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'I' ITEM NOTE

From:	General Secretariat of the Council
To:	Permanent Representatives Committee (Part 1)
No. Cion doc.:	13536/21 13544/21
No. prev. doc.:	13560/2/21 REV 2 13561/2/21 REV 2
Subject:	Draft submissions by Member States and the Commission to the International Maritime Organization's 8th session of the Sub-Committee on Ship Design and Construction commenting on SDC 8/14/1 by Canada *et al.* and proposing ways to revise *Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life* as well as additional steps – *Endorsement*

I. INTRODUCTION

1. On 3 November 2021, the Commission transmitted to the Council two Staff Working Documents containing draft submissions to the 8th session of the Sub-Committee on Ship Design and Construction (SDC 8) of the International Maritime Organization (IMO) and commenting on a document by Canada, New Zealand, United Kingdom and United States on underwater noise. The deadline for transmitting the draft submissions to the IMO Secretariat is 26 November 2021.

2. Ships are known to be a primary contributor to anthropogenic noise in the oceans. Underwater radiated noise (URN) is a form of pollution and has potentially harmful impacts on marine fauna, in particular marine mammals. URN may disturb the communication between individuals of the same species and also their capability to orientate and nourish themselves.

3. The purpose of the draft submissions is to comment favourably on the submission by Canada and the other co-sponsors but also to make additional suggestions for revision of the IMO *Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life* as well as for possible additional steps, besides the review of the guidelines, that could help to reduce underwater noise.

II. WORK WITHIN THE COUNCIL

4. The draft submissions were presented by the Commission to the members of the Shipping Working Party at their informal videoconference on 8 October 2021. They were further examined at the informal videoconferences of the members of the Shipping Working Party on 15 and 17 November 2021. After that last meeting, delegations were given the opportunity to make comments, to be taken into account when preparing the final version of the submissions. No delegation raised objections to the final version, as set out in the Annexes.

5. The members of the Shipping Working Party also agreed that the Presidency would be allowed to indicate at the time of transmission to the IMO secretariat that the documents may be released to the public prior to SDC 8.

6. The Commission holds the view that the substance of the draft Union submissions falls under EU exclusive competence as it is largely covered by EU legislation (notably by Directive 2008/56/EC of the European Parliament and of the Council[1] and Commission Decision (EU) 2017/848[2]). However, it is the understanding of the members of the Shipping Working Party that the submissions fall under exclusive Union competence only to the extent that their subject matter is covered by those legal acts. To the extent that the matters covered by the submissions are not largely covered by those acts, the understanding is that the submissions are made by the Member States under shared competence and that those submissions should not be construed as exercising shared Union competence.

7. Furthermore, there is no agreement on who should submit the draft submissions. The Commission maintains the view that the draft submissions should be made by "the European Commission on behalf of the European Union", while the Member States consider that they should be made by the Member States and the European Commission.

8. Given the urgency and importance of the matter, it was agreed at working party level to propose to transmit the submissions in the name of the Member States and the European Commission, while taking good note of the position of the Commission.

III. CONCLUSION

9. In the light of the above, the Permanent Representatives Committee is invited to endorse the text of the draft submissions in the annex, with a view to their transmission by the Presidency to the International Maritime Organization by 26 November 2021.

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1 Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive) (OJ L 164, 25.6.2008, p. 19).

2 Commission Decision (EU) 2017/848 of 17 May 2017 laying down criteria and methodological standards on good environmental status of marine waters and specifications and standardised methods for monitoring and assessment, and repealing Decision 2010/477/EU (OJ L 125, 18.5.2017, p. 43).

SUB-COMMITTEE ON SHIP DESIGN AND CONSTRUCTION
8th session
Agenda item 14

SDC 8/14/XX
XX xxxx 2021
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REVIEW OF THE GUIDELINES FOR THE REDUCTION OF UNDERWATER NOISE (MEPC.1/CIRC.833) AND IDENTIFICATION OF NEXT STEPS

Comments on SDC 8/14/1 and suggests a specific text for possible review of the 2014 Guidelines

Submitted by Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the European Commission

SUMMARY

Executive summary:	This document comments on SDC 8/14/1 by Canada *et al.*, which is a Scoping document on Underwater Noise from Commercial Shipping. In addition, it suggests some specific texts for possible revision of the guidelines for the reduction of underwater noise (MEPC.1/Circ.833).
Strategic direction, if applicable:	1, 2 and 3
Output:	
Action to be taken:	Paragraph 4
Related documents:	MEPC 75/14, MEPC 75/14/2; MEPC.1/Circ.833, SDC 8/14/1, SDC 8/14/2

Introduction

1 This document is submitted in accordance with paragraph 6.12.5 of *Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.5/Rev.2) and adds to the Annex to document SDC 8/14/1 submitted by Canada *et al.* on the review of the guidelines for the reduction of underwater noise (MEPC.1/Circ.833) and identification of next steps. This document is submitted to also express support for the SDC's recommendation for review of the 2014 Guidelines.

2 In the Annex to SDC 8/14/1, Canada *et al.* propose a new outline for revising the 2014 Guidelines and includes suggestions for improvements for consideration by the SDC.

Aims

3 This paper comments on SDC 8/14/1 by Canada *et al*. The co-sponsors invite the Sub-Committee to consider the suggestions for improvements made therein.

4 Furthermore, the proposals for a new output on reducing underwater noise were already postponed and eventually referred to the SDC. Given the urgency, the co-sponsors suggest that Canada *et al*'s submission be used as a basis for the work on the matter, and, with an aim to achieve early consensus, by this submission the co-sponsors are anticipating some suggestions to complement the various elements for the review of the 2014 guidelines made in SDC 8/14/1 by Canada *et al*. In view of this, the Annex to this paper includes some specific suggestions for consideration by the Sub-Committee.

Action requested of the Sub-Committee

5 The Sub-Committee is invited to consider the information above and in particular the annex to this paper, as deemed appropriate, with a view to using it as a reference document for further elaboration within its work in order to swiftly complete the revision of the guidelines.

ANNEX

SUGGESTIONS FOR POSSIBLE REVISION OF THE GUIDELINES FOR THE REDUCTION OF UNDERWATER NOISE FROM COMMERCIALSHIPPING TO ADDRESS ADVERSE IMPACTS ON MARINE LIFE

[…]

1 Preamble

1.4 The effective mitigation of URN from shipping requires a strategy addressing the issue at multiple levels and involving multiple stakeholders. Considering the characteristics of sound propagation in water, taking into account that sound is the main mechanism used by fauna for social interactions, reproduction, navigation, detection of obstacles and preys, analysing information regarding hearing ranges and the use of sound by different species, there is an unequivocal overlap between the most relevant noise sources from shipping and the use of sound by different species as a main mechanism to interact with their environment. Responses to underwater noise levels are observed for the main groups of species, marine mammals, fish and invertebrates, corresponding to behavioural changes, masking and physiological responses, depending on the group species. Impacts of shipping noise have been addressed based on field observations, laboratory experiments and modelling approaches.

6 Baselining

6.1 The following operational parameters should be taken into account:

- geographical areas

- laden/ballast conditions

- navigation through restricted areas

6.2.1 An assessment should be made of the marine habitats in which a ship operates, including any seasonal considerations. In particular, attention should be given to the known presence of species such as those in the following groups:

- cetaceans: dolphins and whales

- pinnipeds: seals, sea lions and walruses

- sirenians: manatees and dugongs

- marine fissipeds: polar bears and sea otters

- fish

- invertebrates

6.2.2 Use should be made, to the extent possible, of the means available to measure the underwater noise the ship produces. This would in turn provide additional information to the crew of the ship to help lower the total sound emitted along a route. Issues such as the optimization of the ship's vessel trim, can reduce the required power and therefore propeller cavitation noise. Another possibility is to install sensors to monitor URN sources including – but not limited to – cavitation, such that an appropriate speed can be selected depending on where the vessel is sailing. Consideration should be given to integrating data of the various noise sources from the ship in existing onboard data collection systems.

6.3.1 Consideration should be given to establish a baseline of the underwater noise generated by ships. An assessment should be made to determine the noise characteristics of ships relative to their type, design and operational conditions, including ice conditions.

6.3.2 The following design and maintenance parameters, including those established by the shipyards, should be taken into account:

- type of ship

- hull design

- propellers

- propulsion machinery installations

- design speed

- ice class

6.4 Obtaining incentives related to environmental performance on underwater noise should be pursued. These could be for instance based on underwater noise class notations, or the voluntary sustainability certification as evidence of noise performance. Conversely, authorities should promote the establishment of rewarding schemes to incentivize the implementation efforts to reduce underwater noise by responsible companies and ships.

8 Implementation and monitoring

8.1 Monitoring programmes developed on specific standard, composed of observational measurements and models, are essential for assessment and mitigation purposes.

8.2 Companies should contribute to the understanding of noise characteristics of different vessel types, as well as the dependence of noise levels on various design and operational parameters, as well as seasonal effects on ambient noise through dedicated and opportunistic measurements.

8.3 Authorities should promote the development of regional and national modelling programmes, combining advanced ship noise source level models with propagation models to produce sounds maps for different vessels in order to understand the pressure of different activities and how they can be managed.

9 Energy efficiency and URN reduction

9.1 Although there are many options for ship noise abatement, several energy efficiency measures can also produce an improvement in noise performance and provide positive synergies with climate policies.

9.2 Considerations should be taken at design stage to reduce propeller cavitation as an effective means to reduce underwater radiated noise. Measures aiming to reduce propulsion power and propeller thrust loading, with the appropriate safety caveats, are required to benefit energy efficiency, emission reduction and underwater radiated noise reduction. Wind assistance and optimized hull design and regular maintenance, aimed at reducing hull resistance, are all effective measures for reduced emissions and noise.

9.3 Particular scrutiny should be given to the co-design of hull and propeller as a unit, such that a uniform wake field is created to reduce propeller cavitation, as this will also increase energy efficiency, and reduce emissions.

Suggested Annex to the Guidelines - Integrated tool to evaluate potential URN, costs and implications for fuel efficiency

A tool covering all URN policies, noise sources, species, impacts, ship categories and mitigation measures should be developed. The tool can analyse in more detail all aspects of URN, and can be specifically used by Authorities, Companies and Ships to evaluate the relationship between noise sources, mitigation measures, and impact, taking into consideration the technology readiness level, the benefits, etc.

SUB-COMMITTEE ON SHIP DESIGN AND CONSTRUCTION
8th session
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REVIEW OF THE GUIDELINES FOR THE REDUCTION OF UNDERWATER NOISE (MEPC.1/CIRC.833) AND IDENTIFICATION OF NEXT STEPS

Comments on document SDC 8/14/1

Submitted by Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the European Commission

SUMMARY

Executive summary:	This document provides comments on document SDC 8/14/1 and identifies possible additional steps, besides the review of the guidelines for the reduction of underwater noise (MEPC.1/Circ.833), that could help to reduce underwater noise.
Strategic direction, if applicable:	1, 2 and 3
Output:	
Action to be taken:	Paragraph 11
Related documents:	MEPC 75/14, MEPC 75/14/2; MEPC.1/Circ.833, SDC 8/14/1, SDC 8/14/2; MEPC 77/INF.27

Introduction

1 This document is submitted in accordance with paragraph 6.12.5 of *Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.5/Rev.2). It comments on document SDC 8/14/1 submitted by Canada on the review of the guidelines for the reduction of underwater noise (MEPC.1/Circ.833) and identifies possible next steps.

2 At its 76th session in June 2021, the Marine Environment Protection Committee (MEPC) accepted the proposal from Australia *et al.* to review the *2014 Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life (MEPC.1/Circ.833)* (the 2014 Guidelines) and identification of next steps. The issue of underwater noise will therefore be added to the work programme of MEPC and was referred to the Sub-committee on Ship Design and Construction (SDC) for action.

Background

3 In SDC 8/14/1, Canada *et al.* note the barriers to the uptake of the 2014 Guidelines and makes suggestions and recommendations for their revision. The co-sponsors invite the Sub-Committee to consider those recommendations for revision.

4 Ships are known to be a primary contributor to anthropogenic noise in the oceans. Underwater radiated noise (URN) levels have increased faster than the size of the world fleet, with this trend set to continue. Despite the potentially harmful impacts of URN on marine fauna, and a significant body of knowledge from research projects, the subject currently has a low priority compared to other sustainability concerns within the shipping industry. Moreover, the absence of (international) policy and noise limits is slowing progress on mitigation.

5 Cooperation at European level is ongoing, and steered by the Technical Group on Underwater Noise [3] to establish threshold values and EU Member States are developing programmes to monitor underwater noise as part of their marine strategies. In this regard, the co-sponsors draw the attention of the Sub-Committee to the more detailed information provided in document MEPC 75/14/2.

6 Furthermore, Regional Sea Conventions, such as OSPAR[4], HELCOM[5] and the Barcelona Convention [6], and the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS)[7], are very important frameworks for the coordination of actions in sea areas shared by the relevant littoral States. For example, a proposal to establish a Particularly Sensitive Sea Area in the north-west Mediterranean for the protection of cetaceans was launched in 2019 in the context of the ACCOBAMS, including reduction of underwater noise. One could also recall the initiatives developed within the Convention on Biological Diversity (CBD)[8], and the Convention on Migratory Species (CMS)[9]. Initiatives and cooperation such as these have proven essential for the development of monitoring programmes of underwater noise at regional level and could also be of particular relevance for future work aiming at reducing underwater noise at the global level. In the absence of mandatory requirements, effective guidelines leading to noise mitigation are paramount taking into account the need to also maintaining the level playing field and the competitiveness of the shipbuilding and shipping sectors.

[3] Under the EU Marine Strategy Framework Directive (2008/56/EC), the technical group on underwater noise advises EU Member States on underwater noise.
[4] https://www.ospar.org/ministerial/deliverables/strategy2030
[5] Add commitments made at the HELCOM Ministerial Meeting of 2018, for the adoption of a regional action plan for underwater noise, planned on 20 October 2021 www.helcom.fi/Documents/HELCOM%20at%20work/HELCOM%20Brussels%20Ministerial%20Declaration.pdf
[6] Decision IG.22/7 Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (UNEP(DEPI)/MED IG.22/28)
[7] Resolutions to support the implementation of measures for balancing human activities at sea and cetacean conservation: 2.16 (2004); 3.10 (2007): 4.17 (2010); 5.15 (2013); 6.17 & 6.18 (2016); 7.13 (2019).
[8] Decision XII/23 on "Marine and coastal biodiversity: Impacts on marine and coastal biodiversity of anthropogenic underwater noise and ocean acidification, priority actions to achieve Aichi Biodiversity Target 10 for coral reefs and closely associated ecosystems, and marine spatial planning and training initiatives."
[9] UNEP/CMS/Resolution 12.14 on adverse impacts of anthropogenic noise on cetaceans and other migratory species and CMS Family Guidelines on Environmental Impact Assessments for Marine Noise-generating Activities.

Proposals for next steps

7 Uncertainty in quantifying noise, among other issues, has prevented widespread action on mitigation. However, the monitoring of underwater noise through modelling and direct observations is rapidly evolving. This includes the simplification of ship noise measurements, with several studies on the use of onboard sensors and drones recently published. Such technologies could help increase the amount of data available, as well as reduce costs for shipowners. Underwater noise monitoring, either through dedicated or opportunistic measurements and with the inclusion of an open, advanced and integrated computational modelling programme, is a key activity. It can support developing and implementing mitigation measures, and ultimately provide added value to all stakeholders.

8 Baselining or understanding the underwater noise generated by ships is equally relevant for the implementation of mitigation measures. Harmonising the standards and methods, including related terminology (e.g. ambient noise vs background noise), on underwater noise measurement but also for modelling, is necessary to support a multi-disciplinary approach to noise impact and mitigation.

9 Given the wide range of activities being performed by multiple stakeholders in relation to underwater noise of shipping, ~~better~~ research efficiency and noise management could be significantly enhanced by establishing a mechanism for information sharing at global level. A common repository where results and lessons learned are shared~~,~~ would improve standardisation, ensure the efficient sharing and reuse of data and provide a quick overview of existing information and missing data. At the same time, promoting long-term monitoring programmes would increase transparency and raise awareness on the ongoing research projects.

10 Several MEPC submissions have highlighted the growing scientific evidence of the impact of noise on marine ecosystems and the need for further action by the international community. The co-sponsors are of the opinion that the Organization could take into account in its discussions the possibilities for setting special control areas, including for underwater noise, where its cumulative impact on marine fauna is reduced to a minimum.

Action requested of the Sub-Committee

11 The Sub-Committee is invited to consider the information above, in particular paragraphs 7 to 10, and take action as deemed appropriate. Consideration should also be given to the technical expertise of various other subsidiary bodies.