



# JAPAN P&I NEWS

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To the Members

## **Brazil – Ballast water management**

We have received the information regarding the subject matter from the local correspondent in Brazil, Brazmar Marine Services Ltda.

Brazil is a party to the IMO Ballast Water Management Convention (“the Convention”), and the procedure for ballast water management is regulated locally by the Maritime Authority Norm n. 20 (“NORMAM 20”) which, similarly to the Convention, establishes two treatment procedures, i.e. regulations D-1 and D-2.

For Vessels subject to regulations D-1, ballast water exchange is required as per item 2.3.1 of NORMAM 20. This exchange should take place at a minimum of 200 nautical miles from the nearest land and in waters with a depth of at least 200 meters. Any methods for ballast water exchange recommended by the IMO are acceptable.

In case where the vessel cannot perform ballast water exchange in accordance with the above provision, the exchange should be carried out in all cases at a minimum of 50 nautical miles from the nearest land and in waters with a depth of at least 200 meters.

Vessels that comply with regulations D-2 are required to have a ballast water management systems (“BWMS”), and are exempt from exchanging ballast water if the onboard BWMS meets the criteria established in item 2.3.2 of NORMAM 20.

However, local agents have recently advised Owners/Masters to exchange ballast water before entering the 200 nautical mile zone of Brazilian waters even though the Vessel has a BWMS. It appears that their advice derived from a possible scenario of malfunctioning of the BWMS.

Hypothetically, discharging ballast water from a malfunctioning BWMS could indeed amount to a breach of local regulations, and if such water contained polluting substances, liability could arise and considerable fines can be imposed (ranging from BRL5,000 to BRL50,000,000). Brazmar recommends that caution is exercised to ensure that whilst carrying out the ballast water exchange out of caution, Owners are not be in breach of the D-2 ballast management requirements.

This would especially be the case if the subject vessel should be compulsorily following D-2 management in accordance with item 2.3.2.4 of NORMAM 20. This becomes topical from 8 September 2024 when all vessels subject to the Convention are required to comply with D-2 regulations. For more details, please find the attachments.

Yours faithfully,

## **The Japan Ship Owners' Mutual Protection & Indemnity Association**

- Attachment: 1. NORMAM 20 – Chapter 2 (Translated)  
2. NORMAM 20 – Chapter 2, Annex C (Translated)  
3. NORMAM 20 – Chapter 2, Annex D (Translated)

## **CHAPTER 2**

### **BALLAST WATER MANAGEMENT**

#### **2.1. GENERAL PROVISIONS**

##### **2.1.1. Application**

This Chapter applies to national or foreign vessels equipped with Ballast Water tanks, which sail in Brazilian Jurisdictional Waters (AJB), apart from those listed below:

- a) any warship, auxiliary ship of the Navy or any other vessel of owned or operated by a State and used, temporarily, only in service non-commercial government;
- b) sports and pleasure craft used only for recreation/competition or those used for search and rescue purposes, whose total length does not exceed 50 meters and with a maximum ballast water capacity of eight cubic meters; as long as they are not included in particular situations provided for in art. 2.5 of this Chapter;
- c) vessels with sealed tanks containing permanent ballast water not subject to discharge to the aquatic environment, or ships not designed or constructed to carry water of ballast; It is
- d) vessels flying the Brazilian flag while operating exclusively in AJB, provided they are not included in the particular situations provided for in art. 2.5 of this Chapter;

##### **2.1.2. Exceptions**

Exceptions are emergency or private situations that waive the application of the ballast water management, i.e. the ballast water exchange/treatment procedure (Standards D-1/D-2), provided for in the annex C established in this Chapter.

The following situations are considered exceptions and must be communicated to the Agent of Maritime Authority with jurisdiction over the port of destination:

- a) cases of force majeure or emergency, to safeguard the safety of human life and/ or the vessel;
- b) when it is necessary to collect or discharge ballast water and sediments therein contained to ensure the safety of a vessel and persons on board in situations of emergency or rescue of human life at sea;

- c) when there is accidental discharge of ballast water and sediments contained therein resulting from damage to the vessel or its equipment, provided that all reasonable precautions have been taken, before and after the occurrence or discovery of the damage or discharge, with a view to prevent or minimize discharge, and unless the shipowner, company, operator of the vessel or responsible official negligently caused the damage;
- d) when the collection and discharge of ballast water and sediments contained therein in carried out with the purpose of avoiding or minimizing incidents of pollution caused by vessel;
- e) when the discharge of ballast water and sediments contained therein takes place in the same place where all that ballast water and its sediments originated and provided that no mixing with ballast water and sediments from other areas has occurred; and
- f) in contingency situations, when the management of ballast water through the processing is not possible, in view of some unforeseen situation, the Authority Agent Maritime of the jurisdiction must be reported on the use of the exchange, according to the guidelines of the item 2.3.1.

### **2.1.3. Exemptions**

All vessels are exempt from ballast water management, that is, from the procedure exchange/treatment of ballast water (Standards D-1/D-2), provided for in the annex C, should operate to avoid as much as possible the contamination of the environment by the ballast water spillage and its sediments.

The exemption from ballast water management dealt with in this article does not exempt the vessel to comply with item 2.2.1 (Documentation) of art. 2.2, of this Chapter.

The following are exempt from ballast water management:

- a) foreign flag vessels that come to operate in AJB with AIT, after the due verification of the Ballast Water documentation, being exempt from the exchange/treatment while they are in AJB, except in the particular situations provided for in art. 2.5 of this Chapter.

#### **2.1.3.1. Exemption Certificate**

- a) Exemption requests must be sent to [dpc.secom@marinha.mil.br](mailto:dpc.secom@marinha.mil.br), for consideration, issuing a Certificate that will specify the situations of exemption; and
- b) The Exemption Certificate will be valid for up to five years and will follow the constant model of the annex B.

#### **2.1.3.2. Specific Guidelines for the Case of Platforms**

- a) semi-submersible platforms and floating drilling or production platforms are subject to ballast water exchange or treatment procedures, upon arrival at Brazil, originating from a foreign port or from foreign or international waters;

- b) semi-submersible and floating production platforms are exempt from the ballast water exchange/treatment procedures, from the moment of its installation in the place of operation and for the period you remain at the lease; and
- c) semi-submersible platforms and floating drilling platforms are exempt from ballast water exchange/treatment procedures when its displacement takes place at sea Territorial and in the Brazilian Exclusive Economic Zone (ZEE).

## **2.2 BALLAST WATER MANAGEMENT REQUIREMENTS**

Vessels that make stops at Brazilian ports or terminals are subject to Naval Inspection for the purpose of determining whether the vessel complies with this Chapter.

### **2.2.1 - Documentation**

All vessels applied to Chapter 2 (item 2.1.1) must have the documentation related to Ballast Water.

#### **2.2.1.1 - Ship Ballast Water Management Plan**

The purpose of the Ballast Water Management Plan is to ensure safe and effective procedures for this purpose. This Plan must be included in the documentation operation of the vessel, and must also be specific for each vessel and contain the following instructions:

- a) detailed safety procedures for the vessel and crew associated with the ballast water management;
- b) detailed description of the actions to be undertaken to implement the ballast water management;
- c) detail the procedures for the disposal of sediments from the tanks of ballast at sea or on land;
- d) indicate the points where the collection of ballast water samples, representative of the ballast that the vessel brings, if possible;
- e) appoint the officer on board responsible for ensuring that the Plan is correctly implemented;
- f) be written in the working language of the vessel. If the language used is not English, a translation into this language must be included; and
- g) be written in Portuguese on Brazilian vessels and/or with a Registration Certificate Temporary (AIT) that operate only in AJB. If these vessels start to operate also in long-haul navigation, the Plan must follow the provisions of the previous paragraph

### **2.2.1.2 - International Ballast Water Management Certificate**

Vessels over 400 AB (inclusive), whose Chapter 2 applies (item 2.1.1), except floating platforms, FSUs and FPSOs, must have an International Management Certificate of Ballast Water (BWMC) issued by or on behalf of the Flag in order to certify that the ship complies with the requirements of the Ballast Water Convention (2004) and this Chapter. The Certificate must specify which standard adopted by the ship (D-1 - Ocean ballast exchange or D-2 - Ballast Water Performance).

The format of the BWMC must comply with the model provided for in NORMAM-06.

Comply with the provisions of paragraphs f and g of item 2.2.1.1 in relation to the language of elaboration of the Certificate.

### **2.2.1.3 - Ballast Water Record Book**

The Ballast Water Record Book (BWRB) must be used to record the information regarding intake, circulation or treatment of ballast water. should also be recorded ballast discharges to the sea, as well as ballast discharges to installations of receipt and other accidental and/or extraordinary ones.

- a) The Record Book may be an electronic registration system or may be integrated to another book or system of records and shall contain at least the information specified in model provided for in NORMAM-06/DPC;
- b) BWRB launches must be kept on board the ship for a period minimum of two years after the last release has been made, and thereafter in control of the Shipowner for a minimum period of three years; and
- c) In the case of any discharge of ballast water that is not otherwise exempted by this Chapter, an entry shall be made in the BWRB describing the circumstances and reason of unloading.

The Ballast Water Management Plan and Certificate for Brazilian vessels and vessels chartered with AIT must be approved by the Classification Society of Vessels, with representation in the country, which has delegated powers to act on behalf of the Maritime Authority. Vessels of other Flags must have their plans approved by the Administration of the flag country or organization recognized by it.

### **2.2.1.4 - Submission of Information on Ballast Water**

Information regarding ballast water must be included in the Information Table specific to the Entry General Declaration (Annex 2-B of NORMAM-08/DPC) or Entry Notice (Annex 2-H of NORMAM-08/DPC), as the case may be.

## **2.3. BALLAST WATER MANAGEMENT METHODS**

2.3.1. General Guidelines for the Exchange of Ballast Water on Ships (Standard D-1 of the Convention International for Control and Management of Ballast Water and Ship Sediments) When carrying out the ballast water exchange, the safety aspects of the crew and vessel and be under favorable weather conditions. Among the measures adopted by the vessel, the following are mandatory:

a) Vessels must exchange ballast water at least two hundred nautical miles from the nearest land and in waters at least two hundred meters deep depth, considering the procedures determined in this Chapter. Exchange will be accepted of ballast water by any of the methods recommended by the IMO and listed in the annex C ;

b) in cases where the vessel cannot carry out the exchange of ballast water in accordance with subparagraph a), the exchange shall be carried out as far as possible from the nearest land nearby and, in all cases, at least fifty nautical miles away and in waters of at least two hundred meters deep;

c) shall not be required of a vessel which deviates from its voyage plan or delay the trip to comply with the provisions of the previous items. In that case, the vessel it must be justified in accordance with the provisions of item 2.1.2 of this Chapter;

d) shall not be required of a vessel carrying out a water exchange Ballast that complies with subparagraphs a) and b), if the Master reasonably decides that such an exchange would threaten the safety or stability of the vessel, its crew or its passengers due to adverse weather conditions, excessive efforts of the vessel, equipment failure or any other extraordinary condition;

e) when the vessel uses the Continuous Flow or Dilution method for the exchange of ballast water must be pumped at least three times the volume of the tank;

f) when changing ballast water, vessels must do so with a efficiency of at least 95% of volumetric ballast water exchange;

g) only the tanks/basements that have had their water changed may be deballasted;

h) the discharge of ballast water in Ecologically Sensitive Areas and in Nature Conservation Units (UC) or in other precautionary areas established by the environmental or health agencies, in the AJB, when plotted on a nautical chart; and

i) When it is not possible, due to the loss of the vessel, to comply with the provisions in paragraphs a) and b), the vessel will not be exempt from changing the ballast water, and must execute it in the deepest part of the defeat.

2.3.2 - General Guidelines for Compliance with the Ballast Water Performance Standard (Standard D-2 of the International Convention for the Control and Management of Ballast Water and Sediments of Vessels)

Vessels that have a Ballast Water Treatment System (BWMS) operational for complying with Rule D-2 (annex C ) with respective Type Certificate- Approved and with valid International Certificate, issued by competent authority (Administration and/or Classification Society acting on behalf of the flag of the vessel), will be exempted from carrying out the exchange of ballast water as provided for in item 2.3.1.

BWMS installed on board on or after October 28, 2020 must necessarily be in accordance with the revised 2016 guidelines or in accordance with the Code for approval of Ballast Water Management Systems (*Code for Approval of Ballast Water Management Systems - BWMS Code*).

BWMS installed on board before October 28, 2020 may have been approved in accordance with the guidelines adopted by Resolution MEPC.174(58).

#### 2.3.2.1. BWMS Self-Monitoring Parameters

As provided in the guidelines for approval of water management systems of ballast updated in 2016, the systems must provide, if required during the inspection naval, information about their functioning. At least the following parameters of self-monitoring shall be available for inspection:

- a) general information: vessel name, IMO number, BWMS manufacturer and designation type, serial number of the BWMS, date of installation of the BWMS on the vessel, nominal capacity of system treatment (TRC), type of treatment (in-line/in-tank);
- b) operating parameters: all registered parameters must have a scheduled time (*time tagged*) if applicable; BWMS operating modes and any transition modes, including contour operations (*bypass*) (e.g. intake, discharge, heating, cleaning and start), ballast pump in operation (yes/no), whenever the information is available in the vessel, system discharge flow, indication of the tanks involved in the operation of water from ballast, when practicable;
- c) it is recommended that positional information about ballast operations be automatically recorded. Otherwise, they must be entered manually in the log book. of ballast water, as appropriate. Administrations are encouraged as far as possible to use automatic position information recording on vessels (*automatic position information recording*) whose BWMS are installed during their construction;
- d) system alerts and indications: all systems should have an alert regime. Every alarm must be logged. To aid inspections, a summary of records of alarms after each ballast operation should be recorded automatically if possible;
- e) general alarms include: automatic stops during operation, periods of maintenance, condition of the bypass valve (*bypass*) and the BWMS valves representing the system operating mode as appropriate;
- f) operational alarms: whenever a relevant parameter exceeds the values established by the Administration, the system must provide an alarm. In addition, an alarm must be registered when a combination of relevant parameters exceeds the specifications of the system, even if each individual parameter does not exceed its approved range. If one relevant safety parameter (safety for the crew, cargo and/or ship) related to BWMS exceeds approved limits, an alert/alarm becomes mandatory (e.g. hydrogen at appropriate measurement point(s)); It is
- g) Administration may require additional alerts depending on system design and for future uses.



### **2.3.2.2. Indicative Analysis of the D-2 Standard**

An indicative review means quickly verifying the ship's compliance the biological performance standard set out in Regulation D-2 of the Ballast Water Convention, mainly through indirect measurements of biological, chemical or physical parameters in vessel's ballast water samples. Examples of indicative methods are: measurement of levels of dissolved oxygen, residual levels of chlorine, adenosine triphosphate (ATP), nucleic acid, chlorophyll *a* and variable fluorescence, among others.

### **2.3.2.3. D-2 Standard Detailed Analysis**

A detailed analysis means performing more complex tests to verify direct compliance with the biological performance standard set forth in Rule D-2 of the Convention of Ballast Water. In this way, a detailed analysis detects the concentration per unit of volume of viable organisms in ballast water samples directly comparable to provided for in the D-2 standard. Such tests should provide accurate measurements of the concentration of organisms according to the size class/group being tested according to the D-2 standard. In addition, they must have a detection limit suitable for their use.

Recommended methodologies for verifying the length of the D-2 standard are related in the attachment D. New methodologies that may be recommended within the scope of IMO, will be considered valid for the purposes of this NORMAM.

### **2.3.2.4. Entry into force of the International Convention for the Control and Management of Water Ballast (IMO, 2004).**

With the entry into force of the International Convention for the Control and Management of Ballast water on September 8, 2017, all vessels must have on board and available for inspection: a Ballast Water Management Plan, a Ballast Water Record Book and an International Ballast Water Management Certificate. With regard to the system of management adopted by the vessel (D-1 or D-2 standard of the Convention), as described in the annex D, the following schedule must be adhered to:

- a) new vessels, with keel laying on or after 09/08/2017, must comply with the D-2 standard (Ballast Water Performance Standard); and
- b) existing ships must comply with the D-1 standard (ocean ballast exchange), and may choose to install a Ballast Water Management System or similar for compliance of the D-2 standard. Note, however, that compliance with the D-2 standard will be mandatory according to the renewal date of the IOPP Certificate (International Certificate for the Prevention of Pollution by Hydrocarbons) according to the following schedule:

I. a vessel whose IOPP Certificate renewal survey takes place after 08SET2019 will need to comply with the D-2 standard as of the renewal survey date;

II. If the IOPP Certificate renewal survey took place between 08SET2014 and 08SET2017, the ship must comply with the D-2 standard in the renewal survey;

III. If the IOPP Certificate renewal inspection took place before 08SET2014, the ship may wait until the second renewal survey after this one; and

IV. The ship not classified in the previous situations must comply with the D-2 standard on a date to be determined by the Administration, but never after 08SET2024.

## **2.4. SEDIMENT MANAGEMENT FOR SHIPS**

The dumping of sediments from the ballast water tanks in the AJB is prohibited.

The disposal of sediments must be carried out in ports and terminals where they are adequate facilities are provided for the reception of sediments and/or when the ship is docked. Such reception facilities must, in turn, offer adequate destination for the sediments, without prejudice to the environment, public health, properties and resources.

The procedures for removing and disposing of sediments must be described in the Vessel's Ballast Water Management Plan.

## **2.5. PARTICULAR SITUATIONS**

### **2.5.1. Navigation Between National Ports/Terminals**

All vessels sailing between ports/river terminals of basins different hydrographic authorities must manage ballast water in accordance with the current standard (D-1 or D-2 in view of the date of the IOPP Certificate renewal survey, item 2.3.2.4). ships that do not have an operational BWMS on board, they must change the ballast water when the transit between the basins is by sea.

## **2.6. OVERSIGHT**

The supervision exercised by the naval inspection is an essential component of the Management of Ballast Water and, as such, must be based on the adopted management regime, and be consistent with international practice.

### **2.6.1. Control**

#### **2.6.1.1. Procedure**

Control of the ballast water management system adopted by the ship will be exercised from the verification of the Ballast Water Management Plan and the Information on Ballast Water (contained in Annex 2-B of NORMAM-08/DPC) or Notice of Entry (Annex 2-H of NORMAM-08/DPC), as applicable. The Ballast Water Record Book and the International Certificate will also be inspected in regards to releases contained therein, as well as with regard to the respective expiration and endorsement dates.

The following topics may be subject to verification by the Authority Agent Maritime:

- a) in the Ballast Water Management Plan, verify which system of management adopted by the vessel: if changing, which method, and, if using a BWMS, which system in use and information in the type-approved certificate;
- b) verify that the Ballast Water Information Table (in Annex 2-B of the NORMAM-08/DPC) or Entry Notice (Annex 2-H of NORMAM-08/DPC), as the case may be, was correctly completed;
- c) check the validity of the International Ballast Water Management Certificate issued by the competent authority of the Flag State, or, where applicable, the Certificate Exemption;
- d) check the Ballast Water Record Book regarding the records entered;
- e) at the discretion of the Maritime Authority Agent, water samples may be collected of the ballast tanks for indicative verification of conformity depending on the system of management adopted by the vessel; and
- f) other available documents such as, for example, the Navigation Log, the Log of Machine and the Daily Tank Sounding Book, may be required for collection of additional information.

#### **2.6.1.2. Standardization**

Both the International Certificate and the Ballast Water Record Book must follow the standard provided for in Appendices I and II of the Convention (NORMAM-06).

#### **2.6.2. Instruments of Execution**

##### **2.6.2.1. Penalties and Sanctions**

Any violation of the prescriptions of this Chapter is prohibited within the AJB, being established sanctions in accordance with national laws. When this occurs, the Agent Maritime Authority must institute an administrative

procedure in accordance with the legislation, and may also take measures to warn, detain or prohibit the entry of the vessel at the port or terminal.

At the discretion of the Maritime Authority Agent, said vessel allowed to leave the port or terminal for the purpose of unloading, switching or treat ballast water, in accordance with the procedures set out in this Chapter.

The sanctions applied on the occasion of non-compliance with the precepts emanating from this Chapter will be determined depending on the seriousness of the infraction consistent with the other penalties used in international navigation and in accordance with the values established in Decree No. 6514, of July 22, 2008.

#### **2.6.2.2. Naval Inspection**

Maritime Authority Agents must verify compliance with this Chapter during the issuance of the vessel's pass/dispatch and, also, by carrying out of Naval Inspection on Brazilian and foreign vessels.

#### **2.6.3. Infringement**

Any action or omission that violates the rules established in this Chapter.

#### **2.6.4. Competence**

##### **2.6.4.1. Maritime Authority Agents**

It is incumbent upon the Maritime Authority Agents (Art. 70, §1 of Law No. 9.605/1998) to draw up notices of environmental infraction and initiate administrative proceedings.

##### **2.6.4.2. Director of Ports and Coasts (DPC)**

It is incumbent upon the DPC, as REPRESENTATIVE OF THE MARITIME AUTHORITY FOR THE ENVIRONMENT, judge, as a last resort, the appeals on fines applied related to the breach of this Chapter.

#### **2.6.5. Specific Rules and Procedures for Initiating an Administrative Proceeding**

##### **2.6.5.1. Administrative process**

The Administrative Process, provided for in Art. 70 of Law No. 9.605/1998, has the scope the verification of facts that have come to the knowledge of the Maritime Authority, for the verification of possible infractions and their perpetrators, as well as the infractions found in flagrante delicto and during inspections.

The administrative process provided for in this Chapter will be guided by the principles of legality, purpose, motivation, reasonableness, proportionality, morality, ample defense, contradictory, legal certainty, public interest and efficiency, as well as the criteria mentioned in Art. 95 of Decree No. 6,514, of July 22, 2008.

#### **2.6.5.2. Deadlines for Investigation of Environmental Infraction (Art 71 OF LAW 9.605/98)**

a) Infraction notice:

I. once the occurrence of an environmental administrative infraction is verified, a report will be drawn up of infringement (attachment A), of which the accused must be made aware, ensuring the contradictory and full defense;

II. the assessed person may, within a period of twenty days, counted from the date of acknowledgment of the assessment, offer defense against the infraction notice;

III. the defense will be formulated in writing and must contain the facts and grounds legal claims that contravene the provisions of the notice of infraction and the terms that accompany it, as well as the specification of the evidence that the accused intends to produce in his favor, duly justified;

IV. the person charged may be legally represented by a lawyer or attorney constituted, and, therefore, must attach the respective power of attorney to the defense, a period of up to ten days may be required for its collection;

V. the defense will not be known when presented:

I) after the deadline;

II) by whom it is not legitimized; or

III) before an incompetent body;

VI. it will be up to the accused to prove the facts that he has alleged, and the authority may judge requests the production of evidence necessary for its conviction;

VII. defense is offered or not, the judging authority, within a period of thirty days, judge the infraction notice, deciding on the application of penalties;

VIII. Failure to comply with the deadline for the judgment does not nullify the decision of the judging authority and the process; and

IX. Once the infraction notice has been judged, the person assessed will be notified by post with a notice of receipt or any other valid means that ensures the certainty of your awareness to pay the fine within five days of receipt of notice or to file an appeal.

The infraction notice must be signed by the violator, his agent or legal representative. If the offender refuses to sign, the fact will be taken to term by the Authority Maritime Agent, in the presence of two witnesses, and if you do not know how to sign, the Record will be taken by request.

In cases of evasion or absence of the person responsible for the administrative infraction, in the absence of a representative identified, the issuing agent shall apply the provisions of the previous paragraph, forwarding the notice of infraction by post with acknowledgment of receipt or other valid means that ensures its awareness.

b) Request for Appeal at the last administrative level:

I. if the defense has not been upheld or the offender does not agree with the penalty imposed, may also appeal the decision, by means of an appeal of last resort administrative, with the authority that issued it, addressed to the DPC, within a period of twenty days from the date of notification of the Maritime Authority Agent's decision. The DPC will have thirty days to render its decision, duly substantiated, from the date of receipt of the appeal;

II. appeal of any nature shall be directed to the authority that issued the decision, the which, if it does not reconsider, within a period of five days, will forward it to the higher authority (Art. 56 of Law No. 9,784/99);

III. the appeal will not be heard when filed:

i) after the deadline;

ii) before an incompetent body; or

iii) by anyone who is not legitimized.

IV. in the event of an appeal against the decision in an administrative procedure, relating to legal provisions other than Law No. 9.605/1998, the appeal instances and the deadlines set forth in the respective devices.

#### 2.6.6. penalties

a) Administrative infractions are punished with a simple fine;

b) If the offender commits, simultaneously, two or more infractions, he will be applied, cumulatively, the sanctions imposed on them;

c) The simple fine will be applied to the offender:

I. for irregularities that have been practiced; and

II. when opposing the inspection of the Maritime Authority Agents.

d) The fine will be based on the injured legal object;

e) The amount of the fine will be stipulated in accordance with Decree No. 6,514/2008, which regulates Law No. 9,605/1998;

f) The Maritime Authority Agent, when drawing up the infraction notice, must observe:

I - the seriousness of the facts, taking into account the reasons for the infraction and its consequences for public health and the environment;

II - the background of the offender, regarding compliance with the legislation of interest environmental; and

III - the economic situation of the offender.

g) When analyzing the appeal, the Maritime Authority Agent may, ex officio or upon provocation, regardless of the payment of the fine imposed, maintain or reduce their value, respecting the limits established in the infringed items, observing the provisions previous documents, or even annul the notice, if there is any illegality, or revoke it, according to criteria of convenience and opportunity;

h) The Maritime Authority Agent, when analyzing the administrative process of the infringement, shall observe, where appropriate, the provisions of Art. 14 and 15 of Law No. 9.605, of February 12 from 1998; and

I. The commission of a new environmental violation by the same offender, within the period of five years, counted from the drawing up of the previous infraction notice, implies (Art. 11 of Decree no. 6,514/2008):

II. application of the fine in triple, in the case of the commission of the same infraction; or

III. application of double the fine, in the case of committing a different infraction.

### **2.6.7. Enrollment in the Active Debt of the Union**

Failure to pay the fine imposed will result in the offender being registered in the Active Debt of the Union, and the Captaincies, Police Stations and Agencies must send a full copy of the process administrative to the Attorney of the National Treasury.

### **2.6.8. Omissions**

Omissions or cases not provided for in this Chapter will be resolved by the DPC.



## **ANNEX C**

### **BALLAST WATER MANAGEMENT METHODS**

#### **1. Ballast Water Change**

The exchange of Ballast Water in ocean areas currently offers a means of limiting the transfer of aquatic species through water used as ballast. were identified three methods to carry out the exchange of ballast water at sea:

**A. Sequential Method** - ballast tanks are drained and refilled with ocean water;

**B. Continuous Flow Method** - ballast tanks are simultaneously filled and drained by pumping ocean water; and

**C. Brazilian Dilution Method** - ballast water is loaded through the top and, simultaneously, the discharge of this water through the bottom of the tank, at the same flow rate, in such a way that the water level in the ballast tank is controlled to be kept constant.

Ballast water exchange must achieve an efficiency of at least 95 percent exchange volumetric. Ships using the continuous flow or dilution method should pump three times the tank volume in order to reach the desired minimum efficiency.

## 2. Ballast Water Treatment Systems

Vessels with operational Ballast Water Treatment Systems (BWMS) must comply with the maximum allowable concentrations of organisms, according to the size class or group of organisms, as provided for in Regulation D-2 of the Ballast Water Convention, reproduced Next.

**Table 1. Rule D-2 of the Ballast Water Convention (IMO, 2004)**

<b>Organisms/Indicators and Size Classes</b>	<b>Maximum number of organisms allowed in discharged water (CFU = Colony Forming Unit)</b>
Viable organisms $\leq 50 \mu\text{m}$ in minimum dimensions	Discharge $\leq 10/\text{m}^3$
Viable organisms $\leq 10 < 50 \mu\text{m}$ in minimum dimensions	Discharge $\leq 10/\text{ml}$
<i>Vibrio cholerae</i> toxicogenic (O1 and O139)	less than 1 CFU/100 ml or less than 1 CFU per 1 gram of zooplankton samples
<i>Escherichia coli</i>	less than 250 CFU/100 ml
Intestinal Enterococci	less than 100 CFU/100 ml

### References:

Fykse EM, Nilsen T, Nielsen AD, Tryland I, Delacroix S, & Blatny JM (2012). Real-time PCR and NASBA for rapid and sensitive detection of *Vibrio cholerae* in ballast water. *Marine Pollution Bulletin*, 64(2), 200-206. US Environmental Protection Agency (2010). Environmental Technology Verification Program (ETV). Generic Protocol for the Verification of Ballast Water Treatment Technology, Version 5.1. Report number EPA/600/R-10/146, United States Environmental Protection Agency, Washington, DC Welschmeyer, NA, & Maurer, B. (2012). A portable, sensitive plankton viability assay for IMO shipboard ballast water compliance testing. in *Proceedings of the Global R and D forum on Compliance Monitoring and Enforcement*. eds. A. Olgun, FT, Karokoc and F. Haa.

ANNEX D

Indicator	Methodology	standard method	Comments	Confidence level/threshold detection
Viable Organisms ≤ 50 µm	Score look or Stereomicrosc Opia	currently without international standardization for ballast water analysis.	It can be costly and time consuming. Requires moderately trained personnel. OECD Test Guideline for Testing of Chemicals 202 (Daphnia sp. Acute Immobilization Test) can be used as a basis for standard methodology.	To be determined.
Viable Organisms ≤ 50 µm	Visual inspection.	Currently without international standardization for ballast water analysis.	Visual inspections usually only detect organisms > 1 mm in minimal dimensions.	To be determined.
Viable Organisms ≤ 10 µm - < 50 µm	Fluorescence variable.	currently without international standardization for ballast water analysis.	Only detects photosynthetic phytoplankton and thus underestimates other organisms planktonic in this size class.	To be determined.
Organisms viable ≤ 50 µm and ≤ 10 µm - < 50 µm	photometry, acid nucleic, ATP, diacetate of fluorescein (FDA), chlorophyll <i>The</i> .	currently without international standardization for ballast water analysis.	Semi-quantitative results can be obtained. However, some of these organic compounds can survive for long periods of time in aqueous solutions outside of the cell, potentially generating false positives (Welschmeyer & Maurer, 2012).	To be determined.
Organisms viable ≤ 50 µm and ≤ 10 µm - < 50 µm	Flow cytometry.	currently without international standardization for ballast water analysis.	Costly.	To be determined.
Enterococci	kit of Detection Fluorimetry here.	currently without international standardization for ballast water analysis.	Minimum incubation time of 6 hours. Semi-quantitative results detected with portable methods.	To be determined.

Indicator	Methodology	standard method	Comments	Confidence level / limit of detection
<i>Escherichia coli</i>	Detection Kit Fluorimetric.	currently not standardized  international standards for ballast water analysis.	Minimum incubation time of 6 hours.  Semi-quantitative results detected with portable methods.	To be determined.
<i>Vibrio cholerae</i> (O1 and O139)	Test Kits.	Currently without international standardization for ballast water analysis.	Relatively quick tests are available.	To be determined.
viable organisms ≤ 50 µm and ≤ 10 µm - < 50 µm	pulse count  FDA.	Currently without international standardization for ballast water analysis.	The sampling kit may be larger than the one used for FDA.	To be determined.

Indicator	Approach	standard method	Comments	Level in confidence/limit detection
viable organisms $\leq 50 \mu\text{m}$ and $\leq 10 \mu\text{m}$ - $< 50 \mu\text{m}$	visual count or stereomicroscopy Vital dyes can be used in conjunction with fluorescence and movement.	At the moment without Standardization international standards for ballast water analysis. See US EPA ETV v.5.1 Protocol	It can be costly and time consuming. Requires moderately trained personnel. OECD Test Guideline for Testing of Chemicals 202 (Daphnia sp. Acute Immobilization Test) can be used as a basis for standard methodology.	To be determined.
Viable organisms $\leq 10 \mu\text{m}$ - $< 50 \mu\text{m}$	Visual counting using visual dyes.	At the moment without Standardization international standards for ballast water analysis. See US EPA ETV v.5.1 Protocol	Requires specific knowledge for operation. It should be noted that the use of vital dyes has limitations.	As to be determined. Steinberg et al., 2011.
Viable organisms $\leq 10 \mu\text{m}$ - $< 50 \mu\text{m}$	Flow cytometers (based on chlorophyll <i>The</i> and vital dyes)	At the moment without Standardization international standards for ballast water analysis.	Costly and requires specific knowledge to operate. It should be noted that the use of vital dyes has limitations.	To be determined.
Viable organisms $\leq 50 \mu\text{m}$ and viable organisms $\leq 10 \mu\text{m}$ - $< 50 \mu\text{m}$	Flow chambers (based on chlorophyll <i>A</i> and vital dyes)	currently without Standardization international standards for ballast water analysis.	Costly and requires specific knowledge to operate. It should be noted that the use of vital dyes has limitations.	To be determined.
viable organisms $\leq 50 \mu\text{m}$ and viable organisms $\leq 10 \mu\text{m}$ - $< 50 \mu\text{m}$	methods of culture (recovery, regrowth and maturation).	At the moment without Standardization international standards for ballast water analysis.	Requires specific knowledge to conduct the methods. Densities are expressed as Most Probable Numbers (Dilution Method – MPN). Many species do not grow using the method and therefore cannot be used alone. Incubation time 2-3 weeks.	To be determined.

Indicator	Approach	standard method	Comments	Confidence level / detection limit
Enterococci	Culture methods.	ISO 7899-1 or ISO 7899-2	Requires specific knowledge to conduct the methods. At least 44 hours of incubation time. EPA Standard Method 9230	To be determined.
<i>Escherichia coli</i>	Culture methods.	ISO 9308-3 or ISO 9308-1	Requires specific knowledge to conduct the methods. At least 24 hours incubation time. EPA Standard Method 9213D	To be determined.
<i>Vibrio cholerae</i> (O1 and O139)	Culture and methods as molecular, biological or fluorescence.	ISO/TS 21872-1/13/	Requires specific knowledge to conduct the methods. Incubation time: 24-48 hours. US EPA ETV Fykse et al., 2012 (semi-quantitative / pass/fail test). Samples should only be cultured in a specialized laboratory.	To be determined.
Enterococci, <i>Escherichia coli</i> , <i>Vibrio cholerae</i> (O1 and O139)	Culture with in-situ hybridization (FISH)	At the moment without standardization International for ballast water analysis.	Requires specific knowledge to conduct the methods. Quantitative and qualitative results after 8 hours. Samples should only be cultured in a specialized laboratory.	To be determined.
Viable organisms $\leq 50 \mu\text{m}$ and viable organisms $\leq 10 \mu\text{m} - < 50 \mu\text{m}$	Score visual using stereomicroscopy and flow cytometry.	At the moment without standardization International for ballast water analysis.	A sampling protocol that identifies whether the system is broken or not functioning and producing a discharge significantly above the D-2 standard. Designed for non-compliance detection with 99% confidence. It needs to be validated.	To be determined.