.

2.1.1 Short-term Measures for Reduction of GHG

The initial IMO Strategy on the reduction of GHG emissions from ships specifies the short-term target by 2030 for improved transportation efficiency of at least 40% compared to 2008. To achieve the short-term target, the amendments to MARPOL Annex VI were adopted at MEPC 76 to implement Energy Efficiency Existing Ship Index (EEXI) and Carbon Intensity Indicator (CII) as well as the related Guidelines were also adopted., and these will be commenced in 2023.

(1) Carbon Intensity Indicator (CII)

Operational Carbon Intensity Indicator is rating mechanism for ships, by calculating attained CII based on the operational fuel consumption data. MEPC 76 established Correspondence Group (CG) to revise/update relevant guidelines on DCS and SEEMP, and develop guidelines on correction factors for certain ship types for implementation of CII framework.

At this session, the relevant Guidelines prepared by the said CG and Intersessional Working Group meeting held prior to MEPC 78 were considered and adopted.

Also, further information on CII and SEEMP Part III including these Guidelines are available at the following NK website.

Top page>Products & Services>Statutory Services> SEEMP, IMO DCS and CII

URL:<https://www.classnk.or.jp/hp/en/activities/statutory/seemp/index.html>

(2) Energy Efficiency Existing Ship Index (EEXI)

EEXI is regulations for existing ships to require the same level of energy efficiency as EEDI for new ships.

At this session, to clarify the applicable limited power of ships fitted with a shaft generator and a method to obtain ship speed V_{ref} from the in-service performance measurement, amendments to Guidelines on the Method of Calculation of the Attained Energy Efficiency Existing Ship Index (EEXI): MEPC.350(78) and Guidelines on Survey and Certification of the Attained EEXI: MEPC.351(78) were adopted and Guidance on methods, procedures and verification of in-service performance measurements: MEPC.1/Circ.901 was newly approved.

2.1.2 Lifecycle GHG and Carbon Intensity Guidelines for Maritime Fuels

For low/zero-carbon fuels, which are expected to become more widely used in the future to decarbonize ships, it is recognized that CO₂ emissions during the manufacturing and distribution processes of these fuels should be taken into account. It is also recognized the significant impact on global warming caused by greenhouse gases other than CO₂, such as methane (CH₄).

Based on this background, MEPC considers developing lifecycle GHG and carbon intensity Guidelines for marine fuel (LCA Guidelines), which assess GHG emissions from marine fuel comprehensively through its manufacture, distribution, and use onboard ships.

At this session, MEPC agreed to establish Correspondence Group for development of the said Guidelines, with a view to finalization at MEPC 80.

2.1.3 Mid/Long-term Measures for Reduction of GHG

The initial IMO Strategy on the reduction of GHG emissions from ships specifies the middle-term target by 2050 to pursue the efforts towards the CO₂ reduction of 70% per transport work and to reduce the total annual GHG emissions by at least 50% as well as the long-term target within this century to aims to phase out GHG emissions as soon as possible.

To proceed consideration of Mid/Long-term measures to achieve these targets, MEPC 76, held in 2021, developed work plan as follows:

- Phase I (2021-2022): Collation and initial consideration of proposals for measures
- Phase II (2022-2023): Assessment and selection of measures to further develop
- Phase III (2023): Development of measures for statutory requirements

At MEPC 78, it was agreed to proceed with phase II for further consideration of the candidate measures proposed by each country through intersessional working group meeting held prior to MEPC 78. The leading candidate measures are shown in Table 1 as follows.

Table 1 The candidate measures

GHG Fuel Standard (GFS)	Each ship calculates GFS value, which is expressed in the mass of GHG emissions per unit of energy used on-board a ship (g CO ₂ e/MJ). The reduction factor for the GFS value would be enhanced year by year.
IMO Maritime Research Fund (IMRF)	US\$2 per tonne of marine fuel are funded to IMRF, which is used for development of low/zero carbon technologies.
International Maritime Sustainability Funding and Reward (IMSF&R)	Using CII mechanism, ships above upper benchmark level pay funding contributions and ships below lower benchmark level receive rewards.
feebate	Ships using fossil fuels pay for the levy and ships using zero-emission fuels receive rebate.
GHG levy	Ships pay GHG levy for US\$100 per tonne of marine fuel. The revenue will be funded to climate change mitigation and adaptation projects under UNFCCC, and subsidized to R&D projects for new technologies under IMO.
Emission Cap-and-Trade System (ECTS)	Based on the annual cap on GHG emissions, each ship is required to acquire and surrender allowances for GHG emissions by auctioning.

2.1.4 Review of Initial IMO Strategy on the Reduction of GHG Emissions from Ships

The initial IMO Strategy on the reduction of GHG emissions from ships adopted in 2018 stipulates that its contents be reviewed every five years. At MEPC 77, recognizing the need to strengthen the ambition of Initial IMO Strategy, it was agreed to conduct a review of the Initial IMO Strategy, with a view to finalization at MEPC 80 to be held in Spring 2023.

At this session, it was agreed to hold intersessional working group meeting prior to MEPC 79 to facilitate discussion for the review of the initial IMO Strategy.

2.2 BWM Convention

2.2.1 Temporary Storage of Treated Sewage and Grey Water

The prohibition on the discharge of treated sewage and gray water in certain ports has led to questions as to whether it is acceptable to temporarily store such water in ballast tanks. However, it is not clear whether the storage of treated sewage and grey water in the ballast tanks are subject to the BWM Convention and/or MARPOL Annex IV.

At this session, it was agreed to continuously consider this issue at future sessions.

2.2.2 Ships Operating at Ports with Challenging Water Quality

Proposals on application of the BWM Convention to ships operating at ports with challenging water quality was made due to concerns on operation of Ballast Water Management System (BWMS) at port area where certain water qualities, such as high level of turbidity, high level of total suspended solids or low salinity, are identified to exceed the operational limitation.

At this session, further fundamental issues, such as the identification of challenging water quality and the feasibility of ballast water exchange plus treatment (BWE+BWT), were recognized, and further proposals on these issues were invited for considerations.

2.3 Air Pollution

2.3.1 Unified Interpretation on Use of Biofuel

Regulation 18 of MARPOL Annex VI prescribes the requirements for the use of fuels derived from petroleum refining and fuels derived by other methods. However, the application of the NO_x requirements to biofuel blends, which are expected to be introduced as zero/low-carbon fuels, is not clearly described in the regulation.

At this session, the application of regulation 18 for a biofuel and a biofuel blend were considered and a unified interpretation was approved. According to the unified interpretation, a certified marine diesel engine, which can operate on a biofuel or a biofuel blend without changes to its NO_x critical components or settings/operating values outside those as given by that engine's approved Technical File, is permitted to use such a fuel oil without the additional assessment. Also a fuel oil which is a blend of not more than 30% by volume of biofuel is deemed as blends of hydrocarbons derived from petroleum refining specified in regulation 18.3.1, and additional confirmation of NO_x emission is not needed. In other case than above, the onboard simplified measurement method in accordance with 6.3 of the NO_x Technical Code 2008 may be used for a verification that the specified engine does not exceed the applicable NO_x emissions limit when burning the said fuels.

2.3.2 Designation of SO_x Emission Control Area

Regulation 14 of MARPOL Annex VI sets out control measures to reduce emissions of Sulphur Oxides (SO_x) and Particulate Matter (PM) from ships and limits the sulphur content in fuel oil used in Emission Control Areas (ECAs) to 0.10% and limits the sulphur content to 0.50% for outside of ECAs. So far, the Baltic Sea, the North Sea, the North American Area and the United States Caribbean Sea Area have been designated as SO_x-ECA.

At this session, a proposal to designate the Mediterranean Sea as SO_x-ECA was submitted. Following the discussion, draft amendments to MARPOL Annex VI to add the Mediterranean Sea as SO_x-ECA were approved. Since no conclusion was reached on the application date for the said draft amendments at this session, these amendments are expected to be adopted at MEPC 79 with further discussion. The earliest possible application of 0.1% sulphur limit in marine fuel oil used on board ships operating in the Mediterranean Sea would be in Spring of 2025.

2.4 Others (Marine Plastic Litter)

2.4.1 Anti-fouling Systems (AFS)

The AFS Convention entered into force in 2008 to prohibit the use of harmful organotin (TBT) in anti-fouling paints used on ships. At MEPC 76, amendments to the AFS Convention to prohibit the use of anti-fouling paints containing cybutryne were adopted.

At this session, to reflect the prohibition of cybutryne, amendments to Guidelines for brief sampling of anti-fouling systems on ships: MEPC.356(78), Guidelines for inspection of anti-fouling systems on ships: MEPC.357(78) and Guidelines for survey and certification of anti-fouling systems on ships: MEPC.358(78) were adopted.

2.4.2 Marine Plastic Litter

With a view to tackling the problem of plastics in the oceans, MARPOL Annex V prohibits discharge of plastics from vessels. However, it was often pointed out that this prohibition regulation was not effective and that some additional actions were needed at IMO level to reduce plastic pollution in the marine environment. To solve this problem, MEPC resolution on Strategy to Address Marine Plastic Litter from Ships was adopted at MEPC 77, which includes vision of aims to strengthen the international framework and compliance with the relevant IMO instruments, endeavoring to achieve zero plastic waste discharges to sea from ships by 2025.

At this session, amendments to MARPOL Annex V were approved to expand the scope of Garbage Record Book, which is required to be provided for vessels of 400 tons or more, to vessels of 100 tons or more. These amendments will be adopted at next session.

2.5 Amendments to Mandatory Instruments

2.5.1 Watertight Doors on Cargo Ships

Amendments to MARPOL Annex I: MEPC.343(78) and IBC Code: MEPC.345(78) to align with the requirements on the condition of watertight doors specified in SOLAS were adopted. Amendments to MARPOL Annex I will enter into force on 1 Jan 2024 and Amendments to IBC Code will enter into force on 1 July 2024.

2.5.2 GESAMP Hazard Evaluation Procedure

Amendments to appendix I of MARPOL Annex II related to the abbreviated legend of the revised GESAMP Hazard Evaluation Procedure, which will enter into force 1 November, were adopted.

3. OUTCOMES OF MSC 105

3.1 Adopted Mandatory Requirement

Mandatory requirement was adopted at MSC 105 as follows:

(1) Amendments to SOLAS etc. due to modernization of the Global Maritime Distress and Safety System (GMDSS)

Following recent modernization of the GMDSS, the draft amendments to SOLAS II-1, III, IV and V, and the appendix (Certificates), etc., were adopted. In addition, the relevant performance standards, guidelines and guidance were also approved. The main points of the amendments are shown as follows:

1. Definition of “Sea area A3” are modified to “a recognized mobile satellite service supported by the ship earth station carried on board” from “an Inmarsat geostationary satellite”.
2. The provisions in SOLAS regulation III/6 related to two-way VHF radiotelephone apparatus and search and rescue locating devices (SART) have been relocated under SOLAS IV.
3. The performance standards for the reception of maritime safety information and search and rescue related information by MF (NAVTEX) and HF, shipborne VHF radio installations, shipborne MF and MF/HF radio installations, Inmarsat-C ship earth stations, etc. were amended.

(2) Amendments to IMSBC Code

The 6th amendments to IMSBC Code including new cargos were adopted.

(3) Amendments to IMDG Code

41st amendments to IMDG Code were adopted, to reflect the biennial amendments to “United Nations Recommendations on the Transport of Dangerous Goods”.

3.2 Approved Mandatory Requirements

The following mandatory requirements were approved at this session, and are expected to be considered for adoption at MSC 106 in November 2022.

(1) Amendments to IGC Code

Amendments to add high manganese austenitic steel in Table 6.3 of IGC Code on plates, sections and forgings for cargo tanks, secondary barriers and process pressure vessels for design temperatures below -55°C and down to -165°C, were approved.

(2) Amendments to IGF Code

Amendments to add high manganese austenitic steel in Table 7.3 of IGF Code on plates, sections and forgings for fuel tanks, secondary barriers and process pressure vessels for design temperatures below -55°C and down to -165°C, were approved.

(3) The International Code of Safety for Ships carrying Industrial Personnel (IP Code)

Newly developed IP Code and new SOLAS Chapter XV to make the IP Code mandatory were approved. The IP Code applies to cargo ships and high-speed cargo craft, of 500 gross tonnage and upwards which carry more than 12 industrial personnel, expecting its entry into force on 1 July 2024.

(4) Amendments to 2011 ESP Code

Amendments to 2011 ESP Code which mainly contain the following items were approved.

1. The coating condition criteria of ballast tanks, excluding double-bottom tanks, of bulk carriers were strengthened from “POOR” to “less than GOOD”, which are used for the tank examination at annual intervals.

2. For void spaces bounding cargo holds of double-side skin bulk carriers exceeding 20 years of age and of 150m in length and upwards, it is required that the spaces in question should be examined at annual intervals where a hard protective coating is found to be in POOR condition.
3. It was clarified that oil tankers carrying oil in independent tanks which did not form part of the ship's hull were outside the scope of the ESP Code.
4. Timing of tank pressure testing for oil tankers at renewal survey was clarified.

(5) Measures to enhance the safety of ships relating to the use of fuel oil

Triggered by the global 0.5% sulphur limit, which has entered into force on 1 January 2020, further measures to enhance the safety of ships relating to the use of fuel oil have been discussed. In result, draft amendments to SOLAS Chapter II-2 were approved to require that a bunker delivery note for the fuel delivered to the ship shall contain the flashpoint information.

3.3 Approval of Unified Interpretations (UIs), Guidelines and Guidance etc.

The following unified interpretations (UIs), guidelines and guidance etc. were approved during MSC 105.

3.3.1 Unified Interpretations (UIs)

(1) Unified interpretation of the IGC Code

The amendments to the interpretation of paragraphs 5.4.4 and 5.13.2.4 of the IGC Code (MSC.1/Circ.1625) to clarify that the “duct” in gas fuel piping systems should mean to include the equipment enclosure (e.g. gas valve unit enclosure) as well as the structural pipe duct were approved. Meanwhile gas valve unit rooms are exempted from the scope of the requirement, it should be able to withstand the maximum built-up pressure arising in the room in case of a gas pipe rupture, as documented by suitable calculations.

(2) Updated unified interpretation regarding timber deck cargo in the context of damage stability requirements (annex of MSC/Circ.998)

Unified interpretation regarding timber deck cargo in the context of damage stability requirements (annex of MSC/Circ.998) was updated to align with 2011 TDC Code. (IACS UI SC161)

(3) Unified interpretation of Noise Code

Unified interpretation to “workshops other than those forming part of machinery spaces”, which is stipulated in paragraph 4.2.1 of the annex to the Code on noise levels on board ships, was approved.

(4) Amendments to unified interpretation of 1988 LL Protocol (MSC.1/Circ.1535/Rev.1)

Amendments to unified interpretation of 1988 LL Protocol (MSC.1/Circ.1535/Rev.1) to add the interpretation of regulation 37 “Deduction for superstructures and trunks” that the deduction for forecastle and other superstructures cannot be applied to ships of type ‘B’ where the effective length of forecastle is less than 0.07L, were approved.

(5) Amendments to unified interpretation of SOLAS Chapter II-1 (MSC.1/Circ.1362)

Amendments to unified interpretation of SOLAS Chapter II-1 (MSC.1/Circ.1362) to add the interpretation of regulations 5.4 and 5.5 on alterations of lightweight to clarify the condition for implementation of inclining test and update of stability information which may be required in result of the lightweight calculation were approved.

3.3.2 Guidelines, Guidance and Other Circulars

(1) Explanatory notes to the interim guidelines on second generation intact stability criteria (MSC.1/Circ.1627)

Interim Guidelines for the second generation intact stability criteria (MSC.1/Circ.1627) has been published to provide performance-based criteria for assessing five dynamic stability failure modes in waves, namely, dead ship condition, excessive acceleration, pure loss of stability, parametric rolling and surf-riding/ broaching. At this session, the Explanatory Notes to the Interim Guidelines which are intended as a support in the application of the Interim Guidelines by providing further clarifications and explanations to the elements therein, were approved.

(2) Interim guidelines for the safety of ships using fuel cell power installations

As a part of long term consideration on amendments to IGF Code, the Interim guidelines for the safety of ships using fuel cell power installations were approved.

3.4 Consideration of Requirements for Maritime Autonomous Surface Ships (MASS)

Taking into account recent investigation of automation surrounding a ship, it has been discussed at MSC on conventional requirements of safety and environmental protection relating to MASS.

At this session, the road map for developing goal-based MASS Code was endorsed, in which non-mandatory MASS guidelines will be developed in 2024 and mandatory goal-based MASS Code will be developed targeting entry into force in 2028. The details of the Code would be considered by the intersessional correspondence group established at this session.

3.5 New Output on Safety of Newly Built Ships Using Ammonia as Fuel

To achieve GHG reduction target, utilization of alternative fuel is essential and demand for design and/or construction of ammonia-fuelled ships are emerging. Under these circumstances, it was proposed to develop non-mandatory guidelines for ships using ammonia as fuel at MSC 105.

At this session, it was agreed to consider developing guidelines for ships using ammonia as fuel with a target completion year of 2023. Discussion will be started at next CCC Sub-Committee to be held in September 2022.

Relevant to this topic, ClassNK published its “Guidelines for Ships Using Alternative Fuels (Edition 2.0)” in July 2022 to minimize the risks related to ammonia-fuelled ships for the ships, crew, and environment by stipulating requirements for installation, controls, and safety devices.