

標題

バラスト水管理記録簿及びバラスト水管理計画書の改正について

ClassNK

テクニカル インフォメーション

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各位

2023 年 7 月 3 日から 7 日に開催された国際海事機関(IMO)第 80 回海洋環境保護委員会(MEPC 80)、及び 2024 年 3 月 18 日から 22 日に開催された IMO MEPC 81 において、バラスト水管理条約の改正に関連する複数の決議とサーキュラが発行されております。

1. バラスト水管理記録簿(BWRB)

バラスト水管理条約の付録 II に定められている BWRB の書式の改訂（添付 1：MEPC.369(80)）及び改訂された BWRB の記録例を示すガイダンス（添付 2：BWM.2/Circ.80）が採択されました。発効日以降は改訂された BWRB を使用し、本ガイダンスに基づきバラスト水管理の記録を行う必要があります。

発効日：2025 年 2 月 1 日

発効日以降の最初のバラスト水管理条約に関する定期的検査において、改訂された BWRB が船上に備えられていることを弊会検査員が確認いたします。なお、BWRB への記入については、最後の記載をした日の後少なくとも 2 年間は船内に保管し、その後少なくとも 3 年間は会社で管理する事が要求されます。そのため、改訂前に使用されていた BWRB についても適切に管理する必要がある事にご留意ください。

2. バラスト水管理計画書(BWMP)

バラスト水管理及びバラスト水管理計画作成のためのガイドライン(G4)の改正（添付 3：MEPC.370(80)）が採択されました。BWMP の記録要件の章において、改訂された BWRB の記録例を示すガイダンス(BWM.2/Circ.80)を参照する必要があります。具体的な変更内容については BWMP の改訂例（添付 4：Sample of BWMP amendments）をご参考ください。

2025 年 2 月 1 日以降の最初のバラスト水管理条約に関する定期的検査において、本船上で使用されている BWMP が適切に改訂されていることを弊会検査員が確認いたします。BWMP の改訂については旗国主管庁の個別の指示に従う必要がありますので、特に旗国主管庁によって直接承認されている BWMP 改訂の対応の際はご注意ください。なお、本テクニカルインフォメーション発行日時点において、本件に関連する旗国主管庁の個別の指示は確認されておりません。

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NOTES:

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3. 電子バラスト水管理記録簿(e-BWRB)

e-BWRB の使用に関するガイドライン (添付 5 : MEPC.372(80))、並びに e-BWRB の詳細な要件を定めるバラスト水管理条約の改正(添付 6:MEPC.383(81))が採択されました。

発効日 : 2025 年 10 月 1 日

発効日以降、e-BWRB を紙面に代わり使用する場合、同ガイドラインに従って承認された電子記録簿を使用している旨の宣誓書の交付を受ける必要があります。e-BWRB の承認及び宣誓書の交付については MARPOL 関連電子記録簿と同等の取り扱いとなる見込みですが、旗国主管庁の個別の指示に従う必要があります。

なお、本件に関してご不明な点は、以下の部署にお問い合わせください。

一般財団法人 日本海事協会 (ClassNK)

本部 管理センター別館 機関部

住所: 東京都千代田区紀尾井町 3-3(郵便番号 102-0094)

Tel.: 03-5226-2022 / 2023

Fax: 03-5226-2024

E-mail: mcd@classnk.or.jp

添付:

1. MEPC.369(80) (MEPC 80 報告書より抜粋)
2. BWM.2/Circ.80
3. MEPC.370(80)
4. Sample of BWMP amendments
5. MEPC.372(80)
6. MEPC.383(81) (MEPC 81 報告書より抜粋)

ANNEX 2

**RESOLUTION MEPC.369(80)
(adopted on 7 July 2023)**

**AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR THE CONTROL AND
MANAGEMENT OF SHIPS' BALLAST WATER AND SEDIMENTS, 2004**

Amendments to appendix II

(Form of Ballast Water Record Book)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

RECALLING ALSO article 19 of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (the BWM Convention), which specifies the amendment procedure and confers upon the Marine Environment Protection Committee of the Organization the function of considering amendments thereto for adoption by the Parties,

HAVING CONSIDERED, at its eightieth session, proposed amendments to appendix II of the BWM Convention regarding the form of Ballast Water Record Book,

1 ADOPTS, in accordance with article 19(2)(c) of the BWM Convention, amendments to appendix II, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 19(2)(e)(ii) of the BWM Convention, that the amendments shall be deemed to have been accepted on 1 August 2024 unless, prior to that date, more than one third of the Parties have notified the Secretary-General that they object to the amendments;

3 INVITES the Parties to note that, in accordance with article 19(2)(f)(ii) of the BWM Convention, the said amendments shall enter into force on 1 February 2025 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article 19(2)(d) of the BWM Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to the BWM Convention;

5 ALSO REQUESTS the Secretary-General to transmit copies of the present resolution and its annex to Members of the Organization which are not Parties to the BWM Convention;

6 FURTHER REQUESTS the Secretary-General to prepare a consolidated certified text of the BWM Convention.

ANNEX

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

Appendix II

Form of Ballast Water Record Book

1 Appendix II is replaced by the following:

"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* 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

(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)

* 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).

(H) Additional operational procedures and general remarks

Sample Ballast Water Record Book Page

Name of ship:

IMO number, distinctive numbers or letters:

[illegible]

Signature of the master"

4 ALBERT EMBANKMENT
LONDON SE1 7SR
Telephone: +44 (0)20 7735 7611 Fax: +44 (0)20 7587 3210

BWM.2/Circ.80
14 July 2023

**INTERNATIONAL CONVENTION FOR THE CONTROL AND MANAGEMENT
OF SHIPS' BALLAST WATER AND SEDIMENTS, 2004**

Guidance on ballast water record-keeping and reporting

1 The Marine Environment Protection Committee, at its eightieth session (3 to 7 July 2023) approved the *Guidance on ballast water record-keeping and reporting* to assist in bringing clarity to the record-keeping and reporting process under the BWM Convention, including guidance on completing the Ballast Water Record Book, an updated example ballast water reporting form and an example form for voluntary tank-by-tank logging of ballast water operations, as set out in the annex.

2 Member Governments are invited to bring this Guidance to the attention of all parties concerned.

ANNEX

GUIDANCE ON BALLAST WATER RECORD-KEEPING AND REPORTING

Table of contents

- 1 Purpose**
- 2 Ballast Water Record Book**
 - 2.1 Introduction
 - 2.2 When to record operations in the Ballast Water Record Book
 - 2.3 How to record operations in the Ballast Water Record Book
 - 2.4 Storage of information
- 3 Ballast water reporting form**
 - 3.1 Introduction
 - 3.2 How to complete the example ballast water reporting form
- 4 Voluntary tank-by-tank log**
 - 4.1 Introduction
 - 4.2 How to record operations in the voluntary tank-by-tank log

Appendices

- Appendix 1: Example Ballast Water Record Book entries
- Appendix 2: Example ballast water reporting form
- Appendix 3: Example tank-by-tank log form

1 Purpose

1.1 The first part of this document (section 2, Ballast Water Record Book), which is intended for ship crews, explains how ballast water operations should be recorded by making mandatory entries in the Ballast Water Record Book (BWRB). These records are required by the Convention. These records may also assist the ship in properly implementing its Ballast Water Management Plan and in operating and maintaining any ballast water management system (BWMS) that is being used.

1.2 The second part (section 3, Ballast water reporting form), intended for ship crews and port States, contains an example ballast water reporting form (BWRF) together with instructions for completing it. A BWRF may be submitted prior to entry into a port State that requires specific information regarding the management of ballast water on ships bound for its ports, offshore terminals or anchorage areas.

1.3 The third part (section 4, Voluntary tank-by-tank log), intended for ship crews, explains how to maintain voluntary tank-by-tank records of ballast water operations that may facilitate completion of a BWRF by allowing the crew to efficiently track the contents of each tank and hold that carries ballast water. Maintaining these voluntary records may also assist the ship in documenting and demonstrating that the requirements of the Convention have been met.

2 Ballast Water Record Book

2.1 Introduction

2.1.1 Regulation B-2 of the BWM Convention establishes mandatory requirements for maintaining a BWRB on board the ship, and appendix II of the Annex to the Convention specifies the information that must be included.

2.1.2 The BWRB may be inspected in the port or offshore terminal of a Party by officers duly authorized to inspect the ship for the purpose of determining compliance with the Convention.

2.1.3 The following sections explain when to record operations in the BWRB, how to record these operations (including standardized formats that should be used for smooth record-keeping and inspections) and how the records should be stored. Example entries are provided in appendix 1 to demonstrate how various ballast water operations and circumstances should be recorded in the BWRB.

2.2 When to record operations in the Ballast Water Record Book

2.2.1 Each operation concerning ballast water shall be fully recorded chronologically as per completion without delay in the Ballast Water Record Book (regulation B-2.5).

2.2.2 In the event of the discharge of ballast water pursuant to regulations A-3 (exceptions), A-4 (exemptions), B-3.6 (ballast water discharged to a reception facility) or B-3.7 (other methods of ballast water management that are approved in principle by the Committee) or in the event of other accidental discharge/ingress or other exceptional uptake or discharge of ballast water not otherwise exempted by this Convention, an entry shall be made in the Ballast Water Record Book describing the circumstances of, and the reason for, the discharge.

2.2.3 If ballast water exchange is not undertaken for the reasons in regulation B-4 this shall be recorded, in accordance with regulation B-4.5.

2.2.4 Record all failures or inoperabilities of the ballast water management system in the Ballast Water Record Book under Code F. If the failure or inoperability is not immediately resolved, a second Code F entry should later be recorded when the BWMS is rectified and made operational.

2.2.5 Exemptions granted under regulation A-4 and any additional measures under regulation C-1 shall be recorded in the Ballast Water Record Book under item Code H. (regulation A-4.4)

2.2.6 For tankers, ballast taken into heavy weather Cargo Oil Tanks is considered as exceptional ballast as described in regulation 18.3 of MARPOL Annex I and would be recorded in both the Oil Record Book part II and in the Ballast Water Record Book.

2.2.7 Ships should take the following guidance into account in selecting code letters to reflect ballasting operations:

- .1 During a typical uptake or discharge operation, any ballast water treatment should be noted under Code A or Code B as appropriate. It is not necessary to enter Codes C1 or C2 to reflect this treatment.

- .2 A ballast water exchange operation should be entered using Code C1 (noting any ballast water treatment applied). It is not necessary to enter Codes A and B in conjunction with ballast water exchange.
- .3 Code C2 should be used when treatment occurs independently from an uptake or discharge (e.g. in-tank treatment, or treatment during circulation between tanks).
- .4 Ballast water internal transfer operations for the purpose of list/trim/stability of the ship involving similarly managed water should be recorded under Code H in the Ballast Water Record Book as the quantity in the tanks have changed.

2.3 How to record operations in the Ballast Water Record Book

2.3.1 When making entries, write the date in dd-MMM-yyyy format (e.g. 01-JUN-2022). If the operations cross over the dates, then the entry should be made after completion of the operation and the start date can be mentioned as: - Start 1900 hrs (UTC) (hhmm SMT) on 01-JAN-2023 and Completion at 0100 hrs (UTC) (hhmm SMT) on 02-JAN-2023.

2.3.2 Enter the appropriate code and item number in the respective columns.

2.3.3 Enter all times using the Coordinated Universal Time (UTC) and Ship's Mean Time (SMT).

2.3.4 Record the ballast tank nomenclature as per the diagram corresponding to the Ballast Water Management Plan that forms a part of the Ballast Water Record Book.

2.3.5 Enter the port names using the proper standardized UN/LOCODE. If the UN/LOCODE is not available, or an offshore terminal or anchorage area is entered, write out Port Name and Country in full. No abbreviation should be used.

2.3.6 Enter the location position in the degrees, minutes and seconds format (example: Lat: 00 00.00 N/S, Long: 000 00.00 E/W).

2.3.7 Under the item "Ballast water treatment method" enter any treatment applied to the water during the specific operation being recorded. No prior treatment or intended future treatment should be recorded. If more than one method applies (e.g. partial treatment) then multiple entries should be made, each pertaining to the relevant volume. The following notations should be used:

- .1 "Approved BWMS";
- .2 "Prototype BWMS"; and
- .3 "Regulation B-3.7", in the case of other methods of ballast water management approved in principle by the Committee in accordance with that regulation.

2.3.8 "None. (regulation A-4)", in the case of exemptions granted in accordance with that regulation.

2.3.9 "None, as per BWMS design", in the case no treatment is necessary during uptake or discharge because of the design of the BWMS (e.g. a BWMS that does not treat during discharge, or a BWMS where the treatment takes place in the tank).

2.3.10 "None. (regulation B-3)" if the ship is not yet required to meet the standard in regulation D-2.

2.3.11 "None" and specify the reason, in other cases where no treatment is performed (e.g. BWMS bypass).

2.3.12 There should not be blank lines between successive entries.

2.3.13 In the case of a ship subject to equivalent compliance under regulation A-5 that is required by its Administration to keep records of each ballast water operation, the information specified in this guidance should be taken into account.

2.3.14 The entries in the Ballast Water Record Book shall be in a working language of the ship. If that language is not English, French or Spanish, the entries shall contain a translation into one of those languages. When entries in an official national language of the State whose flag the ship is entitled to fly are also used, these shall prevail in case of a dispute or discrepancy. (regulation B-2.5)

2.3.15 Each entry shall be signed by the officer in charge of the operation concerned and each completed page shall be signed by the master. (regulation B-2.5)

2.3.16 Incorrect entries should be struck through with a single line in such a way that the wrong entry is still legible. The incorrect entry should be signed and dated and followed by the correct entry.

2.3.17 Entries pertaining to an earlier missed operation should be completed as per example 25.

2.4 Storage of information

2.4.1 The Ballast Water Record Book shall be maintained on board the ship for a minimum period of two years after the last entry has been made and thereafter in the Company's control for a minimum period of three years. (regulation B-2.2)

2.4.2 The Ballast Water Record Book shall be kept readily available for inspection at all reasonable times and, in the case of an unmanned ship under tow, may be kept on the towing ship. (regulation B-2.4)

2.4.3 In addition to the Ballast Water Record Book, further tank-wise entries can be made in the ballast water log voluntarily to complement it accordingly. Keeping tank-by-tank records of ballast water operations may assist the ship crews in completing any ballast water reporting form that may be required by a port State, demonstrating that entries in the Ballast Water Record Book reflect the actual ballast water situation during any inspection, and implementing the Ballast Water Management Plan more efficiently through more specific knowledge of current tank contents.

2.4.4 Officers duly authorized by a Party may inspect the Ballast Water Record Book on board any ship to which this regulation applies while the ship is in its port or offshore terminal, and may make a copy of any entry, and require the master to certify that the copy is a true copy. Any copy so certified shall be admissible in any judicial proceeding as evidence of the

facts stated in the entry. The inspection of a Ballast Water Record Book and the taking of a certified copy shall be performed as expeditiously as possible without causing the ship to be unduly delayed. (regulation B-2.6)

3 Ballast water reporting form

3.1 Introduction

3.1.1 As noted above, a BWRF may be submitted prior to entry into a port State that requires specific information regarding the management of ballast water on ships bound for its ports, offshore terminals, or anchorage areas.

3.1.2 Although individual port State forms may vary owing to national requirements and circumstances, port States are invited to align their forms with the example BWRF set out in appendix 2 as much as possible. Doing so will reduce the administrative burden on ships. Port States are also invited to use fillable PDF forms or online reporting systems to facilitate the submission of BWRFs.

3.1.3 The example form allows for the collection and transmission of relevant information that will assist the port State and the ship in efficiently and effectively communicating the situation on board, as well as the ship's intentions. A completed form will:

- .1 positively identify the ship, the owner, the ISM Company, the agent and the officer on board completing the report, to facilitate communications with port State authorities;
- .2 convey relevant voyage information, including the ship's intended arrival port and date, as well as the last port and future ports, if known;
- .3 summarize the current ballast water situation on board the ship relative to its ballast water capacity, including ballast tanks and any holds that may be in use for ballasting purposes;
- .4 summarize the ship's ballast water management approach, including management actions taken on water to be discharged, any available contingency methods (should they be needed), and key information on the ship's status with respect to survey and certification to assist the port State in assessing the status of the ship; and
- .5 include an appendix identifying the origin, management and discharge intentions for each tank to allow the port State to assess the risk posed by the water.

3.1.4 Ships that regularly submit BWRFs to port States may find it practical and efficient to maintain records of ballast water operations on a tank-by-tank basis. A form to facilitate this record-keeping is provided in appendix 3 and discussed in section 4 of this guidance.

3.2 Completing the example ballast water reporting form

3.2.1 Write dates in the dd-MMM-yyyy format (e.g. 01-JUN-2022).

3.2.2 Enter times using Coordinated Universal Time (UTC).

3.2.3 Section 1. Ship information:

- .1 Ship name: Enter the name of the ship. In case of tug and barge operation (pull, push, sideway or an articulated tug and barge), enter both ship names, separated by a hyphen (-). Do not add prefixes or suffixes such as "M/V" (Motor Vessel), "M/S" (Motor Ship) or "T/S" (Tanker Ship / Tall Ship);
- .2 Flag: Enter the full name of the State or Territory whose flag the ship is flying at the time of the BWRF submission. Do not use abbreviation;
- .3 MMSI Number: Enter the ship's Maritime Mobile Service Identify (MMSI number);
- .4 Distinctive Numbers/Letters or Call Sign: Enter the ship's Official Number or Call Sign. If no Official Number exists for the ship, enter other identification number;
- .5 Owner: Enter the name of the registered owner(s) of the ship. If under charter, enter the name of the operator;
- .6 ISM Company name and number: Enter the name of the Company as defined under the *International Convention for the Safety of Life at Sea*, chapter IX-1, and *International Safety Management Code* and its Identification Number, conforming to the IMO Unique Company and Registered Owner Identification Number Scheme;
- .7 Gross tonnage: Enter the gross tonnage of the ship as established under the *International Convention on Tonnage Measurement of Ships, 1969* or any successor Convention. In case of tug and barge combinations, enter the gross tonnage of each ship, separated by a hyphen (-); and
- .8 Date of construction: Enter the date of construction as defined in regulation A-1.

3.2.4 Section 2. Voyage Information:

- .1 Enter ports using the proper UN/LOCODE for standardization and to avoid errors (<https://unece.org/trade/cefact/unlocode-code-list-country-and-territory>). If UN/LOCODE is not available, write out port, State/province, and country in full. No abbreviation should be used.

3.2.5 Section 3. Ballast water usage and capacity:

- .1 Enter the total volume of ballast water on board and the number of ballast tanks and cargo holds with ballast water upon arrival at the "Arrival port" indicated in section 2; and
- .2 Enter the total ballast water capacity as per the ship's Ballast Water Management Plan including the maximum volume of ballast water which can be carried and the number of tanks and cargo holds designed to carry ballast water.

3.2.6 Section 4. Ballast water management:

- .1 Indicate the principal ballast water management method(s) employed on the ship. "In accordance with regulation D-1" refers to the exchange of ballast water to meet the ballast water exchange standard. "In accordance with regulation D-2" refers to the treatment of ballast water using an IMO-approved ballast water management system to meet the ballast water performance standard. "Subjected to regulation D-4" refers to the use of a prototype ballast water treatment technology approved by the Administration under regulation D-4. If an "other method" of ballast water management approved in principle by the Committee is used in accordance with regulation B-3.7, describe the method. Multiple items may be checked off, if applicable;
- .2 Enter the number of tanks and holds with ballast water that will be discharged for the current planned trip by ballast water management method. If other ballast water management method has been used, describe the method and state the reason;
- .3 If the ship is equipped with a ballast water management system, provide the name of the manufacturer and the model of the system. Indicate whether the ballast water management system was fully operational during the management of all treated ballast tanks/holds. Indicate when the ballast water management system was last partially or fully bypassed by entering the last bypass date, if any;
- .4 If ballast water has not been exchanged or treated in accordance with regulation B-3, state the reason. For countries that use an electronic form, a drop-down list with the following options may be used:
 - .1 regulation A-4 exemption;
 - .2 equipment failure;
 - .3 regulatory exemption;
 - .4 ship design limit;
 - .5 adverse weather; and
 - .6 other (describe);
- .5 Provide information on the Ballast Water Management Plan, including any contingency measures(s) in the appropriate fields. Provide descriptions if a contingency measure other than ballast water exchange in accordance with regulation D-1 is planned. Multiple items may be checked off, if applicable;
- .6 Indicate if an interface is available on the ship for coupling to a ballast water reception facility as a contingency measure;
- .7 Provide information on the Ballast Water Record Book and the International Ballast Water Management Certificate or equivalent document in the appropriate fields;

- .8 Provide the name of the authority (e.g. flag State authority or recognized organization) that issued the International Ballast Water Management Certificate or equivalent document;
- .9 Provide the date of the last intermediate, annual, or any other additional endorsement as per the Convention; and
- .10 Provide the name of the authority (e.g. flag State authority or recognized organization) that performed the last survey.

3.2.7 Section 5 and appendix. Ballast water history:

- .1 Enter the name and the identifier of the ship as well as the arrival date in case the page gets separated from the previous page of the form in a printed copy;
- .2 Record information for each ballast water tank/hold across the page listing the original source(s) of the ballast water under "BW source" prior to any ballast water management, all management events under "BW management practices", and all planned discharge events under "Proposed BW discharge";
- .3 Tanks/holds: List all ballast tanks and holds separately (e.g. port and starboard tanks should be on separate rows). Use tank codes as indicated on the form. List multiple ballast water sources for the same tank on separate lines. Include empty tanks/holds and those containing only residual ballast water and sediments*;
- .4 Current volume: Enter the volume of ballast water in tank on arrival at the "Arrival port" indicated in section 2;
- .5 Under "BW management practices", complete columns with an asterisk (*) only if exchange or saltwater flushing has been conducted as per regulation B-4 and paragraph 1.3.2 of part A of the Guidelines (G4), respectively;
- .6 % Exchange: If exchange or saltwater flushing has been conducted, calculate the percentage of tanks volumetric capacity used to exchange. % Exchange can be calculated by dividing the total volume of water moved by "Sequential" or "Flow-through" or used in "Saltwater flushing" by the capacity of ballast tank or hold, then multiply by 100;
- .7 Min. depth (m): If exchange or saltwater flushing has been conducted, enter the minimum depth in metres during the ballast water exchange or flushing;
- .8 Indicate the ballast water management method(s) used. For countries that use an electronic form, a drop-down list with the following options may be used:
 - .1 DE = Dilution exchange;
 - .2 SE = Sequential exchange;
 - .3 FE = Flow-through exchange;

* Residual ballast water and sediments refers to any ballast water and sediments that cannot be removed from a ballast tank using the equipment installed on the ship for that purpose.

- .4 SWF = Saltwater flushing;
- .5 OT = Onboard treatment;
- .6 PBU = Uptake from port-based facility;
- .7 PRF = Discharge to port reception facility; and
- .8 NM = No management; and
- .9 If no discharges are planned for the current trip, fields under "Proposed BW discharge" are to remain blank.

3.2.8 Section 6. Responsible officer

- .1 Provide information on the responsible officer, including name, title, and contact information.

4 Voluntary tank-by-tank log

4.1 Introduction

4.1.1 Tank-by-tank logs are not required by the Convention. However, keeping tank-by-tank logs is recommended as a best practice to assist in:

- .1 completing any BWRF that may be required by a port State;
- .2 demonstrating that entries in the BWRB reflect the actual ballast water situation on board during any inspection; and
- .3 implementing the Ballast Water Management Plan more efficiently through more specific knowledge of current tank contents.

4.1.2 The tank-by-tank log format in appendix 3 has been developed to efficiently capture the essential information needed to complete the example BWRF set out in this guidance.

4.2 Completing the tank-by-tank log

- 4.2.1 Complete a ballast water log for each tank.
- 4.2.2 Enter ports using the proper UN/LOCODE for standardization and to avoid errors (<https://unece.org/trade/cefact/unlocode-code-list-country-and-territory>). If UN/LOCODE is not available, write out port, State/province, and country in full. No abbreviation should be used.
- 4.2.3 Write dates in the dd-MMM-yyyy format (e.g. 01-JUN-2022).
- 4.2.4 Enter times using Coordinated Universal Time (UTC).
- 4.2.5 Enter ship name, ship identifier, tank identifier and tank capacity in the appropriate fields.

- 4.2.6 Record information for each ballast water operation across the page listing the date, location or position, start time, minimum depth (if operations took place outside of port), all applicable volumes under "Volume" in cubic metres, end time, the salinity of the ballast water after ballast operation was completed in PSU, ballast water management method(s) used, and any remarks.
- 4.2.7 Record one operation per row in chronological order. Record all applicable volumes associated with one operation in a single row. For example, if approximately 1,000 cubic metres of ballast water are loaded into an empty tank and treated in a single operation then enter a single row with 0 for the initial content, 1,000 for the estimated uptake from the sea, 1,000 for the estimated volume treated and 1,000 for the final content.

APPENDIX 1

GUIDANCE FOR COMPLETING THE BALLAST WATER RECORD BOOK

SAMPLE ENTRIES IN THE BALLAST WATER RECORD BOOK

Code A - When ballast water is taken on board (ballasting operation)

(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

Example 1: When ballast water is taken on board (ballasting operation) – at port

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
02-JAN-2023	A	1	Start - 0900 hrs (UTC) (hhmm SMT) on 01-JAN-2023 at BE ANR (UN/LOCODE or port name)
		2	Completion - 0600 hrs (UTC) (hhmm SMT) on 02-JAN-2023 at BE ANR
		3	3P, 3S, 4P and 4S BW tanks
		4	Uptake 6800 m3. Final quantity retained: 7200 m3
		5	Yes. Ballasting as per BWMP for D-2 compliance
		6	Approved BWMS
			Signed----- Name -----Rank-----

Example 2: When ballast water is taken on board (ballasting operation) – at sea

Date	Code (letter)	Item (number)	Record of operations / signature of officer in charge
01-JAN-2023	A	1	Start - 0900 hrs (UTC) (hhmm SMT) at Lat xx xx.xx N / Long yyy yy.yy E
		2	Completion - 1800 hrs (UTC) (hhmm SMT) at Lat xx xx.xx N / Long yyy yy.yy E at 350 m minimum depth
		3	3P, 3S, 4P and 4S
		4	Uptake 6800 m3. Final quantity retained: 7200 m3
		5	Yes. Ballasting as per BWMP for D-2 compliance
		6	Approved BWMS
			Signed----- Name -----Rank-----

Notes for examples 1 and 2:

1. A ship required to meet the D-1 standard that loads ballast water without treatment in accordance with the BWMP should record "Yes. Ballasting done as per the BWMP for D-1 compliance" in item 5 and "None" in item 6. When the ship later carries out a ballast water exchange, this should be recorded under code C.
2. The examples 1 and 2 consider the new intake water of 6,800 m³ taken in tanks having existing treated water of 400 m³. Mixing of treated water with untreated water will result in the full load being considered as unmanaged.
3. In case the ship has to take in unmanaged ballast water, item 5 should state "No", item 6 should state "None" and the reason should be given.

Example 3: When ballast water is taken on board (ballasting operation) – at port (or sea) on board ships employing in-tank or in-voyage treatment in accordance with the approved Ballast Water Management Plan

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
02-JAN-2023	A	1	Start - 0900 hrs (UTC) (hhmm SMT) on 01-JAN-2023 at UN/LOCODE or port name or Lat/Long
		2	Completion - 0600 hrs (UTC) (hhmm SMT) on 02-JAN-2023 at UN/LOCODE or port name or Lat / Long
		3	3P, 3S, 4P and 4S
		4	Uptake 6800 m3. Final quantity retained: 7200 m3
		5	Yes. Ballasting as per BWMP for D-2 compliance
		6	None. As per BWMS design
			Signed----- Name -----Rank-----

Notes for example 3:

- .1 BWMS employing "in-tank" treatment load in ballast directly into the tank without any treatment. At the point of uptake, entry to be made as per example 3. Item 6 must state "None. As per BWMS design".
- .2 Subsequently the ship must make entry as per example 10 when carrying out the in-tank or circulation using code C 2

Code B

(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

Example 4: When ballast water is discharged into the port (aquatic environment)

Date	Code (letter)	Item (number)	Record of operations / signature of officer in charge
01-JAN-2023	B	1	Start - 09:00 hrs (UTC) (hhmm SMT) at UN/LOCODE or port name
		2	Completion - 1800 hrs (UTC) (hhmm SMT) at UN/LOCODE or port name
		3	3P, 3S, 4P and 4S
		4	Discharged 6800 m3. Final quantity retained: 400 m3
		5	Yes. Deballasting as per BWMP for D-2 compliance
		6	Approved BWMS
			Signed----- Name -----Rank-----

Example 5: When ballast water managed as per BWMP is discharged into the sea (aquatic environment)

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	B	1	Start - 09:00 hrs (UTC) (hhmm SMT) at Lat /Long

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
		2	Completion - 1800 hrs (UTC) (hhmm SMT) Lat /Long at minimum depth of 400 metres
		3	3P, 3S, 4P and 4S
		4	Discharged 6800 m3. Final quantity retained: 400 m3
		5	Yes. Deballasting as per BWMP for D-2 compliance
		6	Approved BWMS
			Signed----- Name -----Rank-----

Notes for examples 4 and 5

- .1 For a D-1 certified ship, item 5 to be entered as "Yes. D-1 compliant" and item 6 to be entered as "No".
- .2 Ships employing single pass treatment system (only on uptake) with no treatment during deballasting are to record "None, as per BWMS design" in item 6.
- .3 Ships deballasting water managed under the contingency plan of the approved BWMP to record as per example 7.

Example 6: When ballast water not managed as per BWMP is discharged into the sea (aquatic environment)

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	B	1	Start - 09:00 hrs (UTC) (hhmm SMT) at Lat / Long
		2	Completion - 1800 hrs (UTC) (hhmm SMT) at Lat /Long at minimum depth of 400 metres
		3	3P, 3S, 4P and 4S
		4	Discharged 6800 m3. Final quantity retained: 400 m3
		5	No.
		6	None. State the reasons
			Signed----- Name -----Rank-----

Notes for example 6:

- .1 For a D-1 certified ship, in case the ship has not carried out the exchange, item 5 to be recorded as "No." and item 6 as "None. [regulation B-3]".
- .2 For a D-2 certified ship, in the event of discharge of semi / untreated water where the approved BWMP process is not followed, the deballasting event must be recorded with item 5 entered "No." and item 6 entered as "None" and state the reasons.

- .3 Further, entry using code (F) or code (H) is required to be made (as applicable) preceding the above example 6 entry, stating the conditions leading to non-compliant discharge.

Example 7: When ballast water is discharged into the aquatic environment (e.g. at a port) which has been managed as per the contingency plan in the approved BWMP

Date	Code (letter)	Item (number)	Record of operations / signature of officer in charge
01-JAN-2023	B	1	Start - 0900 hrs (UTC) (hhmm SMT) at_Lat /Long
		2	Completion - 1800 hrs (UTC) (hhmm SMT) at Lat /Long at minimum depth of 400 metres
		3	3P, 3S, 4P and 4S
		4	Discharged 6800 m3. Final quantity retained: 400 m3
		5	Yes. As per approved contingency plan
		6	Approved BWMS
			Signed----- Name -----Rank-----

Note for example 7:

- .1 For a D-2 certified ship, only in case the ship has implemented contingency plan as per approved BWMP, item 5 to be recorded as "Yes. As per approved contingency plan" and item 6 as "Approved BWMS" (if applicable to the contingency plan procedure adopted).

Code C

(C) Whenever ballast water is exchanged, or treated in-tank or treated through internal circulation

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

Example 8: Whenever ballast water is exchanged (without any treatment)

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	C	1.1	Start - 0900 hrs (UTC) (hhmm SMT) at Lat /Long
		1.2	Completion - 1800 hrs (UTC) (hhmm SMT) at Lat /Long
		1.3	Minimum distance 840 nm and minimum depth 6500 metres
		1.4	Yes. Sequential method as approved in the BWMP
		1.5	2P, 2S, 3P, 3S, 4P and 4S
		1.6	Exchanged 7200 m3. Final quantity retained 7200 m3
		1.7	None
			Signed----- Name -----Rank-----

Example 9: Whenever ballast water is exchanged along with treatment using approved BWMS

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	C	1.1	Start - 0900 hrs (UTC) (hhmm SMT) at Lat /Long
		1.2	Completion - 1800 hrs (UTC) (hhmm SMT) at Lat /Long
		1.3	Minimum distance 840 nm and minimum depth 6500 metres
		1.4	Yes. Sequential method (as approved in the BWMP)
		1.5	2P, 2S, 3P, 3S, 4P and 4S
		1.6	Exchanged 7200 m3. Final quantity retained 7200 m3
		1.7	Approved BWMS
			Signed----- Name -----Rank-----

Notes for examples 8 and 9:

- .1 The stated exchange method (dilution/sequential/flow-through) must be as per the approved Ballast Water Management Plan.
- .2 The exchange along with treatment (BWE+BWT), if carried out as per the approved BWMP contingency plan, must be recorded using example 9 and if applicable reported to the concerned authorities prior to discharge of this water.
- .3 In case of carrying out exchange at a designated area, state the "area name or Lat / Long" under item 1.3 and enter "designated area in accordance with regulation B-4.2" under item 1.4.
- .4 In the event the ship is unable to carry out exchange owing to safety or operational issues, entry has to be made as per example 26.

- .5 In case of a flow-through or dilution ballast water exchange as per approved Ballast Water Management Plan item 1.4 should state "yes flow-through or dilution (as appropriate) method (as approved in Ballast Water Management Plan)" and under 1.6 enter the total quantity exchanged and final quantity retained (example: "exchanged 22000 m³ retained 7200m³")

(C) 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

Example 10: Ballast water internal circulation for treatment using approved BWMS

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
02-JAN-2023	C	2.1	Start - 0900 hrs (UTC) (hhmm SMT) on 01-JAN-2023
		2.2	Completion - 1800 hrs (UTC) (hhmm SMT) on 02-JAN-2023
		2.3	3P, 3S, 4P and 4S
		2.4	6800 m3 treated through circulation
		2.5	Approved BWMS
			Signed----- Name -----Rank-----

Notes for example 10:

- .1 The above entry is applicable to the ships which circulate the water in the ballast tanks through the BWMS to achieve treatment. In such case there is no fresh intake or release of ballast water.
- .2 Ships taking in water directly (bypassing BWMS) and subsequently carrying out treatment in tank or in voyage as per BWMP, are required to make entry as per example 3 after uptake and as per example 10 when the treatment of this water is carried out.
- .3 Anti-heeling tank automatic operations of transfers of water for the purpose of list correction are not to be recorded under code C.
- .4 The internal transfers between a set of ballast tanks having same quality of water (either managed or unmanaged) for which entries have already been made under code A or managed under code C are not to be recorded.
- .5 In case of water being transferred into a tank not accounted under A 3, C 1.5 or C 2.3, entry is required to be made under code C 2 with C 2.3 capturing the required details.

Code D

(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

Example 11: Uptake of ballast water from a port-based or reception facility

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	D	1	Start - 0900 hrs (UTC) (hhmm SMT) from "facility / terminal name" at the Port of (insert UN/LOCODE)
		2	Completion - 1800 hrs (UTC) (hhmm SMT)
		3	Uptake
		4	1DB(P), 1DB(S), 2TST (P), 2TST (S) and Aft Peak Tank
		5	6800 m3. Final quantity retained 6800 m3
		6	Yes. Treated ballast water intake as per BWMP
		7	None.
			Signed----- Name -----Rank-----

Example 12: Discharge of ballast water to a port-based or reception facility

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	D	1	Start - 0900 hrs (UTC) (hhmm SMT) from "port-based/reception facility" at the Port of (insert UN/LOCODE)
		2	Stop - 1800 hrs SMT (UTC) (hhmm SMT)
		3	Discharge
		4	1DB(P), 1DB(S), 2TST (P), 2TST (S) and Aft Peak Tank
		5	6800 m ³ . Total retained 0 m ³
		6	Yes. Discharged to port reception facility.
		7	None.
			Signed----- Name -----Rank-----

Notes for examples 11 and 12:

- .1 The ship taking in ballast water from the port facility which is treated by the onboard BWMS prior to filling the ballast tanks is to enter item 7 as "Yes, approved BWMS" in example 11.
- .2 The documents concerning the uptake / discharge of ballast water provided by the port-based or reception facility must be attached to the BWRB and must be readily available for inspection.

Code E

(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

Example 13: Accidental ingress of ballast water

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	E	1	Start - 0900 hrs (UTC) (hhmm SMT) at (insert port name / location)
		2	Completion - 1800 hrs (UTC) (hhmm SMT)
		3	Ingress of water into ballast tank
		4	Fore Peak Tank (FPT)
		5	450 m3
		6	Accidental ingress of water in forepeak ballast tank due to hull breach as a result of collision
			Signed----- Name -----Rank-----

Example 14: Accidental discharge of ballast water

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	E	1	Start - 0900 hrs (UTC) (hhmm SMT) at _____ (insert port name/location)
		2	Completion - 1000 hrs (UTC) (hhmm SMT)
		3	Discharge of water from ballast tank
		4	Fore Peak Tank (FPT)
		5	450 m ³

		6	Accidental discharge of water in forepeak ballast tank due to hull breach as a result of collision
			Signed----- Name -----Rank-----

Example 15: Exceptional uptake of ballast water

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	E	1	Start - 0900 hrs (UTC) (hhmm SMT) at _(insert port name/location)
		2	Completion - 1200 hrs (UTC) (hhmm SMT)
		3	Uptake of water into ballast tank
		4	Aft Peak tank
		5	400 m ³
		6	Water taken into aft peak ballast tank to adjust trim, following an oil spill on deck
			Signed----- Name -----Rank-----

Notes for examples 13, 14 and 15:

- .1 Accidental ingress or discharges are occurrences without human initiation. Water ingress or discharge (escape) due to collision, grounding, structural failures, valve or machinery failures are to be recorded under code E.
- .2 Exceptional uptake or discharge are human initiated procedures undertaken in exceptional circumstances for the safety of the ship and prevention of pollution.
- .3 Intake of shore-supplied untreated water into ballast tanks at a dry dock facility for the purpose of undocking of a ship should be considered as exceptional circumstance and entry recorded under code E.

Code F

(F) Failures and inoperabilities 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

Example 16: Failures of the ballast water management system that are repaired immediately

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	F	1	1100 hrs (UTC) (hhmm SMT) at the port of _____

		2	Uptake
		3	Xxxxxx sensor failure and BWMS plant shut down
		4	1500 hrs (UTC) (hhmm SMT) at the port of _____ the BWMS made operational
			Signed----- Name -----Rank-----

Example 17: Inoperabilities of the ballast water management system

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	F	1	1100 hrs (UTC) (hhmm SMT) at the Port of (UNLOCODE)
		2	Uptake
		3	Filter choked and high differential pressure trip due to muddy water
		4	No repair required
			Signed----- Name -----Rank-----

Notes for examples 16 and 17:

- .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).
- .2 In case the BWMS failure is not rectified immediately, the entry using code F / item 4 is to be made on the date when the BWMS is made operational.
- .3 In the event of failure of the BWMS during ballasting or deballasting, the entry under code A or code B must be followed up by code F entry as per example 17.
- .4 Inoperability of the BWMS due to challenging water conditions is required to be recorded under code F items 1, 2 and 3 with remark in item 3 clearly stating the alarms which are triggered owing to challenging water conditions.

Code G

(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)

Example 18: Ballast tank cleaning and discharge of sediments to reception facility / dry dock

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	G	1	1100 hrs (UTC) (hhmm SMT) at Port of (UN/LOCODE)
		2	1500 hrs (UTC) (hhmm SMT) at Port of (UN/LOCODE)
		3	1P, 1S, 2P, 2S, 3P and 3S
		4	10 m3 sediments disposed to "insert name" reception facility
			Signed----- Name -----Rank-----

Example 19: Ballast tank cleaning/flushing and disposal of sediments to aquatic environment (at sea)

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	G	1	1100 hrs (UTC) (hhmm SMT) at Lat xx xx.xx N / Long yyy yy.yy E
		2	1500 hrs (UTC) (hhmm SMT) at Lat xx xx.xx N / Long yyy yy.yy E
		3	3P and 3S
		5	100 m3 of tank flushing including sediments discharged to sea at minimum distance of 350 nm and minimum depth of 2800 m
			Signed----- Name -----Rank-----

Notes for examples 18 and 19:

- .1 Sediment disposal receipt provided by shore/port reception facility or dry dock facility must be attached to the BWRB and must be available for inspections.
- .2 In case of flushing of a tank with treated water, operation to be recorded under code G items 1, 2, 3 and 5 with comments in 5 stating that treated water was used to flush the tank.

Code H

(H) Additional operational procedures and general remarks

Example 20: Internal tank-to-tank ballast water transfers

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	H		200 m3 of ballast water transferred from 1P and 1S to 2P and 2S

			Signed----- Name -----Rank-----
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Example 21: Sampling of ballast water during discharging

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	H		Ballast water sample taken during discharge operation at the port of "UN/LOCODE" by PSC
			Signed----- Name -----Rank-----

Example 22: Use of ballast water tank for non-ballast water purpose: taking out of operation

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	H		Aft peak ballast tank emptied and isolated from the ballast water pipe system for use of non-ballast purpose in accordance with BWMP. Valve # 123 sealed.
			Signed----- Name -----Rank-----

Example 23: Use of ballast water tank for non ballast water purpose: taking into operation

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	H		Aft Peak ballast tank cleaned / flushed and reconnected to ballast water system pipeline in accordance with BWMP. Valve # 123 unsealed
			Signed----- Name -----Rank-----

Example 24: Reporting to flag or port State of a failure of the BWMS

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	H		BWMS failure at hhmm (UTC) (hhmm SMT) on dd-MMM-yyyy informed flag State
			Signed----- Name -----Rank-----

Note for example 24:

- .1 BWMS failures are recorded under code F. In case of reporting to flag or port State, above entry to be recorded and, if operations subsequently carried out as per contingency plan or as per advice from port/flag State, same to be recorded under applicable code/item.

Example 25: Entry pertaining to an earlier missed operational entry

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
xx-MON-yyyy (Date 1)	H		Entry pertaining to an earlier missed operational entry

			Signed----- Name -----Rank-----
xx-MON-yyyy (Date 2)			(record the correct entry here)
			Signed----- Name -----Rank-----

Note for example 25:

- .1 This entry is to be followed by the entry pertaining to the missed operation. The date 1 to be entered corresponding to the original date of operation and subsequent entry date 2 to be the current date.

Example 26: Ship unable to perform ballast water exchange owing to safety reasons, e.g. bad weather

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	H		Ship unable carry out BWE owing to (state reason)
			Port of call (Name port / country) informed
			Signed----- Name -----Rank-----

Note for example 26:

- .1 This entry is to be made for safety (bad weather) or operational related issues (e.g. ship's route does not pass through areas where distance from nearest land is always more than 50 nm and / or 200 m depth or a designated BWE area).

Example 27 : Scenarios for making sequential entries in the ballast water record book

Scenario 1: Uptake and discharge of ballast water for a ship subject to regulation D-2

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	A	1	Start - 0900 hrs (UTC)(hhmm SMT) at BE ANR
		2	Completion – 1800 hrs (UTC) (hhmm SMT) at BE ANR
		3	3P, 3S, 4P and 4S
		4	Uptake 6800 m3. Final quantity retained: 7200 m3
		5	Yes. Ballasting as per BWMP for D-2 compliance
		6	Approved BWMS
			Signed----- Name -----Rank-----

07-JAN-2023	B	1	Start - 09:00 hrs (UTC) (hhmm SMT) at FR LEH
		2	Completion – 1800 hrs (UTC) (hhmm SMT) at FR LEH
		3	3P, 3S, 4P and 4S
		4	Discharged 6800 m3. Final quantity retained: 400 m3
		5	Yes. Deballasting as per BWMP for D-2 compliance

		6	Approved BWMS
			Signed----- Name -----Rank-----

**Scenario 2: Uptake, exchange and discharge of ballast water for a ship
subject to regulation D-1**

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge
01-JAN-2023	A	1	Start - 0900 hrs (UTC) (hhmm SMT) at BE ANR
		2	Completion – 1800 hrs (UTC) (hhmm SMT) at BE ANR
		3	3P, 3S, 4P and 4S
		4	Uptake 6800 m3. Final quantity retained: 7200 m3
		5	Yes. Ballasting as per BWMP for D-1 compliance
		6	None
			Signed----- Name -----Rank-----

03-JAN-2023	C	1.1	Start – 0900 hrs (UTC) (hhmm SMT) at Lat / Long
		1.2	Completion –1800 hr (UTC) (hhmm SMT) at Lat / Long
		1.3	Minimum distance 840 nm and minimum depth 6500 metres
		1.4	Yes. Sequential method as approved in the BWMP
		1.5	3P, 3S, 4P and 4S
		1.6	Exchanged 7200 m3. Final quantity retained 7200 m3.
		1.7	None
			Signed----- Name -----Rank-----

07-JAN-2023	B	1	Start – 09:00 hrs (UTC) (hhmm SMT) at FR LEH
		2	Completion – 1800 hrs (UTC) (hhmm SMT) at FR LEH
		3	3P, 3S, 4P and 4S
		4	Discharged 6800 m3. Final quantity retained: 400 m3
		5	Yes. Deballasting as per BWMP for D-1 compliance
		6	None
			Signed----- Name -----Rank-----

APPENDIX 2

EXAMPLE 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):			m ³		
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):			m ³		

4. BALLAST WATER MANAGEMENT

The principal ballast water management method(s) employed on this ship is/are:			
<input type="checkbox"/> in accordance with regulation D-1		<input type="checkbox"/> in accordance with regulation D-2 (describe): _____	
<input type="checkbox"/> subject to regulation D-4		<input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No Last bypass date (dd/MMM/yyyy): _____			
Approved Ballast Water Management Plan on board? <input type="checkbox"/> Yes <input type="checkbox"/> No		Ballast Water Management Plan implemented? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Contingency measure(s) included in the Ballast Water Management Plan? <input type="checkbox"/> None <input type="checkbox"/> D-1 <input type="checkbox"/> Other (describe): _____			
Contingency measure(s) deployed? <input type="checkbox"/> Yes <input type="checkbox"/> No		Interface available on ship for coupling to ballast water reception facility? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Ballast Water Record Book on board? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Does ship carry an International Ballast Water Management Certificate: <input type="checkbox"/> Yes <input type="checkbox"/> No		Authority that issued Certificate: _____	
Date of issue (dd/MMM/yyyy): _____		Expiry date (dd/MMM/yyyy): _____	
Last survey/endorsement date (dd/MMM/yyyy): _____		Place of issue: _____	
		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

[illegible]

APPENDIX 3

EXAMPLE TANK-BY-TANK LOG FORM

Ballast Water Log													
Ship name:		This voluntary log allows for tank-by-tank recording of all operations concerning ballast water in order to facilitate the completion of the ballast water report form that may be requested by port States. Further information on completing this log is available in the Guidance on ballast water record-keeping and reporting of the International Maritime Organization.								Tank ID:			
IMO Number: (if not applicable, Distinctive Numbers / Letters, Call Sign or MMSI):										Tank capacity:			
Record of operations													
Date (dd/MMM/yyyy)	Location / Position (Port UN/LOCODE or Lat./Long. at sea)	Time started (UTC)	Minimum depth in metres (if outside port)*	Volume (m³)							Time completed (UTC)	Any BW management method(s) (DE, SE, FE, SWF, OT, PBU, PRF, NM)	Remarks
				Initial content	Estimated uptake from sea, where applicable	Estimated intake from reception facility, where applicable	Estimated circulated or treated, where applicable*	Estimated discharge into sea, where applicable	Estimated discharged to port reception facility, where applicable	Final content			

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.

ANNEX 4**RESOLUTION MEPC.370(80)**
(adopted on 7 July 2023)**AMENDMENTS TO THE GUIDELINES FOR BALLAST WATER MANAGEMENT AND
DEVELOPMENT OF BALLAST WATER MANAGEMENT PLANS (G4)**
(RESOLUTION MEPC.127(53), AS AMENDED BY RESOLUTION MEPC.306(73))

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

RECALLING ALSO that the International Conference on Ballast Water Management for Ships held in February 2004 adopted the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (the Ballast Water Management Convention) together with four Conference resolutions,

NOTING that regulation A-2 of the Ballast Water Management Convention requires that discharge of ballast water shall only be conducted through ballast water management in accordance with the provisions of the Annex to the Convention,

NOTING ALSO that regulation B-1 of the Annex to the Ballast Water Management Convention provides that each ship shall have on board and implement a Ballast Water Management Plan approved by the Administration, taking into account Guidelines developed by the Organization,

NOTING FURTHER that, at its fifty-third session, it adopted, by resolution MEPC.127(53), the *Guidelines for ballast water management and development of Ballast Water Management Plans (G4)*,

NOTING that, at its seventy-third session, it adopted, by resolution MEPC.306(73), amendments to the Guidelines (G4),

HAVING CONSIDERED, at its eightieth session, proposed further amendments to the Guidelines (G4),

1 ADOPTS amendments to the *Guidelines for ballast water management and development of Ballast Water Management Plans (G4)*, as set out in the annex to the present resolution;

2 INVITES Governments to apply the Guidelines, as amended, as soon as possible;

3 AGREES to keep the Guidelines, as amended, under review.

ANNEX

**AMENDMENTS TO THE GUIDELINES FOR BALLAST WATER MANAGEMENT AND
DEVELOPMENT OF BALLAST WATER MANAGEMENT PLANS (G4)**

- 1 Paragraph 2.1.2 of part A of the *Guidelines for ballast water management and the development of Ballast Water Management Plans* (G4) (resolution MEPC.127(53), amended by resolution MEPC.306(73)) is amended as follows:

"2.1.2 When carrying out any ballast water operation the details are to be recorded in the Ballast Water Record Book together with any exemptions granted in accordance with regulation B-3 or C-1. In recording these operations and exemptions, the *Guidance on ballast water record-keeping and reporting* (BWM.2/Circ.80, as may be amended) should be taken into account."

- 2 A new paragraph 2.1.2**bis** is inserted into part A of the *Guidelines for ballast water management and the development of Ballast Water Management Plans* (G4) (resolution MEPC.127(53), amended by resolution MEPC.306(73)) as follows:

"2.1.2**bis** 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, 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*."

RECORD OF AMENDMENT (SAMPLE)

When changes / amendments are made to any chapter, a new 'Table of Contents' page shall be sent together with the relevant amended chapter.

The holder of the controlled copy shall enter all amendments made to this document and register such changes in those pages.

[illegible]

CONTENTS

Section	Title	Page
	Ship Particulars	
	Introduction	
	Record of Circulation	
	Record of Amendments	
Section 1	Purpose	
Section 2	Plan / Drawing of Ballast System	
Section 3	Description of the Ballast System	
Section 4	Ballast Water Sampling Points	
Section 5	Operation of the Ballast Management System	
Section 6	Safety Procedures for the Ship and the Crew	
Section 7	Operational or Safety Restrictions	
Section 8	Description of the Method(s) used on board for Ballast Water Management and Sediment Control	
Section 9	Procedures for the Disposal of Sediments	
Section 10	Methods of Communication	
Section 11	Duties of the Ballast Water Management Officer	
Section 12	Recording Requirements	
Section 13	Crew Training and Familiarization	
Section 14	Exemptions	

Revised section and appendix are highlighted.

APPENDICES

Appendix 1 : Plans

Appendix 2 : Summary forms of Ballast water exchange sequences

Appendix 3 : Assessment Criteria for Sequential Method and Definition of Sea State according to WMO

Appendix 4 : Blank Forms

Appendix 5 : List of Reference Documents

Appendix 6 : National or Local Quarantine Requirements for the Control and Management of Ship's Ballast Water and Sediments

SECTION—12 RECORDING REQUIREMENTS

The ballast water management officer is to ensure that the ballast water record book and any other necessary documentation / forms are completed and kept up-to-date.

Necessary blank forms for BWTS are contained in Appendix 4.

Ballast Water Record Book

The Ballast Water Record Book may be an electronic record system or it may be integrated into another record book or system and which shall at least contain the information as specified in this Section, in Appendix 5 and as per the Convention requirements.

The Ballast Water Record Book is to be maintained on board for a minimum period of two years in order to provide port state control or other authorized officers with information they may require concerning the ballast water on board the ship.

Thereafter the record book should be maintained in the company's control for a minimum period of three years.

In the event of discharge of ballast water pursuant to regulations A-3, A-4 or B-3 or in the event of the accidental or exceptional discharge of ballast water not otherwise exempted by the Convention, an entry shall be made in the Ballast Water Record Book describing the circumstances and the reason for the discharge.

Each operation concerning ballast water shall be fully recorded without delay in the Ballast Water Record Book.

When the system encounters failure and/or malfunctions, they are to be also recorded in the Ballast Water Record Book.

The officer in charge of the operation should sign each entry and the Master should sign each completed page.

The entry in the Ballast Water Record Book shall be in the working language, if English is not the working language, then a translation of the record in English is to be kept.

When entries in an official national language of the States whose flag the ship is entitled to fly are also used, these shall prevail in the case of dispute or discrepancy.

Officers duly authorized by the party may inspect the Ballast Water Record Book on board any ship to which the Convention applies while the ship is in its port or offshore terminal, and may make a copy of any entry, and require the Master to certify that the copy is a true copy.

Any copy so certified shall be admissible in any judicial proceeding as evidence of the facts stated in the entry.

The inspection of a Ballast Water Record Book and taking of a certified copy shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

[Note] The Guidance on ballast water record-keeping and reporting (BWM.2/Cir.80, as may be amended) in Appendix 5 should be taken into account on or after 1 February 2025. Where a port State requires a ballast water reporting form (BWRP), it may be submitted using an example form shown on the Guidance prior to entry into that port State.

ANNEX 6**RESOLUTION MEPC.372(80)**
(adopted on 7 July 2023)**GUIDELINES FOR THE USE OF ELECTRONIC RECORD BOOKS UNDER THE BWM
CONVENTION**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

RECALLING ALSO that the International Conference on Ballast Water Management for Ships held in February 2004 adopted the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (the BWM Convention) together with four Conference resolutions,

NOTING that regulation B-2 of the BWM Convention enables the use of electronic record books,

RECOGNIZING the need to develop guidance for the use of electronic record books under the BWM Convention,

HAVING CONSIDERED, at its eightieth session, draft Guidelines for the use of electronic record books under the BWM Convention,

- 1 ADOPTS the *Guidelines for the use of electronic record books under the BWM Convention*, the text of which is set out in the annex to this resolution;
- 2 INVITES Governments to apply the Guidelines as soon as possible;
- 3 AGREES to keep the Guidelines under review in light of experience gained.

ANNEX

GUIDELINES FOR THE USE OF ELECTRONIC RECORD BOOKS UNDER THE BWM CONVENTION

1 INTRODUCTION

1.1 A key element of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (BWM Convention) regulations is the recording of ballast water operations from ships.

1.2 The format for the recording of ballast water operations under the BWM Convention is provided in appendix II to the BWM Convention.

1.3 As companies and shipowners increasingly focus on ways to operate in an environmentally responsible manner and aim to reduce the heavy burden associated with paperwork through electronic means, the concept of operational logs in an electronic format has become a popular consideration. It is considered that this approach to recording and reporting should be encouraged as it may have many benefits for the retention of records by companies, crew and officers.

1.4 It is expected that, as companies and shipowners increasingly explore electronic record-keeping, flag State Administrations will be requested to approve electronic recording systems (henceforth referred to as an electronic record book). This guidance aims to provide standardized information on approving an electronic record book to ensure the obligations of the BWM Convention are met and that there is a consistent approach to approving such systems.

2 APPLICATION

2.1 These Guidelines are only applicable to the use of electronic record books on board to meet the requirements of the Ballast Water Record Books and recording requirements under the BWM Convention.

2.2 The use of an electronic record book to record operational logs is an alternative method to a hard copy record book. The electronic record book may allow ships to utilize their technology to reduce administrative burdens and contribute to on board environmental initiatives, e.g. reduction of paper use.

2.3 These Guidelines do not provide information on the management of electronic access to, or electronic versions of, certificates and other documents that do not log continuous operations of a ship.

2.4 These Guidelines do not address the exchange of information from a ship to a company headquarters or other body, as this exchange is not a requirement of record books under the BWM Convention.

2.5 If a shipowner decides to use an electronic record book to record operational logs, instead of a hard copy record book, the following guidance should be taken into consideration by the Administration when approving the electronic record book for use.

3 DEFINITIONS

For the purposes of these Guidelines, the following definitions apply to the extent consistent with the BWM Convention:

- .1 **Administration:** means the Government of the State under whose authority the ship is operating. With respect to a ship entitled to fly a flag of any State, the Administration is the Government of that State. With respect to fixed or floating platforms engaged in exploration and exploitation of the seabed and subsoil thereof adjacent to the coast over which the coastal State exercises sovereign rights for the purposes of exploration and exploitation of their natural resources, the Administration is the Government of the coastal State concerned.
- .2 **Audit logging:** means logs recording user activities, exceptions and information security events, where logs are kept for an agreed period to assist in future investigations and access control monitoring (ISO/IEC 27001:2006). The time and date for the log should be in Coordinated Universal Time (UTC) and the Ship Mean Time.
- .3 **Backup:** means to make a duplicate copy of a file, programme, etc., as a safeguard against loss or corruption of the original. The specific properties of the backup such as its format, frequency, storage location, retention period, are unique to each business organization and should be defined in accordance with a business continuity plan.
- .4 **Business continuity plan:** means a collection of procedures and information that is developed, compiled and maintained in readiness for use in the event of an emergency or disaster.
- .5 **Company:** means the owner of the ship or any other organization or person such as the manager or the bareboat charterer, who has assumed the responsibility for the operation of the ship from the shipowner and who on assuming such responsibility has agreed to take over all the duties and responsibility imposed.
- .6 **Credentials:** means data that is transferred to establish the claimed identity of an entity (ISO 7498-2). Examples of credentials include a unique code/password, electronic key, digital certificate, hardware key, biometric data (e.g. fingerprint).
- .7 **Cryptography:** means the discipline which embodies principles, means and methods for the transformation of data in order to hide its information content, prevent its undetected modification and/or prevent its unauthorized use (ISO 7498-2).
- .8 **Data:** means a re-interpretable representation of information in a formalized manner suitable for communication, interpretation or processing (ISO/IEC 2382-1).
- .9 **Digital certificate:** means a cryptographic transformation (see "cryptography") of a data unit in an asymmetric (public key) cryptosystem, using a digital signature to unite an identity with a public key.

- .10 **Digital signature:** means data appended to, or a cryptographic transformation (see "cryptography") of, a data unit that allows a recipient of the data unit to prove the source and integrity of the data unit and protect against forgery e.g. by the recipient (ISO 7498-2).
- .11 **Document:** means books, manuals, plans, instructions and similar media that are not certificates and are used to convey a ship's information.
- .12 **Electronic record book:** means a device or system used to electronically record the entries for discharges, transfers and other operations as required under the BWM Convention.
- .13 **Functional unit:** means an entity of hardware, software, or both, capable of accomplishing a specified purpose (ISO/IEC 2382-1:1993 Information technology – Vocabulary - Part 1: Fundamental terms, definition 10.01.40).
- .14 **Graphic character:** means a character, other than a control character, that has a visual representation and is normally produced by writing, printing or displaying (ISO 2382-4).
- .15 **IEC 60092 (series):** means standards published by the International Electrotechnical Commission (IEC) on Electrical Installations on Ships.
- .16 **IEC 60533:** means standard published by the International Electrotechnical Commission (IEC) on Electrical and Electronic Installations on Ships – Electromagnetic Compatibility.
- .17 **Offline:** means usage #1. Pertaining to the operation of a functional unit when not under the direct control of the system with which it is associated. Offline units are not available for immediate use on demand by the system. Offline units may be independently operated. Usage #2. Pertaining to equipment that is disconnected from a system, is not in operation, and usually has its main power source disconnected or turned off.
- .18 **Portable Document Format (PDF):** means a digital form for representing documents that enables users to exchange and view electronic documents easily and reliably, independent of the environment in which they were created and the environment in which they are viewed or printed (ISO 32000).
- .19 **Port:** means any port, terminal, offshore terminal, ship and repair yard or roadstead which is normally used for the loading, unloading, repair and anchoring of ships, or any other place at which a ship can call.
- .20 **Key:** means a sequence of symbols that controls the operation of encipherment and decipherment (see "cryptography").
- .21 **Private key:** means (in a public key cryptosystem) that key of a user's key pair which is known only by that user (ISO/IEC 9594-8).
- .22 **Public key:** means (in a public key cryptosystem) that key of a user's key pair which is publicly known (ISO/IEC 9594-8).

- .23 **Role-based access control (RBAC):** means a control mechanism that provides different access levels to guarantee that individuals and devices can only gain access to and perform operations on network elements, stored information, and information flows for which they are authorized (ISO/IEC 27033-2:2012).
- .24 **Shipowner:** means one who owns or operates a ship, whether a person, a corporation or other legal entity, and any person acting on behalf of the owner or operator.
- .25 **Signature:** means the handwritten means of identifying the signer of a document or an electronic equivalent which is uniquely and securely linked to an individual.
- .26 **Standardized:** means the prescription of an authoritative rule, principle, means of judgement or estimation, criterion, measure of correctness, measure of perfection or some definite degree of any quality that determines what is adequate for a purpose.
- .27 **Storage (device):** means a functional unit into which data can be placed, in which they can be retained, and from which they can be retrieved (ISO/IEC 2382-1:1993 Information technology – Vocabulary – Part 1: Fundamental terms).

4 SYSTEM SPECIFICATIONS

4.1 Ability of the electronic record book to meet regulations under the BWM Convention.

4.1.1 The use and output presentation of any electronic record book approved by an Administration should satisfy the requirements of all relevant regulations under the BWM Convention.

4.1.2 As the BWM Convention specifies the recording of a range of information for specific circumstances, an approved system should only allow a complete entry to be saved for verification by the master. For example, when ballast water is discharged into the sea, the entry should not be able to be saved without the entry of the latitude and longitude of the discharge. It is suggested that, where possible, technology which can automatically input required data be installed to ensure accuracy. In the case of equipment failure, manual input should be allowed and the change of the source of data recorded. The automatic data value inputs should be protected by measures aimed at preventing attempts at manipulation or falsification. The system should automatically record any attempts to manipulate or falsify any data.

4.1.3 To assist with consistent recording of data such as dates and positions, the system should be developed to display entry fields and request data formats that are as consistent as possible with other electronic reporting required by IMO and other shipboard systems. Electronic record books should be presented in the form as specified in the BWM Convention in order to assist the smooth transition from hard copy record books to electronic ones.

4.1.4 In order to comply with the BWM Convention's requirements, an electronic record book should have the capability to retain all records made for the minimum period as specified in the BWM Convention. The capability to produce a hard copy of verified records for the master to certify as a true copy, upon request from relevant authorities, should also be provided.

4.2 Updates to the electronic record book

As the BWM Convention continues to evolve, it is essential that all approved electronic record books are reviewed and appropriately updated to ensure relevant BWM Convention amendments are incorporated in the electronic record book. Any updates should not cause loss of existing records, nor make them unreadable, and the system should continue to present all records in the form specified by the BWM Convention. Updates to the system should be completed prior to the entry into force of the relevant BWM Convention amendments.

4.3 Security and accountability of the electronic record book

4.3.1 To ensure the security of an electronic record book, it is critical that the system implements role-based access control. At a minimum, all access to the application should use a unique personal login identifier and password for each user. This level of security ensures that the user making entries into the application is accountable for any false entries or omissions.

4.3.2 The BWM Convention requires the signature of the relevant officer entering a record. As such, the electronic record book should implement audit logging. Audit logging should record a user code, identifying symbol, such as a graphic character, or an equivalent identifier against each entry to uniquely identify the user and whether the user provided, accessed or amended an entry.

4.3.3 Electronic signatures applied to an electronic record book should meet authentication standards, as adopted by the Administration.

4.3.4 Records and entries should be protected by measures aimed at preventing and detecting attempts at unauthorized deletion, destruction or amendment. After an entry is saved by the user, the system should secure the information against unauthorized or untraceable changes. Any change(s) to the entry by the same user or a different user should be automatically recorded and made visible both in the system and in any output presentation or printed versions of the electronic record book. The entry should appear in the list of entries in a format that makes it clear that the entry has been amended. To create transparency of changes to saved or verified entries, it is essential that the system is designed to retain both the original entry and the amendment(s).

4.3.5 If an entry requires amendment, it is recommended that the reason and user identifier, for the officer making the amendment, be recorded for verification by the master. The original entries and all amendments should be retained and visible.

4.3.6 The BWM Convention also requires that information in the record book be verified (e.g. regulation B-2.5 of the BWM Convention requires that each page of the Ballast Water Record Book be signed by the master of the ship). For verification of a single or series of saved entries by the master, the electronic record book should have an additional authentication factor to allow verification. This additional authentication factor should be in the form of additional credentials supplied by the master at the time of verification.

4.3.7 The electronic record book should also be able to log and identify the entries made, amended or verified by time. This will assist in identifying those situations where actions requiring an entry are undertaken over days or weeks and all entered at one time, where such an approach to making entries is consistent with the BWM Convention (e.g. regulation B-2.5 requires that each operation concerning ballast water shall be fully recorded without delay in the Ballast Water Record Book).

4.3.8 To provide for different stages of the data entry and approval process, the electronic record book should provide a status field for each entry that clearly determines the verification stage of the entry. For example, when an entry has been saved in the system by the user, the entry should reflect a term such as "pending" or "awaiting verification". Once the master has verified an entry, a term such as "verified" should be automatically reflected.

4.3.9 If an entry is amended after the master has verified it, the electronic record book should automatically return the entry to "pending" or "re-verification" notifying the master that the entry requires re-verification.

4.3.10 To ensure that entries are verified in a timely manner, the system should provide a reminder that verification by the master is required. Verifications should occur weekly or prior to arrival in-port (as appropriate). Entries not verified should be accompanied by comments advising of the reason for non-verification.

4.3.11 If a recorded entry correlates with a receipt for services (such as a receipt received when ballast water is discharged to a reception facility), or the endorsement provided during regulatory surveys or inspections (such as endorsement of the Cargo Record Book), the electronic record book should allow this receipt or endorsement to be identified or attached to the relevant entry in the system. This receipt can be referenced in the system with a hard copy receipt or endorsement made available upon request. Alternatively, the receipt or endorsement can be attached to the entry in any form deemed acceptable by the Administration (such as a scanned copy of the original in PDF), and the original retained.

4.4 Storage of data recorded in the electronic record book

4.4.1 To create the same level of confidence as a hard copy record book, any electronic record book should form part of the Information Technology Business Continuity Plan. This includes having an appropriate method for backing up data and data recovery if the system were to fail or not be available from the ships' network. Consideration should also be given to alternate power supplies to ensure consistent access to the system. Both data recovery and power sources are essential to allow ongoing entries to be made and facilitate port State control (PSC) inspections.

4.4.2 The electronic record book should have the capability to allow automatic backup of data in the system to offline storage. Backups should ensure the offline record is updated automatically every time changes are made to entries to ensure the backing up process is not forgotten by the user.

4.4.3 The recorded data stored in the offline space should be:

- .1 developed using cryptography so that unauthorized access to the information is not possible, and so that once the data has been saved it is in a read-only format with no amendments able to be made to the record (unless done so through the application or by a user with the appropriate level of authorization);

- .2 in a format that can be transferred from the point of record to another storage location. Examples include a local (removable) storage peripheral device, local and remote network storage;
- .3 maintained in a format that ensures the longevity and integrity of the record; and
- .4 in a format that allows output presentation and printing of the record.

4.4.4 This offline record may be provided in any format deemed appropriate by the Administration and should be digitally signed by the master. The properties of the digital signature need to appear on the offline record, including the title; full name of the signer; and date and time of signing. It is recommended that the document be presented in PDF; however, an alternative format may be used. Alternative formats should allow the exchange and view of electronic documents independent of the environment in which they were created and the environment in which they are viewed or printed, in a simple way and with fidelity.

4.4.5 An electronic record book and infrastructure related to the system, including computers and peripherals, should be installed in compliance with IEC 60092 and IEC 60533, where applicable.

5 DECLARATION

5.1 Any electronic system deemed to meet the above criteria should be provided with written confirmation by the Administration and carried on board the ship for the purpose of regulatory surveys or inspections. An example of a declaration can be seen in the appendix.

5.2 Delegating the assessment of the electronic record book against these Guidelines and the issuing of a declaration on behalf of the Administration by recognized organizations (ROs) is at the discretion of the Administration.

6 BWM CONVENTION INSPECTION AND ENFORCEMENT

6.1 Inspection

6.1.1 An electronic record book should have the ability to meet the company verification/audit requirements (such as integration with the ship's safety management system (International Safety Management Code)). The record book should also have the ability to meet all flag State and survey requirements. In addition, an electronic record book should meet all control provisions as set out in the BWM Convention. Such a system should also meet any general requirements set out in the *Procedures for port State control, 2021* (resolution A.1155(32))), as amended, as well as support the detection of violations and enforcement of the Convention as outlined in article 10 of the BWM Convention.

6.1.2 The use of and reliance upon electronic record books in no way relieves shipowners of their existing duty to accurately maintain and produce records during an inspection, as required by the BWM Convention. It is recommended that, if a ship cannot produce the electronic record book or a declaration provided by the Administration during the PSC inspection, the PSC officer should request to view an alternative verified copy of the records or a hard copy record book for verification.

6.2 Equipment requirements during an inspection

As the electronic record book will be presented using the ships' onboard equipment, it should not be necessary for officers to carry additional equipment (e.g. electronic devices to view the records) during inspections. Officers may choose to carry additional equipment on board to aid in the verification process if the ships' onboard equipment is unavailable.

6.3 Prosecution

To accommodate current procedures when investigating illegal discharges under the BWM Convention, the electronic record book should allow for the specific entry, relevant page, pages or the entirety of the electronic record book to be printed at the time of an investigation and each printed page physically signed by the master to certify it as a "true copy". All printed pages should provide the following details in addition to those required under the BWM Convention for record books:

- .1 the title and full name of the person that entered the record (in addition to the person's unique username and/or ID in the electronic record book);
- .2 any changes that were made to the entries;
- .3 the date and time of printing;
- .4 the name and version number of the electronic record book from which the true copy was produced; and
- .5 page numbering and number of pages to ensure the report is complete.

APPENDIX

EXAMPLE DECLARATION

DECLARATION OF BWM CONVENTION ELECTRONIC RECORD BOOK

Issued under the authority of the Government of:

.....
(full designation of the country)

In reference to the requirements set out in the
International Convention for the Control and Management of Ships' Ballast Water and
Sediments, 2004 (BWM Convention)

Name of ship.....

IMO number

Flag State of ship.....

Gross tonnage.....

This is to declare that the electronic system designed to record entries in accordance with the BWM Convention installed on board the ship listed above has been assessed by this Administration to meet the relevant requirements as set out in the BWM Convention and is consistent with the Guidelines developed by the International Maritime Organization (IMO).

Electronic Record Book Manufacturer

Electronic Record Book Supplier

Electronic Record Book Installer

Electronic Record Book Software
Name/Version

Electronic Record Book is in accordance with
MEPC resolution/s

Date of installation
(dd/mm/yy)

A copy of this declaration should be carried on board a ship fitted with this Electronic Record Book at all times.

.....
NAME

.....
SIGNATURE

.....
DATE
(dd/mm/yy)

Seal or stamp of the Authority, as appropriate

ANNEX 1

**RESOLUTION MEPC.383(81)
(adopted on 22 March 2024)**

**AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR THE CONTROL AND
MANAGEMENT OF SHIPS' BALLAST WATER AND SEDIMENTS, 2004**

Amendments to regulations A-1 and B-2

(Use of electronic record books)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

RECALLING ALSO article 19 of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (the BWM Convention), which specifies the amendment procedure and confers upon the Marine Environment Protection Committee of the Organization the function of considering amendments thereto for adoption by the Parties,

HAVING CONSIDERED, at its eightieth session, proposed amendments to appendix II of the BWM Convention regarding the form of Ballast Water Record Book,

1 ADOPTS, in accordance with article 19(2)(c) of the BWM Convention, amendments to appendix II, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 19(2)(e)(ii) of the BWM Convention, that the amendments shall be deemed to have been accepted on 1 April 2025 unless, prior to that date, more than one third of the Parties have notified the Secretary-General that they object to the amendments;

3 INVITES the Parties to note that, in accordance with article 19(2)(f)(ii) of the BWM Convention, the said amendments shall enter into force on 1 October 2025 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article 19(2)(d) of the BWM Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to the BWM Convention;

5 ALSO REQUESTS the Secretary-General to transmit copies of the present resolution and its annex to Members of the Organization which are not Parties to the BWM Convention;

6 FURTHER REQUESTS the Secretary-General to prepare a consolidated certified text of the BWM Convention.

ANNEX

**DRAFT AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR THE CONTROL
AND MANAGEMENT OF SHIPS' BALLAST WATER AND SEDIMENTS**

(Use of electronic record books)

Regulation A-1

Definitions

- 1 A new paragraph 9 is inserted after existing paragraph 8, as follows:

"9 Electronic record book means a device or system, approved by the Administration, used to electronically record the entries for each ballast water operation as required under this Convention in lieu of a hard copy record book."

Regulation B-2

Ballast Water Record Book

- 2 Paragraph 1 is replaced by the following:

"1 Each ship shall have on board a Ballast Water Record Book, that may be an electronic record book, or that may be integrated into another record book or system, and which shall at least contain the information specified in appendix II. Electronic record books shall be approved by the Administration taking into account the guidelines developed by the Organization*."

- 3 Paragraph 5 is replaced by the following:

"5 Each operation concerning ballast water shall be fully recorded without delay in the Ballast Water Record Book. Each entry shall be signed by the officer in charge of the operation concerned and each completed page shall be signed by the master or, in the case of a group of electronic entries, shall be verified by the master in a timely manner. The entries in the Ballast Water Record Book shall be in a working language of the ship. If that language is not English, French or Spanish, the entries shall contain a translation into one of those languages. When entries in an official national language of the State whose flag the ship is entitled to fly are also used, these shall prevail in case of a dispute or discrepancy."

* Refer to the *Guidelines for the use of electronic record books under the BWM Convention* (resolution MEPC.372(80), as may be amended).