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CARRIAGE OF CARGOES AND CONTAINERS

Early implementation of draft amendment to paragraph 16.9.2 of the IGC Code

Submitted by Belgium, Cyprus, Denmark, Japan, the Republic of Korea, Liberia, Luxembourg, the Netherlands (Kingdom of), Norway, ICS, IACS, INTERTANKO, EUROMOT and IBIA

SUMMARY

Executive summary: This document proposes to move forward the timeline for entry into force of the draft amendment to paragraph 16.9.2 of the IGC Code set out in annex 2 of document CCC 9/WP.4, through approval of the draft amendment at this session; earlier entry into force of the amendment, as an exceptional circumstance defined in MSC.1/Circ.1481; and issuance of an MSC circular inviting voluntarily implementation of the amendment based on MSC.1/Circ.1565.

Strategic direction, 1 if applicable:

Output: 1.17

Action to be taken: Paragraph 26

Related documents: CCC 9/4, CCC 9/4/9, CCC 9/14, CCC 9/WP.4; MSC 102/21/14; MSC.1/Circ.1481 and MSC.1/Circ.1565

Background

1 The Maritime Safety Committee, at its 103rd session (MSC 103), agreed on a new output for the post 2020-2021 biennium to review the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code) with the goal of finalizing this review in two sessions (MSC 103/21, paragraphs 18.1 to 18.3). The review would include all provisions of the IGC Code, including paragraph 16.9.2, as requested by Norway in document MSC 102/21/14.

2 The Sub-Committee on Carriage of Cargoes and Containers (CCC), at its ninth session (CCC 9), considered the proposals in related documents CCC 9/4 (Marshall Islands) and CCC 9/4/9 (Belgium et al.), as part of its review of the IGC Code, and the Working Group on Review of the IGC Code prepared a draft amendment to paragraph 16.9.2 of the Code, as set out in annex 2 of document CCC 9/WP.4.

3 CCC 9 set out to finalize all draft amendments to the IGC Code at CCC 10 with a view to approving them at MSC 109 and subsequently adopting them at MSC 110, in line with the output formulated by the Committee (CCC 9/WP.4, paragraph 4.12 and CCC 9/14, paragraph 4.24).

4 In its consideration of the draft amendment, the CCC Sub-Committee noted that "there was an urgent need to facilitate the industry's transition to low and zero-carbon fuels, including ammonia, and the amendments to the IGC Code would allow and support this much needed transition" (CCC 9/14, paragraph 4.10.2).

Discussion

Solutions to decarbonize shipping and first movers driving the transition

5 In accordance with the fourth IMO GHG Study 2020 (MEPC 75/7/15), alternative fuels are essential in order to achieve IMO's ambition for the reduction of GHG emissions from shipping, as set out in the 2023 IMO GHG strategy.

6 Different studies have identified ammonia as being one of the long-term fuels that will drive the transition for shipping decarbonization when considering its properties as a fuel (especially its volumetric energy density compared to, e.g. compressed hydrogen), existing infrastructure and experience with production, transport and handling within industry. A more comprehensive overview of the applicability of ammonia as a maritime fuel is provided in document CCC 9/4/9.

7 Ammonia tankers have extensive experience in carrying and handling ammonia, as cargo, and their crews have the appropriate certificates to handle flammable and toxic gasses and are familiar with existing procedures and rules on maximum exposure levels. Ammonia tankers are subject to the IGC Code, which contains specific requirements for storage, handling, distribution, material selection and personal protective equipment (PPE). The same is true for the onshore handling of ammonia, as all export and import ports that will be used by ammonia tankers already have experience handling large volumes, with proper safety procedures in place and without requiring additional shore-side infrastructure for bunkering.

8 The expected way forward for the introduction of ammonia, as a marine fuel for gas carriers, is through the alternative design approach (ADA), according to paragraph 1.3 of the IGC Code. Once published, the interim guidelines for ships using ammonia as fuel should be taken into account by the flag State Administration.

Urgency of the amendment

9 When developing the provisions of chapter 16 of the IGC Code in 2014, and specifically the prohibition on the use of toxic products as fuel, ammonia was not considered as a viable option. Thinking on ammonia, as an alternative fuel, has evolved very fast in the past decade. This is in large part due, as a result of the universal recognition of climate change as a serious global risk, to the introduction and increase of regulations and other incentives to reduce GHG emissions and research into alternative fuels from an engineering and economic perspective.

10 Most classification societies have rules or guidelines on the use of ammonia as fuel, and work on interim guidelines is progressing expediently in a good spirit of cooperation within the CCC Sub-Committee. Interim guidelines for ammonia as fuel for ships not covered by the IGC Code are expected to be approved in December 2024. These guidelines could, then, be used to advance the development of interim guidelines for ships using ammonia cargo as fuel shortly thereafter.

11 Regulations related to GHG emissions are developing at a fast pace at national, regional and international levels. This, coupled with continuing advances in the readiness of the technology and public and commercial pressure for green initiatives, has brought the maritime sector to the tipping point where concrete investments in commercial applications of ammonia as a fuel are made, with shipping companies announcing the placing of firm orders for ammonia carriers to run on ammonia, or considering the option to use ammonia as a fuel on the ships they have on order. The first commercial marine ammonia-fuelled engines are reported to become available in 2024, initially as dual-fuel engines. Most shipping companies which have announced orders or projects for ships running on ammonia, state 2026, as the year of delivery.

Timeline for entry into force

12 If the current timeline for entry into force of the amendment to paragraph 16.9.2 of the IGC Code is followed and pending future Committee decisions, it would look as follows:

CCC 9	CCC 10	MSC 109	MSC 110	SOLAS 4-year cycle
September 2023	September 2024	December 2024	June 2025	1 January 2028
Draft amendment to paragraph 16.9.2	CCC finalizes its review of the IGC Code	MSC can approve the amendments	MSC can adopt the amendments	Entry into force of the amendments in line with MSC.1/Circ.1481

13 It is important to note that the current work plan foresees the finalization of the 'Interim guidelines for ships using ammonia as fuel' at CCC 10 and that work on 'Guidelines for ships using ammonia cargo as fuel' could commence shortly thereafter. This would mean that the entry into force of the amendment would, most likely, be later than the approval of the voluntary guidelines. However, the guidelines would be inapplicable, because of the prohibition to use ammonia cargo as fuel by the IGC Code.

14 Considering the urgency of the amendment, the co-sponsors are of the view that:

- .1 the draft amendment to paragraph 16.9.2 of the IGC Code should be approved at MSC 108 with a view to subsequent adoption at MSC 109 for entry into force at the earliest opportunity;
- .2 the adopted amendment should enter into force on 1 July 2026, as an exceptional circumstance; and
- .3 an MSC circular inviting voluntarily implementation of the amendment should be approved to enable flag States to apply the amendment on a voluntary basis.

15 If the above-mentioned actions are followed, the timeline would be as follows:

CCC 9	MSC 108	MSC 109	Entry-into-force date
September 2023	May 2024	December 2024	July 2026
Draft amendment to paragraph 16.9.2 was prepared	MSC approves the amendment	MSC adopts the amendment and enables flag States to apply the amendment on a voluntary basis	Entry into force as an exceptional circumstance, as per MSC.1/Circ.1481, paragraph 4

16 Although a draft amendment was prepared at CCC 9, all amendments were considered as part of the same output to be finalized at CCC 10 and sent for approval to MSC 109. MSC 103 agreed to an entry-into-force date of 1 January 2028 for this output, and this was reflected as such in the report of CCC 9 to MSC 108 (CCC 9/14, paragraph 4.24). Given the urgency described in paragraphs 9 to 11 above, it is the view of the co-sponsors that the Committee should decide on approval of the amendment of paragraph 16.9.2 of the IGC Code at this session.

Extraordinary circumstances

17 The four-year cycle for amending the SOLAS Convention and related mandatory instruments was reinstated by MSC 93, through publication of the circular MSC.1/Circ.1481. This Guidance provides the possibility to deviate from this cycle on the basis of exceptional circumstances. As the proposed amendment is necessary to apply the interim guidelines for ships using ammonia as fuel, the co-sponsors consider the conditions for extraordinary circumstances and, therefore, a deviation from the four-year cycle, as fulfilled.

18 In addition, it is relevant for the Committee to consider that the introduction of the four-year cycle was proposed, in part, to give more regulatory clarity to shipping companies. With this specific amendment, shipping companies are explicitly asking for a deviation from the four-year cycle.

Early implementation

19 In the view of the co-sponsors, the Committee should also consider a voluntary early implementation circular, in line with the framework provided in the *Guidelines on the voluntary early implementation of amendments to the 1974 SOLAS Convention and related mandatory instruments* (MSC.1/Circ.1565). In particular, the Committee should consider paragraphs 3.1.5 to 3.1.7 of the annex to the circular.

20 Introducing a new fuel that is, in many ways, substantially different from the fossil fuels that were the default for the shipping industry for decades, brings significant changes and challenges for maritime administrations and industry. Allowing for a gradual introduction on a voluntary basis as flag States approve alternative designs will help with this introduction. Early lessons learned from an initially limited scale will be invaluable information for the Committee, and IMO, in general, when moving forward.

21 Voluntary early implementation would reduce the regulatory risk for shipowners wanting to invest in ships using ammonia cargo as fuel, if accepted by the flag State concerned. The required transparency in the process of granting equivalency will also create more certainty for other parties involved, including port States of the ports of call of these ships.

22 The environmental concerns of climate change addressed in part by the use of (green) ammonia as fuel are a serious challenge for the maritime industry today. As these concerns drive the need for alternatives, the co-sponsors also recognize the importance of the health, safety and training of seafarers, and maritime safety more broadly, as paramount. The proposals contained in this document aim to find a realistic and safe pathway for the introduction of ammonia as fuel, complying with the fundamental requirement of an equivalent level of safety in the alternative design approach.

Proposal

23 In light of the above, the co-sponsors propose to approve the draft amendment set out in the annex, based on annex 2 of document CCC 9/WP.4, including consequential renumbering of paragraphs due to newly-added paragraph 16.9.3.

24 The co-sponsors also propose to agree, in principle, that MSC 109 should issue a voluntary early implementation circular at the time of adoption of the amendment, and to request the Secretariat to draft a circular to that end in line with MSC.1/Circ.1565.

25 Finally, the co-sponsors propose to agree, in principle, that the conditions for earlier entry into force due to exceptional circumstances have been fulfilled, and that the entry-into-force date can be set at 18 months after adoption of the amendment.

Action requested of the Committee

26 The Committee is invited to consider the proposals in paragraphs 23 to 25 and to take action, as appropriate.

ANNEX

DRAFT AMENDMENT TO THE IGC CODE

**CHAPTER 16
USE OF CARGO AS FUEL**

1 Paragraph 16.9 is amended as follows:

"16.9 Alternative fuels and technologies

16.9.1 If acceptable to the Administration, other cargo gases may be used as fuel, providing that the same level of safety as natural gas in this Code is ensured.

16.9.2 The use of cargoes ~~identified as toxic products~~ requiring carriage in type 1G ships, as identified in column "c" in the table of chapter 19, shall not be permitted.

16.9.3 If acceptable to the Administration, the use of cargoes identified as toxic products in column "f" which are required to be carried in type 2G/2PG ships in column "c" in the table of chapter 19 may be used as fuel, provided that the same level of safety as natural gas (methane) is ensured in accordance with the relevant provisions of this Code, including those in 1.3, and taking into account the guidelines [to be] developed by the Organization*, after special consideration has been given by the Administration.

16.9.34 For cargoes other than LNG, the fuel supply system shall comply with the requirements of 16.4.1, 16.4.2, 16.4.3 and 16.5, as applicable, and shall include means for preventing condensation of vapour in the system.

16.9.45 Liquefied gas fuel supply systems shall comply with 16.4.5.

16.9.56 In addition to the requirements of 16.4.3.2, both ventilation inlet and outlet shall be located outside the machinery space. The inlet shall be in a non-hazardous area and the outlet shall be in a safe location.

*Refer to the guidelines to be developed by the Organization."