

SUB-COMMITTEE ON POLLUTION  
PREVENTION AND RESPONSE  
4th session  
Agenda item 16

PPR 4/16  
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## USE OF ELECTRONIC RECORD BOOKS

### Outcome of MEPC 69

#### Note by the Secretariat

#### SUMMARY

<i>Executive summary:</i>	This document provides the outcome of MEPC 69 concerning the development of the draft <i>Guidance for the use of electronic record books under MARPOL</i>
<i>Strategic direction:</i>	8
<i>High-level action:</i>	8.0.3
<i>Output:</i>	8.0.3.1
<i>Action to be taken:</i>	Paragraph 14
<i>Related documents:</i>	MEPC 68/9; MEPC 69/9 and MEPC 69/21

#### Background

1 MEPC 65, having considered document MEPC 65/7/1 (Australia and Marshall Islands), proposing the use of an electronic system to record Garbage Record Book entries as an alternative to the current document version, established the Correspondence Group on the use of electronic record books under MARPOL and instructed it to prepare draft *Guidance for the use of electronic record books under MARPOL*. With a view to facilitating future work in this respect, MEPC 65 also agreed to modify the title of output 8.0.3.2 to read "Electronic access to, or electronic versions of, certificates and documents including record books required to be carried on ships".

2 MEPC 66 considered the report of the correspondence group (MEPC 66/7) and, having noted general support for the outcome of the group, re-established the group and instructed it to finalize the draft *Guidance* under development. To further facilitate the use of electronic record books, the group was also instructed to consider and prepare any necessary amendments and/or unified interpretations to MARPOL; and to consider the need for any consequential amendments to the *Procedures for Port State Control, 2011* (resolution A.1052(27)).

3 Owing to time constraints, MEPC 68 deferred the consideration of the report of the correspondence group (MEPC 68/9) to MEPC 69.

### **Outcome of MEPC 69**

#### ***Guidance for the use of electronic record books under MARPOL***

4 MEPC 69 considered the draft *Guidance for the use of electronic record books under MARPOL* (MEPC 68/9, annex 1), in particular those outstanding issues raised by the correspondence group, and took the following decisions.

5 With regard to the issue of language to be used that most appropriately conveys the non-mandatory character of the Guidance, MEPC 69 agreed to use "should" throughout the text to be in line with the customary practice of the Organization for non-mandatory instruments.

6 Having considered paragraph 6.1.2 of the draft Guidance, regarding the inclusion or not of the sentence contained within square brackets, i.e. "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 MARPOL", MEPC 69 agreed to include the sentence in the draft Guidance.

7 Having considered whether or not the format of an electronic record book, not limited to the paper form specified in MARPOL, may still be considered aligned with the Convention, as raised in paragraphs 22 and 23 of the report of the correspondence group, MEPC 69 agreed that, in principle, the format of an electronic record book should follow the format specified in MARPOL; however, having noted the differing views of delegations on the matter, agreed that further consideration of the issue was needed.

8 Consequently, MEPC 69 agreed to refer consideration of the matter to PPR 4, included the output "Use of electronic record books" in the biennial agenda of the PPR Sub-Committee and the provisional agenda for PPR 4, and specifically instructed the Sub-Committee to:

- .1 consider whether or not the forms of record books in MARPOL can be accommodated in electronic formats; and
- .2 explore the extent of flexibility when transferring the forms of record books under MARPOL into electronic formats.

#### ***Proposed amendments to the Procedures for port State control, 2011***

9 Having considered the draft amendments to the *Procedures for Port State Control, 2011* (resolution A.1052(27)) proposed by the group (MEPC 68/9, annex 2), MEPC 69 agreed to use "should" throughout the text of the proposed amendments and instructed PPR 4 to finalize, as appropriate, any consequential amendments to the PSC Procedures, based on its consideration of the issue of flexibility of the format.

#### ***Draft unified interpretations to MARPOL Annexes I, II, V and VI***

10 Having concurred with the view of the correspondence group that the proposed interpretations (MEPC 68/9, annex 3) present a short-term solution and the most appropriate long-term mechanism for allowing the use of electronic record books would be the development of relevant amendments to MARPOL, MEPC 69 instructed PPR 4 to develop such draft amendments.

***Consideration of permitting additional electronic record books***

11 Having considered the group's proposal to extend the application of the draft Guidance to the NO<sub>x</sub> Technical Code, MEPC 69 agreed to amend paragraph 3.1 of the draft Guidance to also cover the NO<sub>x</sub> Technical Code and instructed PPR 4 to take the necessary action. With regard to the suggestion to permit the Cargo Gear Record Book, required under ILO Convention No.152, concerning occupational safety and health in dock work, to be presented in electronic form, MEPC 69 requested the Secretariat to inform ILO of the Committee's considerations on the use of electronic record book.

12 MEPC 69 also instructed PPR 4 to consider the feasibility of using electronic documentation and advise the Committee accordingly.

13 For ease of reference, the text of the draft *Guidance for the use of electronic record books under MARPOL*, the draft amendments to *Procedures for port State control, 2011* (resolution A.1052(27)), and draft unified interpretation to MARPOL Annexes I, II V and VI, as developed by the correspondence group established at MEPC 68, are reproduced in annexes 1 to 3 to this document. To facilitate the work of the Sub-Committee, the Secretariat has used the word "should" throughout the text and deleted the square brackets in paragraph 6.1.2 of the draft Guidance, in accordance with the relevant decisions of MEPC 69.

**Action requested of the Sub-Committee**

14 The Sub-Committee is invited to consider this document and take action as appropriate.

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## ANNEX 1

### GUIDANCE FOR THE USE OF ELECTRONIC RECORD BOOKS UNDER MARPOL

#### 1 INTRODUCTION

1.1 A key element of the International Convention for the Prevention of Pollution from Ships (MARPOL) regulations is the recording of discharges associated with the prevention of pollution from ships. A number of MARPOL Annexes require the recording of particular discharges.

1.2 The format for the recording of discharges under MARPOL is provided in the appendixes to the relevant MARPOL Annexes. Traditionally, the format of these record books has been in a hard copy provided by the Administration. However, as companies and shipowners increasingly focus on ways to operate in an environmentally responsible manner and aim to reduce the heavy burden associated with paper work through electronic means, the concept of operational logs in an electronic format has become a popular consideration.

1.3 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 MARPOL are met and that there is a consistent approach to approving such systems.

#### 2 APPLICATION

2.1 This guidance is only applicable to the use of electronic record books on board to meet the requirements of record books under MARPOL. The use of an electronic record book to record operational logs is an alternative approach 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.

2.2 This guidance does 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.

2.3 This guidance does 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 MARPOL.

2.4 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

3.1 For the purposes of this guidance, the following definitions apply to the extent consistent with MARPOL:

- .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 sea-bed 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 Universal Co-ordinated time (UTC) derived from ship's time.
- .3 **Back-up:** means to make a duplicate copy of a file, program, 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 MARPOL Annexes.
- .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 standards 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. Off-line units are not available for immediate use on demand by the system. Off-line 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 use (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 18028.2:2006).
- .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 MARPOL

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 MARPOL.

4.1.2 As MARPOL 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, for a MARPOL Annex V discharge at 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 the IMO and other shipboard systems.

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



## **4.2 Updates to the electronic record book**

4.2.1 As MARPOL and its Annexes continue to evolve, it is essential that all approved electronic record books are reviewed and appropriately updated to ensure relevant MARPOL 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 MARPOL. Updates to the system should be completed prior to the entry into force of the relevant MARPOL amendment.

## **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 implement 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 MARPOL 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 MARPOL also requires that information in the record book be verified (e.g. regulation 17 of MARPOL Annex I requires that each page of the Oil 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 also should 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 MARPOL (e.g. regulation 10 of MARPOL Annex V requires entries to be "promptly recorded" and "signed for on the date of discharge or incineration" by the officer in charge).

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 "reverification" 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. It is recommended that where possible, verifications occur prior to arrival in port. 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 waste 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 back-up of data in the system to offline storage. Back-ups 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 off-line 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 and Class Rules.

## **5 DECLARATION**

### **5.1 Issuing of declaration**

5.1.1 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 appendix A.

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

## **6 MARPOL 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 ships SMS (ISM system)). 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 relevant Annexes of MARPOL. Such a system should also meet any general requirements set out in the *Procedures for port State control, 2011* (resolution A.1052(27)), as well as support the detection of violations and enforcement of the Convention as outlined in Article 6 of MARPOL.

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 MARPOL. 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**

6.2.3 As the electronic record book will be presented using the ships' on board 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' on board equipment is unavailable.

### **6.3 Prosecution**

6.3.1 To accommodate current procedures when investigating illegal discharges under MARPOL, 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 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 MARPOL for record books:

- .1 the title and full name of the person that entered the record (in addition to the persons' 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 A**

**EXAMPLE DECLARATION**

**DECLARATION OF MARPOL ELECTRONIC RECORD BOOK**

*In reference to the requirements set out in the  
International Convention for the Prevention of Pollution from Ships (MARPOL)*

Name of ship.....

IMO number .....

Flag State of ship.....

Gross tonnage.....

I, as the flag State representative of the above ship, declare that the electronic system designed to record entries in accordance with MARPOL Annex/es .....installed on board the ship listed above has been assessed by this Administration to meet the relevant requirements as set out in MARPOL and is consistent with the guidance developed by the International Maritime Organization (IMO).

Electronic Record Book Manufacturer .....  
Electronic Record Book Supplier .....  
Electronic Record Book Installer .....  
Electronic Record Book Software 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 equipment at all times.

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

Seal of Administration

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## ANNEX 2

### DRAFT AMENDMENTS TO PROCEDURES FOR PORT STATE CONTROL, 2011 (RESOLUTION A.1052(27))

*Proposed text is underlined.*

1 Insert new definition:

Electronic Record Book: a device or system used to electronically record the entries for discharges, transfers and other operations as required under MARPOL Annexes.

2 Include new text in Appendix 3, Part 1, section 1.1:

On boarding and introduction to the master or responsible ship's officer, the PSCO should examine the IOPP Certificate, including the attached Record of Construction and Equipment, and the Oil Record Book. The Oil Record Book may be presented in an electronic format. A declaration from the Administration should be cited in order to accept this electronic record. If a declaration cannot be provided, a hard copy record book will need to be presented for examination.

3 Include new text in Appendix 3, Part 2, section 3.8:

copies or print out of relevant recordings, etc., pages of Oil Record Books, logbooks, discharge.

4 Include new text in Appendix 3, Part 3, section 2.3.1:

Copy or print out sufficient pages of the O.R.B. – part I to cover a period of 30 days prior to the reported incident.

5 Include new text in Appendix 3, Part 3, section 2.3.2:

Copy or print out sufficient pages of the O.R.B. – part II (if on board) to cover a full loading/unloading/ballasting and tank cleaning cycle of the ship. Also copy the tank diagram

6 Include new text in Appendix 4, Part 1 section 1.1:

On boarding and after introducing oneself to the master or responsible ship's officer, the PSCO should examine the Certificate of Fitness or NLS Certificate and Cargo Record Book. The Cargo Record Book may be presented in an electronic format. A declaration from the Administration should be cited in order to accept this electronic record. If a declaration cannot be provided, a hard copy record book will need to be presented for examination.

7 Include new text in Appendix 4, Part 2, section 3.8:

copies or printout of relevant pages of the Cargo Record Book, logbooks, discharge recordings, etc.

8 Include new text in Appendix 4, Part 3, section 2.3:

Copy or printout sufficient pages of the CRB to cover a full loading/unloading/ballasting and tank cleaning cycle of the ship. Also copy the tank diagram.

- 9 Include new text in Appendix 4, Part 4, section 5.7:

The PSCO or the surveyor appointed or authorized by the Administration must endorse the Cargo Record Book under section J whenever an exemption under regulation 13.4 referred to under paragraph 5.6 above has been granted, or whenever a tank having unloaded category X substances has been prewashed in accordance with the P and A Manual. If the ship has implemented an electronic record book system, the shipowner may request this endorsement using a standalone form or request a copy of the surveyor's report to accompany the electronic record book entry.

- 10 Include new text in Appendix 4, Part 4, section 5.8:

Alternatively, for category X substances, regulation 13.6.1.1 of MARPOL Annex II, residual concentration should be measured by the procedures which each port State authorizes. In this case the PSCO or the surveyor authorized by the Administration must endorse in the Cargo Record Book under section K whenever the required residual concentration has been achieved. If the ship has implemented an electronic record book system, the shipowner may request this endorsement using a standalone form or request a copy of the surveyor's report to accompany the electronic record book entry.

- 11 Include new text in Appendix 4, Part 4, section 5.9:

In addition to paragraph 5.7 above, the PSCO or the surveyor authorized by the Administration shall endorse the Cargo Record Book whenever the unloading, stripping or prewash of category Y and Z substances, in accordance with the P and A Manual, has actually been witnessed. If the ship has implemented an electronic record book system, the shipowner may request this endorsement using a standalone form or request of a copy of the surveyor's report to accompany the electronic record book entry.

- 12 Include new text in section 18 of Appendix 7:

18.5 The Garbage Record Book may be presented in an electronic format. A declaration from the Administration should be cited in order to accept this electronic record. If a declaration cannot be provided, a hard copy record book will need to be presented for examination.

- 13 Update the following references in Appendix 12 to reflect the outcomes of discussions from MEPC 68, as appropriate:

- 38 Oil Record Book, parts I and II (MARPOL Annex I regs.17 and 36);
- 44 Cargo Record Book (MARPOL Annex II reg.15);
- 48 Garbage Record Book (MARPOL Annex V reg.9.3);

- 14 Include in Appendix 16, section 14.9:

copies or printout of relevant pages of Oil/Cargo Record Books, logbooks, discharge recordings, etc.

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### ANNEX 3

#### DRAFT UNIFIED INTERPRETATION TO MARPOL ANNEXES I, II, V AND VI

##### Annex I

###### 1 Use of an electronic record book

###### Reg. 17.1

An electronic record book<sup>1</sup> may be used in lieu of a hard copy record book, including for all regulatory surveys and inspections, if it meets all applicable requirements for those record books required under this Annex and is approved by the Administration<sup>2</sup>.

<sup>1</sup> Electronic Record Book means a device or system used to electronically record the required entries for discharges, transfers and other operations as required under MARPOL Annexes in lieu of a hard copy record book.

<sup>2</sup> Refer to Guidance for the use of electronic record books under MARPOL.

##### Annex II

###### 1 Use of an electronic record book

###### Reg. 15.1

An electronic record book<sup>1</sup> may be used in lieu of a hard copy record book, including for all regulatory surveys and inspections, if it meets all applicable requirements for those record books required under this Annex and is approved by the Administration<sup>2</sup>.

<sup>1</sup> Electronic Record Book means a device or system used to electronically record the required entries for discharges, transfers and other operations as required under MARPOL Annexes in lieu of a hard copy record book.

<sup>2</sup> Refer to Guidance for the use of electronic record books under MARPOL.

##### Annex V

###### 1 Use of an electronic record book

###### Reg. 10.3

An electronic record book<sup>1</sup> may be used in lieu of a hard copy record book, including for all regulatory surveys and inspections, if it meets all applicable requirements for those record books required under this Annex and is approved by the Administration<sup>2</sup>.

<sup>1</sup> Electronic Record Book means a device or system used to electronically record the required entries for discharges, transfers and other operations as required under MARPOL Annexes in lieu of a hard copy record book.

<sup>2</sup> Refer to Guidance for the use of electronic record books under MARPOL.

## **Annex VI**

### **1 Use of an electronic record book**

Reg. 12.6

Reg. 14.6

An electronic record book<sup>1</sup> may be used in lieu of a hard copy record book, including for all regulatory surveys and inspections, if it meets all applicable requirements for those record books required under this Annex and is approved by the Administration<sup>2</sup>.

<sup>1</sup> Electronic Record Book means a device or system used to electronically record the required entries for discharges, transfers and other operations as required under MARPOL Annexes in lieu of a hard copy record book.

<sup>2</sup> Refer to Guidance for the use of electronic record books under MARPOL.