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COMMISSION STAFF WORKING DOCUMENT

Union submission to International Maritime Organization's 8th session of the Sub-Committee on Ship Design and Construction commenting on SDC 8/14/xx 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*

Union submission to International Maritime Organization's 8th session of the Sub-Committee on Ship Design and Construction commenting on SDC 8/14/xx by Canada *et al* and suggesting ways to revise the *Guidelines for the reduction of underwater noise from commercial shipping*

PURPOSE

This Staff Working Document contains a draft Union commenting paper to the International Maritime Organization's (IMO) 8th session of the Sub-Committee on Ship Design and Construction (SDC 8). The IMO has indicatively scheduled SDC 8 from 17 to 21 January 2022.

The draft submission comments on the submission SDC 8/14/xx by Canada *et al*. As part of this, it suggests a concrete text for possible revision of the *Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life*. It also aims to increase awareness and indicates ways to strengthen previously identified areas for improvement.

EU COMPETENCE

Directive 2008/56/EC¹, the Marine Strategy Framework Directive, sets out eleven descriptors as the basis for determining 'good environmental status', which is the Directive's main objective. The 11th descriptor reads: "Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment."

In addition, underwater noise is implicitly covered by overarching directives, e.g. the Habitats and Birds Directives (Council Directive 92/43/EEC² and Council Directive 79/409/EEC³) and the Environmental Impact Assessment Directive⁴.

The Marine Strategy Framework Directive defines human-induced marine underwater noise as a pollutant and requires Member States to ensure that anthropogenic noise is at levels that do not adversely affect the marine environment. The Directive further requires Member States to address the effects at an ecosystem level and ensure coordination in marine regions, leading to programmes of measures that achieve or maintain good environmental status in all EU seas.

Commission Decision (EU) 2017/848⁵ sets out criteria and methodological standards to assess the extent to which good environmental status is achieved. It operationalises the descriptors of the Marine Strategy Framework Directive. This includes criteria and methodological standards for underwater noise.

¹ OJ L 164, 25.6.2008, p. 19–40

² OJ L 206, 22.7.1992, p. 7–50

³ OJ L 103, 25.4.1979

⁴ OJ L 124, 25.4.2014, p. 1–18

⁵ OJ L 125, 18.5.2017, p. 43–74

In order to promote green shipping under the European Green Deal, the Sustainable and Smart Mobility Strategy and the Zero pollution action plan (ZPAP)⁶ set specific actions to reduce underwater noise. In particular, the ZPAP sets the target of adopting threshold values for under water noise by 2022.

In light of all of the above, the present draft Union submission falls under EU exclusive competence.⁷ 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 26 November 2021.⁸

⁶ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the regions. COM(2021) 400. Pathway to a Healthy Planet for All EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil' [communication_en.pdf \(europa.eu\)](#)

⁷ 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.

⁸ The submission of proposals or information papers to the IMO, on issues falling under external exclusive EU competence, are acts of external representation. Such submissions are to be made by an EU actor who can represent the Union externally under the Treaty, which for non-CFSP (Common Foreign and Security Policy) issues is the Commission or the EU Delegation in accordance with Article 17(1) TEU and Article 221 TFEU. IMO internal rules make such an arrangement possible as regards existing agenda and work programme items. This way of proceeding is in line with the General Arrangements for EU statements in multilateral organisations endorsed by COREPER on 24 October 2011.

**REVIEW OF THE GUIDELINES FOR THE REDUCTION OF UNDERWATER NOISE
(MEPC.1/CIRC.833)**

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

Submitted by the European Commission on behalf of the European Union

SUMMARY

Executive summary: This document comments on SDC 8/14/xx 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.1/Circ.883, SDC 8/XX

Introduction

1 This document is submitted in accordance with paragraph 6.12.5 of the Guidelines of 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.5/Rev.2) and adds to Annex 1 to document SDC 8/14/xx submitted by Canada 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 Annex 1 to SDC 8/14/xx, Canada *et al* proposes 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/xx by Canada *et al*. The European Union invites the Sub-Committee to consider the suggestions for improvements made therein.

4 Furthermore, the proposals for a new work output on reducing underwater were already postponed and eventually referred to the SDC. Given the urgency, the EU suggests

that Canada *et al*'s submission is used as a basis for the work on the matter, and, with an aim to achieve early consensus, by this submission the Union is anticipating some suggestions to complement the various elements for the review of the 2014 guidelines made in SDC 8/14/xx by Canada *et al*. In view of this, the Annex to this paper includes some specific suggestions for consideration of 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 COMMERCIAL SHIPPING 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 Baselineing

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 walrus
- 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 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 should be taken into account:

- type of ship
- hull design
- propellers
- propulsion machinery installations
- design speed
- hull and propeller cleaning

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, 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, measures aimed at reducing GHG emissions, which also produce an improvement in noise performance, may provide a “win-win” situation.

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 both Authorities, Companies and Ships to evaluate the relationship between noise sources, mitigation measures, and impact, taking into context the technology readiness level, the benefits.