Efforts to Address Underwater Vessel Noise at the IMO

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IMO Expert Workshop on the relationship between Energy Efficiency and Underwater Radiated Noise

Sept 18-19, 2023
Underwater Noise at the IMO

2014
• IMO adopted the voluntary *Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life* (MEPC.1/Circ.833)

2017/19
• Increased awareness of the issue and its impacts on the marine environment through various submissions, presentations/webinar, events & technical workshops

2020/21
• MEPC 75/76: New work item to undertake a review of the Guidelines and identification of next steps approved and referred to the Ship Design and Construction (SDC) sub-committee for action

2022/23
• SDC 8/9 undertook revision of the guidelines & identified preliminary next steps
• MEPC 80 approved revised guidelines, along with IMO GHG-URN workshop and a 3 year experience-building phase
• Correspondence Group under Canada’s coordination, currently developing an action plan/next steps for finalization at SDC10

2023-09-15
Overview of the Revised Guidelines

Important **structural changes** to improve usability

Key substantive changes include:

- **Updated application**: Guidelines apply to **ships of all sizes and types** (including non-commercial ships)

- **Maritime administrations** included as a relevant stakeholder in helping establish mechanisms and programs through which noise reduction efforts can be realized;

- Reflects the **current state of knowledge** in **technologies** to reduce URN, including further distinction on measures to be applied for new vessels versus existing vessels;

- New guidance on **improved voyage planning** and **national and international designated protected areas**
Overview of the Revised Guidelines

• New sections:

➢ **Underwater Radiated Noise Management Planning:**
  • Guidance on how to prepare a noise management plan, including:
    • Establishing the baseline (predicted or actual) of a ship’s URN;
    • Setting URN goals;
    • Evaluating/monitoring various technological, operational, and maintenance approaches while ensuring that these approaches do not come at the expense of other mandatory IMO requirements.
  • Includes an Annex with templates for the preparation of a UNMP

➢ **Incentivization**

➢ **Energy efficiency and URN reduction**
**URN Reference Chart**

**Shipowners, operators, designers/builders, manufacturers and suppliers**

Establish URN Management Planning as an integrated component of ship design at the earliest opportunity.

*(Section 5 IMO URN Guidelines)*

**Members States and other stakeholders**

Take supportive actions through which noise reduction efforts may be realized.

Where appropriate, use integrative science, combining scientific, Indigenous, and cultural knowledge.

*(Section 5 IMO URN Guidelines)*

**URN Management Plan**

May include some or all proposed steps, refer to template options.

*(Appendix 3 IMO URN Guidelines)*

**Step 1: Determine individual ship URN baseline**

Predicted or preferably measured and be conducted under normal operating conditions with use of standard equipment/machinery.

*(Appendix 1 for existing ship and 2 for new ship IMO URN Guidelines)*

**Step 2: Set URN targets for individual ship**

Set reduction targets from baseline as absolute reduction, percentage reduction, to conform with class society URN rules, etc.

*(Appendix 1 and 3IMO URN Guidelines)*

**Step 3: Select URN reduction approaches and related actions**

Identify and select design, technical, operational or a combination of approaches.

*(Section 5 IMO URN Guidelines & Table 1 Summary)*

**Step 4: Evaluation & Monitoring**

Periodically evaluate the efficacy of URN reduction approaches and adapt as needed.

*(Section 8 IMO URN Guidelines)*

**Step 1: Define noise sensitive areas/species**

*(Section 6 IMO URN Guidelines)*

**Step 2: Set expectations for URN targets**

*(Section 1 IMO URN Guidelines)*

**Step 3: Establish incentives programs to reduce URN**

Support, share information on, and incentivize URN monitoring and effective URN reduction approaches.

*(Section 9 IMO URN Guidelines)*

**Step 4: Evaluation & Monitoring**

Increase efforts to monitor and evaluate URN at the source and in the environment and share information.

*(Section 8 IMO URN Guidelines)*

**ENERGY EFFICIENCY AND URN REDUCTION**

GHG regulatory obligation will have effects on URN. Investigate and consider the risk of increasing URN.

*(Section 7 IMO URN Guidelines)*
URN proposed Action Plan

Expecting Working Group at SDC 10/January 2024

Over 40 proposed actions

Includes actions related to:

- Experience-Building Phase (EBP)
- Public awareness, Education and Seafarer Training
- Standardization of Noise Management Planning
- URN Goals
- Database/Tools
- Policy for URN Reduction (including proposal to develop an IMO road-map/vision)
- Ongoing research
URN proposed Action Plan:
- Encourage research on URN and GHG

A few actions are being proposed to encourage research on URN and GHG, raising the importance of further evaluating the effects of the GHG regulations on global levels of URN. This includes:

- **Continue research and development efforts** addressing commonly used energy efficiency measures, including IMO GHG regulations (EEDI, EEXI, CIII) and their impacts on URN.

- **Initiate research and development activities** addressing innovative technologies that further enhance energy efficiency, address biofouling, and greenhouse gas and underwater noise reduction of ships.
GloNoise Partnership Project

- Original work output approved at MEPC 76:
  - Requested that IMO Secretariat investigate possible funding with potential donors, such as the Global Environment Facility (GEF), to conduct a global underwater noise project, to:
    - Assist with the implementation of related IMO guidelines;
    - Build capacity in developing countries;
    - Spur global efforts to develop a solid scientific understanding of the marine URN issues; and
    - Stimulate industry to start adopting best practices to minimize the impact and create new design solutions.

- Call for proposals for pilot projects issued last fall
Next Steps

• SDC 10 meeting (January 2024):
  • EE-URN workshop outcomes report
  • URN CG final report
• SDC 10 WG:
  • Finalizing the next steps/action plan
  • Finalizing a flowchart on the URN Management Plan – to be used as an awareness tool
• SDC 10 report and recommendation to MEPC
• 3-year Experience-Building Phase to assess if further amendments to the Guidelines are needed.
• Official launch of the GloNoise Project
Thank you!

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