



Brussels, 8 November 2024
(OR. en)

15395/24

MAR 196
OMI 115

COVER NOTE

From:	Secretary-General of the European Commission, signed by Ms Martine DEPREZ, Director
date of receipt:	7 November 2024
To:	Ms Thérèse BLANCHET, Secretary-General of the Council of the European Union
No. Cion doc.:	SWD(2024) 263 final
Subject:	COMMISSION STAFF WORKING DOCUMENT Union submission to the 11th session of the International Maritime Organization's Ship Design and Construction Sub-Committee commenting on the report of the Correspondence Group on Revision of SOLAS chapters II-1 (part C) and V

Delegations will find attached document SWD(2024) 263 final.

Encl.: SWD(2024) 263 final



Brussels, 7.11.2024
SWD(2024) 263 final

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PURPOSE

This Staff Working Document contains a draft Union submission to the International Maritime Organization's (IMO) 11th session of the Sub-Committee on Ship Design and Construction (SDC 11). The IMO has indicatively scheduled SDC 11 from 13 to 17 January 2025.

The draft submission provides comments on document SDC 11/8/1, Part 2 of the report of the correspondence group on Revision of SOLAS chapters II-1 (part C) and V, and related instruments, regarding steering and propulsion requirements, to address both traditional and non-traditional systems.

It follows the submission MSC 105/18/1 by Austria et al. that provided suggested amendments to SOLAS chapters II-1 (Part C) and V, and related non-mandatory instruments. It also follows the dedicated study "STEERSAFE Steering and Manoeuvrability Study" commissioned by the European Maritime Safety Agency (EMSA).

EU COMPETENCE

Article 6(2)(a)(i) of Directive 2009/45/EC on safety rules and standards for passenger ships¹ provides that new passenger ships of Class A engaged in domestic voyages within the EU shall comply entirely with the requirements of the 1974 SOLAS Convention, as amended. Therefore, any changes to SOLAS regulations would affect Union common rules set out in the Directive.

In light of all of the above, the present draft Union submission falls under EU exclusive competence, pursuant to article 3(2) TFEU as the revision of SOLAS chapters II-1 (part C) and V, which, once adopted, risks affecting or altering Union legislation and in particular Directive 2009/45/EC.² This Staff Working Document is presented to establish an EU position on the matter and to transmit the document to the IMO prior to the required deadline of 29 November 2024.

¹ OJ L 163, 25.6.2009, p. 1

² An EU position under Article 218(9) TFEU is to be established in due time should the IMO Maritime Safety Committee eventually be called upon to adopt an act having legal effects as regards the subject matter of the said draft Union submission. The concept of '*acts having legal effects*' includes acts that have legal effects by virtue of the rules of international law governing the body in question. It also includes instruments that do not have a binding effect under international law, but that are '*capable of decisively influencing the content of the legislation adopted by the EU legislature*' (Case C-399/12 Germany v Council (OIV), ECLI:EU:C:2014:2258, paragraphs 61-64). The present submission, however, does not produce legal effects and thus the procedure for Article 218(9) TFEU is not applied.

**REVISION OF SOLAS CHAPTERS II-1 (PART C) AND V, AND RELATED
INSTRUMENTS REGARDING STEERING AND PROPULSION REQUIREMENTS, TO
ADDRESS BOTH TRADITIONAL AND NON-TRADITIONAL PROPULSION AND
STEERING SYSTEMS**

Comments on document SDC 11/8/1

**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: This document provides comments on document SDC 11/8/1, Part 2 of the report of the correspondence group on Revision of SOLAS chapters II-1 (part C) and V, and related instruments, regarding steering and propulsion requirements, to address both traditional and non-traditional systems.

Strategic direction, if applicable: 2

Output: 2.9

Action to be taken: Paragraph X

Related documents: SDC 11/8, SDC 11/8/1, SDC 10/17, SDC10/WP.4, SDC 10/8, SDC 10/8/1, SDC 10/8/2, SDC 10/8/3, MSC 105/18/1, SSE 9/14/4

Introduction

1 This document comments on document SDC 11/8/1 and is submitted in accordance with the provisions of paragraph 6.12.5 of MSC-MEPC.1/Circ.5/Rev.5.

Background

2 The Sub-Committee on Ship Design and Construction (SDC), at its tenth session, established the Correspondence Group on Revision of SOLAS chapters II-1 (part C) and V, and related instruments, regarding steering and propulsion requirements, to address both traditional and non-traditional systems (SDC 10/17, paragraph 8.32 and 8.33) under the coordination of Japan.

3 The group submitted a report to SDC 11 on the outcome of the group, consisting of Part 1 (document SDC 11/8) on the consideration to revise MSC.1/Circ.1416/Rev.1, and Part 2 (document SDC 11/8/1) on the draft amendments to SOLAS regulations II-1/1, 3, and 28 to 30, and V/25 and 26.

4 Before finalizing the amendments to the referred SOLAS regulations, more detailed discussions were found necessary. Hence, the members were invited to submit documents commenting on the outcome of the group (paragraphs 11, 19, 21, 22 and 34 of document SDC 11/8/1). The present document, based on the dedicated study "STEERSAFE Steering and Manoeuvrability Study"³ and on the subsequent submission MSC 105/18/1 by Austria et al., is submitted for that purpose.

Comments and proposals

5 On paragraph 15 of document SDC 11/8/1, referring to the extensive discussions on the redundancy of steering capability, it is paramount to highlight one of the main safety principles behind the proposal on document MSC 105/18/1: *for ships with multiple propulsion lines and/or steering/propulsion systems (e.g. passenger ships), the steering redundancy on system level proposed as equivalent to the currently required redundancy on component level is conditioned to an adequate ship manoeuvrability in case of single failure in any of the steering systems*. This principle may also be inferred from IACS document SSE 9/14/4 on revision of MSC.1/Circ.1416/Rev.1. Consequently, mandatory requirements on ship manoeuvrability performance as per MSC.137(76), also after a single failure, become essential to keep the safety level.

6 As regards paragraphs 28 to 33 of document SDC 11/8/1, the option described in paragraph 30.1 is strongly supported: *"Amendments of SOLAS/II-1 regulations 28, 29 and 30 together with mandatory revision of resolutions A.467(XII), A.601(15) and MSC.137(76) should be adopted at one time (original proposal in MSC 104/15/37 and MSC 105/18/1)"*. As indicated in this document (paragraphs 5, 7.3 and 8.2), mandatory requirements are needed on ship maneuverability performance as per MSC.137(76), as well as on availability of information on-board about ship's manoeuvring characteristics as per A.601(15). On the contrary, a change on the status of A.467(XII) does not seem necessary in the co-sponsors' view. On paragraph 31, it is worth noting that, on one side, four participants did not support to make MSC.137(76) mandatory; but, on the other side, ten participants, either explicitly or implicitly, accepted the specifically proposed paragraphs of regulations II-1/28-1 and 29-1 making the relevant provisions of MSC.137(76) mandatory.

7 As regards ANNEX 1 of document SDC 11/8/1 (draft regulation 28-1), the following comments are made:

- .1 Paragraphs 4.2 and 4.3: As these Functional Requirements (FR) are not specific to ship astern propulsion and are already covered by regulations II-1/26 & 27, its deletion is supported.
- .2 Paragraph 4.4: It is a valid FR addressed by the prescriptive requirement contained in paragraph 6.5, so its retention is supported. It is worth noting that paragraph 4.7 of regulation II-1/29-1 (Annex 2) is the equivalent FR for steering.
- .3 Paragraphs 6.1 to 6.4: Option 1 is supported i.e. specific provisions of MSC.137(76) would become mandatory. From the safety perspective and also in line with MSC.1/Circ.1394/Rev.2, a minimum ship performance standard needs to be quantified and required. It is acknowledged that there are many parameters influencing the ship movements and that there will be variation in test results, as there will be also difference between the test results and the actual movements of the ship in operation. Nevertheless, the criteria in MSC.137(76) are well known and achievable for trial condition by the merchant fleet (the technical background information referred to in

³ The "STEERSAFE Steering and Manoeuvrability Study" was commissioned by EMSA and carried out by DNV (<http://emsa.europa.eu/publications/reports/item/4398-steersafe.html>).

paragraph 9.4 of document SDC 11/8/1, regarding variations on full astern stopping test results, may be considered as an indication of that).

- .4 Paragraph 6.4 is intended to fulfil paragraph 3.3 of the Annex to Res. A.911(22). The Note of the coordinator is supported and probably the suggested text might be included in regulation II-1/3 as a new definition for the instrument at stake.

8 As regards ANNEX 2 of document SDC 11/8/1 (draft regulation 29-1), the following comments are made:

- .1 Paragraph 4.2: In line with present SOLAS regulation II-1/29.6.1.3, the use of the terms “steering capability” and “speedily regained” is proposed.
- .2 Paragraphs 5.2 to 5.7: Option 1 with the text “[meet the criteria for]” is supported (i.e. specific provisions of MSC.137(76) would become mandatory). From the safety perspective and also in line with MSC.1/Circ.1394/Rev.2, a minimum ship performance standard needs to be quantified and required. It is acknowledged that there are many parameters influencing the ship movements and that there will be variation in test results, as there will be also difference between the test results and the actual movements of the ship in operation. Nevertheless, the criteria in MSC.137(76) are well known and achievable for trial condition by the merchant fleet. Additionally, the arguments regarding redundancy of steering capability provided in paragraph 5 above in this document fully reinforce Option 1.
- .3 Paragraph 5.2: An alternative compliance with either the heading keeping test or the zig-zag test criteria of MSC.137(76) is also supported.
- .4 Paragraphs 5.4 and 9.1.2.1, applicable to passenger ships of 70,000 GT and upwards, follow the same philosophy as that of the combination of present regulations II-1/29.6.1.1 and II-1/29.15.
- .5 Paragraph 5.6: Its retention is supported. Paragraph 6.1 of resolution MSC.137(76) as well as draft sections 2.1 and 3.5 of MSC/Circ.1053 provide guidance for non-standard trial conditions.
- .6 Paragraph 5.7 is intended to fulfil paragraph 3.3 of the Annex to Res. A.911(22). The Note of the coordinator is supported and probably the suggested text might be included in regulation II-1/3 as a new definition for the instrument at stake.
- .7 Paragraph 7.2: The term “[reliability]” is supported.
- .8 Paragraph 7.4: The expression “[Load limitation shall be provided by passive means.]” means that the load limiter shall be “fail to safe” and shall require neither action/power from other system nor manual action.
- .9 Paragraph 7.6: Alignment with IACS UR E25, as proposed below, is supported:
“... Steering gear shall be arranged so that, in the event of such failures, the steering force unit shall remain in the current position or return to midship/neutral [without manual intervention]. For mechanical failures of static components such as pipes or cylinders, the system response without manual intervention is not mandatory.”
- .10 Paragraph 8.1.1.2.4: Same scope limitation as in current regulation II-1/29.16.1.
- .11 Paragraph 8.2.2: Where, as per paragraph 7.6, a failure leads the steering force unit to remain in the current position (unfavourable for ship manoeuvrability), paragraph 8.2.2 requires further capability to “re-locate” it from that current position to midship/neutral (manual action is permitted, without time limitation).
- .12 Paragraph 8.3.1: From the safety point of view, quantification is desirable. Considering the existing requirement of 45 seconds for tankers of 10,000 GT and upwards, a maximum value of 15 minutes is supported as a baseline.

- .13 Paragraph 8.3.2.1: The time limitation to 45 seconds is already required for tankers of 10,000 GT and upwards by current regulation II-1/29.16.1.
- .14 Paragraph 8.3.2.2: The allowance for one actuator (text in brackets), as in current II-1/29.17.2, should be kept: many arrangements may appear to have two actuators but, as they are usually interconnected, failure of one would also prevent function of the other (loss of hydraulic fluid).
- .15 Paragraph 8.3.2.2.2: This paragraph, extracted from current II-1/29.17.2, intends that the component strength is considered, including fatigue and any defect which may be expected in forgings, castings and welded constructions.
- .16 Paragraph 9.1.1.2.1: As in current regulation II-1/29.3.3, the expression “excluding strengthening for navigation in ice” applies to “when the Administration requires a rudder stock of over 120 mm diameter in way of tiller”.
- .17 Paragraph 9.1.1.2.2 is meant to refer to any thruster based steering system. Paragraphs 9.1.1.2.2 and 9.1.2.4.2 are aligned with the interpretations given in MSC.1/Circ.1416/Rev.1 for current regulations II-1/29.3 and 29.4, respectively.
- .18 Paragraph 9.1.1.2.3 (new): The case of systems fitted with unsymmetrical rudder angles is an example of how the technology neutral term “declared steering angle limit” enables solutions to adopt a test regime suitable for the specific design limitations. The added new text is addressing a very particular solution and is therefore not supported.
- .19 Paragraph 9.1.2.1: It is preferred to keep this paragraph to prevent any unexpected configuration and avoid amending the scope of 9.1.2.3.
- .20 Paragraph 9.3: Its retention is supported as the trial conditions and correction procedures need to be defined (as in current regulations II-1/29.3.2 & 29.4.2).
- .21 Paragraph 10.1.2: While 8.1.1.1 is a non-exhaustive list of the most likely failure scenarios; 10.1.2 is the main requirement. Its retention is therefore supported.
- .22 Paragraph 10.2.1 constitutes the most generic solution to address 10.1.2.
- .23 Paragraph 10.3.2.1.1: Its deletion is supported.
- .24 Paragraph 10.3.2.1.4: The amendment proposal is supported.
- .25 Paragraph 10.3.2.3.1: Its retention is supported as it covers any type of solution. Paragraph 10.3.2.3.3 is specific for hydraulically operated steering gears.
- .26 Paragraph 10.3.2.3.2: Its deletion is supported.
- .27 Paragraph 10.3.2.3.3: Deviation alarm may not be sufficient to identify failing system. Ref. IACS UR M42 [12] requires alarm to identify failing system and mentions particularly “incorrect position of valve”.
- .28 Paragraphs 10.3.2.3.5, 12.7 and 12.8: The term “Converter” refers to a semiconductor converter (IEC 60146, IEC62040, IEC61800). They are frequently used for regulation of power units and circuits, hence the need for monitoring their functionality. Retention of the referred paragraphs is supported.
- .29 Paragraph 10.5.1: This paragraph is aligned with current regulation II-1/29.8.1.
- .30 Paragraph 12.4.1.2: This paragraph is aligned with MSC.1/Circ.1416/Rev.1 (interpretation of current II-1/29.14). In this context, “ship speed” would mean the remaining ship speed before the ship stops due to lack of propulsion.

Action requested of the Sub-Committee

9 The sub-Committee is invited to consider the comments and proposals in paragraphs 5 to 8 and take action, as appropriate.