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HARMFUL AQUATIC ORGANISMS IN BALLAST WATER

Comments on challenging water conditions

Submitted by Global TestNet

SUMMARY

Executive summary:	This document summarizes views from testing organizations on the challenges posed by ports with challenging conditions. It makes suggestions for the development of a water quality database for ports to be considered as challenging so that testing protocols can be defined accordingly. It suggests that further verification of technologies to manage such water quality conditions is necessary.
Strategic direction, if applicable:	1
Output:	1.22
Action to be taken:	Paragraph 10
Related documents:	MEPC 76/4/7; MEPC 77/4/3; MEPC 78/INF.11; resolutions MEPC.174(58) and MEPC.300(72); BWM.2/Circ.62

Introduction

1 When a ballast water management system (BWMS) used on board a ship fails to ensure that the D-2 performance standard limits are met during discharge, the ballast water cannot be considered managed. In such cases, contingency measures in accordance with BWM.2/Circ.62 must be applied to decrease the risk of transfer of harmful aquatic organisms and pathogens.

2 Sometimes, water quality parameters of ports around the world exceed the challengewater conditions preconized during the type approval testing of BWMS. All BWMS may not be designed to treat challenging water conditions and therefore it complicates the choice of the most adequate BWMS for ships.

Defining ports with challenging water conditions

3 In principle, for all ships installed with a BWMS approved under the BWMS Code, sized, installed and maintained properly, failures to treat ballast water would be due to water quality in the port exceeding the System Design Limitation (SDL) of the BWMS and/or the water quality parameters applied during the type approval testing (e.g. land-based testing ensures that high concentrations of TSS, DOC, POC are used). However,

.1 all BWMS installed have not been approved in accordance with the BWMS Code (resolution MEPC 300(72)). Some installed BWMS have been solely approved against the Guidelines (G8) (resolution MEPC 174(58)) and may not have specific SDL; and

.2 most BWMS have no self-monitoring device identifying directly uptake water quality values such as TSS, DOC, POC and turbidity, and therefore it is not always possible to separate failures due to water quality outside SDL and failures due to maintenance or operations (e.g. dirty UV sleeves on a BWMS and low UV transmittance in the water to treat would both be measured equally by a low UV intensity and results in higher power consumption, a lower flow rate or a bypass of the BWMS).

4 According to document MEPC 76/4/7, the industry has identified at least 135 ports with "challenging water conditions" that affected the effectiveness of BWMS used in these ports. This previous submission to MEPC also noted that 13 of the consolidated reports were due to exceedance of the SDL of the BWMS installed. The report does not mention whether failures to manage ballast water in these ports occurs from all technologies or whether some technologies are indeed more capable than others in managing challenging ballast water conditions.

5 The Convention under regulation C-2 "Warnings concerning ballast water uptake in certain areas and related flag State measures" does provide the possibility to inform mariners on water conditions in ports where ballasting operations occur. Such challenging water conditions may be intermittent, as a result of extreme weather events, due to blooms of harmful organisms, or have constant high turbidity, etc. Port States should notify mariners and the Organization of such situations so that alternative management approaches may be coordinated.

6 For Administrations to conclude that one of their ports is a port with "challenging water conditions" there should be a definition of what such conditions are; these should be measurable so as to remove any subjectivity during potential investigations, and should take into account existing accessibility to technologies. A few principles on how to pragmatically define such ports/water conditions could include:

.1 the development of a consolidated water quality database for ports where water is suggested to be particularly challenging. These data should be evaluated by a group of experts in ballast water treatment to define characteristics that render the treatment of these water so challenging;

.2 the development of a water quality benchmark for "challenging waters" can allow for BWMS to be independently tested under extreme conditions in line with the BWMS Code and therefore would offer competitive advantages to manufacturers with BWMS presenting capabilities to treat ballast water under extreme conditions;

.3 a port where no approved BWMS is capable of treating the water should be considered de facto "port with challenging condition" (as no technology would be considered capable of managing such conditions); and

.4 if a BWMS technology exists and is confirmed to be able to consistently manage such challenging conditions it should eventually be installed on board ships which are known to trade through these ports.

Biological and ecological implications

7 It is unavoidable that some ships in some ports may face challenges to treat ballast waters that are extreme (until appropriate BWMS are approved under such conditions) and therefore contingency measures should be applied to ensure the protection of the aquatic environment.

8 However, the type approval process does not include the evaluation of biological activity in the tanks over time (accumulation or organisms over time and potential regrowth resulting from untreated organisms accumulating during contingency measure implementations). The Global TestNet has also raised this potential issue to some Administrations implementing alternative ballast water regulations (https://www.regulations.gov/comment/EPA-HQ-OW-2019-0482-0672).

9 Therefore, as a matter of due diligence it could be suggested that ships implementing contingency measures potentially creating accumulation of living organisms, pathogens, or their resting stages (cysts, eggs etc.) in tanks include an independent compliance monitoring programme as part of the Ballast Water Management Plans. Compliance monitoring (within or outside port State control) has been suggested in other submissions (MEPC 78/INF.11 and MEPC 77/4/3).

Action requested of the Committee

10 The Committee is invited to take note of the information contained in paragraphs 6 and 9 of this submission.