Ballast Water Convention

January 2017

L-C&R / SCD

Move Forward with Confidence
Foreword - Invasive aquatic species / Ballast Water

► Invasive aquatic species are one of the greatest threats to the world’s oceans, and can cause extremely severe environmental, economic and public health impacts.

► Ballast water is recognized as one of the principal vectors of potentially invasive alien species, and is estimated to be responsible for the transfer of between 7,000 and 10,000 different species of marine microbes, plants and animals globally each day (Carlton, 1999).

► Watch IMO – BBC Video “Invaders of the sea”
Ballast Water Convention

► The IMO adopted in 1991, the first voluntary guidelines for Preventing the Introduction of Unwanted Organisms and Pathogens from Ship’s Ballast Waters and Sediment Discharges.

► The IMO adopted in 1997, the Guidelines for control and management of ships’ ballast water to minimize the transfer of harmful aquatic organisms and pathogens (Resolution A.868(20)),

► The International Convention for the Control and Management of Ships Ballast Water & Sediments was adopted by consensus at a Diplomatic Conference at IMO in London on Friday 13 February 2004.

► The convention is completed by over than 14 guidelines
Entry into force

► Article 18 of the Convention:

“This Convention shall enter into force twelve months after the date on which not less than thirty States, the combined merchant fleets of which constitute not less than thirty-five percent of the gross tonnage of the world’s merchant shipping, have either signed it [...]”.

► The convention will enter into force on 8 September 2017
Ships concerned

► The Convention applies to ships designed or constructed to carry ballast water. It will not apply to:
  • ships not designed to carry ballast water
  • ships of a Party which only operate in waters under the jurisdiction of that Party (subject to additional conditions as per Article 3 of BWM Convention)
  • ships of a Party which only operate in waters under the jurisdiction of another Party (subject to additional conditions as per Article 3 of BWM Convention)
  • ships which only operate in waters under the jurisdiction of one Party and on the high seas (subject to additional conditions as per Article 3 of BWM Convention)
  • warships, naval auxiliary ships or other ships owned or operated by a state and used for time being only on government non-commercial service
  • ships with permanent ballast water in sealed tanks.

► As per circular BWM.2/Circ.32, the provisions of the Convention are not applicable to the water in the hopper area of hopper dredgers.

► Article 1 of the Convention: “Ship means a vessel of any type whatsoever operating in the aquatic environment and includes submersibles, floating craft, floating platforms, FSUs and FPSOs.”
Survey and Certification

- Ships of 400 GT and above are subject to surveys and certification (excluding floating platforms, FSUs and FPSOs) (reg. E-1 paragraph 1),

- However Flag States shall establish appropriate measures for ships that are not subject to these provisions in order to ensure that appropriate provisions of the Convention are complied with. (reg. E-1 paragraph 2),

- As per circular BWM.2/Circ.46, Mobile offshore units should comply with the provisions of the Convention and should be surveyed and issued with an International BWM Certificate.

- Options for ballast water management for Offshore Support Vessels in accordance with the BWM Convention can be found in circular BWM.2/Circ.44. Generally, the process of survey and certification follows section E of the Convention.
BWM Convention requirements

► On 8 September 2017, all ships subject to the Convention are required to:

- Have on board an approved ballast water management plan (reg. B-1)
- Have on board a ballast water record book (reg. B-2)
- Carry out ballast water and sediment management on all voyages (reg. B-3) and comply with:
  - D-1 Standard - Ballast Water Exchange
  or
  - D-2 Standard - Ballast Water Performance (i.e. treatment system)

► In addition, on 8 September 2017, ships subject to survey and certification are required to be issued with an International Ballast Water Management Certificate.
Enforcement timeline - New ships

► Ship constructed on or after 8 September 2017 are required to comply with the provisions of the convention

► “Constructed” means a stage of construction where:
  .1 the keel is laid; or
  .2 construction identifiable with the specific ship begins; or
  .3 assembly of the ship has commenced comprising at least 50 tonnes or 1 percent of the estimated mass of all structural material, whichever is less; or
  .4 the ship undergoes a major conversion.
Enforcement timeline – Existing ships Res.A.1088(28)

- Original implementation schedule is in regulation B-3 of the BWM convention. However,

- IMO Assembly approved Res. A.1088(28) on the application of BWM to ease and facilitate the smooth implementation of the Convention.

<table>
<thead>
<tr>
<th>Resolution A.1088(28) - Adjusted implementation of Regulation D – 2</th>
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<tbody>
<tr>
<td><strong>BW capacity (m³)</strong></td>
</tr>
<tr>
<td>&lt; 1500</td>
</tr>
<tr>
<td>1500 – 5000</td>
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<tr>
<td>&gt; 5000</td>
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EIF : 8 September 2017

- An existing ship will be required to comply with either regulation D-1 or regulation D-2 until such time as regulation D-2 is enforced
Enforcement timeline – To be confirmed at MEPC71

► During MEPC 70 (October 2016) interested parties have submitted alternate draft amendments to regulation B-3 of the BWM Convention. (postponement of compliance to regulation D-2 for some ships)

► Alternative proposal for existing ships is:

- the **first** IOPP renewal survey following the EIF of the Convention if this survey is completed on or after 8 September 2019;

- the **second** IOPP renewal survey following the EIF of the Convention if the first IOPP renewal survey following the date of entry into force of the Convention is completed prior to 8 September 2019.
Recognizing that the BWM Convention may not be amended before it enters into force, it is expected as soon possible after entry into force of the BWM Convention, regulation B-3 be amended.

Original draft amendments to regulation B-3 (consistent with the understanding reflected in the Res. A.1088(28)) together with the alternate proposal will be considered at MEPC 71 (July 2017).
Issuance of BWM Certificate prior to the entry into force of the convention (IMO circular BWM.2/Circ.40)

- It is possible to issue International Ballast Water Management Certificates prior to entry into force of the Convention (8 September 2017) and from 8 September 2016, provided it is annotated to state that validity begins from 8 September 2017.
Ballast Water Exchange – D-1 Standard

► Goal: volumetric exchange of ballast water up to 95% of the Ballast Water Capacity.

   Do not require any modification to the ship’s existing equipment

► Methods:

   • Flow through method: pumping to overflow
   
   • Dilution method: ballasts filled through the top allowing discharge from the bottom
   
   • Sequential: each ballast is emptied and refilled
Ballast Water Performance (regulation D-2)

- Discharge water shall contain:

<table>
<thead>
<tr>
<th>Organisms</th>
<th>Discharge Limitation</th>
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<tbody>
<tr>
<td>Organisms ≥ 50 µm</td>
<td>&lt; 10 viable organisms / m³</td>
</tr>
<tr>
<td>50 µm &gt; Organisms ≥ 10 µm</td>
<td>&lt; 10 viable organisms / ml</td>
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<table>
<thead>
<tr>
<th>Indicator Microbes</th>
<th>Concentration</th>
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<tbody>
<tr>
<td>Toxicogenic Vibrio cholera (O1 and O139)</td>
<td>&lt; 1 colony-forming unit (cfu) per 100 ml</td>
</tr>
<tr>
<td>Escherichia coli</td>
<td>&lt; 250 cfu per 100 ml</td>
</tr>
<tr>
<td>Intestinal Enterococci</td>
<td>&lt; 100 cfu per 100 ml</td>
</tr>
</tbody>
</table>

- Method:
  - Use of **Type Approved** Ballast Water Management Systems (BWMS) reg. D-3
Approval of BWMS (regulation D – 3)

► **Ballast Water Management System (BWMS)** means any system which processes ballast water such that it meets or exceeds the ballast water performance standard in regulation D-2. The BWMS includes ballast water treatment equipment, all associated control equipment, monitoring equipment and sampling facilities.

► The BWMS shall be approved taking into account IMO guidelines:

- **G 8 guidelines**
  - MEPC.174(58) Guidelines for Approval of Ballast Water Management Systems
  - All BWMS
  - Approval by administrations
  - NEW

- **MEPC.279(70)** Guidelines for Approval of Ballast Water Management Systems
  - MEPC.279(70) Guidelines for Approval of Ballast Water Management Systems
  - All BWMS
  - Approval by administrations
  - Apply when approving BWMS as soon as possible, but not later than 28 October 2018

- **G 9 guidelines**
  - MEPC.169(57) Procedure for Approval of Ballast Water Management Systems that make use of Active Substances
  - Additional process for BWMS using active substances
  - Approval by IMO
Approval of BWMS (regulation D – 3)

- Systems not using Active Substance
- Systems using Active Substances

Approval of environmental impact of discharged BW by IMO (G 9 Guidelines)

Approval of the system by the flag state (G 8 / revised G 8 Guidelines)

Approval of environmental impact of discharged BW by IMO (G 9 Guidelines)

Issuance by the Flag State (or Delegated RO)

List of BWMS that received Basic Approval
See Table 1

List of BWMS that received Final Approval
See Table 2

List of Type Approved BWMS
See Table 3
Revised G8 Guidelines

► IMO MEPC 70 adopted revised Guidelines for approval of ballast water management systems (G8) - MEPC.279(70)

► As per IMO resolution MEPC.279(70):

- ballast water management systems installed on ships on or after 28 October 2020 should be approved taking into account the revised Guidelines (G8) set out in resolution MEPC.279(70)

- ballast water management systems installed on board ships prior to 28 October 2020 should be approved taking into account either resolution MEPC.174(58), or preferably the revised Guidelines (G8) set out in resolution MEPC.279(70),

► the word “installed” means the contractual date of delivery of the ballast water management system to the ship. In the absence of such a date, the word “installed” means the actual date of delivery of the ballast water management system to the ship.
Revised G 8 Guidelines

► Revised Guidelines include:

- more robust test and performance specifications
- more detailed requirements for type approval reporting and control & monitoring equipment among others,

► The type approval process was expanded, with detailed requirements for land-based, shipboard, and installation survey & commissioning procedures.

new requirement following type approval:

Installation of the BWMS is to be carried out in accordance with the technical installation specification, relevant type-approval certificate and the manufacturer's equipment specification.
Survey diagramme

Diagrammatic survey arrangement under the Harmonized System of Survey and Certification (HSSC)
Initial survey – Main points

Based on Interim Survey Guidelines (contained in the Circular, BWM.2/Circ.7)

► Plan approval

- examining the design and construction (reg B-5);
- examining the ballast water management plan (reg B-1);
- examination of plans for the installation of BWMS (D-2 standard) (reg D-3)
- if applicable, examination of plans for the installation of prototype ballast water treatment technologies (reg D-4).

► Documentation

- confirming that approved Ballast Water Management Plan has been provided
- confirming that the Ballast Water Record Book has been provided
Initial survey – Main points

► Where a BWMS (D-2 standard) is provided:
  - Operations and technical manual for the BWM System provided
    specific to the ship and approved by the Administration
  - Equipment manuals for major components provided
  - Installation specifications provided / commissioning procedures provided
  - Initial calibration procedures provided
  - Sampling facilities provided
  - BWMS in conformity with the Type Approval Certificate
  - BWMS installation carried out in accordance with the technical installation
    specification / manufacturer’s equipment specification / approved drawings
  - Control and Monitoring Equipment operates correctly
  - Sufficient active substances are provided on board (when applicable)
  - Confirming the satisfactory installation and operation of the BWMS, including
    any audible or visual alarms
Periodical survey (annual/intermediate/renewal) – Main points

- Check that a valid IBWM Certificate is on board
- Check that the ballast water management procedure is carried out as outlined in the Ballast Water Management Plan (BWMP)
- Check that BWM Plan is approved by/on behalf of the Administration
- Check that the details of any ballast water operations carried out are recorded in the Ballast Water Record Book
Periodical survey – Main points

► Where a BWMS is provided:

- Examining externally the ballast water treatment system and confirming, as far as practicable its satisfactory operation
- Confirming that, if applicable, active substances in accordance with the manufacturer’s recommendations are provided on board
- Confirming that, if applicable, dosage instruction for active substance or preparations are available on board

► In addition for intermediate and renewal survey:

- Examining the ballast water management system for obvious defects, deterioration or damage including examining associated pumps, piping and fittings for wear and corrosion
National flag requirements

- BV scope of delegation to be verified
- Possible national flag requirements may apply
Move Forward with Confidence