



China Classification Society

**GUIDELINES FOR DEVELOPMENT OF
SHIP BALLAST WATER
MANAGEMENT PLANS**

(2025)

Change Notice

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CONTENTS

CHAPTER 1 GENERAL.....1

1.4 Basis for development of the Guidelines.....1

1.5 Definitions.....1

CHAPTER 2 DEVELOPMENT OF BALLAST WATER MANAGEMENT PLAN.....3

2.3 Requirements for contents of BWMP.....3

Appendix 1 BALLAST WATER REPORTING FORM.....6

Appendix 3 BALLAST WATER RECORD BOOK.....9

CHAPTER 1 GENERAL

Paragraph 1.4 is revised as follows:

1.4 Basis for development of the Guidelines

1.4.1 The Guidelines are developed mainly on the basis of the following IMO documents. When using the Guidelines, subsequent revision of these documents is to be noticed:

(2) Guidelines for Ballast Water Management and Development of Ballast Water Management Plans (G4) (MEPC.127(53), as amended by MEPC. 306(73) and MEPC.370(80));

(3) Guidelines for Ballast Water Exchange, 2017 (MEPC.288(71), as amended by MEPC. 371(80));

(6) Guidance on Ballast Water Record-keeping and Reporting (BWM.2/Circ.80/Rev.1);

(7) Interim Guidance on the Application of the BWM Convention to Ships Operating in Challenging Water quality (MEPC.387(81));

(8) Guidance for the Temporary Storage of Treated Sewage and/or Grey Water in Ballast Water Tanks (BWM.2/Circ.82).

1.5 Definitions

In paragraph 1.5.1, definitions (12) to (19) are newly added :

(12) *Challenging Water Quality (CWQ)* refers to ambient uptake water having quality parameters (including but not limited to high total suspended solids^①, or turbidity) that cause a properly installed, maintained and operated type-approved BWMS to be temporarily inoperable due to an operational limitation or an inability to meet operational demand. However, temperature and salinity are not parameters that define CWQ.

(13) *Operational Demand* means the minimum BWMS flow rate defined in the BWMP that will permit the ship to continue cargo operations while using the BWMS, which should be no greater than 50% of the BWMS treatment rated capacity (TRC).^②

(14) *Operational Limitation* means an automatic shutdown of the BWMS, a critical alarm for which the BWMS OMSM directs a manual shutdown, or a safety-related circumstance that requires the shutdown of the BWMS for the protection of the BWMS equipment, the ship or its crew.^③

(15) *Pre-emptive Bypass* means a BWMS bypass undertaken, prior to or during a ballasting operation, in anticipation of reaching an operational limitation or encountering an inability to meet operational demand.

(16) *Reactive Bypass* means a BWMS bypass undertaken during a ballasting operation upon reaching an operational limitation or encountering an inability to meet operational demand.

(17) *Treated Ballast Water* means water that is treated by a ballast water management system (BWMS) to comply with regulation D-2 of the BWM Convention.

(18) *Treated Sewage (TS) (effluent)* means treated wastewater that is produced by a sewage treatment plant in accordance with regulations 9.1.1 and 9.2.1 of MARPOL Annex IV.

(19) *Grey water (GW)* means drainage from dishwater, galley sink, shower, laundry, bath and washbasin drains and does not include drainage from toilets, urinals, hospitals, and animal spaces, as defined in

^① Total suspended solids are defined as solids in water that can be trapped by a filter.

^② Operational demand pertains to the ship.

^③ Operational limitation pertains to the BWMS.

regulation 1.3 of MARPOL Annex IV, nor drainage from cargo spaces (paragraph 2.7 of resolution MEPC.227(64), as may be amended).

CHAPTER 2 DEVELOPMENT OF BALLAST WATER MANAGEMENT PLAN

Paragraph 2.3.3.3(5) is replaced by the following:

(5) In case TS/GW is temporarily stored in BW tank(s) , the operation and management measures are to be described^④.

- ① When transferring TS/GW to BW tank(s) the ship is to take appropriate measures to prevent contamination of the ballast system by TS/GW and to prevent accidental discharge of TS/GW within restricted waters (e.g. closing the valves or using blanks, spectacle flanges and pipeline blinds or using isolated pump and pipeline, dedicated portable hose, and/or using a lockout/tagout).
- ② In case a ship changes the use of a BW tank to store TS/GW, the BW tank is to be fully emptied, including removal of any residual ballast water, as far as practicable, through the BWMS. The removal and disposal of sediments is to be carried out as far as practicable in line with the procedures for management of sediments.
- ③ In case a ship changes the use of a BW tank from TS/GW storage back to ballast water storage, the ship is to follow the following procedures:
 - a. The contents of the BW tank(s) are to be discharged. The BW tank, pipes, and dual-purpose pumps are to be flushed with the normal maximum volume of the tank.
 - b. Water used to flush the tanks is not to be discharged through the BWMS to avoid residue from the TS/GW entering the BWMS as this could potentially harm the BWMS.
 - c. Subsequent to the discharge and flushing, the ballast water tank is to be reconnected to the ballast system and the tank is to be flushed once more with treated ballast water to replace the residual water thus ensuring the tank is ready to return to ballast operations in accordance with the BWM Convention.
- ④ The hull strength and stability of the ship is not to be compromised during the intended duration of the temporary storage of TS/GW in BW tanks including ascertaining that non-availability of a BW tank does not impact ship safety and operational performance.
- ⑤ The discharge of TS is to be in compliance with MARPOL Annex IV where relevant. Any local TS/GW discharge requirements are also to be considered.
- ⑥ The BW tanks to be used for temporary storage of TS/GW and associated pumps and piping are to be identified.
- ⑦ The Ballast Water Record Book (BWRB) is to have an entry made under the appropriate code related to additional operational procedures and general remarks.

Paragraph (8) “Procedures for addressing challenging water quality” is inserted after 2.3.4.3(7), and subsequent paragraphs are renumbered accordingly:

(8) Procedures for addressing challenging water quality^⑤

④ Refer to BWM.2/Circ.82 Guidance for the Temporary Storage of Treated Sewage and/or Grey Water in Ballast Water Tanks.

⑤ For details, see the Interim Guidance on the Application of the BWM Convention to Ships Operating in Challenging Water quality (MEPC.387(81)).

The purpose of this procedure is to assist ships in planning for compliance with the BWM Convention and the D-2 discharge standard when a type-approved ballast water management system (BWMS) that has been properly installed, operated and maintained encounters operational limitations or has difficulty meeting operational demand in challenging water quality (CWQ) conditions.

- ① The list of triggers is to be developed based on information provided by the BWMS manufacturer in the Operations, Maintenance and Safety Manual (OMSM), based on the BWMS design and operational limitation(s).
- ② The ship's operational demand for use of BWMS is to be indicated, i.e. identifying the sustained flow rate below which cargo operations cannot practicably be continued by the ship. This flow rate is not to be higher than 50% of the treatment rated capacity of the BWMS unless the ship's safety or stability would be affected.
- ③ A detailed plan for at least the following items is to be developed, taking into account ship safety and the maintenance and operation instructions in the OMSM.
 - a. Maintenance: Maintenance timetables and checklists for maintaining the system in optimal condition for managing CWQ when it is encountered, including: crucial maintenance actions, such as those related to inspection, cleaning, calibration, active substance monitoring, etc.; and ensuring the availability on board of sufficient approved spare parts, active substances and neutralizing agents.
 - b. Assessment: CWQ may be impacting ballasting operations if the BWMS self-monitoring system or a mechanical observation indicates that the BWMS is not performing at its expected treatment rated capacity, and alarms indicating an operational limitation arise or the BWMS is not meeting operational demand. It is necessary to assess whether the BWMS can operate at the expected treatment rated capacity during entire ballasting process.
 - c. Troubleshooting and mitigation: Procedures to identify and resolve challenges linked to the operation and maintenance of the BWMS, as well as ship-specific procedures for assisting and optimizing the BWMS in treating CWQ, with a view to completing normal ballast water treatment without bypassing the BWMS, giving consideration to operational demands.
 - d. CWQ triggers: In case troubleshooting and mitigation is unsuccessful, a table of critical alarms specific to the BWMS based on the OMSM indicating that an operational limitation has been reached. This is to include ship-specific procedures to be taken when an alarm is encountered.
 - e. Alternatives to bypass: Pre-planned actions, considerations and procedures, taking into account the OMSM, that may clear operational limitations or allow the BWMS to meet operational demands.
 - f. Bypass procedure: Steps to be taken to bypass the BWMS, including treatment of a fractional part of the ballast water stream and/or bypassing only the inoperative part of the ballast water treatment process.
 - g. Decontamination: Specific procedures for decontaminating ballast tanks and/or piping to reduce the risk of bypassed water, with a view to meeting the D-2 standard at subsequent discharges. Any use of the ballast water exchange plus treatment (BWE+BWT) approach is to be clearly detailed in the BWMP.
 - h. Communication: Procedure for informing the port State(s) that will receive any ballast water discharge impacted by reactive bypass of the BWMS, before arrival of the ship in such State(s).
 - i. Record-keeping: How to record CWQ situations in the Ballast Water Record Book (BWRB), in line with the Guidance on ballast water record-keeping and reporting (BWM.2/Circ.80, as may be revised). The BWRB is to provide a detailed description of the ballast water management method(s) used, as well as location and affected tanks (tank ID).

- ④ Following a bypass event in a location with CWQ, decontamination to ensure that subsequent discharges meet the D-2 performance standard may include ballast water exchange through a BWMS (BWE+BWT). However, BWE+BWT alone may not be sufficient to meet the standard. This risk may be mitigated by conducting ballast water flushing .

Paragraph 2.3.4.7(2) is replaced by the following:

BWMP is to include the format of Ballast Water Record Book (Ballast Water Record Book in Appendix 3 of the Guidelines may be adopted) which is to include Record of Loading and Discharging of Ballast Water and Record of Abnormal Events; in recording these operations and exemptions, the Guidance on ballast water record-keeping and reporting (BWM.2/Circ.80/Rev.1, ~~as may be amended~~) should be taken into account. 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 (BWRF) as set out in the Guidance on ballast water record-keeping and reporting (BWM.2/Circ.80/Rev.1, ~~as may be amended~~) may be submitted prior to entry into that port State in a time frame required by that port State. Keeping records on a tank-by-tank basis, while not mandatory, may facilitate the completion of a BWRF. An example form for maintaining voluntary tank-by-tank records is annexed to the Guidance on ballast water record-keeping and reporting.

The whole text of Appendix 1 is replaced by the following:

Appendix 1

BALLAST WATER REPORTING FORM

Date of Submission(dd/MMM/yyyy): Time of Submission(24:00 UTC): Report type: ☐ New ☐ Amended

1. SHIP INFORMATION		2. VOYAGE INFORMATION	3. BALLAST WATER USAGE AND CAPACITY			
Ship name:	Flag:	Arrival port UN/LOCODE (or port, State/province and country):				
IMO Number:	MMSI Number:	Arrival date (dd/MMM/yyyy):	Total ballast water on board:			
Distinctive Numbers/Letters or Call Sign:		Agent:	Volume	Units	No. of tanks in ballast	No. of holds in ballast
Owner:		Last port UN/LOCODE (or port, State/province and country):		m³		
ISM Company name and number:		Next port UN/LOCODE (or port, State/province and country):	Total ballast water capacity:			
Type:	GT:	Next port (2) UN/LOCODE (or port, State/province and country):	Volume	Units	Total no. of ballast tanks	Total no. of holds
Date of construction (dd/MMM/yyyy):		Next port (3) UN/LOCODE (or port, State/province and country):		m³		

4. BALLAST WATER MANAGEMENT

The principal ballast water management method(s) employed on this ship is/are: ☐ in accordance with regulation D-1 ☐ in accordance with regulation D-2 (describe): _____ ☐ subject to regulation D-4 ☐ other approach in accordance with regulation (describe): _____			
Total no. of ballast water tanks/holds to be discharged: _____ Of tanks/holds to be discharged, how many were managed in accordance with: Regulation D-1 _____ Regulation D-2 _____ Both regulations D-1 and D-2 _____ other method _____ (describe and state reason) _____ not managed _____ If any tanks/holds not managed, state reason(s) why not: _____ BWMS used, if any: Manufacturer: _____ Model: _____ Fully operational? ☐ Yes ☐ No Last bypass date (dd/MMM/yyyy): _____			
Approved Ballast Water Management Plan on board? ☐ Yes ☐ No Ballast Water Management Plan implemented? ☐ Yes ☐ No Contingency measure(s) included in the Ballast Water Management Plan? ☐ None ☐ D-1 ☐ Other (describe): _____ Contingency measure(s) deployed? ☐ Yes ☐ No Interface available on ship for coupling to ballast water reception facility? ☐ Yes ☐ No			

Ballast Water Record Book on board? ☐ Yes ☐ No
 Does ship carry an International Ballast Water Management Certificate: ☐ Yes ☐ No
 Date of issue (dd/MMM/yyyy): _____ Expiry date (dd/MMM/yyyy): _____ Authority that issued Certificate: _____
 Place of issue: _____
 Last survey/endorsement date (dd/MMM/yyyy): _____ Surveying authority: _____

5. BALLAST WATER HISTORY: In the appendix, RECORD ALL TANKS/HOLDS that may contain water taken on board to control trim, list, draught, stability or stresses of the ship, regardless of ballast water discharge intentions, including empty tanks/holds. Note: BW sources are the last BW uptakes prior to any ballast water management practices.

6. RESPONSIBLE OFFICER'S NAME AND TITLE: _____ **Email:** _____ **Phone number:** _____

APPENDIX: BALLAST WATER HISTORY

Ship name:				IMO Number (if not applicable, Distinctive Numbers/Letters, Call Sign or MMSI):								Arrival date (dd/MMM/yyyy):		
Tanks/Holds List multiple sources/tanks separately	Tank capacity (m ³)	BW sources		Current volume (m ³)	BW MANAGEMENT PRACTICES							PROPOSED BW DISCHARGE		
		Date (dd/MMM/ yyyy)	UN/LOCODE or Lat. Long		Date (dd/MMM/yyyy)	Start point* Lat./Long.	End point* Lat./Long.	Min. depth* (m)	Volume used* (m ³)	% Exchange*	Method(s) (DE, SE, FE, SWF, OT, PBU, PRF, NM)	Date (dd/MMM/ yyyy)	UN/LOCODE or Lat./Long.	Volume (m ³)

Ballast water tank codes: Forepeak = FP, Aftpeak = AP, Double bottom = DB, Wing = WT, Topside = TS, Cargo hold = CH, Other = O.
 Enter positions in degrees, minutes and seconds in the format: 00 00 000 N or 00 00 000 S (latitude) and 000 00 000 W or 000 00 000 E (longitude).
 Methods: DE = Dilution exchange, SE = Sequential exchange, FE = Flow-through exchange, SWF = Saltwater flushing, OT = Onboard treatment, PBU = Uptake from port-based facility, PRF = Discharge to port reception facility, NM = No management
 Complete columns with (*) only if exchange or flushing was conducted.

The whole text of Appendix 3 is replaced by the following:

Appendix 3

BALLAST WATER RECORD BOOK

INTERNATIONAL CONVENTION FOR THE CONTROL AND MANAGEMENT OF SHIPS' BALLAST WATER AND SEDIMENTS

Name of Ship:

IMO number, distinctive numbers or letters:

Gross tonnage:

Flag:

Total Ballast Water capacity (in cubic metres):

Number of the International Ballast Water Management Certificate:.....

Period From: To:.....

A diagram identifying the ballast tanks of the ship, corresponding to the Ballast Water Management Plan, including any multi-use tank, space or compartment designed to allow carriage of ballast water, is integral to and shall be a part of this Ballast Water Record Book.

Introduction

In accordance with regulation B-2 of the annex to the International Convention for the Control and Management of Ships' Ballast Water and Sediments, a record is to be kept of each ballast water operation. This includes discharges at sea and to reception facilities.

"Ballast water" means water with its suspended matter taken on board a ship to control trim, list, draught, stability, or stresses of a ship. Management of ballast water shall be in accordance with an approved Ballast Water Management Plan and taking into account guidelines developed by the Organization.

The Ballast Water Record Book entries should be completed taking into account any guidelines to be developed by the Organization.

The volume of ballast water on board should be estimated in cubic metres. It is recognized that the accuracy of estimating volumes of ballast is left to interpretation.

ENTRIES IN THE BALLAST WATER RECORD BOOK

Entries in the Ballast Water Record Book shall be made on each of the following occasions:

(A) When ballast water is taken on board from the aquatic environment (ballasting operation)

- .1 Start time and location (port of uptake or latitude/longitude)
- .2 Completion time and location (port of uptake or latitude/longitude and minimum depth of water during uptake)
- .3 The identity of the tanks affected
- .4 Estimated volume of uptake and final total quantity retained in cubic metres
- .5 Whether conducted in accordance with the approved Ballast Water Management Plan
- .6 Ballast water treatment method

(B) When ballast water is discharged into the aquatic environment (deballasting operation)

- .1 Start time and location (port of discharge or latitude/longitude)
- .2 Completion time and location (port of discharge or latitude/longitude and minimum depth of water during discharge)

- .3 The identity of the tanks affected
 - .4 Estimated volume of discharge and final total quantity retained in cubic metres
 - .5 Whether conducted in accordance with the approved Ballast Water Management Plan
 - .6 Ballast water treatment method
- (C) Whenever ballast water is exchanged, treated through internal circulation or treated in tank**
- 1 Ballast water exchange**
 - .1 Start time and location (latitude/longitude)
 - .2 Completion time and location (latitude/longitude)
 - .3 Minimum distance from the nearest land and minimum depth of water during the exchange or, if applicable, identify the designated exchange area in accordance with regulation B-4.2
 - .4 Whether conducted in accordance with the Ballast Water Management Plan and state the ballast water exchange method (Sequential or Flow-through or Dilution) used
 - .5 The identity of the tanks affected
 - .6 Total quantity exchanged and final total quantity on board in cubic metres
 - .7 Treatment method for the incoming ballast water
 - 2 Ballast water internal circulation for treatment or in-tank treatment**
 - .1 Start time
 - .2 Completion time
 - .3 The identity of the tanks affected (identifying source and destination tanks if applicable)
 - .4 Total quantity treated (through circulation or in tank) in cubic metres
 - .5 Ballast water treatment method
- (D) Uptake or discharge of ballast water from/to a port-based or reception facility**
- .1 Start time and location of uptake/discharge (state facility name)
 - .2 Completion time
 - .3 Operation carried out (whether uptake or discharge)
 - .4 The identity of the tanks affected
 - .5 Total quantity in cubic metres and final quantity retained on board
 - .6 Whether conducted in accordance with the approved Ballast Water Management Plan
 - .7 Onboard ballast water treatment method
- (E) Accidental discharge/ingress or other exceptional uptake or discharge of ballast water**
- .1 Start time and location of ingress/uptake/discharge (port name or latitude/longitude)
 - .2 Completion time
 - .3 Operation carried out (whether ingress, uptake or discharge)
 - .4 The identity of the tanks affected
 - .5 Total quantity of ballast water in cubic metres
 - .6 State the circumstances of ingress, uptake, discharge or loss, the reason thereof, any treatment method used and general remarks
- (F) Failures and inoperabilities^① of the ballast water management system**
- .1 Time and location (port name or latitude/longitude) of failure of the ballast water management system
 - .2 Operation carried out (state whether uptake or discharge)
 - .3 Description of the issue (e.g. kind of alarm or other description of circumstances)
 - .4 Time and location (port name or latitude/longitude) when the ballast water management system has been made operational

① Failures and inoperabilities include malfunctions, shutdowns or critical alarms indicating a failure of the ballast water management system which may indicate non-compliance with the D-2 standard (except routine information and warnings).

(G) Ballast tank cleaning/flushing, removal and disposal of sediments

- .1 Time and ship's location on commencement of ballast tank cleaning/flushing, removal or disposal of sediments (port name or latitude/longitude)
- .2 Time and ship's location on completion of ballast tank cleaning/flushing, removal or disposal of sediments (port name or latitude/longitude)
- .3 Tank(s) identification (name of the ballast tanks as per the Ballast Water Management Plan)
- .4 Discharge or disposal to a reception facility (state quantity in cubic metres and name of the facility)
- .5 Disposal or discharge to the aquatic environment as per Ballast Water Management Plan (state quantity in cubic metres, minimum distance from the nearest land in nm and minimum depth of water in metres)

(H) Additional operational procedures and general remarks

Sample Ballast Water Record Book Page

Name of ship:

IMO number, distinctive numbers or letters:.....

Date	Code (letter)	Item (number)	Record of operations / signature of officer in charge

Signature of the master.....”