



# Ballast Water Management Convention 2004 (BWMC 2004)

What to Expect

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# WHAT TO EXPECT?

- The Ballast Water Management (BWM) Convention has been around for a long time, but it is still surrounded by confusion and speculation

## The Objective

- Drawing from experience gained in the Ballast Water Review Group at MEPC, this presentation aims to **provide some ideas of what to expect and some practical thoughts on compliance**



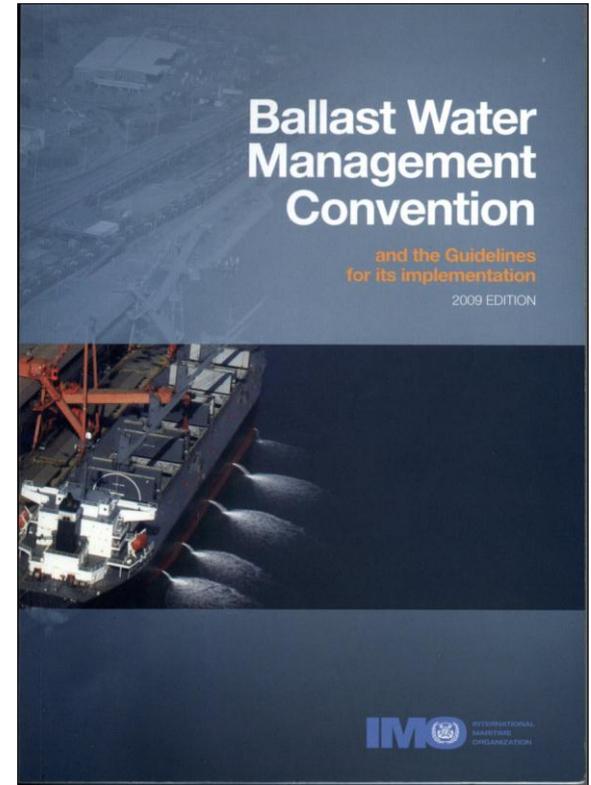
# HOW WAS THE NEED FOR REGULATION RECOGNIZED AND HOW DID THIS DEVELOP INTO A CONVENTION?

- “The harmful effects of unwanted species in ships’ ballast water was first reported to IMO in 1988, when Canada informed the Marine Environment Protection Committee (MEPC) about invasive aquatic species in the Great Lakes”
- First there was voluntary guidance (1991), then in 1999 the Ballast Water Working Group was established to prepare a free-standing Convention
- The Convention was unanimously adopted by Diplomatic Conference in early 2004
- **The aim – to establish a uniform set of rules that can be applied worldwide – simpler compliance**



# THE CONVENTION IS ADOPTED, BUT WHEN WILL IT BE ENFORCED?

- Require 30 countries with a combined 35% of the world's gross tonnage
- The total number of contracting Parties to the BWM Convention has reached 36 representing (29.07%)
- Where could the remaining 6% come from?
  - Panama alone (22.63%)
  - Hong Kong (5.84%) and China (3.54%)
  - Singapore (4.83%) and China (3.54%)
  - Combination – EU countries
- Is a country likely to announce an intention to ratify before they proceed formally? One hinted at MEPC 63 and three more at MEPC 64



# ISSUES PREVENTING FURTHER RATIFICATION

- Fixed dates in the implementation schedule of Regulation B-3 increase potential for a log jam of systems to be fitted
- Availability of Ballast Water Management Systems (BWMS)
- A perceived misalignment between Type Approval testing and port State control (PSC) guidance procedures for sampling
- Awareness of the cost to the industry
- Integration with local laws



# ISSUES PREVENTING FURTHER RATIFICATION (continued)

*Fixed dates in the implementation schedule of Regulation B-3 increase potential for a log jam of systems to be fitted*

- Until the Convention is fully ratified, it's neither enforced, nor is it possible to change the implementation schedule in the Convention.
- A Correspondence Group has been established to draft a Resolution, providing a pragmatic approach to the implementation schedule. Looking at ways to lower installation peaks likely if we implement the current Regulation B-3.
- Although we cannot circumvent Article 19 of the Convention, there is a strong likelihood a “gentlemen’s agreement” can be achieved at MEPC 65.



# ISSUES PREVENTING FURTHER RATIFICATION (continued)

*Fixed dates in the implementation schedule of Regulation B-3 increase potential for a log jam of systems to be fitted (continued)*

**Convention Schedule** (\*) anniversary date

Year of Construction	BW Capacity m3	Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Convention text
Before 2009	1,500 ~ 5,000	1							(*)				D2					B-3.1.1
	<1,500 or >5,000	2									(*)				D2			B-3.1.2
In or after 2009	<5,000	3		D2														B-3.3
Before 2012	>5,000	4									(*)							B-3.4
In or after 2012		5						D2										

**Example Alternative Schedule**

Year of Construction	BW Capacity m3	Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022		
Before 2009	1,500 ~ 5,000	1 Existing Ship							(*)						D2				
	<1,500 or >5,000	2 Existing Ship							D-1 or D-2	(*)							D-2		
In or after 2009	<5,000	3 New Ship							D-2										
		3 Existing Ship														D-2			
Before 2012	>5,000	4 Existing Ship							D-1 or D-2	(*)							D-2		
In or after 2012		5 New Ship								D-2									
		5 Existing Ship															D-2		



# ISSUES PREVENTING FURTHER RATIFICATION (continued)

## *Availability of Ballast Water Management Systems*

- The report of the Ballast Water Review Group indicates there is sufficient availability of treatment technologies, the main criteria being the number and variety of approved systems with sufficient flow rate for practical application.
- Does that mean they are robust enough to work in all conditions of operation around the world?
- “Approval of a system is intended to screen-out management systems that would fail to meet standards prescribed in regulation D-2 of the Convention. Approval of a system, however, does not ensure that a given system will work on all vessels or in all situations. To satisfy the Convention, a discharge must comply with the D-2 standard throughout the life of the vessel.”



# ISSUES PREVENTING FURTHER RATIFICATION (continued)

## *Availability of Ballast Water Management Systems (continued)*

- At MEPC 64, the decision was not to amend, at this time, Resolution MEPC.174(58) – “Guidelines for approval of ballast water management systems (G8)”.
- The United States (US) has chosen the same IMO Regulation D-2 ballast water discharge standard. However, the approval methodology only allows a system to be approved relative to the actual conditions it was tested in.
- The assertion is, under the BWM Convention, some approving administrations allow a greater degree of extrapolation from the actual test conditions.
- Does this mean anything if your goal is to have a United States Coast Guard (USCG) Type Approval?



# ISSUES PREVENTING FURTHER RATIFICATION (continued)

*A perceived misalignment between Type Approval testing and PSC guidance procedures for sampling*

- Compliance testing to the D-2 standard is a big issue in the Ballast Water Review Group. The situation is the performance based objective, rather than the more common prescriptive regulation; i.e. the difference between “you will achieve” and “you will install”.
- Article 9 “Inspection of ships” specifically allows sampling.
- “A sampling of the ship's ballast water, carried out in accordance with the guidelines to be developed by the Organization.”
- A majority in the Ballast Water Review Group who expressed an opinion, considered sampling is very unlikely, only applicable when there is obvious reason to expect a very significant chance of demonstrating gross non-compliance.



# ISSUES PREVENTING FURTHER RATIFICATION (continued)

*A perceived misalignment between Type Approval testing and PSC guidance procedures for sampling (continued)*

- Likely PSC inspection scenario
  - Verify certification
  - Inspect ballast water record books
  - Witness crew familiarity with the operation of the BWMS
  - Possibly a test to show the system runs up and operates
  - Problems with these basics are then grounds to investigate further
- In reality, the cost of taking samples and lab analysis is going to be prohibitive in all but the most extreme cases. Furthermore, unless the sample demonstrates gross non-compliance, further action by a PSC is unlikely because of the difficulty of demonstrating a small sample is a representative of a much larger discharge.



# ISSUES PREVENTING FURTHER RATIFICATION (continued)

## *Awareness of the cost to the industry*

- Though not often openly discussed at MEPC, Administrations are aware that today's economic climate is a bad time to embark on a huge retro-fitting program
- The application of Regulation D-5.2 in future reviews



# ISSUES PREVENTING FURTHER RATIFICATION (continued)

## *Integration with local laws*

- Certainly beyond the control of the MEPC
- The BWMC 2004 has formed a basis for local regulation (i.e. US rules) and currently, we are not dealing with vastly different rules and associated solutions



# CONCLUSIONS

- There is no way of knowing when the BWMC 2004 will finally be enforced, but events have overtaken us. The US ruling affects all worldwide charter parties; effectively it enforces the BWMC 2004.
- It's highly likely that IMO will be under pressure to adopt an implementation schedule which is no more aggressive than that of the US.
- Parties to the Convention need to manage the expectation and content of PSC guidelines. The Chairman of MEPC acknowledged a statement made in Plenary that guidelines for sampling and analysis should be no more robust than those for Type Approval testing.
- US waters will form a proving ground for the available technology – developing a de facto approval standard for the BWM Convention.
- Regardless of whether or not the BWM Convention is ratified, others will implement its regulations.



# PRACTICAL THOUGHTS ON COMPLIANCE

## Article 1 - Definitions

- "Ballast water" means water with its suspended matter taken on board a ship to control trim, list, draught, stability or stresses of the ship.
- "Ballast water management" means mechanical, physical, chemical, and biological processes, either singularly or in combination, to remove, render harmless, or avoid the uptake or discharge of Harmful Aquatic Organisms and Pathogens within Ballast Water and Sediments.



# PRACTICAL THOUGHTS ON COMPLIANCE (continued)

## Do you need a BWMS?

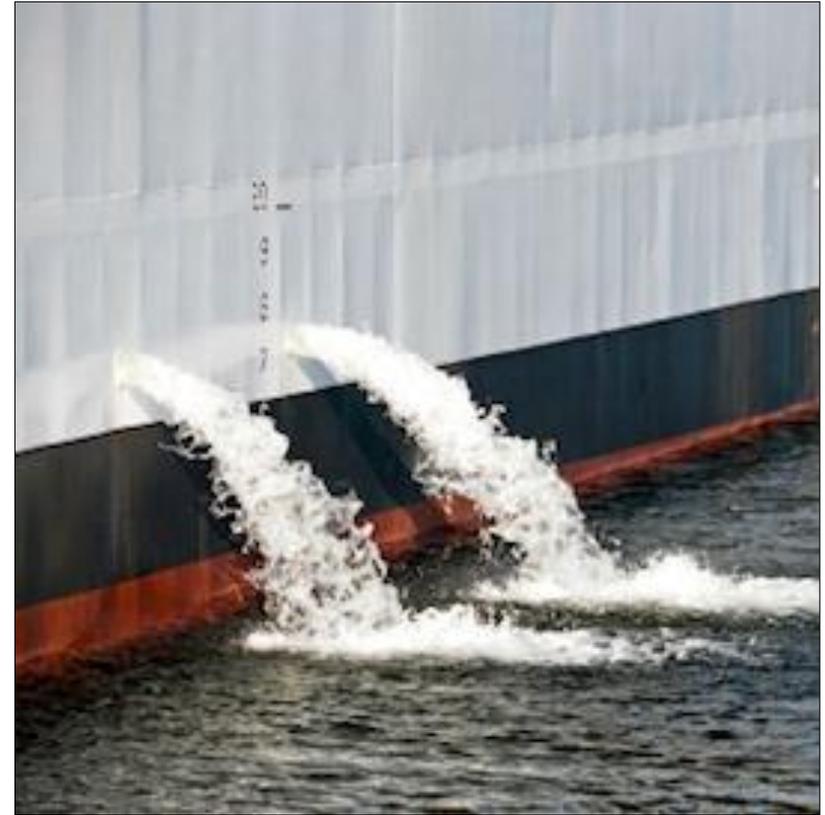
- Not discharging ballast, or sending it to an alternative treatment system
- Discharging ballast in the same “location” as it is picked up
- Ballasting from approved sources
- Agreement from flag State and coastal States to discharge untreated ballast water – only applicable if a full assessment shows the environment is unaffected



# PRACTICAL THOUGHTS ON COMPLIANCE (continued)

## Examples

- Shuttle tankers delivering cargoes between an FPSO and a shore terminal – ballast transfer is from shallow coastal waters to deeper more saline waters offshore
- Ferries on international voyages between specific ports with no invasive species between them
- Start work on this immediately, this is not going to be a quick review process



# PRACTICAL THOUGHTS ON COMPLIANCE (continued)

*You identify the need for a BWMS – how may you proceed?*

## THE PLAN

- Whatever you do, plan ahead and develop a process that works for you
- Do everything now – do some now – do nothing
- Install now versus install later
  - Price expectations, many BWMS makers are desperate to sell units now
  - New ships – plan for space, power generation, piping, etc.
  - Existing ship – plan dry docking schedule, 3D modelling
- Until the Convention is enforced, Republic of the Marshall Islands regulation leaves this decision to you



# PRACTICAL THOUGHTS ON COMPLIANCE (continued)

*You identify the need for a BWMS – how may you proceed?*

## THE PLAN (continued)

- Gather data to make informed decisions about the various treatment technologies
  - Find out what conditions the treatment system was tested under. Are these close to those expected in-service?
  - Compare treatment dosage and flow rates. Why does one system require a higher dosage per cbm than another? Are the manufacturers' claims realistic?
  - Judge corrosive effects (coating standard for G9 approvals).
  - Where do you get the consumables for a BWMS? Off the shelf parts may be easier to supply than proprietary items from the BWMS maker?



# PRACTICAL THOUGHTS ON COMPLIANCE (continued)

*You identify the need for a Ballast Water Treatment System (BWTS) –  
how may you proceed?  
THE PLAN (continued)*

- Assess if there are ballasting operational changes to make in order for a system to be reliable – this may also widen your choice of system
- Work with the BWMS manufacturer, shipyard and the Class Societies to specify features that enhance your chance of success
  - More than just a footprint in a machinery space, the installation environment can be important
  - It's not just a piece of equipment it's a system; pipe runs and positioning of key components can be the difference between a reliable system and an unreliable one



# PRACTICAL THOUGHTS ON COMPLIANCE (continued)

*You identify the need for a BWTS – how may you proceed?*

## THE PLAN (continued)

- The ability to collect indirect or indicative water quality measures demonstrates to PSC that appropriate treatment conditions have been achieved
- Drive water coming from outside the ship for an eductor would ruin a sample!
- Two smaller treatment systems provide better redundancy than one large treatment system
- Ballast tank/system design to facilitate stripping and cleaning can prevent mixing of untreated ballast water
- Fit an appropriate sample point



# CONCLUSIONS

Ballast Water Management and, predominantly, Ballast Water Treatment is a reality, whether it be the BWMC 2004 or regional regulation.

*“Fail to plan and you plan to fail”*



# THANK YOU



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