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HARMFUL AQUATIC ORGANISMS IN BALLAST WATER

Analysis of the impact on emissions from ships that undertake measures following their decisions to bypass their BWMS

Submitted by India, ICS, INTERTANKO and INTERCARGO

SUMMARY

Executive summary: This submission provides INTERTANKO's analysis of the impact on emissions from ships that undertake operational measures, following their decisions to bypass their ballast water management system (BWMS) due to either challenging water quality or the inability to conduct ballast water exchange or treatment owing to physical and/or time limitations.

Strategic direction, if applicable: 1

Output: 1.25

Action to be taken: Paragraph 23

Related documents: MEPC 80/4/6, MEPC 80/4/16; MEPC 81/4/7, MEPC 81/16; MEPC 82/4/7, MEPC 82/4/9, MEPC 82/17, MEPC 82/WP.10; MEPC 83/INF.21; resolutions MEPC.328(76) and MEPC.387(81)

1 MEPC 81 and MEPC 82 considered the operational challenges faced by ships when compliance with the Ballast Water Management (BWM) Convention becomes impractical owing to the inability to conduct ballast water exchange (BWE) or treatment due to challenging water quality (CWQ), physical and/or time limitations.

2 Noting the significant operational challenges ships face in complying with the BWM Convention when encountering CWQ that renders their ballast water management system (BWMS) temporarily inoperable, MEPC 81 adopted resolution MEPC.387(81) on *Interim guidance on the application of the BWM Convention to ships operating in challenging water quality conditions* to mitigate the issue.

3 The Committee further recognized "...that situations do exist when, despite best efforts, ships may still not be able to discharge compliant ballast water, that there may be limited practical options to achieve compliance in such situations, that (non) penalization would be considered for each case based on individual circumstances, and that there was a need for improvement in all relevant aspects ranging from BWMS design to maintenance and crew training" (MEPC 82/WP.10, paragraph 50).

4 The 2021 revised MARPOL Annex VI (resolution MEPC.328(76)) mandates operational measures to reduce carbon intensity in international shipping. A key component is the annual calculation and reporting of the attained annual operational carbon intensity indicator (CII) to the ship's Administration. The attained annual operational CII will be verified against the required annual operational CII, resulting in an operational carbon intensity rating. Ships receiving a D or E rating will have to plan and undertake corrective actions to improve their CII performance.

5 Article 2 of the BWM Convention requires Parties to ensure that ballast water management practices used to comply with the Convention do not cause greater harm than they prevent to their environment.

6 Part XII of the United Nations Convention on the Law of the Sea (UNCLOS) includes Article 195, which imposes a duty for States not to transfer pollution from one type to another, or from one area to another.

Discussion

7 As highlighted in document MEPC 80/4/16 (ICS et al.), shipowners and operators, particularly of tankers and bulk carriers, view bypassing the BWMS only as a last resort after exhausting all troubleshooting options. This is due to a multitude of drawbacks associated with bypassing the BWMS such as delays impacting commercial-related arrangements with charterers, cascading effects on shoreside services scheduling, and potential increases in emissions due to BWE procedures requiring deviations from best routes and extended pumping operations. Therefore, every effort must be made to ensure proper operation of the BWMS for ballast water treatment before a decision is made to bypass the BWMS. These considerations would help to reduce GHG emissions and improve compliance with IMO's guidelines on the CII.

8 Ships retain full responsibility for meeting the D-2 discharge standard even when unavoidable BWMS bypasses occur. Although the Convention provides a framework, port States may implement operational measures at subsequent discharge locations, potentially exceeding the minimum Convention requirements, to mitigate the risks associated with ballast water discharges.

9 INTERTANKO members have reported instances where port States have required ships that bypassed the BWMS due to CWQ to conduct additional BWE and/or treatment beyond what is required under the BWM Convention and/or undertaking additional voyages to designated locations for BWE and/or treatment to comply with these requirements.

10 Some port States are applying the same "remedial" actions outlined in paragraph 9 to ships that encountered operational challenges in complying with the Convention due to limitations in conducting BWE or treatment stemming from physical or time constraints, as described in paragraph 1.

11 The operational measures adopted by ships that bypassed the BWMS legitimately to mitigate the risks associated with ballast water discharges can lead to an increase in the affected ships' operational CII as established under MARPOL Annex VI. This potential increase in the CII may result in the ship being rated D or E, negatively impacting its Certificates and Statement of Compliance related to fuel oil consumption reporting and operational efficiency.

12 To better understand the impact and implications of measures adopted by ships that have to bypass their BWMS, INTERTANKO conducted an analysis of voyages undertaken by INTERTANKO members' ships. This analysis encompassed situations where ships bypassed their BWMS due to either CWQ or the inability to conduct BWE or treatment owing to physical and/or time limitations. This initiative aligns with the Committee's call for active and constructive stakeholder engagement on the issues and challenges identified during the Convention review phase.

Analysis

13 Forty-eight voyages undertaken by 27 of INTERTANKO members' ships following the ships' decision to bypass their BWMS were analysed. The voyages were performed from January to October 2024. Detailed information is provided in document MEPC 83/INF.21.

Table 1: Operational measures taken by 27 INTERTANKO members' ships during 48 voyages

Type of operational measures taken	CO ₂ increment	CII increment	Average of extra_distance (nm)
BWE+T	7.7%	5.3%	3
Route deviation	16.9%	12.9%	57
Route deviation + BWE+T	14.1%	11.7%	64
Grand total	9.0%	6.4%	13

14 Table 1 illustrates that the measures implemented by the 27 ships during 48 voyages resulted in an average of 9% increase in CO₂ emissions per voyage. This, in turn, led to an average CII increase of 6.4% per voyage. Furthermore, these measures extended the average voyage length by 13 nautical miles per voyage.

15 The results suggest a potential increase in ship emissions when operational measures are employed following a BWMS bypass. However, a more in-depth analysis could determine the precise impact on a ship's average CII. The co-sponsors intend to review the feasibility to conduct further analysis with a view to submitting the results at a future MEPC session.

Considerations

16 The operational measures undertaken by ships following a BWMS bypass have been negatively impacted for the specific voyages analysed. Further analysis to understand the extent and significance of this negative impact should be conducted, especially in specific areas of trade where there is a lack of exchange areas due to lack of depth and distance from shore as parameters in regulation B-4.2 of the BWM Convention. These areas will require further deviation to distant locations, resulting in higher CII ratings as mentioned in paragraphs 13 and 14. These are the scenarios where the CII needs to be investigated for environmental impact with the lack of associated exchange areas.

17 In addition to routine port calls and route deviations, analysis of specific locations such as shipyards situated in shallow coastal waters with high mud and silt content, where CWQ may necessitate the use of BWMS bypasses and their potential impact on a ship's CII, should be considered.

18 It is crucial to emphasize that the BWM Convention is fundamentally goal-oriented, with discharge standards as its core objective. Article 2.5 explicitly states that the prevention, minimization and ultimately elimination of the transfer of harmful aquatic organisms and pathogens are to be done through the control and management of ships' ballast water and sediments.

19 Given this goal-based framework, the co-sponsors are of the view that ships that have legitimately bypassed the BWMS and can demonstrably prove that their subsequent discharges meet the D-2 standard should not be subjected to measures imposed by receiving port States. Such ships could collaborate with BWMS manufacturers, classification societies and flag States to implement measures ensuring compliance with the D-2 standard for all ballast water discharges following a bypass. This approach aligns with IMO's growing emphasis on goal-based standards, a principle increasingly evident in other areas of shipping regulations.

20 Until ballast water management technology advances to the point where BWMS can operate optimally in all water conditions, Member States and port States should carefully consider the environmental impact caused by increased emissions when imposing measures on ships that have legitimate reasons to bypass their BWMS.

21 The Ballast Water Review Group, while considering this submission, may wish to recommend that the Committee consider sharing this submission with the Working Group overseeing the CII review.

22 The Committee may wish to consider providing guidance on how ships can effectively manage and comply with the requirements of both the BWM Convention and MARPOL Annex VI. This guidance should be in alignment with Article 2 of the BWM Convention and Article 195 of UNCLOS Part XII.

Action requested of the Committee

23 The Committee is invited to consider the results of the analysis and the considerations in paragraphs 16 to 22 and take action as appropriate.
