

**REGIONAL WEBINAR on the Effective
Implementation of the Ballast Water
Management Convention**

Ballast Water Management under the BWM Convention

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OUTLINE

- BWM Convention overview
- D-2 BWM Performance standard
- Ballast Water Exchange Areas
- Reception Facilities
- Ballast Water Reporting
- Contingency Measures
- Additional Measures
- Warnings
- Exemptions
- Risk Assessment
- PSC Inspections



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BWM Convention overview

**Ballast Water Management under the
BWM Convention**

International Convention for the Control and Management of Ship's Ballast Water and Sediments

- **ARTICLES (1-22)**
 - Definitions, obligations, application, inspections, violations, control, survey and certification etc.
- **ANNEX**
 - Regulations (A-E) for the control and management of ships' ballast water and sediments
- **Appendix I**
 - Form of International BWM Certificate (IBWMC)
- **Appendix II**
 - Ballast Water Record Book (BWRB)
- **BWM Convention SUPPORTING GUIDELINES (15)**
- **BWM Circulars**
 - BWM.1 Convention (83), BWM.2 Technical aspects (140), BWM.3 Series (4)



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Annex

- Section A - General Provisions
- Section B - Management and Control Requirements for Ships
- Section C - Special Requirements in Certain Areas
- Section D - Standards for Ballast Water Management
- Section E - Survey and Certification Requirements or Ballast Water Management



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Guidelines

- G1: Guidelines for Sediments Reception Facilities (Reg B-5)
- G2: Guidelines for Ballast Water Sampling (Article 9)
- G3: Guidelines for Ballast Water Management Equivalent Compliance (Reg A-5)
- G4: Guidelines for Ballast Water Management and Development of Ballast Water Management Plans (Reg B-1)
- G5: Guidelines for Ballast Water Reception Facilities (Reg B-3)
- G6: Guidelines for Ballast Water Exchange (Reg B-4)
- G7: Guidelines for Risk Assessment under Regulation A-4
- G8/BWMS Code: Guidelines for Approval of Ballast Water Management Systems (Reg D-3)
- G9: Procedure for Approval of Ballast Water Management Systems that make use of Active Substances (Reg D-3)



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Guidelines

- G10: Guidelines for Approval and Oversight of Prototype Ballast Water Treatment Technology Programmes (Reg D-4)
- G11: Guidelines for Ballast Water Exchange Design and Construction Standards (support D-1)
- G12: Guidelines for Sediment Control on Ships (Reg B-5)
- G13: Guidelines for Additional Measures including Emergency Situations (Reg C-1)
- G14: Guidelines on Designation of Areas for Ballast Water Exchange (Reg B-4)
- “G15”/PSC: Guidelines for Port State Control under the BWM Convention (support Article 9)



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D-2 BWM Performance standard

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Regulation D-2 Ballast Water Performance Standard

1 Ships conducting Ballast Water Management in accordance with this regulation **shall discharge less than 10 viable organisms per cubic metre greater than or equal to 50 micrometres in minimum dimension and less than 10 viable organisms per milliliter less than 50 micrometres in minimum dimension and greater than or equal to 10 micrometres in minimum dimension; and discharge of the indicator microbes shall not exceed the specified concentrations described in paragraph 2.**

2 **Indicator microbes**, as a human health standard, shall include:

- .1 **Toxicogenic *Vibrio cholerae*** (O1 and O139) with less than 1 colony forming unit (cfu) per 100 milliliters or less than 1 cfu per 1 gram (wet weight) zooplankton samples ;
- .2 ***Escherichia coli*** less than 250 cfu per 100 milliliters;
- .3 **Intestinal *Enterococci*** less than 100 cfu per 100 milliliters.





Ballast Water Exchange Areas

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Ballast Water Exchange Areas

- Regulation B-4.2 and Guidelines on Designation of Areas for Ballast Water Exchange (G14)

Regulation B-4 **Ballast Water Exchange**

- 2 In sea areas where the distance from the nearest land or the depth does not meet the parameters described in paragraph 1.1 or 1.2, the port State may designate areas, in consultation with adjacent or other States, as appropriate, where a ship may conduct Ballast Water exchange, taking into account the Guidelines described in paragraph 1.1.*



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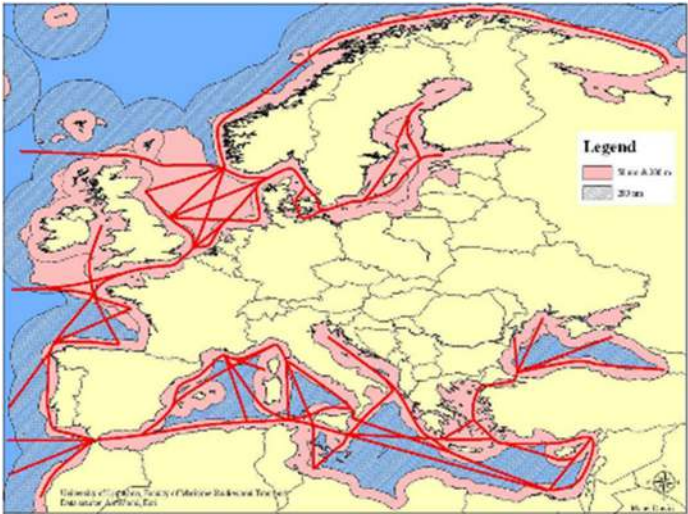
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Ballast Water Exchange Areas

Guidelines on Designation of Areas for Ballast Water Exchange (G14)

- **Process for the designation** of sea areas for ballast water exchange
- **Consultation** and regional co-operation
- **Identification of potential sea areas** for ballast water exchange
 - Legal aspects
 - Important resources and protected areas
 - Navigational constraints
- **Assessment of identified sea areas**
 - Risk assessment - oceanographic, biological, environmental, important resources, ballast water operations
- **Designation** of sea areas for ballast water exchange
- **Communication**
- **Monitoring and review**



David M et al. 2015



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Reception Facilities

- **Sediment**
- **Ballast water**

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Sediment Reception Facilities

- Regulation B-5 and Guidelines for Sediments Reception Facilities (G1)

Regulation B-5 Sediment Management for Ships

- *1 All ships shall remove and **dispose of Sediments** from spaces designated to carry Ballast Water in accordance with the provisions of the ship's Ballast Water Management plan.*
- *2 Ships described in regulation B-3.3 to B-3.5 should, without compromising safety or operational efficiency, be designed and **constructed** with a view to **minimize** the uptake and undesirable entrapment of **Sediments**, **facilitate removal** of Sediments, and provide **safe access** to allow **for Sediment removal and sampling**, taking into account guidelines developed by the Organization. Ships described in regulation B-3.1 should, to the extent practicable, comply with this paragraph.*

Guidelines for Sediments Reception Facilities (G1)

- General requirements for reception facilities
- Provision of sediment reception facilities
- Treatment, handling and disposal of received sediment
- Capabilities of a reception facility
- Training



Ballast water Reception Facilities

- Regulation B-3.6 and Guidelines for Ballast Water Reception Facilities (G5)

Regulation B-3 *Ballast Water Management for Ships*

- 6 *The requirements of this regulation do not apply to ships that discharge Ballast Water to a reception facility designed taking into account the Guidelines developed by the Organization for such facilities.*



<https://www.bawat.com/bawat-baas/ballast-as-a-service/>



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Guidelines for Ballast Water Reception Facilities (G5)

- General requirements for ballast water reception facilities
- Provision of ballast water reception facilities
- Treatment and disposal of received ballast
- Suspended matter
- Capabilities of a reception facility
- Training



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Ballast Water Reporting

**Ballast Water Management under the
BWM Convention**

- Where a **port State requires specific information** regarding the **management of ballast water** on a ship bound for a port, offshore terminal or anchorage area in that port State, a completed **ballast water reporting form as set out in the appendix** may be submitted prior to entry into that port State in a timeframe required by that port State.

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Contingency Measures

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Contingency Measures

- Not in BWMC

Guidance on contingency measures under the BWM Convention (BWM.2/Circ.62)

- Definition

- *Contingency measure means **a process** undertaken on a case-by-case basis **after a determination** that **ballast water** to be discharged from a ship is **not compliant**, in order to allow **ballast water to be managed** such **that it does not pose any unacceptable risks** to the environment, human health, property and resources.*

- Implementation of contingency measures, e.g.:

- **predetermined** in the **BWM Plan** of the ship
- **discharging ballast water to another ship** or to an appropriate shipboard or **land-based reception facility**
- **managing** the ballast water or a portion of it in accordance with a **method acceptable to the port State**
- **ballast water exchange** carried in a designated ballast water exchange area



Additional Measures

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Additional Measures

- Regulation C-1 and Guidelines for Additional Measures including Emergency Situations (G13)

Regulation C-1 Additional Measures

- *1 If a Party, individually or jointly with other Parties, determines that **measures in addition to those in Section B are necessary** to prevent, reduce, or eliminate the transfer of Harmful Aquatic Organisms and Pathogens through ships' Ballast Water and Sediments, such Party or Parties may, consistent with international law, require ships to meet a specified standard or requirement.*
- Prior to establishing should **consult with adjacent or other states**
- **Communicate** their intention to IMO **6 months in advance**
- Endeavour to **make available**, e.g., **appropriate services** and alternative routes to ease the burden on the ships
- **Not compromise the safety and security of the ship** and in any circumstances

Guidelines for Additional Measures including Emergency Situations (G13)

- Assessment when a state intends to introduce additional measures
 - assess the need
 - identify additional measures to be introduced
 - effects and consequences of introduced measures
 - procedures to follow for ships
 - communication of information to relevant States, shipping industry and IMO
- Emergency or epidemic situation
 - adopt additional measures to address emergency or epidemic situations
 - may implement immediately, communication follows as soon as possible





Warnings

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Warnings

Regulation C-2 *Warnings Concerning Ballast Water Uptake in Certain Areas and Related Flag State Measures*

- About **outbreaks, HAOP, sewage outfalls, poor/intensive tides**
- **Notify mariners** about areas under their jurisdiction **where ships should not uptake ballast water** and any arrangements made for alternative supplies
- **Define exact coordinates** of the area(s)
- **Notify IMO** and any potentially affected **coastal states**
- **Notify all** when **warning is over**





Exemptions

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Exemptions

- Regulation A-4 and Guidelines for Risk Assessment under Regulation A-4 (G7)

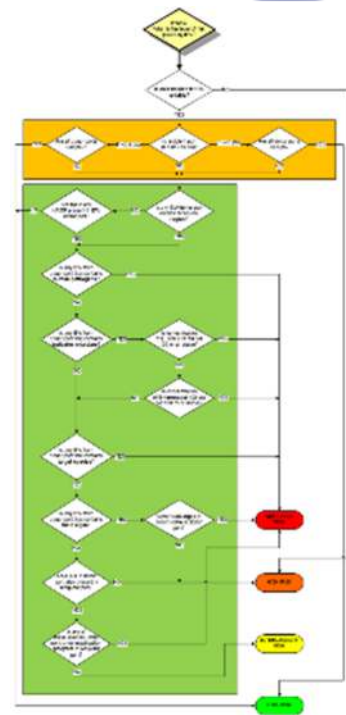
Regulation A-4 Exemptions

- Party may **exempt ships from BWM requirements** (Reg B-3) and additional measures (Reg C-1) when:
 - ship/ships on **voyage/s between ports/locations**
 - effective for **max 5 years** subject to intermediate review
 - **not mix** BW/sediment with BW/sediment from **other locations**
 - exemptions granted based on the G7 Guidelines
 - **communicate** to IMO and circulation of relevant information to the Parties
 - **shall not impair or damage** the environment, human health, property or resources of adjacent or other States
 - **exemptions** shall be recorded in the **Ballast Water record book**

-4 of

Guidelines for Risk Assessment under Regulation A-4 (G7)

- *These Guidelines apply to Parties granting exemptions to ships under Regulation A-4 of the Convention*
 - *Shipowners or operators wanting to seek an exemption under Regulation A-4 should also consult these Guidelines*
-
- Risk assessment principles
 - Risk assessment methods
 - Procedures for granting exemptions
 - Consultation with adjacent and other States that may be affected
 - Communication of information to shipowners/operators, affected States and IMO
 - Review of risk assessment and withdrawal of exemptions



David M et al. 2015b

Exceptions Regulation A-3

Same location concept

- possible **different interpretations - interpretation** / definition needed!
- shipping industry would benefit from having the “same locations” as large as possible, (e.g. an entire sea or part thereof), whereas application of the precautionary principle and maximizing environmental protection would take the opposite approach
- proposed same definition as defined in Guidelines G3: “same location” shall be taken to **mean the same harbour, mooring or anchorage**
- more details in David M, Gollasch S, Pavliha M (2013) Global ballast water management and the same location concept – a clear term or a clear issue? Ecol Appl 23(2):331–338; and Gollasch, S., and M. David. (2012). A unique aspect of ballast water management requirements – the same location concept. Mar Poll Bull 64 1774–1775



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Risk assessment

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Risk Assessment under the BWM Convention

Different possible uses of Risk Assessment for:

- Exemptions
- Additional measures
- Ballast Water Exchange Areas
- Warnings
- BWM, may support PSC actions

Different purposes, different guidelines, however **Risk Assessment principles and methods** available in the **Guidelines for Risk Assessment Under Regulation A-4 of the BWM Convention (G7)**



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PSC Inspections

**Ballast Water Management under the
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PSC Inspections

- Article 9 and Guidelines for port State control under the BWM Convention

Article 9 Inspection of Ships

- 1 A ship to which this Convention applies may, in any port or offshore terminal of another Party, be subject to **inspection** by officers duly authorized by that Party for the purpose of **determining whether the ship is in compliance with this Convention**. Except as provided in paragraph 2 of this Article, any such **inspection** is **limited to**:
 - (a) **verifying** that there is onboard a **valid Certificate**, which, if valid shall be accepted; and
 - (b) **inspection** of the **Ballast Water record book**, and/or
 - (c) a **sampling** of the ship's Ballast Water, carried out in accordance with the guidelines to be developed by the Organization. However, the time required to analyse the samples shall not be used as a basis for unduly delaying the operation, movement or departure of the ship.

Article 2 continues

- 2 Where a ship does **not** carry a **valid Certificate** or there are **clear grounds** for believing that:
 - (a) the condition of the **ship or its equipment** does **not correspond** substantially **with** the particulars of the **Certificate**; or
 - (b) the **master or the crew** are **not familiar with** essential **shipboard procedures** relating to **Ballast Water Management**, or have **not implemented** such **procedures**;
- a **detailed inspection** may be carried out.
- 3 In the circumstances given in paragraph 2 of this Article, the Party carrying out the inspection shall take such steps as will **ensure that the ship shall not discharge Ballast Water until** it can do so **without presenting a threat of harm** to the environment, human health, property or resources.

Guidelines for port State control under the BWM Convention

- Inspections of ships required to carry the BWM Certificate
- **Four-stage inspection** including Clear grounds and Ballast water sampling:
 - "initial inspection" - focus on documentation and responsible crew, if clear grounds, then
 - "more detailed inspection" - the operation of the BWMS is checked
 - the third stage – **ballast water sampling**, PSC which relies on **indicative analysis**
 - the fourth stage – **detailed analysis** to verify compliance with the D-2 standard
- Violations and control of ships
- Stopping the discharge due to sampling as a control action
- Detainable deficiencies
- Control actions (contingency measures)
- Reporting requirements



References

- David M, Gollasch S, Elliott B, Wiley C 2015a. Ballast Water Management Under the Ballast Water Management Convention, pp. 89-108. In: David, M., Gollasch, S. (Eds.) Global Maritime Transport and Ballast Water Management – Issues and Solutions. Invading Nature. Springer Series in Invasion Ecology 8, Springer Science + Business Media, Dordrecht, The Netherlands. p. 306. DOI 10.1007/978-94-017-9367-4_5
- David M, Gollasch S, Leppäkoski E, Hewitt C 2015b. Risk Assessment in Ballast Water Management, pp. 133-169. In David M, Gollasch S (eds.) Global Maritime Transport and Ballast Water Management – Issues and Solutions. Invading Nature. Springer Series in Invasion Ecology 8, Springer Science + Business Media, Dordrecht, The Netherlands. p. 306. DOI 10.1007/978-94-017-9367-4_7
- IMO 2004. International convention for the control and management of ships' ballast water and sediments, 2004. International Maritime Organization, London, & related Guidelines

More about BWM:

- David, M., Gollasch, S. (Eds.) **2015. Global Maritime Transport and Ballast Water Management – Issues and Solutions.** Invading Nature. Springer Series in Invasion Ecology 8, Springer Science + Business Media, Dordrecht, The Netherlands. p. 306. <https://doi.org/10.1007/978-94-017-9367-4>
- David, M., Gollasch, S. (Eds.) **2024. Global Maritime Transport and Ballast Water Management – Issues and Solutions, Second Edition.** Invading Nature. Springer Series in Invasion Ecology 8, Springer Science + Business Media, Dordrecht, The Netherlands. p. 306. <https://doi.org/10.1007/978-3-031-48193-2>



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