

SUB-COMMITTEE ON POLLUTION
PREVENTION AND RESPONSE
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Agenda item 5

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ADDITIONAL GUIDELINES FOR IMPLEMENTATION OF THE BWM CONVENTION

Contingency measures for ballast water management

Submitted by the Institute of Marine Engineering, Science and Technology (IMarEST)

SUMMARY

Executive summary: This document provides information on contingency measures for ballast water management, including utility, development progress, and implementation framework

Strategic direction: 2

High-level action: 2.0.1

Planned output: 2.0.1.8

Action to be taken: Paragraph 15

Related documents: MEPC 65/2/20

Introduction

1 Contingency measures are the operations that deal with planned ballast water discharges that do not meet port State control requirements with regard to harmful aquatic organisms. The planned discharges might not meet the requirements for a variety of reasons, including a ballast water treatment system mechanical failure, an error in management procedures or a lack of treatment system installation.

2 Contingency measures would bridge these gaps by providing temporary ballast water treatment system solutions. Design, prototyping, and trials of such solutions are ongoing in multiple locations world-wide. These solutions include barge-based, land-based, and portable onboard in-tank systems.

3 An implementation framework would assist port State control, marine vessel operators, and technology suppliers in developing and evaluating the practicality of contingency measures.

Utility

4 Ballast water management methods and treatment technologies have advanced significantly with many commercial installations now completed. Nonetheless, even the most well outfitted marine vessel will sometimes be out of compliance with requirements due to challenges with equipment, operations, logistics, ambient water conditions, or other unexpected conditions. The marine vessel operator and port State control officers have limited options in a non-compliance case: proceed with the non-compliant discharge or avoid the non-compliant discharge. Proceeding with the non-compliant discharge could result in environmental harm and a decreased public relations image. Avoiding the discharge could delay, perhaps permanently, cargo operations at potentially high cost and effect on reputation.

5 Contingency measures would provide a third option in the case of planned non-compliant ballast water discharges. A contingency measure would treat the ballast water prior to discharge into local waters. The treatment would reduce the quantity, quality, and viability of the harmful aquatic organisms, possibly to the same treatment standards as required by the Convention. The treatment would include measures such as chemical neutralization, as required to meet residual toxicity requirements.

6 Contingency measures may also be useful for emergencies such as marine vessel groundings and casualties. In emergency scenarios, off-loading ballast water is a frequently used technique. However, onboard machinery, including ballast water treatment systems, may not be operational.

7 The practicality of contingency measures will be significantly affected by the treatment technology employed and the application method. For example, the concentration and holding time of oxidizing agents will affect the efficacy of the treatment. For example, a treatment barge that employs holding tanks might best serve low-volume ballast water discharges. Demonstration trials that include efficacy testing are needed to establish practicality. Such trials may also identify that a suite of technologies and application methods are needed to serve the variety of marine vessels and conditions.

Development progress

8 The Workshop on Port-Based Emergency/Contingency Measures for Ballast Water Management (GIA Workshop) was sponsored by the Global Industry Alliance (GIA) Fund of the GloBallast Partnership. The GIA Workshop was held in Singapore on 12 November 2012 and included 16 experts from around the world. The GIA Workshop report concluded the following: the level of demand for contingency measures is not yet defined; additional operational data and cost data should be developed; and the outcomes of the workshop should be shared with the Marine Environment Protection Committee of the International Maritime Organization.

9 At the GIA Workshop, Damen Shipyards Gorinchem reported on progress of the Ballast Water Reception and Treatment vessel. This vessel is in the design phase with plans to progress to the prototype phase. The vessel will receive ballast water at a rate of up to 500 cubic metres per hour and process with a commercially available ballast water management system prior to discharge into the harbour.

10 Also at the GIA Workshop, the United States National Park Service and the United States Geological Survey reported on progress of the Ballast Responder system. This is a mobile system that is transferred to the marine vessel for in-tank treatment. The system consists of a mixing system which is inserted into full or partially full ballast water tanks, a chemical dosing system to apply an active chemical and, after a holding time, a neutralizing agent. The system has completed prototype shipboard trials.

11 Other contingency measure initiatives are underway that were not discussed at the GIA Workshop. For example, the Ballast Water Treatment Boat (BWTBoat) described in document MEPC 65/2/20 (India), includes one configuration that fits the contingency measure model.

12 Also separate from the GIA Workshop, the United States National Park Service released the Emergency Response Guidance for Handling Ballast Water to Control Aquatic Invasive Species, providing guidance to first responders and salvage engineers on treating ballast water with contingency measures. These measures have been demonstrated in shipboard trials.

Implementation framework

13 There is no existing implementation framework for contingency measures for ballast water management. Such a framework would provide guidance to the industry: including port State control officers, marine vessel operators, and technology providers. By reducing uncertainty, such a framework may also encourage the development and adoption of contingency measures.

14 A framework for contingency measures might consider the following: the level of risk reduction required, the process for determining when to implement, any potential liability of the various parties, and the responsibility of the service providers. These considerations might differ depending on circumstances that could include: a marine vessel operator declares an inability to comply with management requirements prior to discharge; a port authority determines that the management requirements are not being followed; and an emergency when unmanaged ballast water must be discharged for safety concerns.

Action requested of the Sub-Committee

15 The Sub-Committee is invited to note the information contained in this document.
