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Circular Letter No.4749
21 July 2023

To: All IMO Members
United Nations and specialized agencies
Intergovernmental organizations
Non-governmental organizations in consultative status with IMO

Subject: **Workshop on the Relationship between Energy Efficiency and Underwater Radiated Noise from Ships**

1 Following the request of the Sub-Committee on Ship Design and Construction (SDC) at its ninth session (23 to 27 January 2023), the Marine Environment Protection Committee, at its eightieth session (3 to 7 July 2023), approved the convening of an expert workshop on the relationship between energy efficiency and underwater radiated noise, with the participation of relevant experts (MEPC 80/17, paragraph 10.7).

2 The Expert Workshop will be convened from 9.30 a.m. to 5.00 p.m. (UTC+1) on **18 and 19 September 2023**, at IMO Headquarters, 4 Albert Embankment, London SE1 7SR. The meeting will be conducted in English without interpretation. Hybrid meeting capability will be available to complement the in-person meeting. Information on hybrid meetings is provided in Circular Letters No.4623 and No.4627.

3 A provisional agenda and timetable are set out in annex 1. In case of any queries, please contact the IMO Secretariat by e-mail at sdc@imo.org.

4 With a view to facilitating the registration as well as visa applications by those delegates who require United Kingdom entry visas, the instruction on registration at IMO meetings and procedure governing IMO support for visa applications are set out in annexes 2 and 3.

Target audience

5 The workshop seeks to engage participants who work in the Greenhouse Gas (GHG) and underwater radiated noise (URN) technical, regulatory and policy spaces, to include wide participation from industry with practical experience implementing both GHG/emissions reductions programs as well as those who are interested in or involved in reducing URN. Representation from, inter alia, IMO members, naval architects, marine engineers, ship operators, shipyards, classification societies, national policy makers, civil society, NGOs and academia, will result in a breadth of expertise with diverse viewpoints and lead to a more complete and accurate assessment of the current state of, and opportunities for, innovative designs and technology in the areas of URN and energy efficiency. The expertise of attendees should also span across ship-types (e.g. bulk, cargo, container, passenger, tugboats).

Background information

6 SDC 9 finalized, and MEPC 80 approved, the *Revised guidelines for the reduction of underwater radiated noise from shipping to address adverse impacts on marine life* (Revised Guidelines) which outline approaches applicable to designers, shipbuilders and ship operators to reduce URN of any given ship and which assist relevant stakeholders in establishing mechanisms and programmes through which noise reduction efforts can be realized. The Revised Guidelines also assist ship designers, owners, and operators in considering the relationships between Energy Efficiency (EE), GHG emissions and URN reduction while adhering to regulatory obligations. The Revised Guidelines note that many of the energy efficiency improvement options identified to meet IMO regulations (EEDI, EEXI and CII) may result in an improvement in URN performance, although other options may require trade-offs between the two objectives.

7 In order to further explore and provide further guidance on the potential co-benefits and trade-offs that may exist between ships' EE and the reduction of URN, the SDC Sub-Committee agreed to a work plan that includes organizing an expert workshop to explore and provide further guidance on the potential co-benefits and trade-offs that may exist between ships' energy efficiency and the reduction of URN.

Objectives

8 The main objectives of the workshop are to:

- explore the linkages between ship EE and URN, and whether methods being employed to comply with EE requirements are likely to also reduce noise, be neutral to noise reduction goals, or increase noise;
- identify, based on existing knowledge, methods and operational conditions that are likely to both improve EE and URN emission reductions, while maintaining safety and operational efficiency;
- identify approaches to EEXI/EEDI and CII compliance that are likely to be used in the short and long term, and the research needed to understand impacts on URN;
- share best practices and case studies from industry that have implemented technical and operational measures to increase EE and have also examined URN linkages; and
- provide a forum for networking and collaboration among experts involved in the shipping industry, with a focus on innovation and sustainability.

Expected outcomes

9 The expected outcomes of the workshop are to:

- identify trade-offs and co-benefits between operational and technological measures focused on increasing energy efficiency and reducing URN;
- identify practical solutions and best practices for improving energy efficiency and reducing URN emissions in ship design, retrofits and operations;

- identify best/most effective ways of communicating findings to increase uptake of proposed practical solutions and best practices, if applicable;
- identify barriers to implementation (cost, regulatory limitations, business decisions, vessel/engine warranty and others) and potential solutions, including research projects, partnerships, and initiatives aimed at addressing the issues discussed during the workshop;
- improve collaboration among industry, shipowners and operators, government, civil society and academia to address the challenges of improving energy efficiency and reducing URN from vessels in the shipping industry as well as partnering or showing interest in participating in some of the ongoing noise studies and projects; and
- formulate recommendations to be considered in the future work at IMO to further advance the work on URN and inform policy development.

Final output

10 Following the event, a report on the outcomes of the workshop will be submitted to the Sub-Committee on Ship Design and Construction (SDC 10) for consideration and discussion, with a view to providing recommendations to the Marine Environment Protection Committee (MEPC 81) on any next steps related to URN reduction from ships and Energy Efficiency.

ANNEX 1

DAY ONE (18 SEPTEMBER 2023)	
9.30 TO 10.00 (30 MIN) INTRODUCTION	
Opening Address to the Workshop participants (15 min)	Opening remarks:
Overview of the format and objectives of the workshop (15 min)	Chairs
10.00 – 12.30 (2h 30min) <u>Theme 1 REDUCING GHG AND NOISE EMISSIONS: Setting the Stage</u>	
<p><i>Objectives:</i></p> <ul style="list-style-type: none"> • <i>Acquaintance with IMO GHG Strategy, immediate and longer-term next steps</i> • <i>Acquaintance with IMO URN Revised Guidelines and next steps</i> • <i>State-of knowledge on energy efficiency (EE) and underwater radiated noise (URN) design, technological and operational measures interlinkages.</i> 	
Introduction and Overview of IMO Energy Efficiency Work (15 min)	<i>Brief on EE/GHG, terminology, status of implementation etc., focussing on short-term measures i.e. the EEXI/EEDI/CII, ongoing discussion and next steps, efficiency planning for ships (SEEMP)</i>
Introduction and overview of IMO URN (15 min)	<i>URN from ships, terminology, Revised Guidelines, level of reduction to be achieved, URN management planning</i>
Q/A (10 min)	<i>Plenary</i>
10.40 COFFEE BREAK (20 MIN)	
Presentation on the findings and recommendations on the GHG-URN state-of-knowledge. (30 min, incl. Q/A)	<p>Objectives, methodology, findings.</p> <p><i>Participants will receive the EE-URN final report including matrix in advance of the workshop for review/aid for discussion.</i></p>
Panel: Perspectives on implementation of GHG and noise reduction strategies (1hr)	<i>Remarks on the report,, followed by a facilitated discussion/Q&A session (including audience members after panel)</i>

LUNCH BREAK 12.30 – 14.00 P.M. (1H 30MIN)	
14.00 – 17.00 (3h)	
<u>Theme 2 DESIGN AND TECHNOLOGY CHANGES AND IMPROVEMENTS TO REDUCE OVERALL EMISSIONS: What do we know about URN relationships?</u>	
<i>Objectives:</i>	
<ul style="list-style-type: none"> • <i>Case studies and best practices on implemented design and technological measures including hull design, power and propulsion, to improve EE and measured effects on URN.</i> • <i>Identify limitations, knowledge gaps, most promising measures with co-benefit, as well as priority information needs.</i> 	
14.00 – 15.30 (1h 30min) 15 min presentation up to 6 presenters	<i>Perspectives covering several subcategories for design/tech methods for which URN has also been evaluated covering inland as well as ocean-going vessel sectors, shipping companies as well as ship designers, model basins etc.:</i> <ul style="list-style-type: none"> – <i>Hull design</i> – <i>Power and propulsion (including energy saving devices)</i> <i>large vessel props</i> <i>smaller vessel props</i> – <i>Fuels and alternative energy sources</i>
15.30 COFFEE BREAK (30 MIN)	
16.00 – 17.00 (1h) panel	Guided questions to all presenters + plenary discussion

DAY TWO 19 SEPTEMBER 2023	
9.30 – 9.45 (15 min) Welcomes and report back from Day one to plenary	Chairs
9.45 - 10.00 (15 min) Opening address to the Workshop participants - Indigenous knowledge and impacts of GHG-URN on their livelihood	
10.00 – 12.30 (2h 30min) <u>Theme 3 OPERATIONAL MEASURES TO REDUCE OVERALL EMISSIONS:</u> <u>What do we know about URN relationships?</u>	
<i>Objectives:</i>	
<ul style="list-style-type: none"> • <i>Case studies and best practices on implemented operational measures including fuels and alternatives energy sources, ship energy and condition management, speed optimization and voyage planning to increase EE and measured effects on URN.</i> • <i>Identify limitations, knowledge gaps, most promising measures with co-benefit, as well as priority information needs.</i> 	
10.00 - 11.30 (1h 30min) 15 min presentation up to 6 presenters	<i>Perspectives covering several subcategories for operational methods for which URN has also been evaluated covering inland as well as ocean-going vessel sectors, and shipping companies as well as ship designers, results of model test etc.:</i> <ul style="list-style-type: none"> • <i>Ship Energy Management</i> • <i>Condition management</i> • <i>Speed</i> • <i>Voyage planning</i>
11.30 COFFEE BREAK (15 MIN)	
11.45 – 12.30 (45 min) panel	Guided questions to all presenters + plenary discussion
LUNCH BREAK 12.30 - 14.00	

14.00 – 17.00 (3h)	
<u>Theme 4: BRIDGING THE GAPS AND GOING TO SCALE:</u>	
<u>Building better information for integrated GHG and noise reduction</u>	
<i>Objectives:</i>	
<ul style="list-style-type: none"> • <i>Drawing from the workshop presentations and panel discussions, synthesize recommendations for near term and out year opportunities to advance methods that reduce both GHG and URN and identify tools, actions and policies to support next steps.</i> 	
14.00 - 15.30 (1h 30min): 15 min presentation (4 presenters) 30 min panel discussion	<i>Information needs for integrated planning: What do we need to know in the short and long term for evaluating and promoting co-benefits across fleet and global operations? What is needed to go to scale with promising methods? How can new information be most effectively centralized? What database support/information sharing tools are available to support growing resources?</i>
15.30 - 16.00 COFFEE BREAK (30MIN)	
16.00 – 16.45 Plenary (45 min)	Broader plenary discussion, facilitated by Chairs, of other barriers to overcome in pairing GHG and URN objectives and recommendations for next steps.
16.45 – 17.00 (15 min) Conclusion and next steps	Chairs
WORKSHOP CONCLUDES	

ANNEX 2

REGISTRATION AND ACCREDITATION

Registration

The workshop is open to Member Governments, UN agencies, IGOs and NGOs, as well as technical, regulatory, and policy experts in the field of ship design, Greenhouse Gas (GHG) emissions, ship energy efficiency measures, underwater radiated noise (URN) and other related areas. Registration is required via IMO's Online Meeting Registration System (OMRS) (see Circular Letter No.4336 of 5 November 2020, as applicable).

Active participants are those registered as either *physical* (attending meetings at IMO Headquarters in person) or *remote-active*. They are authorized to take the floor and make interventions. **Passive participants** are those only able to follow proceedings remotely via live streaming.

Remote-active participants will receive a personalized joining link via email daily before each session starts at approximately 8:30 a.m. (UTC+1). The Zoom link is unique to the recipient and should not be shared with any other person. In-person participants should not join the Zoom meeting when physically present in the Committee Room, as this will have a detrimental impact on the hybrid system and reduce the number of licences available for those joining remotely.

Remote-passive participants automatically receive a link, once their registration is approved, to a web stream of the session (live streaming), which will be broadcast via the IMODOCS page.

For those delegates attending the meeting in person and who have completed the registration procedure, an electronic access card will be issued at IMO to pass through the security barrier in the IMO building.

Delegates whose names do not appear on the OMRS list, even if joining remotely, will not be able to join the Workshop. Delegates attending the Workshop in person are advised that the Registration Desk will be open from 8.30 a.m. (UTC+1) on Monday, 18 September 2023 when early arrival would be appreciated.

Issue of the access card will require photographic proof of identity, e.g. passport, identity card or driving licence. Delegates may also be required to show proof of identity at any time while they are in the headquarters building if requested by IMO Security. In view of the significant costs incurred in producing access cards, delegates who have previously been issued with one are kindly requested to bring it with them for reactivation.

Any matters relating to the use of OMRS and the participation in the forthcoming Expert Workshop on the relationship between Energy Efficiency and Underwater Radiated Noise from ships should be communicated to:

Registration Unit

Meeting Services and Interpretation Section
Email: onlineregistration@imo.org

ANNEX 3

PROCEDURE GOVERNING IMO SUPPORT FOR VISA APPLICATIONS

As established in article 7.2 of part III on Access and communications of the Headquarters Agreement, delegates are entitled to have their entry into the United Kingdom authorized without delay and without charge.

Delegates invited by the Organization who require United Kingdom entry visas should, in the first instance, apply online for an "**EXEMPT**" visa, note the reference numbers and follow the online instructions to attend either the nominated Visa Application Centre or the United Kingdom Embassy or High Commission. United Kingdom visa applications should be accompanied by the following documentation:

- i. a copy of this circular letter, numbered CL.4709, to be used as the official letter of invitation;
- ii. the nomination letter; and
- iii. a note verbale from the Ministry of Foreign Affairs.

Delegates must be nominated by their competent Ministry (usually the Ministry of Transport or the National Maritime Administration). The nomination letter should be taken to the Ministry of Foreign Affairs for preparation of a note verbale addressed to the British Embassy/High Commission.

If, after following the above-mentioned procedure, delegates still encounter visa problems, either the Ministry of Foreign Affairs, the Ministry of Transport, the National Maritime Administration or the competent Ministry should request visa assistance in writing to the Head of the IMO External Relations Office, on paper bearing the official letterhead. The letter should state the reasons given by the British Embassy/High Commission as to why visas have been or may be refused and contain the following details:

- i. First name:
Family name:
Profession:
Date of birth:
Place of birth:
Type of passport:
Passport No:
Place of issue:
Date of issue:
Valid until:
Visa reference number:
Date and place of visa application:
- ii. Purpose of visit:
- iii. Duration of anticipated stay in the United Kingdom:

This exercise must be undertaken **at least six weeks** before the date on which the session begins, to enable the Organization to support the visa application accordingly and the visa to be issued in good time.

Any requests for visa assistance should be communicated to:

External Relations Office (International Maritime Organization)
Fax: +44(0)20 7587 3210
Email: visa@imo.org
