Implementation of the Ballast Water Management Convention, 2004 – Background Information on the Subject and Enforcement Procedures

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Charybdis hellerii

Nephthea curvata
1) Unloading cargo - loading ballast water

www.globallast.imo.org
Presentation:

- **Part One** – Non-indigenous Species and Ballast Water (general information)
- **Part Two** – International Framework about Non-indigenous Species and Ballast Water and Case Studies
- **Part Three** – Procedures to PSC inspections with regards to BWM Convention
Part One - Non-indigenous Species and Ballast Water

- International trade done by the sea: 90%;
- BW is needed to keep the safety and the proper navigation;
- Path to the transference of many species, among distinct biogeographic regions;
- As a result: international organizations and Administrations started mobilizing international organisms to find global and uniform solutions.
Non-indigenous Species and Ballast Water

Vale Rio de Janeiro (VLOC) - 14th of the Rongsheng-built Valemax series of 400,000 ton ore carriers (Vale SA)
Brief Comments about Shipping

- Sea transport has played a very important role in the world economy;
- Navigation within the Atlantic Ocean during the 15th Century laid the foundation for a global sea trade network;
- To improve the safety, the navigation and to uniform procedures, first international agreements were adopted;
- Titanic: the International Safety of Life at Sea Convention (SOLAS);
- In 1948 an international conference adopted a Convention establishing IMO
Background information about NIS and BW

- Fourth largest hazard for the world’s oceans
- Transferring and/or spreading NIS / pathogens is a result of an activity inherent to the ships’ operation
- WHO: NIS are also means of spreading diseases
- 3.5 billion tons of BW are transferred globally / year;
- 7,000 spp can be transported in a day in BW tanks;
- In just a few hundred years natural barriers have become ineffective by combined circumstances

Transverse and longitudinal views of bw tanks at a bulk carrier (Source: Silva et al., 2004).
Definition of BW - GloBallast

- The word ballast: any material used to give weight and or to maintain stability of a given object;
- BW means water with its suspended matter taken on board a ship to control trim, list, draught, stability or stresses of the ship;
- The GloBallast is a joint initiative from the GEF, UNDP and IMO:
  - The Phase 1 between 2000-04;
  - Phase 2: GloBallast Partnerships

The total number of introduced spp to the U.S., UK, Australia, South Africa, India and Brazil range from about 2000 to 50,000 spp;

One study in U.S. attempt a nationwide estimate of NIS’ economic costs concluded that the annual costs to U.S. exceed $120 billion;

In the EC the damage attributed to toxic algal blooms to fishery, tourism and healthcare industries amounted to €584 million in 2005.
The role of Invasive Species – Classical Cases

- Zebra mussel - a small eurasian freshwater mussel;
- *Mnemiopsis leidyi* (comb jelly) - from the east coast of the United States and Caribbean Sea;
- Golden mussel in Brazil - from rivers in China and SE Asia.
Enforcement of Ballast Water Management Procedures in order to avoid Alien Species

- UNCLOS allows CS to legislate for the ‘good conduct’ of ships in TW;
- Endorses the CS’s right to enforce international regulations;
- PSC movement in 1978;
- in 1982 it was formalized - Paris MoU.
Enforcement of Ballast Water Management Procedures in order to avoid Alien Species

- **IMO**: PSC is the inspection of foreign ships in national ports to verify that the condition of the ship and its equipment comply with the requirements of international regulations and that the ship is manned and operated in compliance with these rules.

- Brazil is part of the "Acuerdo Latinoamericano sobre Control de Buques por el Estado Rector del Puerto Viña del Mar – 1992".
Part Two – International Framework about Non-indigenous Species and Ballast Water

- There are over 40 binding and non-binding instruments that deal with non-native species;
- United Nations Convention on the Law of the Sea, 1982 (UNCLOS) – Art. 196 (use of technologies or introduction of alien or new species);
- Convention on Biological Diversity (CBD) – Art. 8 (*In situ* conservation);
- Agenda 21
- Res A.774 (18) – 1993
- Res A.868 (20) - 1997
International Convention for the Control and Management of Ships’ Ballast Water and Sediments

- Adopted on February 13th, 2004, with provisions to regulate and control BWM to minimize the hazards to the environment, to public health, and to properties and resources in the transfer of living aquatic organisms worldwide in bw and ships’ sediments;

- It will be enforced: 12 months after the date at least 30 countries, with combined merchant fleets of which constitute 35% GT of the world’s merchant shipping sign it with no restrictions.

- Now: 36 CP » 29.07% worlds’ GT
International Convention for the Control and Management of Ships’ Ballast Water and Sediments

Major requirements:
1. BWMP
2. BWRB
3. BWM – ship’s ballast tanks capacities dates of construction.
Considerations about D-1 standard
Guidelines on Ballast Water Exchange by International Maritime Organization (G6)

- D-1 standard - exchange ballast water taken in coastal habitats for mid-ocean waters
- To achieve BWE: require it to occur 200 N.M. from the nearest land in depths of at least 200m
  - Sequential method
  - Flow-through method
  - Dilution method
The Cougar Ace: Ro-Ro auto carrier.
On July 23rd, 2006, it was headed from Japan to U.S. and Canadian west coast ports when something went wrong during ballast water exchange operation.
## Considerations about D-2 standard

<table>
<thead>
<tr>
<th>Organism / indicator</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>viable organisms ≥ 50μm</td>
<td>Discharge less than 10/m³</td>
</tr>
<tr>
<td>viable organisms between 10μm (included) and 50μm</td>
<td>Discharge less than 10/ml</td>
</tr>
<tr>
<td>Toxicogenic <em>Vibrio cholerae</em> (O1 and O139)</td>
<td>with less than 1 cfu/100ml or less than 1 cfu/1g (wet weight) of zooplankton samples</td>
</tr>
<tr>
<td><em>Escherichia coli</em></td>
<td>less than 250 cfu/100 ml</td>
</tr>
<tr>
<td>Intestinal Enterococci</td>
<td>less than 100 cfu/100 ml</td>
</tr>
</tbody>
</table>
Guidelines on Ballast Water Sampling by International Maritime Organization

- Provide Administrations / PSCO with practical and technical guidance on bw sampling and analysis
- BLG 13 (*aide-mémoire*): BWM circular and in BLG 15 the circular was divided in two
- FSI Guidelines:
  - "Draft IMO Guidelines for Port State Control Inspections for Compliance with the BWMC, 2004"
  - Interim Survey Guidelines were approved (BWM.2/Circ.7 (2006) and are going to be part of the HSSC Guidelines.


United Kingdom

- UK is part of EC: regional rules/agreements
- In the UK the Wildlife and Countryside Act (1981) is considered the major legal instrument for wildlife protection and consolidates and amends existing national legislation to implement the Bern Convention and the Marine Coastal and Access Act (2009);
- 2008: it was launched the GB Non-native Species Mechanism and the Invasive Non-Native Species Framework Strategy for GB;
- The Conservation of Habitats and Species Regulations, 2010;
- The MCA, from UK DT, is the appropriate authority in UK to regulate subjects related to “safer lives, safer ships, cleaner seas”.

Rules are issued by M Notices:
- Merchant Shipping Notices (MSN)
- Marine Guidance Notes (MGN)
- Marine Information Notes (MIN)
United Kingdom present regulation

- There are two M Notices regarding to BW into force:
  - MGN 81 - draws attention to the Resolution A.868(20);

- In terms of rules, MCA is developing an exemption system based on G7 and believes that UK are going to be Part of the BWMC after it gets into force;

- As far as practicable and reasonable Royal Navy warships are complying with International Conventions, and the BWMC is not an exception (new aircraft carrier – HYDE Guardian).
Brazil

- Brazilian Constitution
- Lei 6.938/1981 – “National Environmental Policy”
- Lei 9966/2000 – “Oil Law”
- RDC 217/2001 and RDC 72/2009 from National Health Surveillance Agency
- Maritime Authority Regulation for the Management of Ships' Ballast Water nº 20 (2005)
- D.L.148 (2010)
Brazilian Regulation about Ballast Water:

- NORMAM 08 (2000): the first time bw was mentioned (BW Form);
- Since October 2005, “Maritime Authority Regulation on Ships’ Ballast Water Management” (NORMAM-20/DPC):
  - It applies to all ships, equipped with BW tanks;
  - Ships / their agents shall send the BW form at least 24 hours in advance to the local MA Agent of the port area;
  - Ships must have a BWMP approved by Administrations or RO;
  - BWE is required (in the same way as BWMC);
  - Special procedures to ships entering into the Amazon basin / between fluvial basins;
  - Non-compliances are considered administrative violations
Procedures to PSC inspections with regards to BWM Convention

Enforcement of the BWM Convention will be the responsibility of individual port States, despite the fact that it is of common interest of the maritime sector that it happens as uniform as possible worldwide (Wright, 2012).

The paper presents a consolidated document mainly based on IMO guidelines (BLG and FSI) with a view to establish current possible procedures to be used by PSC / update national regulation.
Procedures to PSC inspections with regards to BWM Convention

First stage (initial/documental):
- Check if the IBWC
- Check the BWMP
- Check the type approval of BWMS;
- Check the BWRB
- Check whether the ship is exempted of any procedure;
- If ships are adopting BWE: PSCO may check the salinity;

Second stage:
- To verify if ships have an onboard monitoring system;
- Check if the BWMS is properly working;
- If the ship doesn’t have an onboard monitoring system and / or the data registered seems to indicate that the BWMS wasn’t working, PSCO should ask for an indicative analysis.
Procedures to PSC inspections with regards to BWM Convention

• If indicated, PSCO should move to a more detailed inspection which relies on sampling and analysis:

indicative analysis
detailed analysis - last stage in the detailed inspection
  - When detailed analysis and full-scale sampling is required;
  - To conduct detailed analysis, all time needed won’t be considered undue delay.

• In this case any of the 3 indicators set in D-2 could be adopted and used by PSC to verify the non-compliance.
“I have been impressed with the urgency of doing. Knowing is not enough; we must apply. Being willing is not enough; we must do.”

(Leonardo da Vinci)

Thank you!

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