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DEVELOPMENT OF A LEGALLY BINDING FRAMEWORK FOR THE CONTROL AND MANAGEMENT OF SHIPS' BIOFOULING TO MINIMIZE THE TRANSFER OF INVASIVE AQUATIC SPECIES

Proposal to develop the goal and structure of the legally binding framework on ships' biofouling management

Submitted by Republic of Korea and BEMA

SUMMARY

Executive summary: This document proposes a structured approach to developing a legally binding framework for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species. The proposal also calls for establishing a correspondence group to advance the framework and draft supporting guidelines.

Strategic direction, if applicable:

Output: 7.16

Action to be taken: Paragraph 18

Related documents: MEPC 83/14/1, MEPC 83/17; PPR 13/5; resolution MEPC.378(80) and MEPC.1/Circ.918

Background

1 According to the terms of reference of the new output as proposed in paragraph 32 of document MEPC 83/14/1 and approved in principle by MEPC 83, and taking into account the 2023 *Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species* (hereafter "the 2023 Biofouling Guidelines"; resolution MEPC.378(80)) and the *Guidance on in-water cleaning of ships' biofouling* (hereafter the "In-Water Cleaning Guidance"; MEPC.1/Circ.918), a draft framework and associated recommendations on the control and management of ships' biofouling to minimize the transfer of invasive aquatic species are to be submitted to MEPC 89.

Introduction

2 To develop a legally binding framework, its type should first be determined. Relevant proposals (PPR 13/5 (Republic of Korea et al.) and PPR 13/5/1 (Japan and Norway)) have

been submitted for consideration at PPR 13. It is understood that plenary may or may not have sufficient time to fully decide the type of legal framework during this session, and the matter may be referred to a correspondence group. Once agreed, the structure of the articles will depend on the type of legal framework decided. If the framework involves amending an existing convention, relevant articles shall be revised accordingly. If a standalone instrument is pursued, new articles will need to be drafted. This document does not address the specific content of articles pending that decision.

Goal based standard (GBS) approach

3 The framework should be structured systematically, with clearly defined goals, objectives, regulations and standards for biofouling management. The structure of the 2023 Biofouling Guidelines does not appear to be suitable for a legal instrument. Reference to the *Generic guidelines for developing IMO goal-based standards* (MSC.1/Circ.1394/Rev.2) may be considered beneficial.

4 The goal of biofouling management is to minimize the risk of the introduction and spread of invasive aquatic species, and the Ballast Water Management Convention has the same goal. The co-sponsors note, however, that, while parallels may be drawn between parts of the Ballast Water Management Convention and concepts in the GBS approach, the co-sponsors' understanding is that the GBS approach could be applied to specific elements of a future biofouling regime (e.g. goals for in-water cleaning systems (IWCS), functional requirements for IWCS, verification of IWCS). This distinction may be useful to clarify in the drafting process.

Review of the structure of the BWM Convention for benchmarking

5 The provisions of the BWM Convention are well structured to achieve its objectives, and the regulations are organized into distinct sections. The co-sponsors have reviewed the structure of the BWM Convention as a model for developing a legal framework for biofouling management.

6 Section A serves as the foundational framework of the Convention by establishing definitions, scope of application, exceptions and exemptions, as well as the overarching policy goals and functional direction. It provides the essential basis for the technical and operational measures addressed in the subsequent sections.

7 Section B provides the operational and technical foundation for achieving the objectives of the Convention by outlining the procedures for ships to develop, implement, record and monitor their ballast water management practices. This section plays a key role in ensuring both the autonomous management capability of ships and their compliance with international regulations.

8 Section C is designed to achieve the objectives of the Convention with greater precision by enabling enhanced management measures, risk warnings, and information-sharing mechanisms in specific areas. It offers a flexible regulatory framework that balances the protection of local ecosystems with international cooperation, while also taking into account the operational realities of ships.

9 Section D plays a key role in technically realizing the environmental protection objectives of the Convention by establishing quantitative standards (regulations D-1 and D-2) and technical approval procedures (regulations D-3 to D-5) that ships must follow when treating or discharging ballast water. This section provides a foundation for enhancing the level

of ballast water management on ships and effectively preventing the transfer of harmful aquatic organisms through internationally harmonized standards.

10 Section E enhances the Convention's effectiveness by establishing procedures for verifying and certifying ships' compliance with ballast water management. It supports global marine environmental protection through third-party verification and transparent documentation of technical standards.

Considerations for development of a legally binding framework based on the 2023 Biofouling Guidelines

Goal and objectives of biofouling management

11 The primary goal is to minimize the risk of introducing and spreading invasive aquatic species by maintaining a clean hull. However, the 2023 Biofouling Guidelines lack definition of "clean hull". Detached organisms during in-water cleaning also pose risks so standards for capture efficiency and environmental criteria for cleaning waste should be established. In addition to maintaining a clean hull, effective management of biofouling growth in niche areas is essential to achieving this goal. Measures may also be needed regarding when and where cleaning should take place, and by what method.

Biofouling management practices and gaps

12 Ships should be designed to reduce niche areas, equipped with suitable anti-fouling systems (AFS), and regularly monitored. Proactive cleaning with AFS is preventive, while reactive cleaning is needed when macrofouling is detected. A Biofouling Management Plan (BFMP) and Record Book should be mandatory, with formalized inspection intervals. Detailed guidelines for in-water inspections are lacking and should be developed.

13 Performance standards for AFS (e.g. marine growth prevention systems, anti-fouling coatings/paints) are currently lacking; only approved systems should be used post-entry into force. Temporary approval for prototype technologies should be considered to encourage innovation and shipboard testing. When fouling rating reaches level ≥ 2 , contingency measures like inspection and reactive cleaning should be triggered.

14 In-water cleaning systems (IWCS) should minimize biofouling debris release. Standards for removal efficiency, capture rate and discharge criteria should be developed, along with location restrictions and prohibitions in sensitive areas. Finally, survey and certification procedures are essential to verify and document compliance with a legally binding framework.

Example structure of a legally binding framework for biofouling management

15 To identify relevant objectives and functional requirements, a comprehensive review of the 2023 Biofouling Guidelines and In-Water Cleaning Guidance is required and important. At this early stage, it may be helpful to clarify the objectives of the framework first and then to establish the structure of the legal framework before drafting detailed provisions and guidelines. The framework may be organized into thematic sections, such as the BWM Convention. Based on the considerations in paragraphs 5 to 14, an example structure is provided in the annex, and gaps between current practices and the 2023 Biofouling Guidelines, including the In-water Cleaning Guidance, should be addressed.

Work plan for development of a legally binding framework

16 Referring to the terms of reference of the new output as proposed in paragraph 32 of document MEPC 83/14/1, a finalized draft legal framework and recommendations should be provided by MEPC 89 and the contents in paragraph 32.1 of document MEPC 83/14/1 should be considered. Therefore, to ensure timely and effective delivery of a finalized draft legal framework, the co-sponsors believe that a work plan is necessary.

Proposal

17 Considering the timeline for developing a legally binding framework for the control and management of ships' biofouling, the co-sponsors would like to propose establishing a correspondence group to develop the structure and draft text of such a framework, with the following terms of reference:

"The Correspondence Group on [...] is instructed, taking into account the terms of reference of output 7.16 as finalized by PPR 13 subject to approval by MEPC 84, as well as further comments and decisions made at PPR 13, to:

- .1 identify the objectives of the legally binding framework for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species;
- .2 develop the draft structure of the framework, including a draft list of articles, regulations and appendices, taking into account resolution MEPC.378(80), MEPC.1/Circ.918, MSC.1/Circ.1394/Rev.2, [documents PPR 13/5/X, ...];
- .3 identify a list of guidelines to be developed to support the effective implementation of the legally binding framework;
- .4 develop a draft work plan for the output;
- .5 if time permits, and subject to requisite progress on the previous terms of reference, initiate the drafting of text for articles, regulations and appendices, taking into account documents [PPR 13/5/X, ...]; and
- .6 submit a report to PPR 14."

Action requested of the Sub-Committee

18 The Sub-Committee is invited to consider the proposal outlined in paragraph 17, take paragraphs 11 to 16 into account for consideration by the correspondence group, if established, and take action as appropriate.

ANNEX

EXAMPLE OF STRUCTURE OF A LEGALLY BINDING FRAMEWORK FOR BIOFOULING MANAGEMENT

Section A General Provisions

Section A establishes the foundational framework of the Convention. It defines the scope, terminology and overarching goals, ensuring clarity and consistency in interpretation. Key elements include:

- 1 **Definitions:** Clear explanations of terms such as biofouling, anti-fouling systems (AFS), niche areas, in-water cleaning, fouling rating, and invasive aquatic species;
- 2 **Applicability:** Specifies which ships are subject to the Convention, including thresholds based on ship type, size and operational profile;
- 3 **Exceptions and Exemptions:** Outlines conditions under which ships may be exempt from certain requirements, such as emergency situations or operations within the same waters;
- 4 **Equivalent Compliance:** Allows alternative compliance pathways for specific vessel categories, such as recreational craft under 24 meters; and
- 5 **Goals and Principles:** States the Convention's primary objective (to minimize the transfer of invasive aquatic species via biofouling) and sets the functional direction for implementation.

Section B Management and Control Requirements for Ships

Section B details the operational and technical procedures ships should follow to manage biofouling effectively. It includes:

- 1 **Biofouling Management Plan (BFMP):** A ship-specific plan outlining AFS specifications, inspection schedules, cleaning procedures, contingency actions and designated personnel;
- 2 **Biofouling Record Book (BFRB):** A logbook documenting inspections, cleaning events, maintenance activities and deviations from the operating profile;
- 3 **Management Requirements:** Obligations for ships to monitor biofouling levels, maintain AFS, and take appropriate action based on fouling ratings;
- 4 **Inspection Regime:** Procedures for regular or condition-based inspections to assess biofouling extent and determine necessary follow-up actions; and
- 5 **Crew Responsibilities:** Requirements for crew training and awareness to ensure proper implementation of the BFMP and related procedures.

Section C Special Requirements in Certain Areas

Section C addresses enhanced measures and communication protocols for environmentally sensitive or high-risk areas. It includes:

- 1 **Additional Measures:** Allows Parties to implement stricter biofouling controls in designated biosafety or conservation areas;
- 2 **Contingency Measures:** Enables warnings and guidance for ships when biofouling activities pose risks in specific areas, such as during algal blooms or near wastewater discharge areas; and
- 3 **Information Sharing:** Requires Parties to notify the IMO of special measures or warnings and mandates the IMO to disseminate this information to all stakeholders.

Section D Standards for Biofouling Management

Section D defines the technical standards and approval procedures for biofouling control systems and practices. It includes:

- 1 **Fouling Rating Standard:** A visual assessment scale to quantify biofouling levels and determine acceptable thresholds;
- 2 **Performance and Environmental Standard for Cleaning:** Requirements for cleaning effectiveness, environmental safety and compatibility with AFS;
- 3 **Approval of Cleaning Systems:** Criteria for administrative approval of in-water cleaning technologies based on efficacy and environmental impact;
- 4 **Anti-Fouling System Requirements:** Criteria for selecting and maintaining AFS based on ship design, operating profile and environmental conditions, if it is considered as a mandatory requirement;
- 5 **Prototype of Preventive Measures:** A framework for the experimental application of new technologies, enabling the legal framework to embrace technological advancement and evolve in a forward-looking manner; and
- 6 **Review of Standards:** A mandate for the IMO to periodically assess and update biofouling standards in response to technological and ecological developments.

Section E Survey and Certification Requirements

Section E outlines the procedures for verifying and certifying a ship's compliance with the Convention. It includes:

- 1 **Surveys:** Initial, annual, intermediate and renewal surveys to assess BFMP implementation and AFS condition;
- 2 **Certification:** Issuance of an International Biofouling Management Certificate upon successful survey, valid for a specified period;
- 3 **Recognition of Certificates:** Mutual recognition of certificates issued by other Parties;
- 4 **Certificate Format:** Standardized format and language requirements for certificates; and
- 5 **Validity and Extension:** Rules governing the duration of certificates and conditions

Appendix and tentative guidelines

Forms of the International Biofouling Management Certificate should be included in the appendix of the legally binding framework. In addition, guidelines should be developed to facilitate the smooth implementation of the legally binding framework. The tentative guidelines may include the following:

- 1 Guidelines for the Biofouling Management Plan, including a template;
- 2 Guidelines for the Biofouling Record Book, including a template;
- 3 Guidelines for inspection of biofouling, including a template inspection report;
- 4 Guidelines for in-water cleaning of ships' biofouling, including a template IWC report;
- 5 Guidelines for contingency measures;
- 6 Guidelines for approval procedures of in-water cleaning systems and MGPS;
- 7 Guidelines for approval of service providers; and
- 8 Guidelines for port State control.