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To: relevant departments of CCS Headquarters, CCS surveyors, Auditors, plan approval centers, branches (offices), shipowners, ship management companies, shipyards and design units

Notice on Resolution MEPC.186(59) and MEPC.187(59) (Amendments to MARPOL Annex I) which are going to be effective

The Marine Environment Protection Committee of IMO, at its fifth-nine session, approved the AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1978 RELATING TO THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973 on 17 July 2009, circulated as Resolution MEPC.186 (59) and MEPC.187 (59) respectively, both of them will enter into force on or after 1 January 2011. Considering the Administrations which authorized CCS to conduct the statutory survey are Parties to the Annex I to the MARPOL Convention, this Society will implement these two Resolutions in due time (The Notice of Flag States on special requirements will be issued by this Society if applicable). Related documents are attached therein with key points summarized as below for any interested party to be taken into account and apply:

Section One: Resolution MEPC.186 (59)

A new chapter 8 to MARPOL Annex I ——Prevention of Pollution during Transfer of Oil Cargo between Oil Tankers at Sea is added, which will apply to oil

tankers of 150 gross tonnage and above engaged in the transfer of oil cargo between oil tankers at sea (Ship to Ship operations, “STS operations” hereinafter) when their STS operations conducted on or after 1 April 2012, however, it’s not applied to bunkering operations and oil transfer operations associated with fixed or floating platforms (including drilling rigs), floating production, storage and offloading facilities used for the offshore production and storage of oil, and floating storage units used for the offshore storage of produced oil1. In addition, a new section 8A is added in the Supplement to the IOPP Certificate (Form B).

1. Applied oil tanker involved in STS operations shall carry on board an Administration approved Plan prescribing how to conduct STS operations (“STS Operations Plan” hereinafter) not later than the date of the first annual, intermediate or renewal survey of the ship to be carried out on or after 1 January 2011.

2. Ships/Companies involved should develop the STS Operations Plan as soon as possible and submit it to the Administration or organizations recognized by it for approval. The STS Operations Plan shall be written in the working language of the ship taking into account IMO’s “Manual on Oil Pollution, Section I, Prevention” as amended, and the ICS/OCIMF “Ship-to-ship Transfer Guide, Petroleum” (fourth edition, 2005). In order to ensure STS operation is compliance with the requirements of the STS Operations Plan, the person in overall advisory control of STS operations shall be competent and be qualified taking into account the qualification contained in the aforementioned guidelines. The STS operations Plan may be incorporated into an existing Safety Management System (SMS) if applicable.

3. For new building ships and existing ships, shipowners or ship management companies should contact with CCS plan approval centers duly to deal with the approval matters. For ships which the Administration has authorized CCS to approve the STS Operations Plan, it shall be submitted to CCS Plan Approval Center as soon as possible; for ships which the Administration hasn’t authorized

CCS to approve the STS Operations Plan definitely, CCS will communicate with the Administration to get the confirmation; if the Administration determines that the STS Operations Plan needs to be approved by itself, CCS will inform shipowners or ship management companies in due time.

4. For ships for which this Society has the authority to issue the IOPP certificate, during the first annual, intermediate or renewal survey involving the MARPOL Annex I from 1 January 2011, CCS surveyors shall check whether the involved ships keep the approved the STS Operations Plan onboard, whether their operations comply with the requirements and whether the related records are kept onboard (if appropriate. Note: for ships which STS operations are conducted before 1 April 2012, their STS operations should be in accordance with the approved STS Operations Plan as far as possible). A new IOPP certificate shall be issued after the inspection and the Administration will be reported accordingly (if necessary). If there's no approved STS Operations Plan kept onboard after the required date, the validity of the IOPP certificate will be influenced, the IOPP certificate issued by CCS may be replaced by a conditional certificate with 2 (two) months validity after CCS gets the Administration's agreement via CCS Headquarter (if necessary), when the following conditions are met:

   a) There's an evidence that STS Operations Plan has been submitted to the Administration or CCS;

   b) Such a STS Operations Plan is kept onboard the ship; and

   c) Competent personnel worked onboard.

   For the facilitate intend, the works of inspection and re-issuance of IOPP Certificate for the applied oil tankers may be combined with those required by Resolution MEPC.187(59) in the Section Two.

5. If the shipowners or ship management companies declare that the ship is not engaged in STS operations throughout its service period, the ship doesn't need to have such a STS Operations Plan. However, such written evidence shall be submitted to CCS and be kept onboard as well. CCS will inform the Administration duly.

6. When oil tankers plan STS operations within the territorial sea, or the exclusive economic zone of a Party to the MARPOL Convention, it shall be in line with the Reg.42 requirements.

Section Two: Resolution MEPC.1867(59)

The substantive amendments of Resolution MEPC.187(59) for MARPOL Annex I are as follows:

a) New definitions of Oil residue (sludge), Oil residue (sludge) tank, Oily bilge water, Oily bilge water holding tank are added in Regulation 1;

b) Regulation 12: for Oil residue (sludge) tank, new requirements relating installing a designated pump, the arrangement and connection with the bilge system, oily bilge water holding tank(s), tank top or oily water separators (discharge connections can not be fitted with other than drains (or alternative arrangement) which is connected with an oily bilge water holding tank or bilge well and compliance with Reg.12.2.2 requirements);

c) IOPP Certificate (Form A and Form B) and Oil Record Book (Part I and Part II) are revised. For Form A and Form B, paragraph 3.2.3, *Tank for mixing oil residues with fuel oil*, is deleted; for Form B, "double bottom requirements" at the end of paragraph 5.8.2 is deleted; paragraph 5.8.5 and paragraph 5.8.7 are revised, ships are newly categorized respectively according to Regulation 20，*Double hull and double bottom requirements for oil tankers delivered before 6 July 1996*, and Regulation 21, *Prevention of oil pollution from oil tankers carrying heavy grade oil as cargo*; for Form B, the requirement of the oil content meter for oil-like noxious liquid substances is deleted; for Oil Record Book Part I, Section (C) , new paragraph 11.4 regarding *quantity of residue collected by manual operation* is added; for Oil Record Book Part II, Section (J) *Collection, transfer and disposal of residues and oily mixtures not otherwise dealt with*, paragraph

57.3 is revised and for those residues and oily mixtures not otherwise dealt with, transfer and disposal shall be recorded accordingly if they are transferred from machinery space oil residue (sludge) tanks and oily bilge water tanks.

1. Regarding the requirements to MARPOL Annex I, such as Oil residue (sludge) and Oily bilge water, special for the requirements of installation and arrangements stipulated in Reg. 12, stakeholders may understand and implement based on MEPC.1/Circ.642 and its amendment MEPC.1/Circ.676 (Figure 2 illustrated in Guidance Notes for integrated bilge water system (IBTS)). Shipowners or ship management companies should take appropriate actions to make sure that ships shall be installed the required designated pump, Oil Record Book (latest version) kept onboard, records, all connection and arrangements are compliant with Resolution MEPC.187(59) from 1 January 2011. The design and layout of the new building ships shall comply with the requirements; compliance of ships will be verified by CCS plan approval centers and CCS surveyors. If the arrangements and files relating oil residue (sludge) tank and bilge system need to be modified and updated in order to comply with the requirements of Resolution MEPC.187(59) for existing ships, retrofit is allowed to be conducted provided that all files are submitted to CCS plan approval centers and approved documents shall be kept onboard.

2. For ships for which this Society has the authority to issue the IOPP certificate, CCS surveyors shall check whether the equipment, arrangements, documents and their operations comply with the requirements of Resolution MEPC.187(59) during the first survey involving the MARPOL Annex I from 1 January 2011. A new IOPP certificate shall be issued after the inspection and the Administration will be reported accordingly (if necessary).

For more detailed requirements, please see Guidance Notes for Ship Plan Approval (internal use) and Instructions to Surveyors (internal use). CCS auditors need to pay attention during the audit on or after 1 January 2011.

Please feel free to contact Technical Management Department of CCS for any inquiry. E-mail: rt@ccs.org.cn

This Circular is available on www.ccs.org.cn and forwarded by each branch to relevant shipowners, ship management companies, shipbuilders and design units within its business area.

ANNEX 1: MEPC.186(59) ——AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1978 RELATING TO THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973

ANNEX 2: MEPC.187(59) ——AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1978 RELATING TO THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973

ANNEX 3: MEPC.1/Circ.676——AMENDMENT TO THE 2008 REVISED GUIDELINES FOR SYSTEMS FOR HANDLING OILY WASTES IN MACHINERY SPACES OF SHIPS INCORPORATING GUIDANCE NOTES FOR AN INTEGRATED BILGE WATER TREATMENT SYSTEM (IBTS)

ANNEX 4: MEPC.1/Circ.642 ——2008 REVISED GUIDELINES FOR SYSTEMS FOR HANDLING OILY WASTES IN MACHINERY SPACES OF SHIPS INCORPORATING GUIDANCE NOTES FOR AN INTEGRATED BILGE WATER TREATMENT SYSTEM (IBTS)

ANNEX 22

RESOLUTION MEPC.186(59)
Adopted on 17 July 2009

AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1978 RELATING TO THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973

(Addition of a new chapter 8 to MARPOL Annex I and consequential amendments to the Supplement to the IOPP Certificate, Form B)

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 (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING Article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention") and article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") which together specify the amendment procedure of the 1978 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 Protocol (MARPOL 73/78),

HAVING CONSIDERED proposed amendments to Annex I of MARPOL 73/78,

1. ADOPTS, in accordance with Article 16(2)(d) of the 1973 Convention, the amendments to Annex I of MARPOL 73/78 concerning the addition of a new chapter 8 and consequential amendments to the Supplement to the IOPP Certificate, Form B, the text of which is set out in the annex to the present resolution;

2. DETERMINES, in accordance with Article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 July 2010 unless, prior to that date, not less than one-third of the Parties or Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3. INVITES the Parties to note that, in accordance with Article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 January 2011 upon their acceptance in accordance with paragraph 2 above;

4. REQUESTS the Secretary-General, in conformity with Article 16(2)(e) of the 1973 Convention, to transmit to all Parties to MARPOL 73/78 certified copies of the present resolution and the text of the amendments contained in the annex; and

5. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to MARPOL 73/78 copies of the present resolution and its annex.

ANNEX

(Addition of a new chapter 8 to MARPOL and Annex I and consequential amendments to the Supplement to the IOPP Certificate, Form B)

1 A new chapter 8 is added:

"**CHAPTER 8 – PREVENTION OF POLLUTION DURING TRANSFER OF OIL CARGO BETWEEN OIL TANKERS AT SEA**

Regulation 40
Scope of application

1 The regulations contained in this chapter apply to oil tankers of 150 gross tonnage and above engaged in the transfer of oil cargo between oil tankers at sea (STS operations) and their STS operations conducted on or after 1 April 2012. However, STS operations conducted before that date but after the approval of the Administration of STS operations Plan required under regulation 41.1 shall be in accordance with the STS operations Plan as far as possible.

2 The regulations contained in this chapter shall not apply to oil transfer operations associated with fixed or floating platforms including drilling rigs; floating production, storage and offloading facilities (FPSOs) used for the offshore production and storage of oil; and floating storage units (FSUs) used for the offshore storage of produced oil[1].

3 The regulations contained in this chapter shall not apply to bunkering operations.

4 The regulations contained in this chapter shall not apply to STS operations necessary for the purpose of securing the safety of a ship or saving life at sea, or for combating specific pollution incidents in order to minimize the damage from pollution.

5 The regulations contained in this chapter shall not apply to STS operations where either of the ships involved is a warship, naval auxiliary or other ship owned or operated by a State and used, for the time being, only on government non-commercial service. However, each State shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such ships that the STS operations are conducted in a manner consistent, so far as is reasonable and practicable, with this chapter.

[1] Revised Annex I of MARPOL, chapter 7 (resolution MEPC.117(52)) and UNCLOS article 56 are applicable and address these operations.

Regulation 41
General Rules on safety and environmental protection

1 Any oil tanker involved in STS operations shall carry on board a Plan prescribing how to conduct STS operations (STS operations Plan) not later than the date of the first annual, intermediate or renewal survey of the ship to be carried out on or after 1 January 2011. Each oil tanker's STS operations Plan shall be approved by the Administration. The STS operations Plan shall be written in the working language of the ship.

2 The STS operations Plan shall be developed taking into account the information contained in the best practice guidelines for STS operations identified by the Organization[2]. The STS operations Plan may be incorporated into an existing Safety Management System required by chapter IX of the International Convention for the Safety of Life at Sea, 1974, as amended, if that requirement is applicable to the oil tanker in question.

3 Any oil tanker subject to this chapter and engaged in STS operations shall comply with its STS operations Plan.

4 The person in overall advisory control of STS operations shall be qualified to perform all relevant duties, taking into account the qualifications contained in the best practice guidelines for STS operations identified by the Organization[3].

5 Records[4] of STS operations shall be retained on board for three years and be readily available for inspection by a Party to the present Convention.

Regulation 42
Notification

1 Each oil tanker subject to this chapter that plans STS operations within the territorial sea, or the exclusive economic zone of a Party to the present Convention shall notify that Party not less than 48 hours in advance of the scheduled STS operations. Where, in an exceptional case, all of the information specified in paragraph 2 is not available not less than 48 hours in advance, the oil tanker discharging the oil cargo shall notify the Party to the present Convention, not less than 48 hours in advance that an STS operation will occur and the information specified in paragraph 2 shall be provided to the Party at the earliest opportunity.

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2 IMO's "Manual on Oil Pollution, Section I, Prevention" as amended, and the ICS and OCIMF "Ship-to-ship Transfer Guide, Petroleum", fourth edition, 2005.

3 IMO's "Manual on Oil Pollution, Section I, Prevention" as amended, and the ICS and OCIMF "Ship-to-ship Transfer Guide, Petroleum", fourth edition, 2005.

4 Revised Annex I of MARPOL chapters 3 and 4 (resolution MEPC.117(52)); requirements for recording bunkering and oil cargo transfer operations in the Oil Record Book, and any records required by the STS operations Plan.

2 The notification specified in paragraph 1 of this regulation[5] shall include at least the following:

.1 name, flag, call sign, IMO Number and estimated time of arrival of the oil tankers involved in the STS operations;

.2 date, time and geographical location at the commencement of the planned STS operations;

.3 whether STS operations are to be conducted at anchor or underway;

.4 oil type and quantity;

.5 planned duration of the STS operations;

.6 identification of STS operations service provider or person in overall advisory control and contact information; and

.7 confirmation that the oil tanker has on board an STS operations Plan meeting the requirements of regulation 41.

3 If the estimated time of arrival of an oil tanker at the location or area for the STS operations changes by more than six hours, the master, owner or agent of that oil tanker shall provide a revised estimated time of arrival to the Party to the present Convention specified in paragraph 1 of this regulation."

2 In the Record of Construction and Equipment for Oil Tankers, Form B, new section 8A is added as follows:

"**8A Ship-to-ship oil transfer operations at sea**
(regulation 41)

8A.1 The oil tanker is provided with an STS operations Plan in compliance with regulation 41."

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[5] The national operational contact point as listed in document MSC-MEPC.6/Circ.4 of 31 December 2007 or its subsequent amendments.

ANNEX 23

RESOLUTION MEPC.187(59)
Adopted on 17 July 2009

AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1978 RELATING TO THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973

(Amendments to regulations 1, 12, 13, 17 and 38 of MARPOL Annex I, Supplement to the IOPP Certificate and Oil Record Book Parts I and II)

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 (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING Article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention") and article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") which together specify the amendment procedure of the 1978 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 Protocol (MARPOL 73/78),

HAVING CONSIDERED proposed amendments to Annex I of MARPOL 73/78,

1. ADOPTS, in accordance with Article 16(2)(d) of the 1973 Convention, the amendments to Annex I of MARPOL 73/78 concerning regulations 1, 12, 13, 17 and 38 and the Supplement to the IOPP Certificate and Oil Record Book Parts I and II, the text of which is set out in the annex to the present resolution;

2. DETERMINES, in accordance with Article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 July 2010 unless prior, to that date, not less than one-third of the Parties or Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3. INVITES the Parties to note that, in accordance with Article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 January 2011 upon their acceptance in accordance with paragraph 2 above;

4. REQUESTS the Secretary-General, in conformity with Article 16(2)(e) of the 1973 Convention, to transmit to all Parties to MARPOL 73/78 certified copies of the present resolution and the text of the amendments contained in the annex; and

5. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to MARPOL 73/78 copies of the present resolution and its annex.

ANNEX

AMENDMENTS TO MARPOL ANNEX I

(Amendments to regulations 1, 12, 13, 17 and 38 of MARPOL Annex I, Supplement to the IOPP Certificate and Oil Record Book Parts I and II)

Annex 1

AMENDMENTS TO REGULATIONS 1, 12, 13, 17 AND 38 OF MARPOL ANNEX I

Regulation 1 – Definitions

1 The following new subparagraphs .31, .32, .33 and .34 are added after existing subparagraph .30:

".31 **Oil residue (sludge)** means the residual waste oil products generated during the normal operation of a ship such as those resulting from the purification of fuel or lubricating oil for main or auxiliary machinery, separated waste oil from oil filtering equipment, waste oil collected in drip trays, and waste hydraulic and lubricating oils.

.32 **Oil residue (sludge) tank means** a tank which holds oil residue (sludge) from which sludge may be disposed directly through the standard discharge connection or any other approved means of disposal.

.33 **Oily bilge water** means water which may be contaminated by oil resulting from things such as leakage or maintenance work in machinery spaces. Any liquid entering the bilge system including bilge wells, bilge piping, tank top or bilge holding tanks is considered oily bilge water.

.34 **Oily bilge water holding tank** means a tank collecting oily bilge water prior to its discharge, transfer or disposal."

Regulation 12 – Tanks for oil residues (sludge)

2 Paragraph 1 is amended to read as follows:

"1 Every ship of 400 gross tonnage and above shall be provided with a tank or tanks of adequate capacity, having regard to the type of machinery and length of voyage, to receive the oil residues (sludge) which cannot be dealt with otherwise in accordance with the requirements of this Annex."

3 The following new paragraph 2 is inserted, after the existing paragraph 1:

"2 Oil residue (sludge) may be disposed of directly from the oil residue (sludge) tank(s) through the standard discharge connection referred to in regulation 13, or any other approved means of disposal. The oil residue (sludge) tank(s):

.1 shall be provided with a designated pump for disposal that is capable of taking suction from the oil residue (sludge) tank(s); and

.2 shall have no discharge connections to the bilge system, oily bilge water holding tank(s), tank top or oily water separators except that the tank(s) may be fitted with drains, with manually operated self-closing valves and arrangements for subsequent visual monitoring of the settled water, that lead to an oily bilge water holding tank or bilge well, or an alternative arrangement, provided such arrangement does not connect directly to the bilge piping system."

4 Existing paragraphs 2 and 3 are renumbered 3 and 4, respectively.

Regulations 12, 13, 17 and 38

5 The word "sludge" in regulations 12.2, 13, 17.2.3, 38.2 and 38.7 is replaced by the words "oil residue (sludge)".

6 The words "and other oil residues" in regulation 17.2.3 are deleted.

Annex 2

AMENDMENTS TO THE SUPPLEMENT TO THE IOPP CERTIFICATE FORM A (SHIPS OTHER THAN OIL TANKERS) AND FORM B (OIL TANKERS)

1 The existing Section 3 of the Supplement to the IOPP Certificate, Form A and Form B, is replaced by the following:

"**3 Means for retention and disposal of oil residues (sludge) (regulation 12) and oily bilge water holding tank(s)**[*]

3.1 The ship is provided with oil residue (sludge) tanks for retention of oil residues (sludge) on board as follows:

Tank identification	Tank location		Volume (m^3)
	Frames (from)-(to)	Lateral position	
		Total volume: …… m^3	

3.2 Means for the disposal of oil residues (sludge) retained in oil residue (sludge) tanks:

3.2.1 Incinerator for oil residues (sludge), maximum capacity kW or kcal/h (delete as appropriate) ..... ☐

3.2.2 Auxiliary boiler suitable for burning oil residues (sludge) ..... ☐

3.2.3 Other acceptable means, state which ..... ☐

3.3 The ship is provided with holding tank(s) for the retention on board of oily bilge water as follows:

Tank identification	Tank location		Volume (m^3)
	Frames (from)-(to)	Lateral position	
		Total volume: …… m^3	

"

[*] Oily bilgewater holding tank(s) are not required by the Convention; if such tank(s) are provided they shall be listed in Table 3.3.

2 The term "(double bottom requirements)" at the end of paragraph 5.8.2 of Form B is deleted.

3 Paragraphs 5.8.5 and 5.8.7 are replaced by the following:

"5.8.5 The ship is not subject to regulation 20 (check which box(es) apply):

.1	The ship is less than 5,000 tonnes deadweight	☐
.2	The ship complies with regulation 20.1.2	☐
.3	The ship complies with regulation 20.1.3	☐"

"5.8.7 The ship is not subject to regulation 21 (check which box(es) apply):

.1	The ship is less than 600 tonnes deadweight	☐
.2	The ship complies with regulation 19 (Deadweight tonnes ≥ 5,000)	☐
.3	The ship complies with regulation 21.1.2	☐
.4	The ship complies with regulation 21.4.2 (600 ≤ Deadweight tonnes < 5,000)	☐
.5	The ship does not carry "heavy grade oil" as defined in regulation 21.2 of MARPOL Annex I	☐"

4 Delete paragraph 6.1.5.4 from the Supplement to the International Oil Pollution Prevention Certificate, Form B.

Annex 3

AMENDMENTS TO THE OIL RECORD BOOK PARTS I AND II

1 Sections (A) to (H) of the Oil Record Book Part I are replaced by the following:

"**(A) Ballasting or cleaning of oil fuel tanks**

1 Identity of tank(s) ballasted.
2 Whether cleaned since they last contained oil and, if not, type of oil previously carried.
3 Cleaning process:
.1 position of ship and time at the start and completion of cleaning;
.2 identify tank(s) in which one or another method has been employed (rinsing through, steaming, cleaning with chemicals; type and quantity of chemicals used, in m^3);
.3 identity of tank(s) into which cleaning water was transferred and the quantity in m^3.
4 Ballasting:
.1 position of ship and time at start and end of ballasting;
.2 quantity of ballast if tanks are not cleaned, in m^3.

(B) Discharge of dirty ballast or cleaning water from oil fuel tanks referred to under Section (A)

5 Identity of tank(s).
6 Position of ship at start of discharge.
7 Position of ship on completion of discharge.
8 Ship's speed(s) during discharge.
9 Method of discharge:
.1 through 15 ppm equipment;
.2 to reception facilities.
10 Quantity discharged, in m^3.

(C) Collection, transfer and disposal of oil residues (sludge)

11 Collection of oil residues (sludge).
Quantities of oil residues (sludge) retained on board. The quantity should be recorded weekly[1]: (this means that the quantity must be recorded once a week even if the voyage lasts more than one week):
.1 identity of tank(s)
.2 capacity of tank(s) ..... m^3
.3 total quantity of retention ..... m^3
.4 quantity of residue collected by manual operation ..... m^3
(Operator initiated manual collections where oil residue (sludge) is transferred into the oil residue (sludge) holding tank(s).)

[1] Only those tanks listed in item 3.1 of Forms A and B of the Supplement to the IOPP Certificate used for oil residues (sludge).

12 Methods of transfer or disposal of oil residues (sludge).
State quantity of oil residues transferred or disposed of, the tank(s) emptied and the quantity of contents retained in m^3:
.1 to reception facilities (identify port)[2];
.2 to another (other) tank(s) (indicate tank(s) and the total content of tank(s));
.3 incinerated (indicate total time of operation);
.4 other method (state which).

(D) Non-automatic starting of discharge overboard, transfer or disposal otherwise of bilge water which has accumulated in machinery spaces

13 Quantity discharged, transferred or disposed of, in m^3.[3]
14 Time of discharge, transfer or disposal (start and stop).
15 Method of discharge, transfer, or disposal:
.1 through 15 ppm equipment (state position at start and end);
.2 to reception facilities (identify port)[2];
.3 to slop tank or holding tank or other tank(s) (indicate tank(s); state quantity retained in tank(s), in m^3).

(E) Automatic starting of discharge overboard, transfer or disposal otherwise of bilge water which has accumulated in machinery spaces

16 Time and position of ship at which the system has been put into automatic mode of operation for discharge overboard, through 15 ppm equipment.
17 Time when the system has been put into automatic mode of operation for transfer of bilge water to holding tank (identify tank).
18 Time when the system has been put into manual operation.

(F) Condition of the oil filtering equipment

19 Time of system failure[4].
20 Time when system has been made operational.
21 Reasons for failure.

(G) Accidental or other exceptional discharges of oil

22 Time of occurrence.
23 Place or position of ship at time of occurrence.
24 Approximate quantity and type of oil.
25 Circumstances of discharge or escape, the reasons therefor and general remarks.

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[2] The ship's master should obtain from the operator of the reception facilities, which includes barges and tank trucks, a receipt or certificate detailing the quantity of tank washings, dirty ballast, residues or oily mixtures transferred, together with the time and date of the transfer. This receipt or certificate, if attached to the Oil Record Book Part I, may aid the master of the ship in proving that the ship was not involved in an alleged pollution incident. The receipt or certificate should be kept together with the Oil Record Book Part I.

[3] In case of discharge or disposal of bilge water from holding tank(s), state identity and capacity of holding tank(s) and quantity retained in holding tank.

[4] The condition of the oil filtering equipment covers also the alarm and automatic stopping devices, if applicable.

(H) Bunkering of fuel or bulk lubricating oil

26 Bunkering:
- .1 Place of bunkering.
- .2 Time of bunkering.
- .3 Type and quantity of fuel oil and identity of tank(s) (state quantity added, in tonnes and total content of tank(s)).
- .4 Type and quantity of lubricating oil and identity of tank(s) (state quantity added, in tonnes and total content of tank(s)).”

2 Section (J) of the Oil Record Book Part II is replaced by the following:

“**(J) Collection, transfer and disposal of residues and oily mixtures not otherwise dealt with**

55 Identity of tanks.
56 Quantity transferred or disposed of from each tank. (State the quantity retained, in m^3.)
57 Method of transfer or disposal:
- .1 disposal to reception facilities (identify port and quantity involved);
- .2 mixed with cargo (state quantity);
- .3 transferred to or from (an)other tank(s) including transfer from machinery space oil residue (sludge) and oily bilge water tanks (identify tank(s); state quantity transferred and total quantity in tank(s), in m^3); and
- .4 other method (state which); state quantity disposed of in m^3.”

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MEPC.1/Circ.676
31 July 2009

AMENDMENT TO THE 2008 REVISED GUIDELINES FOR SYSTEMS FOR HANDLING OILY WASTES IN MACHINERY SPACES OF SHIPS INCORPORATING GUIDANCE NOTES FOR AN INTEGRATED BILGE WATER TREATMENT SYSTEM (IBTS)

1 MEPC 59 (13 to 20 July 2009), approved an amendment to the 2008 Revised Guidelines for systems for handling oily wastes in machinery spaces of ships incorporating guidance notes for an integrated bilge water treatment system (IBTS) (MEPC.1/Circ.642), which is consequential to the amendment to regulation 12.2.2 of MARPOL Annex I which it adopted at the same session and which is expected to enter into force on 1 January 2011 (MEPC 59/24, paragraph 5.17.2 and annex 23).

2 Following the above decision, paragraph 11.4 of the annex to MEPC.1/Circ.642 is amended to read as follows (added wording in **bold**):

"11.4 Oil residue (sludge) service tank

The oil residue (sludge) service tank should be listed under item 3.1 in the Supplement of the IOPP Certificate, as it is provided with means for drainage of water (disposal) and subsequent disposal of the oil residue (sludge) in the oil residue (sludge) incineration system.

The oil residue (sludge) service tank should be provided in addition to the oil residue (sludge) tank for oil residue (sludge) and other waste oils. It should be equipped with suitable drainage facilities **terminating as provided for in regulation 12.2.2 of MARPOL Annex I**. With a view to improving combustibility and calorific value, a fuel oil supply connection should be provided."

2 Member Governments are invited to apply the 2008 Guidelines, as amended, and to bring this circular to the attention of interested parties, including recognized organizations.

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2008 REVISED GUIDELINES FOR SYSTEMS FOR HANDLING OILY WASTES IN MACHINERY SPACES OF SHIPS INCORPORATING GUIDANCE NOTES FOR AN INTEGRATED BILGE WATER TREATMENT SYSTEM (IBTS)

1 MARPOL Annex I contains certain regulations and unified interpretations related to equipment for the storage, handling and disposal of oily residues (sludge) and engine-room oily bilge water.

2 In order to facilitate the work of Administrations on systems for handling oily wastes in machinery spaces of ships, the Marine Environment Protection Committee (MEPC) has continuously reviewed the available technologies for fulfilment of the Convention requirements.

3 The Revised Guidelines for systems for handling oily wastes in machinery spaces of ships incorporating guidance notes for an integrated bilge water system (IBTS) appended to MEPC.1/Circ.511 were adopted by MEPC 54 as guidance for Administrations, shipowners and shipbuilders for consideration in achieving an efficient and effective system for the handling of oily bilge water and oily residues for ships taking into account the entry into force of the revised MARPOL Annex I on 1 January 2007.

4 Recognizing that the entry into force of MARPOL Annex VI, including its provisions for shipboard incineration of sludge oil generated during the normal operation of a ship, has called for a further revision of the Guidelines, as contained in MEPC.1/Circ.511, the Marine Environment Protection Committee, at its fifty-eighth session (6 to 10 October 2008), approved the 2008 Revised Guidelines for systems for handling oily wastes in machinery spaces of ships incorporating Guidance notes for an integrated bilge water treatment system (IBTS) (MEPC 58/23, paragraph 10.45). The 2008 Revised Guidelines, set out in the annex, supersede and replace the Revised Guidelines appended to MEPC.1/Circ.511.

5 To ensure compliance with the provisions on oil residue (sludge) collection and disposal of MARPOL Annex I, the process of regeneration of fuel oil from oil residue (sludge) has been defined and included in the Guidance notes for an integrated bilge water system (IBTS) appended to the Guidelines.

6 A recommendation regarding internal drain tanks for oily residue (sludge) and other oily residues, which can only be discharged to the vessel's oily residue (sludge) tanks has been included in order to simplify the required records in the Oil Record Book.

7 Member Governments are invited to apply the revised Guidelines and to bring them to the attention of interested parties, including recognized organizations.

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ANNEX

2008 REVISED GUIDELINES FOR SYSTEMS FOR HANDLING OILY WASTES IN MACHINERY SPACES OF SHIPS INCORPORATING GUIDANCE NOTES FOR AN INTEGRATED BILGE WATER TREATMENT SYSTEM (IBTS)

1 MARPOL Annex I contains certain regulations and unified interpretations related to equipment for the storage, handling and disposal of oily residues (sludge) and oily bilge water.

2 In the continuous review by the Marine Environment Protection Committee (MEPC) of appropriate technology for fulfilment of the Convention requirements, substantial information has been collected which is valuable in the design, approval and surveying of installations in engine-rooms for systems handling oily bilge water, and oily residues (sludge), but this does not form part of the Convention regulations or the related interpretations.

3 The MEPC decided that this information is, nevertheless, of substantial value to Administrations, shipowners and shipbuilders and, accordingly, decided that dissemination of the information should be in the format of an MEPC circular.

4 The information contained in these Guidelines should be regarded as guidance in achieving an efficient and effective system for the handling of oily bilge water and oily residues (sludge) for new buildings and, where applicable and reasonable, for ships which are in service. The information should be considered in conjunction with specific conditions and circumstances, shipowners' and shipbuilders' practices, classification society rules, Administration requirements, etc., applicable to specific ships.

4.1 The unified interpretations of MARPOL should further be considered in achieving an efficient and effective system for the handling of oily water bilge and oil residue (sludge).

5 Definitions for the purpose of the Guidelines

5.1 Oily waste means oil residues (sludge) and oily bilge water.

5.2 Oil residue (sludge) means the residual waste oil products such as those resulting from the purification of fuel or lubricating oil from main or auxiliary machinery or separated waste oil from bilge water separators, oil filtering equipment or oil collected in drip trays, and waste hydraulic and lubricating oils.

5.3 Oil residue (sludge) tanks are the tanks which hold oil residue (sludge) directly from which oil residue (sludge) may be disposed through the standard discharge connection or any other approved means of disposal.

5.4 Oily bilge water holding tanks are tanks collecting oily bilge water prior to its discharge, transfer or disposal.

5.5 Regulations referred to in these Guidelines are those contained in MARPOL Annex I adopted by resolution MEPC.117(52).

5.6 Oil residue (sludge) incineration systems are systems proving incineration of oil residue (sludge) generated on board seagoing ships. Oil residue (sludge) incineration systems could be:

.1 main and auxiliary steam boilers with appropriate oil residue (sludge) processing systems;

.2 heaters of thermal fluid systems with appropriate oil residue (sludge) processing systems;

.3 incinerators with appropriate oil residue (sludge) processing systems designed for sludge incineration; or

.4 inert gas systems with appropriate oil residue (sludge) processing systems.

Oil residue (sludge) incineration systems shall conform to regulation 16 in MARPOL Annex VI.

5.7 Oil residue (sludge) drain tanks are:

.1 tanks intended to receive separated sludge from purifiers and other oil residue (sludge) drains;

.2 tanks without any means for disposal of sludge as listed in items 3.2 and 4 in the Supplement to the IOPP Certificate, and drains; and

.3 tanks with suction connection for a sludge collecting pump only capable of discharging to the oil residue (sludge) tank(s) listed in item 3.1 in the Supplement to the IOPP Certificate.

5.8 Sludge collecting pumps are pumps capable of taking suction from any oil residue (sludge) producing equipment or tank, other than an oil residue (sludge) tank(s), and discharging only to oil residue (sludge) tank(s).

5.9 Separated sludge is sludge resulting from purification of fuel and lubricating oil.

6 Collection and storage of oil residue (sludge) and oily bilge water

6.1 An oil residue (sludge) tank or tanks are mandatory under regulation 12 in the revised MARPOL Annex I.

6.2 An oily bilge water holding tank is arranged to receive the daily generation of oily bilge water before this water is discharged ashore or discharged through the 15 ppm bilge separator overboard. An oily bilge water holding tank is not mandatory, but will enable ships to operate safely during port visits, during operation in special areas and coastal waters and during periods of maintenance of the 15 ppm bilge separator.

6.3 An oily bilge water holding tank will also provide additional safeguards in the purification of oily bilge water should quick-separating detergents be used for cleaning purposes.

6.4 Oily bilge water holding tanks shall, if fitted, be noted in the Supplement to the IOPP Certificate.

7 Arrangements for oil residue (sludge) and oily bilge water tanks

7.1 Tanks for the purposes mentioned above should be arranged to satisfy the intended service of the ship.

7.2 Oil residue (sludge) tanks may be separate and independent but may also be combined, as suitable, depending on the size and the service of the ship.

7.3 The merits of arranging an independent tank for the collection of separated sludge should be considered, having regard to the smaller tank volume that needs to have cleaning and heating arrangements and the reduced space requirement for tank capacity that should preferably be arranged above the tank top.

7.4 If an oily bilge water holding tank is arranged, it should be separate and independent from other tanks for the collection of oil residue (sludge).

7.5 Ships operating with heavy fuel oil of a relative density greater than 0.94 at 15°C should be provided with an oily bilge water holding tank of adequate capacity and fitted with heating facilities to preheat the oily mixture prior to the discharge of the tank's contents into the sea through the 15 ppm bilge separator.

8 Size of oily residue (sludge) and oily bilge water tanks

8.1 Tanks for collection of oily waste from various functions in the engine-room should have adequate capacity, having regard to the intended type of service of the ship. The information given below will provide guidance in this respect, but all other aspects applicable to the specific vessel trading pattern and time in port should additionally be taken into account.

8.2 The recommended capacity for oil residue (sludge) tanks is specified in the interpretations to regulation 12.

8.3 Oily bilge water holding tanks, if fitted, should have a capacity that provides to the ship the flexibility of operation in ports, coastal waters and special areas, without the need to discharge de-oiled water overboard. The operational merit of not having to operate the 15 ppm bilge separator frequently should also be considered. The recommended capacity of oily bilge water holding tanks should be as follows:

Main engine rating (kW)	capacity (m^3)
up to 1,000	4
Above 1,000 up to 20,000	P/250
Above 20,000	40+P/500

Where: P = main engine rating in kW.

For ships adopting IBTS, the capacity oily bilge water holding tanks may be reduced.

9 Pumping, piping and discharge systems in machinery spaces

9.1 On board ships, the propulsion systems of which are operated by heavy fuel oil, the following guidelines are provided for the piping system comprising the plant components for the treatment and storage of oily bilge water, oil residue (sludge), drain and leakage oil and exhausted oil.

9.2 The effluent from the 15 ppm bilge separators should be capable of being recycled to the oily bilge or oily bilge water holding tank.

9.3 If an integral pump is fitted, the discharge must not bypass the 15 ppm bilge separator.

9.4 The discharge piping system of the 15 ppm bilge water separator should be completely separate from the bilge pumping and ballast water system except the recycling line referred to in paragraph 9.2.

9.5 Discharge piping systems fitted to secure the safety of the ship in emergency situations, such as fire or flooding, should efficiently and promptly tackle such emergencies and therefore should be available at all times in order to comply with the provisions of SOLAS regulation II-1/21. Accordingly, the bilge overboard discharges should not be blanked off and remain operational at all times.

9.6 The ship's discharge pipeline for oily residue (sludge) to the standard discharge connection should not be connected to any system other than supplying those means of disposal to be listed in the IOPP supplement.

9.7 The separated dirty water and exhausted control water of fuel oil purifiers should be discharged into a particular tank for this purpose in order to minimize the influx to the oil residue (sludge) drain tank for separated sludge. This particular tank should be located above the double bottom for the purpose of facilitating its drain without the need of a drain pump. If dirty water and exhausted control water from purifiers is not discharged to a particular tank, and in lieu of this to a oil residue (sludge) drain tank for separated sludge, the tank should be located above the double bottom for the purpose of the aforementioned draining facilities.

9.8 Piping to and from sludge tanks shall have no direct connection overboard, other than the standard discharge connection required by regulation 13.

10 Systems for separated sludge

10.1 Tanks for separated sludge and their pipework

Tanks for separated sludge, their pipework and pumps should be designed as follows:

10.1.1 Size of tanks: see paragraph 8.

10.1.2 Tank heating system

Tanks for separated sludge should be equipped with tank heating systems. The heating pipes should be arranged such that, seen from the heating inlet, to start with they are arranged in a way of the boundaries and then across the whole bottom area sufficiently high, in order to avoid being covered totally by sediments in the tank. The tank heating system should be designed such as to enable heating of the oil sludge up to 60°C. The suction line from the sludge tank to the pump should be provided with heat tracing.

10.1.3 Oil residue (sludge) drain tank

The tank for separated sludge or other waste oils may be arranged as a separate oil residue (sludge) drain tank.

10.1.4 Pipelines from the heavy fuel oil purifier to the tank

Whenever possible, the oil residue (sludge) tank should be located below the heavy fuel oil purifier. If this is not possible, the oil residue (sludge) holding tank should be situated close to the heavy fuel oil purifier in such a way that the discharge line to the tank can be installed at the maximum gradient. The pipelines should, wherever possible, be straight or fitted with large radius elbows.

10.1.5 Suction line from the oil residue (sludge) tank

The pump suction should be arranged so that the path to the suction opening is as short as possible; or the oil residue (sludge) tank should be mounted or designed, so that the oil residue (sludge) moves down a slope towards the suction opening. The openings should be placed as wide as possible in the frames above the tank bottom in such a way that the oil sludge has free access to the suction line.

10.1.6 Oil residue (sludge) collecting pump and pressure lines

The pump should be suitable for use with high viscosity oil residue (sludge), e.g., "self-priming displacement pump", with suitable means for protection against dry running. It should have a sufficient total head, and delivery rate to facilitate the transfer of the daily sludge production onboard.

10.1.7 Oil residue (sludge) discharge pump and pressure lines

The pump should be suitable for use with high viscosity oil sludge, e.g., "self-priming displacement pump", with suitable means for protection against dry running. It should have a sufficient total head, and be capable of discharging the tank within 4 to 8 hours.

The pressure side of the pump should only be connected to the standard connection on deck and to oil residue (sludge) tank(s) and to other sludge disposal means as listed in item 3.2 in the Supplement to the IOPP Certificate.

10.1.8 Oil residue (sludge) tank design to facilitate cleaning

Access holes should be arranged so that all areas of the tank can be cleaned. An access hole should be sited on top of the tank to facilitate the use of a portable pump.

10.1.9 Steaming-out lines

The oil residue (sludge) tanks should be fitted with steaming-out lines for cleaning.

11 Example of an on-board system for oil residue (sludge) incineration

11.1 General

Oil residue (sludge) from oil residue (sludge) tanks may be incinerated in incineration systems onboard. Oil residue (sludge) tanks are not a means for disposal of oil residue (sludge), but for retention of oil residue (sludge) for disposal.

11.2 Oil residue (sludge) incineration systems

An oil residue (sludge) incineration system may be composed of:

.1 steam boiler or heater of thermal fluid systems or an incinerator;

.2 oil burner;

.3 oil sludge processing system; and

.4 service tanks for oil residue (sludge).

11.3 Oil residue (sludge) processing systems

The oil sludge processing system consists of:

.1 oil residue (sludge) tank intended as servicing the oil residue (sludge) sludge incinerating system;

.2 oil residue (sludge) preheating system;

.3 filter; and

.4 homogenization system.

11.4 Oil residue (sludge) service tank

The oil residue (sludge) service tank should be listed under item 3.1 in the Supplement of the IOPP Certificate, as it is provided with means for drainage of water (disposal) and subsequent disposal of the oil residue (sludge) in the oil residue (sludge) incineration system.

The oil residue (sludge) service tank should be provided in addition to the oil residue (sludge) tank for oil residue (sludge) and other waste oils. It should be equipped with suitable drainage facilities. With a view to improving combustibility and calorific value, a fuel oil supply connection should be provided.

11.5 Homogenization system

The homogenization system should assure that the entire contents of the oil residue (sludge) service tank should be processed into a homogenous and combustible mixture. This system should be put into operation following adequate draining of the tank. A device for continuous indication and monitoring of the water content of the oil sludge should be provided.

APPENDIX

GUIDANCE NOTES FOR AN INTEGRATED BILGE WATER TREATMENT SYSTEM (IBTS)

1 Introduction

1.1 Oily bilge water is generated by the leakage of water and oil from the equipment and piping or maintenance works resulting from the routine operation in machinery space of ships. Such leaked oil and water are usually mixed and collected on the tank top or bilge wells as oily bilge water.

1.2 Oily bilge water shall be treated in accordance with the requirements of the Convention. The operation of such treatment, including the operation and maintenance of the oily water separator, is a heavy load for engineers onboard.

1.3 After the revision of the Guidelines and Specifications for Pollution Prevention Equipment for Machinery Space Bilge of Ships adopted by resolution MEPC.107(49), the capability of oily water separators has been improved. However, the treatment process of oily bilge water with the improved equipment and the engineers' load will be basically unchanged as the amount of oily bilge water generated in ships has not been reduced.

1.4 To promote the prevention of oil pollution from machinery spaces of ships and reduce the load of the engineers onboard, it is effective to minimize the amount of oily bilge water generated in machinery spaces.

1.5 MEPC 54 noted the design with the concept of Integrated Bilge Water Treatment System (IBTS) which provides the means to minimize the amount of oily bilge water and process the oily bilge water and oil residue (sludge) as a drastic solution to prevent oil pollution from machinery spaces of ships.

1.6 MEPC 54, in recognizing the need to disseminate the concept of IBTS, agreed to append the Guidance notes on IBTS to the revised Guidelines for systems for handling oily wastes in machinery spaces of ships.

1.7 The purpose of these Guidance notes is to provide shipowners and shipbuilders with information to help in the design of ships incorporating the concept of IBTS.

2 Concept of Integrated Bilge Water Treatment System (IBTS)

The Integrated Bilge Water Treatment System (IBTS) is a system to minimize the amount of oily bilge water generated in machinery spaces by treating the leaked water and oil separately. It also provides an integrated means to process the oily bilge water and oil residue (sludge).

3 Definitions for the purpose of the Guidance notes

3.1 "Clean drains" mean internal drains such as those resulting from the leakage of and condensate from equipment used for seawater, fresh water, steam, air conditioning, etc., which are not normally contaminated by oil.

3.2 "Oily drains" mean drains such as those resulting from the leakage of equipment used for oil and drains from equipment which under normal circumstances may contain oil.

3.3 "Oily bilge water" means water collected in the bilge wells or the tank top such as those resulting from the unexpected leakage from piping or the maintenance work in machinery spaces, which may be contaminated by oil.

3.4 "Oil residue (sludge)": refer to paragraph 5.2 of the revised Guidelines; includes oily drains.

3.5 "Bilge primary tank" means a pre-treatment unit for separation of oily bilge water.

3.6 "Clean water holding tank" means tanks which hold processed water from the oil filtering equipment.

4 Outline of IBTS

4.1 *Collection of drains*

4.1.1 Oily drains are collected through the fixed drainage arrangements to oil residue (sludge) tanks.

4.1.2 Clean drains are collected through the fixed drainage arrangements to clean drain tanks.

4.1.3 Oily drains and clean drains should be collected separately so as not to contaminate clean drains with oil.

4.2 *Pre-treatment of oily bilge water*

To avoid feeding excessive oil to oil filtering equipment, oily bilge water in the bilge wells is transferred to the bilge primary tank for pre-separation of oil. The high oil content water is transferred to sludge tanks and the low oil content water is transferred to the bilge water holding tank.

4.3 *Discharge of oily bilge water*

4.3.1 Oily bilge water in the bilge water holding tank is discharged overboard through the oily water separator in accordance with Regulation 14 of the Convention.

4.3.2 Clean water which has been processed trough the oil filtering equipment may only be discharged through the 15 ppm bilge alarm combined with an automatic stopping device by means of a separate clean water pump.

4.4 *Discharge of clean drains*

Clean drains may be discharged overboard directly through the discharge arrangement, independent from the system for oily bilge water or oil.

4.5 ***Treatment of oil residue (sludge)***

4.5.1 Oil residue (sludge) may be collected in separate tanks designated for fuel oil residues and lubrication oil residues respectively.

4.5.2 Water in oil residue (sludge) may be evaporated by heating in the oil residue (sludge) service tanks.

4.5.3 Oil residue (sludge) may be incinerated by the sludge incineration system or disposed of to the reception facilities through the standard discharge connection.

4.6 ***Re-generating fuel oil from sludge***

4.6.1 Oil residue (sludge) may be used onboard as re-generated fuel. Oil residue (sludge) is collected in an oil residue (sludge) tank prior to processing (disposal) back into the fuel oil system as re-generated fuel oil.

4.6.2 Oily drains should be recorded in the oil record book as any other oil residue (sludge) collection.

4.6.3 Re-generation of fuel oil from oil residue (sludge) should be an approved means of disposal of oil residue (sludge) according to the Supplement to the IOPP Certificate.

4.6.4 The re-generating process may include filtration, decanting or purification to remove unwanted heavy parts from the oil residue (sludge).

4.6.5 The re-generated fuel oil when used in a SECA must comply with SECA fuel oil quality requirements.

4.6.6 The re-generated fuel is fed back into the vessel's fuel oil system at a rate equal to or less than the average sludge production on board. This is in order not to change the emission level of the exhaust when using the fuel oil with added re-generated fuel oil compared to using fuel oil as delivered without prior sludge separation.

5 Additional installations of IBTS

In addition to the installations required by the Convention, the following installations should form part of the IBTS:

5.1 ***Drainage system***

5.1.1 Drip trays or coamings with sufficient depth should be provided under the equipment used for oil such as diesel engines, burners, pumps, heaters, coolers, filters and tanks to contain spillage of oil.

5.1.2 Drip trays or coamings with sufficient depth should be provided under the equipment used for water such as pumps, heaters, coolers, filters, tanks, condensers and boilers to contain spillage of water.

5.1.3 Independent drainage arrangements for oil and water to sludge tanks and the bilge water holding tank should also be provided. Any open water drain in the engine-room falls under the definition of oily bilge water from engine-rooms. Such water shall be disposed ashore or via an oily water separator overboard.

5.1.4 Independent drainage of clean water drains from equipment not normally containing oil should be to clean water tanks.

5.2 ***Pre-treatment unit for oil separation***

Pre-treatment may take place in dedicated equipment or bilge primary tanks.

A bilge primary tank is a tank which separates oil from oily bilge water by gravity. It may make use of a cascade with drainage facilities for the oil on the top so as to enable primary separation of oily bilge water. Facilities to remove sediments should be provided.

Refer to the example of a bilge primary tank shown in Figure 1.

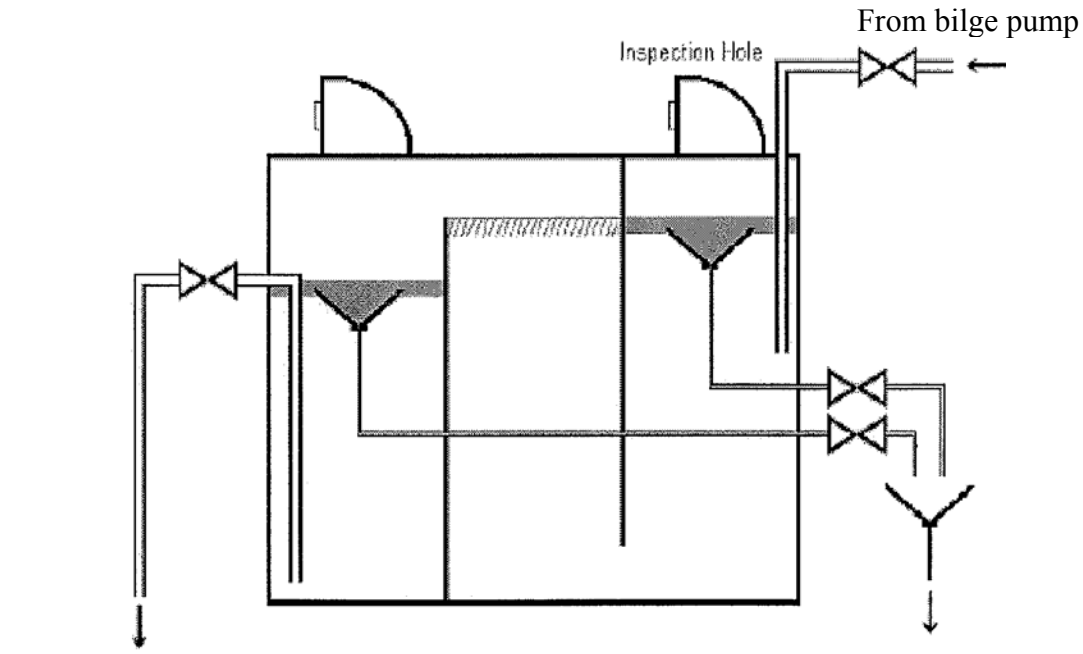

Figure 1 – Example of a bilge primary tank

5.3 ***Storage tanks***

5.3.1 Clean drain tank: Tank for the retention of clean drains.

5.3.2 Oily bilge water holding tank: Tank for the retention of oily bilge water.

5.3.3 Oil residue (sludge) service tanks: Tank for preparation of oil residue (sludge) for incineration.

5.4 ***Discharge arrangement of clean drains***

The overboard discharge arrangement of clean drains should be independent from the system for oily bilge water. Cleaning of equipment having clean drains should take account of the proper handling of chemical cleaning agents (e.g., emulsifiers) and wash water residue (including soot and sooty oil). The cleaning agent/wash water residue can foul an oil filtration system and should therefore be subjected to separate collection and/or filtration (e.g., portable units).

5.5 ***Exclusive pump for the oily water separator***

It is preferable that an exclusive pump be provided to transfer the pre-treated bilge water from the oily bilge water holding tank to the oily water separator so as not to mix the pre-treated bilge water with untreated oily bilge water.

5.6 ***Heating arrangement***

5.6.1 Heating arrangement for the bilge primary tank to facilitate separation of oil.

5.6.2 Heating arrangement for the waste oil tank to vaporize water and facilitate incineration.

6 Example of IBTS

A typical flow diagram of IBTS is shown in Figure 2.

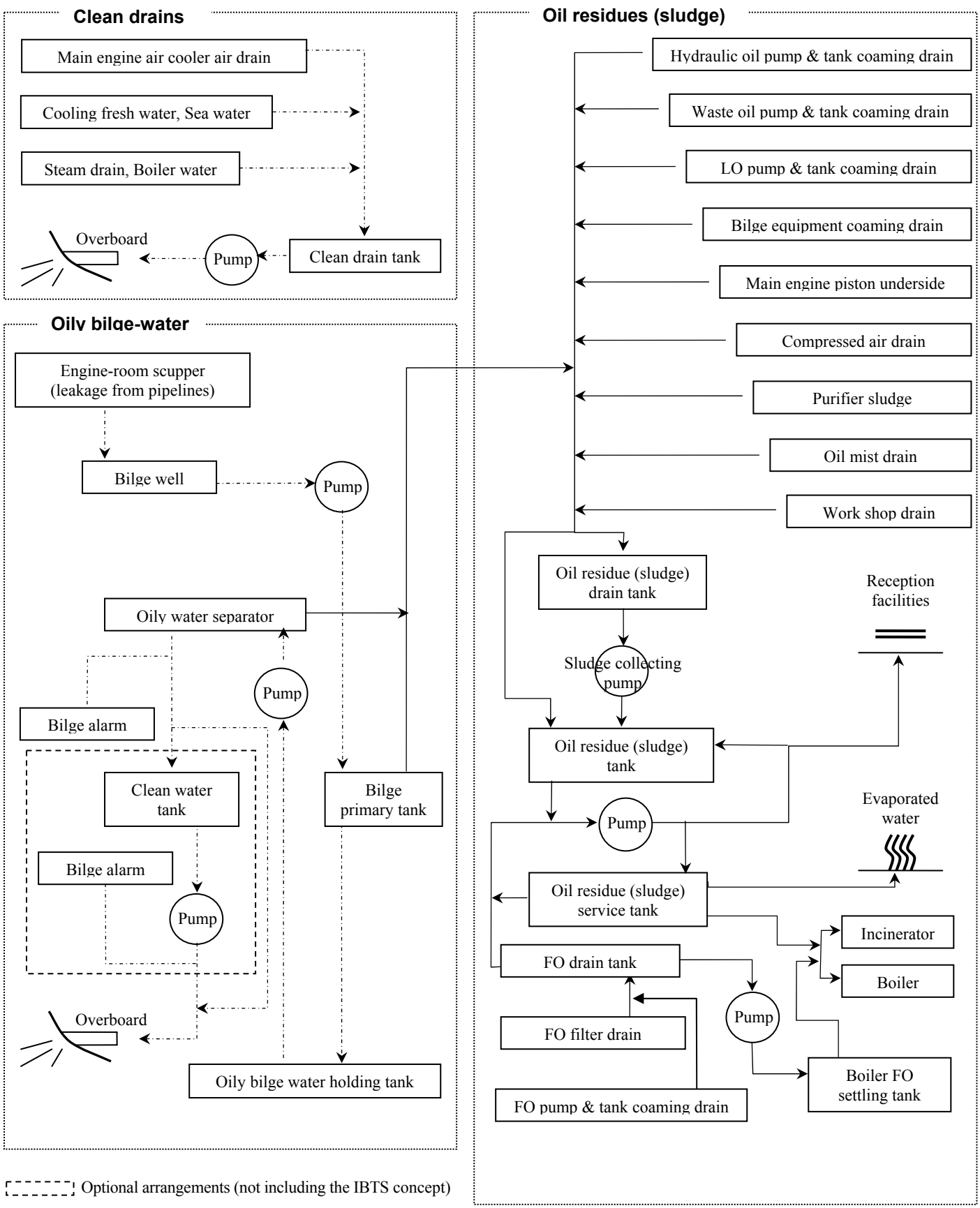

Figure 2 – Flow Diagram of Integrated Bilge Water Treatment System (IBTS)