

SUB-COMMITTEE ON CARRIAGE OF
CARGOES AND CONTAINERS
1st session
Agenda item 4

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**DEVELOPMENT OF INTERNATIONAL CODE OF SAFETY FOR SHIPS USING GASES
OR OTHER LOW-FLASHPOINT FUELS (IGF Code)**

Comments on document CCC 1/4 and the full scope of the IGF Code

Submitted by the Community of European Shipyards' Associations (CESA)

SUMMARY

Executive summary: This document provides constructive comments on the draft IGF Code as set out in annex 1 to document CCC 1/4. Overall CESA considers the draft to be mature enough to be finalized at this session, which is the foremost priority of the shipbuilding industry. In order to fulfil the terms of reference assigned to this Sub-Committee, a wide scope of the IGF Code with regard to fuel types and energy converters should be maintained.

Strategic direction: 5.2

High-level action: 5.2.1

Planned output: 5.2.1.2

Action to be taken: Paragraph 21

Related documents: CCC 1/4; BLG 17/8/6, BLG 17/WP.5; FP 56/WP.6 and MSC 92/10/3

Introduction and background

1 This document is submitted in accordance with the provisions of paragraph 6.12.5 of the *Guidelines on the organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.4/Rev.2) and provides comments on document CCC 1/4.

2 CESA appreciates the significant progress achieved by the correspondence group and is optimistic that the draft IGF Code, as set out in annex 1 to document CCC 1/4, can – from a substantial technical perspective – be finalized at this session. The shipbuilding industry urgently requires regulatory reliability that can only be provided by mandatory international regulations.

3 Liquefied Natural Gas (LNG) as well as other clean gas and low-flashpoint liquid fuels are the most important energy options for a sustainable future of maritime transport. In order to ensure timely and wide industrial application of low emission ships the scope of the IGF Code has to be as broad as indicated by the title of the work programme item.

Separation of tank rooms and machinery spaces

4 The draft IGF Code contains specific requirements for the segregation of tank rooms from machinery spaces at two locations. Both paragraphs 5.3.1 and 11.3.4 mandate that a tank room should be separated from category A spaces or other rooms with high fire risks by a cofferdam of at least 900 mm with insulation of A-60 class.

5 This wording originates from recommendations provided by the Sub-Committee on Fire Protection contained in document FP 56/WP.6. However, it also contains the important clarification that "*For type C tanks, the hold space may be considered as a cofferdam*" (see FP 56/WP.6, annex 2, page 1, paragraph 11.4.3), which is not reflected in the current draft IGF Code.

6 If this clarification is not reinstated, the IGF Code would require excessively large void spaces, which would make it extremely difficult to install sufficiently large type C tanks on ships designed for long range operation. A type C tank, which is considered to be an intrinsically safe tank type, would have to be bounded by at least 600 mm empty tank room (for inspection purposes) plus an additional 900 mm cofferdam plus A-60 insulation.

7 Such a requirement would put the type C tank in a competitive disadvantage in relation to e.g. membrane tanks, although it is evident that type C tanks do not require this additional safety margin, because they are independent of the surrounding structure and already placed at distance from the tank room boundary.

8 Therefore, CESA proposes to introduce the sentence "*For type C tanks, the hold space may be considered as a cofferdam*" at the end of both paragraphs 5.3.1 and 11.3.4. In addition, it should be considered whether the same (or slightly modified) clarification should be added with regard to (spherical and prismatic) independent type A and B tanks.

Fuel cells

9 CESA would like to reiterate the growing importance of marine fuel cells as a clean and highly efficient energy converter, which is demonstrated by a large number of R&D projects and full scale pilot applications, on which CESA has reported in submissions to and presentation at IMO.

10 The European shipbuilding industry therefore urges the Sub-Committee to instruct the working group to finalize the Code including the draft requirements for fuel cells, which are relatively mature and in substance based on simplified existing class rules, which have already been applied in practice.

11 The final debate on the few unresolved substantial issues of this standalone 3 page fuel cell section currently placed in chapter 10 could be performed within the scheduled working group. The remaining editorial problems highlighted in paragraph 6 of the report of the correspondence group can be easily solved in an MSC drafting group and do not justify a postponement to a potential phase 2 of the IGF Code development.

Low-flashpoint diesel

12 CESA would like to reiterate that low-flashpoint diesel is a ship's fuel of increasing importance that should be made permissible through appropriate mandatory IMO instruments. Such diesel fuels with a flashpoint in the range of 52 to 55°C have a high energetic density and could also be used in fuel cell systems with reformers. Low-flashpoint diesel has even higher significance as a low-sulphur fuel option to be used in Sulphur Emission Control Areas (SECA) in the near future.

13 In document BLG 17/8/6, CESA has proposed deviations and additional requirements for this fuel type in relation to the LNG provisions contained in part A-1 of the draft Code in a user-friendly simple format. The Sub-Committee supported and considered these proposals along with draft requirements for methanol and ethanol, but postponed the finalization to a later stage (BLG 17/WP.5, paragraph 6).

14 In order not to lose the information and to facilitate the timely incorporation into the draft IGF Code, CESA has updated these draft requirements with regard to the new structure and new paragraph numbering of the draft IGF Code. This information is provided in the annex to this document.

15 Since low-flashpoint diesel fuels do not represent a significant increase in fire risk (see MSC 92/10/3 by the United States) and are well-known fuels, which are already on board of ships for use within emergency generators, these requirements should be incorporated into the draft IGF Code now. Due to the short-term significance of this fuel type in the SECA context, postponement to a second development phase is not an option.

16 The proposals contained in the annex should be reviewed by the working group and added to draft IGF Code as an additional part. As a consequential amendment, "Low-flashpoint diesel (liquid)" should also be listed in paragraph 2.2.19.

17 If the part on low-flashpoint diesel could not be finalized at this session, the United States proposal contained in MSC 92/10/3 should be revisited. It would be an unnecessary burden on the maritime industry, without a significant safety benefit, if the use of these fuels would necessitate approval according to the SOLAS chapter II-1, part F, regulation 55, alternative design equivalence procedure referenced in section 2.3 of the draft Code. CESA, therefore, would also support the approach to exclude fuels with a flashpoint between 52 and 55°C from the IGF code and SOLAS regulations II-2/4.2.1 and II-2/4.2.2.3.2.

Scope of the Code and way ahead

18 In summary, CESA recommends a timely technical finalization of the draft IGF Code at this session. In doing so the broad scope regarding different energy converters and fuel types should be maintained as far as possible. From an industrial perspective it is not sufficient to limit the Code development to a mandatory version of LNG (only) requirements complemented by functional requirements that could only be utilized by the verification of equivalence through approval of alternative designs.

19 Therefore, a full list of permissible alternative fuels should be kept in the draft Code and the application of the prescriptive LNG requirements (including fuel cells) should be modified to the properties of other fuels in a manner as provided for low-flashpoint diesel. The amount of necessary deviations for gas fuels other than LNG is in many cases rather limited.

20 Fuel types and energy converters that could not be finalized at this session should be tackled in a phase 2 of the IGF Code development within the next two years. In order to ensure the finalization of a full scope IGF Code without undue delay the current planned output should be kept on the work programme. Therefore, this Sub-Committee should recommend an extension of the target completion date when the (semi-)final draft IGF Code is submitted to the Maritime Safety Committee with a view of approval and adoption.

Action requested of the Sub-Committee

21 The Sub-Committee is invited to consider the information provided and take action as appropriate.

ANNEX

Specific requirements for ships using Diesel Fuel with FP < 60°C

1 In addition to the requirements in SOLAS chapter II-2 for the fuel system components, installation and energy converters the requirements in the following paragraphs shall apply.

2 In addition to part A, the following paragraphs of part A-1 apply to ships using diesel fuel with FP < 60°C as fuel:

Subject	Paragraphs	Comments
Material and general pipe design	7.1, 7.2	Requirements for (liquid) gases do not apply.
Power generation	10.6	Except gas piping
Fuel storage	6.1, 6.2	
Fuel supply to consumers	9.1, 9.2	
Bunkering	8.1, 8.2, 8.4	
Ship design and arrangements	5.1, 5.2, 5.9, 5.10	See additional requirements par. 3 below
Fire safety	11	
Explosion protection	12	
Ventilation	13.1, 13.2, 13.3	

3 Additional requirements for ships using diesel fuel with FP < 60°C as fuel:

Requirements for the fuel containment system for low-flashpoint diesel oil:

- .1 Tanks for low-flashpoint diesel oil shall be structural tanks and located such that adjacent spaces have temperatures minimum 10 degrees below the flashpoint.
- .2 Piping systems in tanks and their cofferdams shall have no connections with piping systems in the rest of the ship, apart from fuel pipes which shall be arranged as specified in other parts of this Code.
- .3 Piping in areas with temperatures less than 10 degrees below the flashpoint like category A machinery spaces are to be double walled with ventilation.
- .4 Areas containing fuel pipes or adjacent to tanks are to be suitable ventilated to prevent aggregation of fuel vapours.
- .5 Ventilation pipes for tanks are to be fitted with an approved type of vent head with a pressure-vacuum valve and flame arrester. The outlet is to be located in a safe position away from ignition sources.
- .6 Drip trays as in section 5.10 are to be drained to a suitable collection tank separated from machinery space drains.