MARITIME AND PORT AUTHORITY OF SINGAPORE
SHIPPING CIRCULAR
NO. 6 OF 2015

MPA Shipping Division
460 Alexandra Road
21st Storey PSA Building
Singapore 119963
Fax: 6375-6231
http://www.mpa.gov.sg

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Applicable to: Ship owners, managers, operators, masters, crew members, surveyors, shipyards and the Shipping Community.

RESOLUTIONS ADOPTED BY THE 67TH SESSION OF THE MARITIME ENVIRONMENT PROTECTION COMMITTEE (MEPC 67) OF IMO

1. This circular informs the Shipping Community on the outcome, including the resolutions adopted/approved by the 67th session of the Marine Environment Protection Committee (MEPC 67) of IMO, and urges the Community to prepare for the implementation of these resolutions.

2. The details of the resolutions can be found in the MEPC 67 final report which is available from the MPA website.

3. The mandatory resolution includes the following:

a. Resolution MEPC.256(67) – Amendments to Annex I of MARPOL 73/78;
This resolution amends Regulation 43 of MARPOL Annex I to prohibit the use of heavy grade oil as ballast on ships when operating in the Antarctic area with the exception to ships engaged in securing the safety of ships or in a search and rescue operation.

The amendments to MARPOL Annex I will enter into force on 1 March 2016, and will be given effect through amendments to the Prevention of Pollution of the Sea (Oil) Regulations.

b. Resolution MEPC.257(67) – Amendments to Annex III of MARPOL 73/78;

This resolution amends MARPOL Annex III in order to exclude the radioactive (class 7) material from Marine Pollutants/Environmentally Hazardous Substances.

The amendments to MARPOL Annex III will enter into force on 1 March 2016, and will be implemented through the IMDG Code under the Merchant Shipping (Safety Convention) Regulations.

c. Resolution MEPC.258(67) – Amendments to Annex VI of MARPOL 73/78;

The resolution revise MARPOL Annex VI to include gas fuel and engines solely fuelled by gaseous fuels into the Regulation 2 (Definitions) and 13 (Nitrogen Oxides (NOx)) of MARPOL Annex V.

The amendments to MARPOL Annex VI will enter into force on 1 March 2016, and will be given effect through amendments to the Prevention of Pollution of the Sea (Air) Regulations.

4. MEPC 67 also adopted the following resolutions:

a. Resolution MEPC.252(67) – Guidelines for port state control under the BWM Convention.

The guidelines are intended to provide basic guidance for the conduct of a port State control (PSC) inspection to verify compliance with the requirements of the International Convention for the Control and Management of Ship's Ballast Water and Sediments, 2004 (BWM Convention). They are not intended to limit the rights the port State has in verifying compliance with the BWM Convention.

The Committee agreed to keep the guidelines under review following the trial period associated with the guidance in BWM.2/Circ.42, and the port States should refrain from applying criminal sanctions or detaining a ship, based on sampling during the trial period as described in the report of BLG 17 (BLG 17/18, annex 6).

b. Resolution MEPC.253(67) – Measures to be taken to facilitate entry into force of the International Convention for the Control and Management of Ships' Ballast Water and Sediment, 2004;

The guidelines provide the elements to be included as a part of the review of the G8 Guidelines.

c. Resolution MEPC.254(67) – 2014 Guidelines on Survey and Certification of the Energy Efficiency Design Index (EEDI) (revokes MEPC.214(63), as amended by resolution MEPC.234(65));

The guidelines provide shipowners, shipbuilders, manufacturers and other interested parties in understanding the procedures for survey and certification of the EEDI in accordance with regulations 5, 6, 7, 8 and 9 of MARPOL Annex VI.

d. Resolution MEPC.255(67) – Amendments to the 2013 Interim Guidelines for determining minimum propulsion power to maintain the manoeuvrability of ships in adverse conditions, adopted by Resolution MEPC.232(65).

The guidelines are amended to apply to ships that are required to comply with regulations on Energy Efficiency for Ships according to regulation 21 of MARPOL Annex VI during Phase 0 and Phase 1 (i.e. for those ship types as in table 1 of appendix with the size of equal or more than 20,000 DWT)

5. In addition to the adoption of resolutions, the following Unified Interpretations (UI) of MARPOL was also approved:

a. MEPC.1/Circ.795/Rev.2 –Unified Interpretations to MARPOL Annex VI;

The circular consolidates all existing UI to MARPOL Annex VI, including those set out in previous circulars MEPC.1/Circ.735, MEPC.1/Circ.795, MEPC.1/Circ.795/Corr.1, MEPC.1/Circ.795/Rev.1, MEPC.1/Circ.812, MEPC.1/Circ.813, MEPC.1/Circ.814, and the UI approved at MEPC 67 seek clarification on the application of Regulation 18.5 of the MARPOL Annex VI.

6. The Unified Interpretations (UI) listed in paragraph 5 is acceptable to MPA and should be applied with immediate effect.

7. The IMO has also disseminated IMO Circular Letter No. 3495, which consolidates draft amendments to MARPOL Annexes I, II, IV and V. The draft amendments are expected to be adopted at MEPC 68 (May 2015). The Shipping Community is urged to consider the draft amendments and invited to provide comments and feedback as necessary.

8. The Shipping Community is urged to take early action to comply with the requirements on or before the date of entry into force of the amendments/resolutions.

9. Any queries relating to this circular should be directed to Mr Ho Sin Gian (Tel: 6375 2424) and Mr Princet Ang (Tel: 6375 6259).

TAN SUAN JOW
DIRECTOR OF MARINE
MARITIME AND PORT AUTHORITY OF SINGAPORE

ANNEX 7

RESOLUTION MEPC.256(67)

Adopted on 17 October 2014

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

Amendment to MARPOL Annex I

(Amendment to regulation 43)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

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

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 ("1973 Convention") and article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 ("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),

HAVING CONSIDERED proposed amendments to Annex I of MARPOL, concerning the carriage of heavy grade oil as ballast on ships operating in the Antarctic area,

1 ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, amendments to Annex I of MARPOL, 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 September 2015 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% 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 March 2016 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, certified copies of the present resolution and the text of the amendments contained in the annex;

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

ANNEX

AMENDMENT TO MARPOL ANNEX I

(Amendment to regulation 43)

Annex I
Regulations for the prevention of pollution by oil

Chapter 9
Special requirements for the use or carriage of oils in the Antarctic area

Regulation 43
Special requirements for the use or carriage of oils in the Antarctic area

In the chapeau of paragraph 1, between the words "the carriage in bulk as cargo" and "or carriage", insert:

", use as ballast,"

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ANNEX 8

RESOLUTION MEPC.257(67)

Adopted on 17 October 2014

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

Amendment to MARPOL Annex III

(Amendment to the appendix on criteria for the identification of harmful substances in packaged form)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

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

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 ("1973 Convention") and article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 ("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),

HAVING CONSIDERED proposed amendments to Annex III of MARPOL, developed by the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers (DSC), at its eighteenth session,

1 ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, amendments to Annex III of MARPOL, 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 September 2015 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% 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 March 2016 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, certified copies of the present resolution and the text of the amendments contained in the annex;

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

ANNEX

AMENDMENT TO MARPOL ANNEX III

(Amendment to the appendix on criteria for the identification of harmful substances in packaged form)

MARPOL Annex III
Regulations for the prevention of pollution by harmful substances carried by sea in packaged form

Appendix
Criteria for the identification of harmful substances in packaged form

The chapeau of the appendix is replaced by the following:

"For the purpose of this Annex, substances, other than radioactive materials*, identified by any one of the following criteria are harmful substances**.

* Refer to class 7, as defined in chapter 2.7 of the IMDG Code

** The criteria are based on those developed by the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), as amended. For definitions of acronyms or terms used in this appendix, refer to the relevant paragraphs of the IMDG Code."

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ANNEX 9

RESOLUTION MEPC.258(67)

Adopted on 17 October 2014

AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO

Amendments to MARPOL Annex VI

(Amendments to regulations 2 and 13 and the Supplement to the IAPP Certificate)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

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

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 ("1973 Convention"), article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 ("1978 Protocol") and article 4 of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto ("1997 Protocol"), which together specify the amendment procedure of the 1997 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 and 1997 Protocols,

NOTING ALSO that, by the 1997 Protocol, Annex VI entitled Regulations for the prevention of air pollution from ships was added to the 1973 Convention,

NOTING FURTHER that the revised Annex VI, which was adopted by resolution MEPC.176(58), entered into force on 1 July 2010,

HAVING CONSIDERED draft amendments to the revised Annex VI concerning engines solely fuelled by gaseous fuels,

1 ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, amendments to Annex VI, 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 September 2015, 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% 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, said amendments shall enter into force on 1 March 2016 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 the 1973 Convention, as modified by the 1978 and 1997 Protocols, certified copies of the present resolution and the text of the amendments contained in the annex;

5 REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, copies of the present resolution and its annex.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI

(Amendments to regulations 2 and 13 and appendix I)

MARPOL Annex VI
Regulations for the prevention of air pollution from ships

Chapter 1
General

Regulation 2
Definitions

1 The definition of "fuel oil" in paragraph 9 is replaced by the following definition:

"*Fuel oil* means any fuel delivered to and intended for combustion purposes for propulsion or operation on board a ship, including gas, distillate and residual fuels."

2 The definition of "marine diesel engine" in paragraph 14 is replaced by the following definition:

"*Marine diesel engine* means any reciprocating internal combustion engine operating on liquid or dual fuel, to which regulation 13 of this Annex applies, including booster/compound systems if applied. In addition, a gas fuelled engine installed on a ship constructed on or after 1 March 2016 or a gas fuelled additional or non-identical replacement engine installed on or after that date is also considered as a marine diesel engine."

Chapter 3
Requirements for control of emissions from ships

Regulation 13
Nitrogen oxides (NO_X)

3 Paragraph 7.3 is replaced by the following paragraph:

"7.3 With regard to a marine diesel engine with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres installed on a ship constructed on or after 1 January 1990, but prior to 1 January 2000, the International Air Pollution Prevention Certificate shall, for a marine diesel engine to which paragraph 7.1 of this regulation applies, indicate one of the following:

.1 an approved method has been applied pursuant to paragraph 7.1.1 of this regulation;

.2 the engine has been certified pursuant to paragraph 7.1.2 of this regulation;

.3 an approved method is not yet commercially available as described in paragraph 7.2 of this regulation; or

.4 an approved method is not applicable."

Appendix I
Form of International Air Pollution Prevention (IAPP) Certificate (Regulation 8)

Supplement to the International Air Pollution Prevention Certificate (IAPP Certificate)

4 The footnote relating to paragraph 1.4 is replaced by the following footnote:

"* Completed only in respect of ships constructed on or after 1 January 2016 that are specially designed, and used solely for recreational purposes and to which, in accordance with regulation 13.5.2.1 or regulation 13.5.2.3, the NO_x emission limit as given by regulation 13.5.1.1 will not apply."

5 Paragraph 2.2.1 is replaced by the following paragraph:

"2.2.1 The following marine diesel engines installed on this ship are in accordance with the requirements of regulation 13, as indicated:

Applicable regulation of MARPOL Annex VI (NTC = NO_X Technical Code 2008) (AM = Approved Method)			Engine #1	Engine #2	Engine #3	Engine #4	Engine #5	Engine #6
1	Manufacturer and model							
2	Serial number							
3	Use (applicable application cycle(s) – NTC 3.2)							
4	Rated power (kW) (NTC 1.3.11)							
5	Rated speed (RPM) (NTC 1.3.12)							
6	Identical engine installed ≥ 1/1/2000 exempted by 13.1.1.2		☐	☐	☐	☐	☐	☐
7	Identical engine installation date (dd/mm/yyyy) as per 13.1.1.2							
8a	Major Conversion (dd/mm/yyyy)	13.2.1.1 & 13.2.2						
8b		13.2.1.2 & 13.2.3						
8c		13.2.1.3 & 13.2.3						
9a	Tier I	13.3	☐	☐	☐	☐	☐	☐
9b		13.2.2	☐	☐	☐	☐	☐	☐
9c		13.2.3.1	☐	☐	☐	☐	☐	☐
9d		13.2.3.2	☐	☐	☐	☐	☐	☐
9e		13.7.1.2	☐	☐	☐	☐	☐	☐
10a	Tier II	13.4	☐	☐	☐	☐	☐	☐
10b		13.2.2	☐	☐	☐	☐	☐	☐
10c		13.2.2 (Tier III not possible)	☐	☐	☐	☐	☐	☐
10d		13.2.3.2	☐	☐	☐	☐	☐	☐
10e		13.5.2 (Exemptions)	☐	☐	☐	☐	☐	☐
10f		13.7.1.2	☐	☐	☐	☐	☐	☐
11a	Tier III ($ECA\text{-}NO_x$ only)	13.5.1.1	☐	☐	☐	☐	☐	☐
11b		13.2.2	☐	☐	☐	☐	☐	☐
11c		13.2.3.2	☐	☐	☐	☐	☐	☐
11d		13.7.1.2	☐	☐	☐	☐	☐	☐
12	AM*	installed	☐	☐	☐	☐	☐	☐
13		not commercially available at this survey	☐	☐	☐	☐	☐	☐
14		not applicable	☐	☐	☐	☐	☐	☐

* Refer to the *2014 Guidelines on the approved method process* (resolution MEPC.243(66)).''

6 Paragraph 2.5 is replaced by the following paragraph:

"2.5 Shipboard incineration (regulation 16)

The ship has an incinerator:

.1 installed on or after 1 January 2000 that complies with:

.1 resolution MEPC.76(40), as amended * ☐

.2 resolution MEPC.244(66) ☐

.2 installed before 1 January 2000 that complies with:

.1 resolution MEPC.59(33), as amended ** ☐

.2 resolution MEPC.76(40), as amended * ☐"

* As amended by resolution MEPC.93(45).
** As amended by resolution MEPC.92(45)."

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ANNEX 1

RESOLUTION MEPC.252(67)

Adopted on 17 October 2014

GUIDELINES FOR PORT STATE CONTROL UNDER THE BWM CONVENTION

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

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

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

RECALLING FURTHER that article 9 of the Ballast Water Management Convention prescribes that ships to which the Convention applies may, in any port or offshore terminal of another Party, be subject to inspection by officers duly authorized by that Party for the purpose of determining whether the ship is in compliance with the Convention,

NOTING that article 3.3 of the Ballast Water Management Convention prescribes that Parties to the Convention shall apply its requirements as may be necessary to ensure that no more favourable treatment is given to ships of non-Parties to the Convention,

HAVING CONSIDERED, at its sixty-seventh session, *Guidelines for port State control under the BWM Convention*, developed by the Sub-Committee on Implementation of IMO Instruments, at its first session,

1 ADOPTS the *Guidelines for port State control under the BWM Convention*, as set out in the annex to this resolution;

2 INVITES Governments to apply the guidelines when exercising port State control inspections;

3 AGREES to keep the guidelines under review, following the trial period associated with the *Guidance on ballast water sampling and analysis for trial use in accordance with the BWM Convention and Guidelines (G2)* (BWM.2/Circ.42) and in the light of experience gained with their application.

ANNEX

GUIDELINES FOR PORT STATE CONTROL UNDER THE BWM CONVENTION

CHAPTER 1
GENERAL

1.1 Purpose

1.1.1 These guidelines are intended to provide basic guidance for the conduct of a port State control (PSC) inspection to verify compliance with the requirements of the International Convention for the Control and Management of Ship's Ballast Water and Sediments, 2004 (BWM Convention). They are not intended to limit the rights the port State has in verifying compliance with the BWM Convention.

1.1.2 The Marine Environment Protection Committee, at its sixty-fifth session (May 2013), approved the *Guidance on ballast water sampling and analysis for trial use in accordance with the BWM Convention and Guidelines (G2)* (BWM.2/Circ.42) and agreed in principle with the recommendations related to the trial period for reviewing, improving and standardizing the guidance, as set out in annex 6 to document BLG 17/18.

1.2 Definitions and abbreviations

1.2.1 For the purpose of these guidelines, the definitions in the BWM Convention and in BWM.2/Circ.42 apply.

1.2.2 For the purpose of these guidelines, the following abbreviations apply:

IBWMC: International Ballast Water Management Certificate;

BWMP: Ballast Water Management Plan;

BWRB: Ballast Water Record Book;

BWMS: Ballast Water Management System;

FSUs: Floating Storage Units; and

FPSOs: Floating Production, Storage and Offloading unit.

1.3 Application

1.3.1 These guidelines apply to ships as stipulated in article 3 of the BWM Convention.

1.3.2 The regulations of the BWM Convention contain the following compliance provisions:

.1 the discharge of ballast water shall only be conducted in accordance with the regulations of the BWM Convention (regulation A-2);

.2 an IBWMC is required for all ships of 400 GT or above, excluding floating platforms, FSUs and FPSOs, as identified in regulation E-2;

.3 a ship is required to have on board and implement a BWMP approved by the Administration;

.4 a ship is required to have on board and maintain a BWRB which shall at least contain the information specified in appendix II of the BWM Convention, for a minimum period of two years after the last entry has been made (regulation B-2);

.5 a ship is required to meet either the ballast water exchange standard (regulation D-1) or ballast water performance standard (regulation D-2) in accordance with regulation B-3. The PSCO, however, should only enforce this in accordance with the schedule in resolution A.1088(28);

.6 ballast water exchange is conducted at least 200 nm from the nearest land and in water at least 200 m in depth, or in cases where the ship is unable, at least 50 nm from the nearest land and in water at least 200 m in depth, or in a designated ballast water exchange area and is required to be conducted in accordance with regulation B-4;

.7 sediment is removed and disposed from spaces designated to carry ballast water in accordance with the provisions of the ship's BWMP;

.8 officers and crew shall be familiar with their duties in the implementation of ballast water management particular to the ship and ship's BWMP (regulation B-6);

.9 any exemptions from the BWM Convention shall be recorded in the BWRB (regulation A-4.4) as well as records of any accidental and exceptional discharges (regulation B-2.3) and instances where ballast water was not exchanged in accordance with the BWM Convention (regulation B-4.5);

.10 a ship is required to report accidents or defects that affect its ability to manage ballast water to the flag State and the port State (regulation E-1.7);

.11 the condition of a ship, and its equipment, systems and processes shall be maintained to conform with the BWM Convention (regulation E-1.9); and

.12 after any survey of a ship under regulation E-1.1 has been completed, no change shall be made in the structure, equipment, fittings, arrangements or material associated with the BWMP and covered by the survey without the sanction of the Administration, except the direct replacement of such equipment or fittings (regulation E-1.10).

1.3.3 The regulations of the BWM Convention contain the following exceptions to the specific compliance provisions detailed below:

.1 exception to ballast water management requirements in the case of uptake or discharge of ballast water and sediments necessary for the purpose of ensuring the safety of a ship in emergency situations or saving life at sea (regulation A-3.1);

.2 exception to ballast water management requirements under certain conditions in the case of the accidental discharge or ingress of ballast water and sediments resulting from damage to a ship or its equipment (regulation A-3.2);

.3 exception to ballast water management requirements in the case of the uptake and discharge of ballast water and sediments when being used for the purpose of avoiding or minimizing pollution incidents from the ship (regulation A-3.3);

.4 exception to the ballast water management requirements in the case of the uptake and subsequent discharge on the high seas of the same ballast water and sediments (regulation A-3.4);

.5 exception to the ballast water management requirements in the case of the discharge of ballast water and sediments from a ship at the same location where the whole of the ballast and those sediments originated and provided that no mixing with unmanaged ballast water and sediments from other areas has occurred (regulation A-3.5);

.6 exception to the ballast water management requirements in the case of the discharge of ballast water to a reception facility designed taking into account the *Guidelines for ballast water reception facilities (G5)* (regulation B-3.6); and

.7 exception to the ballast water exchange requirements in the case where the master reasonably decides that such exchange would threaten the safety or stability of the ship, its crew, or its passengers because of adverse weather, ship design or stress, equipment failure, or any other extraordinary condition (regulation B-4.4).

1.3.4 With respect to ships of non-parties to the BWM Convention, port State control officers (PSCO) of Parties should apply the same requirements to ensure that no more favourable treatment is given to such ships.

1.3.5 The BWM Convention provides for a transition between two standards of ballast water management: from the ballast water exchange standard (regulation D-1) to the ballast water performance standard (regulation D-2). Resolution A.1088(28) on *Application of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004* should be used by the PSCO instead of the schedules of regulation B-3 for the purpose of enforcing compliance with the ballast water performance standard.

CHAPTER 2
INSPECTIONS OF SHIPS REQUIRED TO CARRY THE BALLAST WATER MANAGEMENT (BWM) CERTIFICATE

2.1 Four-stage inspection

The PSC procedure can be described as a four-stage inspection:

.1 the first stage, the "initial inspection", should focus on documentation and ensuring that an officer has been nominated for ballast water management on board the ship and to be responsible for the BWMS, and that the officer has been trained and knows how to operate it;

.2 the second stage – the "more detailed inspection" where the operation of the BWMS is checked and the PSCO clarifies whether the BWMS has been operated adequately according to the BWMP and the self-monitored operational indicators verified during type approval procedures. Undertaking a detailed inspection is dependent on the conditions of article 9.2 of the BWM Convention;

.3 the third stage – sampling is envisaged to occur during this stage of PSC which relies on indicative analysis, to identify whether the ship is meeting the ballast water management performance standard described in regulation D-2, or whether detailed analysis is necessary to ascertain compliance; and

.4 the fourth stage, if necessary, incorporates detailed analysis to verify compliance with the D-2 standard.

2.2 Initial inspection

2.2.1 An initial inspection will, as a minimum and to the extent applicable, examine the following:

.1 check that a valid IBWMC is on board, based on article 9.1(a);

.2 check the BWMP is on board and approved by the flag State, based on regulation B-1;

.3 check the BWRB is on board and meets the requirements of the BMW Convention, based on regulation B-2;

.4 check that the details of any ballast water operations carried out are recorded in the BWRB together with any exemptions granted, based on regulation B-2 and appendix II of the BWM Convention, as well as notations of any accidental and exceptional discharges (regulation B-2.3) and instances where ballast water was not exchanged in accordance with the BWM Convention (regulation B-4.5). The BWRB should be in an approved format (which may be an electronic record system, which may be integrated into another record book or system) and should be kept on board the ship for a minimum of two years after the last entry. The officer in charge of the operation should sign each entry in the BWRB and the master should sign each completed page;

.5 in conducting the initial inspection, PSCO should conduct a visual check of the overall condition of the ship and the equipment and arrangements detailed in the IBWMC and the BWMP, including the BWMS if the use of one is required;

.6 in the case of a ship subject to the ballast water exchange standard, check that the BWRB indicates that the required exchange was undertaken, or alternatively, the ship has taken steps to meet the ballast water performance standard described in regulation D-2;

.7 check that the ship has taken steps to meet the ballast water performance standard described in regulation D-2 once required to do so by resolution A.1088(28);

.8 check that an officer has been designated to be responsible for the BWMP;

.9 check that designated officers and crew are familiar with essential BWM procedures, including the operation of BWMS; and

.10 in the case of a ship claiming an exception under regulation A-3.1 (safety of the ship or saving life), regulation A-3.2 (accidental discharge or ingress resulting from damage), regulation A-3.3 (avoiding or minimizing pollution) or regulation B-4.4 (unsafe conditions for exchange), the master should provide proof of the need for the relevant exception.

2.2.2 The performance of a ballast water management system (BWMS) is key to protecting the environment, human health, property and resources of the port State. While this performance may be verified directly by sampling the ship's ballast water (as per article 9.1(c) and *Guidelines for ballast water sampling (G2)*), both the port State and the ship may benefit from a document check to more readily establish the validity of the BWMS during the initial inspection. To this end, the PSCO may ask to check the Type Approval Certificate for the BWMS, to determine whether the BWMS is used in accordance with any limiting conditions on the Type Approval Certificate. While carriage and presentation of the Type Approval Certificate is not mandatory, the PSCO may also consult the BWMP to obtain ship-specific information on the BWMS and its use, and may refer to type-approval information shared with the Organization pursuant to the *Information reporting on type approved ballast water management systems* (resolution MEPC.228(65)).

2.2.3 If the IBWMC is valid, the approved BWMP is on board, entries in the BWRB are appropriate and the PSCO's general impressions and visual observations on board confirm a good standard of maintenance with regard to the BWM Convention, the PSCO should generally confine the initial inspection to reported deficiencies.

2.2.4 Clear grounds

2.2.4.1 When a PSCO inspects a foreign ship which is required to hold an IBWMC, and which is in a port or an offshore terminal under the jurisdiction of the port State, any such inspection should be limited to verifying that there is on board a valid certificate and other relevant documentation and the PSCO forming an impression of the overall condition of the ship, its equipment and its crew, unless there are "clear grounds" for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificate.

2.2.4.2 "Clear grounds" to conduct a more detailed inspection include:

.1 IBWMC is missing, not valid, or has expired;

.2 absence of a BWMP approved by the flag State;

.3 absence of a BWRB or a BWRB that does not meet the requirements of the BWM Convention;

.4 entries in the BWRB do not reflect the actual ballast water situation on board;

.5 condition of the ship or its equipment does not correspond substantially with the particulars of the IBWMC and the BWMP or has not been maintained;

.6 no officer has been designated in accordance with regulation B-1.5;

.7 information or evidence that the master or designated crew is not familiar with their duties and essential shipboard operations relating to the implementation of the ballast water management or that such operations have not been carried out;

.8 information from third parties such as a report or complaint concerning violation of the BWM Convention;

.9 if the BWMP requires the use of a BWMS evidence, or observation that the BWMS has not been used in accordance with its operational instructions;

.10 evidence or observation of unreported accidents or defects that affect the ability of the ship to manage ballast water (regulation E-1.7);

.11 evidence or observation that ballast water has been discharged other than in accordance with the regulations of the BWM Convention (regulation A-2); and

.12 the master has not provided the proof referenced in paragraph 2.2.1.10.

2.2.4.3 If the ship does not carry valid certificates, or if the PSCO, from general impressions or observations on board, has clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificates or the BWM Convention, or that the master or designated crew is not familiar with, or have not implemented essential shipboard procedures, a more detailed inspection should be carried out. Where a more detailed inspection is to be carried out, the port State will take such steps to ensure the ship will not discharge ballast water until it can do so in accordance with article 9.3 of the BWM Convention (see notification requirements in paragraph 3.3 below).

2.3 More detailed inspection

2.3.1 When carrying out a more detailed inspection, the PSCO may utilize, but not be limited to, the following questions to ascertain the extent of compliance with the BWM Convention:

.1 Is the ballast water management on board the ship in accordance with the operations outlined in the ship's BWMP? In particular:

.1 Is the crew following specific operational or safety restrictions associated with safe tank entry, if needed?

.2 Is the crew managing ballast water sediments in accordance with the BWMP?

.3 Are designated officers following their duties as set out in the BWMP?

.4 Are the record-keeping requirements in accordance with the BWMP?

.2 Since the time of the survey of the ship under regulation E-1.1, has an unsanctioned change been made to the structure, equipment, fittings, arrangements or material associated with the BWMP, except the direct replacement of such equipment or fittings (regulation E-1.10)?

.3 If the BWMP requires the use of a BWMS:

.1 Is the BWMS and associated equipment in good working order, (this could include filters, pumps, and back flushing equipment)?

.2 Is the crew following safety procedures associated with operation of the BWMS?

.3 Is the treatment process fully operational (this could include, reference to the self-monitoring system of a BWMS)?

.4 Does the BWRB align with the onboard control equipment, including the self-monitoring device of the BWMS?

.5 Is the BWMS being operated according to the operational instructions?

.6 Can the designated officer demonstrate the necessary knowledge of the BWMS and how it operates?

.7 Has the BWMS been bypassed?

.8 Where required, are any needed Active Substances present in adequate supply on board the ships, and where present, are they being introduced into the BWMS?

2.3.2 The PSCO may examine any element of the ballast water system in order to check that it is working properly.

2.3.3 More detailed inspection may result in sampling.

2.4 Sampling

2.4.1 PSCO should carry out an indicative analysis first. However, the time required to conduct the indicative analysis should not unduly delay the operations, movement or departure of the ship. If the result of indicative analysis for the D-2 standard exceeds the D-2 standard by a threshold specific to the validated indicative analysis method being used as set out in the *Guidance on ballast water sampling and analysis for trial use in accordance with the BWM Convention and Guidelines (G2)* (BWM.2/Circ.42)[1], a detailed analysis can be carried out.

2.4.2 The quantity of the sampling water to be taken and location in the ship chosen should be in accordance with the *Guidelines for ballast water sampling (G2)* and associated guidance developed by the Organization. Every effort should be made to avoid any undue delays to the ship.

2.4.3 The PSCO should not delay the operation, movement or departure of the ship while waiting for the results of detailed analysis.

[1] The validation on a specific method is to be carried out through the process of review and revision of the *Guidance on sampling and analysis for trial use in accordance with the BWM Convention and Guidelines (G2)* (BWM.2/Circ.42).

2.5 Violations and control of ships

Stopping the discharge due to sampling as a control action

2.5.1 If the sampling described above leads to a result, or supports information received from another port or offshore terminal, indicating that the ship poses a threat to the environment, human health, property or resources, the Party in whose waters the ship is operating should prohibit such ship from discharging ballast water until the threat is removed (see notification requirements in paragraph 3.3 below).

Detainable deficiencies

2.5.2 If a ship has violated the BWM Convention, the PSCO may take steps to warn, detain or exclude the ship or grant such a ship permission to leave to discharge ballast water elsewhere or seek repairs. The PSCO should use professional judgment to determine whether to detain the ship until any noted deficiencies are corrected, or to permit a ship to sail with deficiencies that do not pose an unreasonable threat of harm to the marine environment, human health, property or resources (see notification requirements in paragraphs 3.3 to 3.6 below).

2.5.3 In order to assist the PSCO in the use of these guidelines, there follows a non-exhaustive list of deficiencies which are considered to be of such a serious nature that they may warrant the detention of a ship:

.1 absence of an IBWMC;

.2 absence of a BWMP;

.3 absence of a BWRB;

.4 indication that the ship or its equipment does not correspond substantially with the particulars of the IBWMC and BWMP;

.5 absence, serious deterioration or failure of proper operation of equipment required under the BWMP;

.6 the designated officers or crew are not familiar with essential ballast water management procedures including the operation of BWMS and all associated BWMS equipment;

.7 no ballast water management procedures have been implemented on board;

.8 no designated officer has been nominated;

.9 the ship has not complied with the BWMP for management and treatment of ballast water;

.10 result of non-compliance by sampling; or

.11 ballast water has been discharged other than in accordance with the regulations of the BWM Convention (regulation A-2).

Control actions

2.5.4 If a ship is detected to have violated the BWM Convention, the port State may take steps to warn, detain or exclude the ship. The port State, however, may grant such a ship permission to leave the port or offshore terminal for the purpose of discharging ballast water or proceeding to the nearest appropriate repair yard or reception facility available, provided doing so does not present a threat of harm to the environment, human health, property or resources (see notification requirements in paragraphs 3.3 to 3.6 below).

2.5.5 Port States should refrain from applying criminal sanctions or detaining the ship, based on sampling during the trial period. This does not prevent the port State from taking preventive measures to protect its environment, human health, property or resources.

2.5.6 The ship should have evidence that the ballast water management system is type approved and has been maintained and operated in accordance with the ships' Ballast Water Management Plan.

2.5.7 As an alternative to warning, detention or exclusion of the ship, the PSCO may wish to consider the following alternative measures, providing doing so does not present a threat to the environment, human health, property or resources:

.1 retention of all ballast water on board;

.2 require the ship to undertake any repairs required to the BWMS;

.3 permit the ship to proceed to exchange ballast water in a location acceptable to the port State, providing ballast water exchange is still an acceptable practice for the specific ship and such areas are established in accordance with the *Guidelines on designation of areas for ballast water exchange (G14)*;

.4 allow the ship to discharge ballast to another ship or to an appropriate shipboard or land-based reception facility; or

.5 allow the ship to manage the ballast water or a portion of it in accordance with a method acceptable to the port State.

CHAPTER 3
REPORTING REQUIREMENTS

3.1 Port State authorities should ensure that, at the completion of an inspection, the master of the ship is provided with a document showing the results of the inspection, details of any action taken by the PSCO and a list of any corrective action to be initiated by the master and/or company. Such reports should be made in accordance with the format in appendix 13 of the *Procedures for port State Control* (resolution A.1052(27), paragraph 4.1.1).

3.2 If a ship has been inspected as a result of a request for investigation from another State, the inspection report should be sent to the requesting State and the flag State (article 10.4).

3.3 In the event that an action is taken in accordance with paragraphs 2.2.4.3, 2.5.1 or 2.5.5:

.1 the port State should inform, in writing, the flag State of the ship concerned, or if this is not possible, the consul or diplomatic representative of the ship concerned, of all the circumstances in which the action was deemed necessary. In addition, the recognized organization responsible for the issue of certificates should be notified (article 11.2); and

.2 in the event that the PSCO is unable to take the intended action, or if the ship has been allowed to proceed to the next port of call, the authorities of the port State should communicate all the facts to the authorities of the country of the next appropriate port of call, to the flag State, and to the recognized organization, where appropriate (article 11.3; resolution A.1052(27), paragraph 4.1.4).

3.4 In the event of a violation of the BWM Convention, the notifications in paragraph 3.3 should be made. In addition, the ship should be notified of the violation and the report forwarded to the flag State should include any associated evidence (article 11.1).

3.5 Where, in the exercise of port State control, a Party denies a foreign ship entry to the ports or offshore terminals under its jurisdiction, whether or not as a result of information about a substandard ship, it should forthwith provide the master and flag State with reasons for the denial of entry (resolution A.1052(27), paragraph 4.1.2).

3.6 In the case of a detention, at least an initial notification should be made to the flag State as soon as practicable. If such notification is made verbally, it should be subsequently confirmed in writing. As a minimum, the notification should include details of the ship's name, the IMO number, copies of Forms A and B as set out in appendix 13 of the Procedures for port State Control, time of detention and copies of any detention order. Likewise, the recognized organizations which have issued the relevant certificates on behalf of the flag State should be notified, where appropriate. The parties above should also be notified in writing of the release of detention. As a minimum, this information should include the ship's name, the IMO number, the date and time of release and a copy of Form B as set out in appendix 13 of the *Procedures for Port State Control* (resolution A.1052(27), paragraph 4.1.3).

***

ANNEX 3

RESOLUTION MEPC.253(67)

Adopted on 17 October 2014

MEASURES TO BE TAKEN TO FACILITATE ENTRY INTO FORCE OF THE INTERNATIONAL CONVENTION FOR THE CONTROL AND MANAGEMENT OF SHIPS' BALLAST WATER AND SEDIMENTS, 2004

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

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

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

NOTING that regulation D-3 of the Annex to the Convention provides that ballast water management systems used to comply with the Convention must be approved by the Administration, taking into account guidelines developed by the Organization, and that regulation D-2 of the same Annex defines the performance standard for ships' ballast water management,

NOTING ALSO resolution MEPC.174(58) by which the Committee adopted the *Guidelines for approval of ballast water management systems (G8)* (Guidelines (G8)),

NOTING IN PARTICULAR that, by resolution MEPC.174(58), the Committee agreed to keep the Guidelines (G8) under review in the light of experience gained with their application,

NOTING FURTHER resolution MEPC.252(67), by which the Committee adopted the *Guidelines for port State control under the BWM Convention*,

RECOGNIZING the concerns of the shipping industry regarding the potential penalization of those owners and operators that have installed and operate ballast water management systems that have been type approved in accordance with Guidelines (G8),

BEING CONSCIOUS of the need to provide certainty and confidence in the application of the Convention, thereby assisting shipping companies, shipowners, managers, ships' crews and operators, as well as the shipbuilding and equipment manufacturing industries, in the timely planning of their operations; and the need to encourage the early installation of ballast water management systems,

HAVING CONSIDERED, at its sixty-seventh session, the recommendation made by the Ballast Water Review Group,

1 AGREES to immediately begin a comprehensive review of Guidelines (G8), which should, at a minimum, address the issues contained in the annex to this resolution;

2 AGREES that the existing Guidelines (G8) should continue to be applied until the application of revised Guidelines (G8) following completion of the review, and that Parties to the Convention should ensure the Guidelines are fully adhered to in any approval application;

3 AGREES that shipowners that have installed type-approved ballast water management systems prior to the application of the revised Guidelines (G8), should not be penalized;

4 AGREES that port States should refrain from applying criminal sanctions or detaining a ship, based on sampling during the trial period described in the report of BLG 17 (BLG 17/18, annex 6) associated with the *Guidance for sampling and analysis for trial use in accordance with the BWM Convention and Guidelines (G2)* (BWM.2/Circ.42). This does not prevent the port State from taking preventive measures to protect its environment, human health, property or resources.

ANNEX

ELEMENTS TO BE INCLUDED IN THE REVIEW OF GUIDELINES (G8)

The following elements will be included, as a minimum, as a part of the review of Guidelines (G8), taking into account the associated guidance (resolution MEPC.228(65), BWM.2/Circ.43, BWM.2/Circ.33 and BWM.2/Circ.28):

.1 testing being performed using fresh, brackish and marine waters;

.2 testing considering the effect of temperature in cold and tropical waters on operational effectiveness and environmental acceptability;

.3 specification of standard test organisms for use in testing;

.4 challenge levels set with respect to suspended solids in test water;

.5 type approval testing discounting test runs in the full-scale testing that do not meet the D-2 standard and the results of test runs being "averaged";

.6 type approval testing realistically representing the flow rates the system is approved for;

.7 any differences between type approval protocols of Member States; and

.8 any items raised by, and any data arising from, the Study on the Implementation of the ballast water performance standard described in regulation D-2 of the Convention and any other relevant information provided within the timeline for the review of Guidelines (G8).

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ANNEX 5

RESOLUTION MEPC.254(67)

Adopted on 17 October 2014

2014 GUIDELINES ON SURVEY AND CERTIFICATION OF THE ENERGY EFFICIENCY DESIGN INDEX (EEDI)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

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

RECALLING ALSO that, at its sixty-second session, the Committee adopted, by resolution MEPC.203(62), *Amendments to the Annex of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto* (inclusion of regulations on energy efficiency for ships in MARPOL Annex VI),

NOTING that the amendments to MARPOL Annex VI adopted at its sixty-second session, including a new chapter 4 for regulations on energy efficiency for ships, entered into force on 1 January 2013,

NOTING ALSO that regulation 5 (Surveys) of MARPOL Annex VI, as amended, requires ships to which chapter 4 applies shall also be subject to survey and certification taking into account guidelines developed by the Organization,

NOTING FURTHER that, at its sixty-third session, the Committee adopted, by resolution MEPC.214(63), *2012 Guidelines on survey and certification of the Energy Efficiency Design Index (EEDI)*, which were further amended at its sixty-fifth session, by resolution MEPC.234(65),

RECOGNIZING that the amendments to MARPOL Annex VI requires the adoption of relevant guidelines for smooth and uniform implementation of the regulations and to provide sufficient lead time for industry to prepare,

HAVING CONSIDERED, at its sixty-seventh session, proposed *2014 Guidelines on survey and certification of the Energy Efficiency Design Index (EEDI)*,

1 ADOPTS the *2014 Guidelines on survey and certification of the Energy Efficiency Design Index (EEDI)*, as set out in the annex to the present resolution;

2 INVITES Administrations to take the annexed guidelines into account when developing and enacting national laws which give force to and implement provisions set forth in regulation 5 of MARPOL Annex VI, as amended;

3 REQUESTS the Parties to MARPOL Annex VI and other Member Governments to bring the annexed guidelines to the attention of shipowners, ship operators shipbuilders, ship designers and any other interested groups;

4 AGREES to keep these guidelines under review in light of the experience gained with their application; and

5 REVOKES the *2012 Guidelines on survey and certification of the Energy Efficiency Design Index (EEDI),* adopted by resolution MEPC.214(63), as amended by resolution MEPC.234(65).

ANNEX

2014 GUIDELINES ON SURVEY AND CERTIFICATION OF THE ENERGY EFFICIENCY DESIGN INDEX (EEDI)

Table of contents

1 GENERAL

The purpose of these guidelines is to assist verifiers of the Energy Efficiency Design Index (EEDI) of ships in conducting the survey and certification of the EEDI, in accordance with regulations 5, 6, 7, 8 and 9 of MARPOL Annex VI, and assist shipowners, shipbuilders, manufacturers and other interested parties in understanding the procedures for the survey and certification of the EEDI.

2 DEFINITIONS[1]

2.1 *Verifier* means an Administration or organization duly authorized by it, which conducts the survey and certification of the EEDI in accordance with regulations 5, 6, 7, 8 and 9 of MARPOL Annex VI and these guidelines.

2.2 *Ship of the same type* means a ship the hull form (expressed in the lines such as sheer plan and body plan), excluding additional hull features such as fins, and principal particulars of which are identical to that of the base ship.

2.3 *Tank test* means model towing tests, model self-propulsion tests and model propeller open water tests. Numerical calculations may be accepted as equivalent to model propeller open water tests or used to complement the tank tests conducted (e.g. to evaluate the effect of additional hull features such as fins, etc. on ship's performance), with the approval of the verifier.

3 APPLICATION

These guidelines should be applied to new ships for which an application for an initial survey or an additional survey specified in regulation 5 of MARPOL Annex VI has been submitted to a verifier.

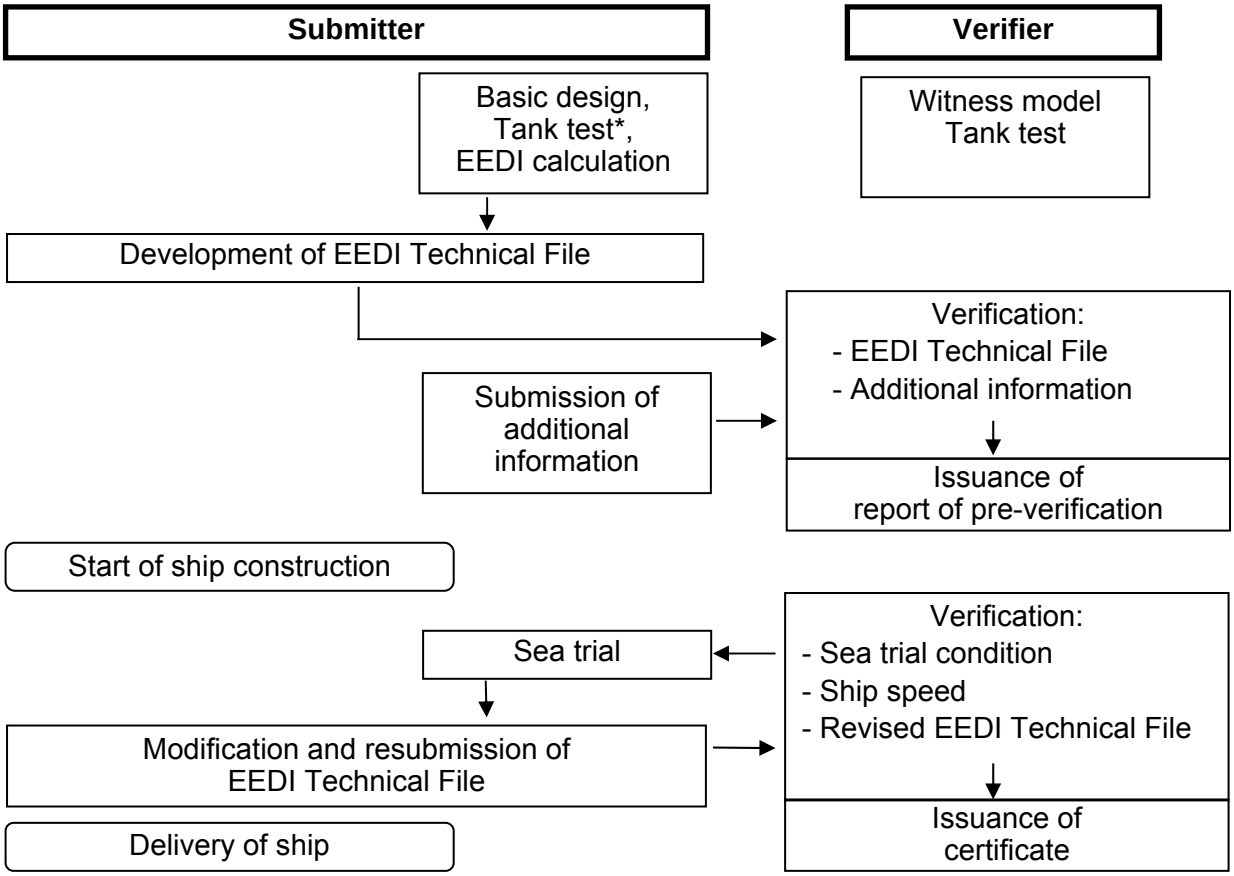
4 PROCEDURES FOR SURVEY AND CERTIFICATION

4.1 General

4.1.1 The Attained EEDI should be calculated in accordance with regulation 20 of MARPOL Annex VI and the *Guidelines on the method of calculation of the attained (EEDI) for new ships* adopted by resolution MEPC.245(66) (EEDI Calculation guidelines). Survey and certification of the EEDI should be conducted in two stages: preliminary verification at the design stage and final verification at the sea trial. The basic flow of the survey and certification process is presented in figure 1.

4.1.2 The information used in the verification process may contain confidential information of submitters which requires Intellectual Property Rights (IPR) protection. In the case where the submitter wants a non-disclosure agreement with the verifier, the additional information should be provided to the verifier upon mutually agreed terms and conditions.

[1] Other terms used in these guidelines have the same meaning as those defined in the *Guidelines on the method of calculation of the attained EEDI for new ships*.



* To be conducted by a test organization or a submitter.

Figure 1: Basic flow of survey and certification process

4.2 Preliminary verification of the attained EEDI at the design stage

4.2.1 For the preliminary verification at the design stage, an application for an initial survey and an EEDI Technical File containing the necessary information for the verification and other relevant background documents should be submitted to a verifier.

4.2.2 The EEDI Technical File should be written at least in English. The EEDI Technical File should include as a minimum, but not limited to:

.1 deadweight (DWT) or gross tonnage (GT) for passenger and ro-ro passenger ships, the maximum continuous rating (MCR) of the main and auxiliary engines, the ship speed (V_{ref}), as specified in paragraph 2.2 of the EEDI Calculation guidelines, type of fuel, the specific fuel consumption (*SFC*) of the main engine at the 75% of MCR power, the *SFC* of the auxiliary engines at the 50% MCR power, and the electric power table[2] for certain ship types, as necessary, as defined in the EEDI Calculation guidelines;

[2] Electric power table should be validated separately, taking into account guidelines set out in appendix 2 to these Guidelines.

.2 power curve(s) (kW – knot) estimated at design stage under the condition as specified in paragraph 2.2 of the EEDI Calculation guidelines, and, in the event that the sea trial is carried out in a condition other than the above condition, then also a power curve estimated under the sea trial condition;

.3 principal particulars, ship type and the relevant information to classify the ship as such a ship type, classification notations and an overview of the propulsion system and electricity supply system on board;

.4 estimation process and methodology of the power curves at design stage;

.5 description of energy saving equipment;

.6 calculated value of the attained EEDI, including the calculation summary, which should contain, at a minimum, each value of the calculation parameters and the calculation process used to determine the attained EEDI;

.7 calculated values of the attained $EEDI_{weather}$ and f_w value (not equal to 1.0), if those values are calculated, based on the EEDI Calculation guidelines; and

.8 for LNG carriers:

.1 type and outline of propulsion systems (such as direct drive diesel, diesel electric, steam turbine);

.2 LNG cargo tank capacity in m^3 and BOR as define in paragraph 2.5.6.3 of the EEDI Calculation guidelines;

.3 shaft power of the propeller shaft after transmission gear at 100% of the rated output of motor (MPP_{Motor}) and $\eta_{(i)}$ for diesel electric;

.4 maximum continuous rated power ($MCR_{SteamTurbine}$) for steam turbine; and

.5 $SFC_{SteamTurbine}$ for steam turbine, as specified in paragraph 2.5.7 of the EEDI Calculation guidelines.

A sample of an EEDI Technical File is provided in appendix 1 to these guidelines.

4.2.3 For ships equipped with dual-fuel engine(s) using LNG and fuel oil, the C_F-factor for gas (LNG) and the Specific Fuel Consumption (SFC) of gas fuel should be used by applying the following criteria as a basis for the guidance of the Administration:

.1 final decision on the primary fuel rests with the Administration;

.2 the ratio of calorific value of gas fuel (LNG) to total marine fuels (HFO/MGO), including gas fuel (LNG) at design conditions should be equal or larger than 50% in accordance with the formula below. However the Administration can accept a lower value of the percentage taking into account the intended voyages

$$\frac{V_{gas} \times \rho_{gas} \times LCV_{gas} \times K_{gas}}{\left(\sum_{i=1}^{nLiquid} V_{liquid(i)} \times \rho_{liquid(i)} \times LCV_{liquid(i)} \times K_{liquid(i)} \right) + V_{gas} \times \rho_{gas} \times LCV_{gas} \times K_{gas}} \geq 50\%$$

Whereby,

V_{gas} is the total net tank volume of gas fuel on board in m^3;
V_{liquid} is the total net tank volume of every liquid fuel on board in m^3;

ρ_{gas} is the density of gas fuel in kg/m^3;

ρ_{liquid} is the density of every liquid fuel in kg/m^3;

LCV_{gas} is the low calorific value of gas fuel in kJ/kg;

LCV_{liquid} is the low calorific value of liquid fuel in kJ/kg;

K_{gas} is the filling rate for gas fuel tanks;

K_{liquid} is the filling rate for liquid fuel tanks.

Normal density, Low Calorific Value and filling rate for tanks of different kinds of fuel are listed below.

Type of fuel	Density (kg/m^3)	Low Calorific Value (kJ/kg)	Filling rate for tanks
Diesel/Gas Oil	900	42700	0.98
Heavy Fuel Oil	991	40200	0.98
Liquefied Natural Gas (LNG)	450	48000	0.95*

* subject to verification of tank filling limit

.3 in case the ship is not fully equipped with dual-fuel engines, the CF-factor for gas (LNG) should apply only for those installed engines that are of dual-fuel type and sufficient gas fuel supply should be available for such engines; and

.4 LNG fuelling solutions with exchangeable (specialized) LNG tank-containers should also fall under the terms of LNG as primary fuel.

4.2.4 The *SFC* of the main and auxiliary engines should be quoted from the approved NO_x Technical File and should be corrected to the value corresponding to the ISO standard reference conditions using the standard lower calorific value of the fuel oil (42,700 kJ/kg), referring to ISO 15550:2002 and ISO 3046-1:2002. For the confirmation of the *SFC*, a copy of the approved NO_x Technical File and documented summary of the correction calculations should be submitted to the verifier. In cases where the NO_x Technical File has not been approved at the time of the application for initial survey, the test reports provided by manufacturers should be used. In this case, at the time of the sea trial verification, a copy of

the approved NO_x Technical File and documented summary of the correction calculations should be submitted to the verifier. In the case that gas fuel is determined as primary fuel in accordance with paragraph 4.2.3 and that installed engine(s) have no approved NO_x Technical File tested in gas mode, the *SFC* of gas mode should be submitted by the manufacturer and confirmed by the verifier.

> **Note:** *SFC* in the NO_x Technical File are the values of a parent engine, and the use of such value of *SFC* for the EEDI calculation for member engines may have the following technical issues for further consideration:
>
> .1 the definition of "member engines" given in the NO_x Technical File is broad and specification of engines belonging to the same group/family may vary; and
>
> .2 the rate of NO_x emission of the parent engine is the highest in the group/family – i.e. CO_2 emission, which is in the trade-off relationship with NO_x emission, can be lower than the other engines in the group/family.

4.2.5 For ships to which regulation 21 of MARPOL Annex VI applies, the power curves used for the preliminary verification at the design stage should be based on reliable results of tank tests. A tank test for an individual ship may be omitted based on technical justifications such as availability of the results of tank tests for ships of the same type. In addition, the omission of tank tests is acceptable for a ship for which sea trials will be carried under the condition as specified in paragraph 2.2 of the EEDI Calculation guidelines, upon agreement of the shipowner and shipbuilder and with the approval of the verifier. For ensuring the quality of tank tests, the ITTC quality system should be taken into account. Model tank tests should be witnessed by the verifier.

> **Note:** It would be desirable in the future that an organization conducting a tank test be authorized.

4.2.6 The verifier may request further information from the submitter, in addition to that contained in the EEDI Technical File, as necessary, to examine the calculation process of the attained EEDI. For the estimation of the ship speed at the design stage much depends on each shipbuilder's experience, and it may not be practicable for any person/organization other than the shipbuilder to fully examine the technical aspects of experience-based parameters, such as the roughness coefficient and wake scaling coefficient. Therefore, the preliminary verification should focus on the calculation process of the attained EEDI to ensure that it is technically sound and reasonable and follows regulation 20 of MARPOL Annex VI and the EEDI Calculation guidelines.

> **Note 1:** A possible way forward for more robust verification is to establish a standard methodology of deriving the ship speed from the outcome of tank tests, by setting standard values for experience-based correction factors such as roughness coefficient and wake scaling coefficient. In this way, ship-by-ship performance comparisons could be made more objectively by excluding the possibility of arbitrary setting of experience-based parameters. If such standardization is sought, this would have an implication on how the ship speed adjustment based on sea trial results should be conducted, in accordance with paragraph 4.3.8 of these guidelines.
>
> **Note 2:** A joint industry standard to support the method and role of the verifier is expected to be developed.

4.2.7 Additional information that the verifier may request the submitter to provide includes, but is not limited to:

.1 descriptions of a tank test facility; this should include the name of the facility, the particulars of tanks and towing equipment, and the records of calibration of each monitoring equipment;

.2 lines of a model ship and an actual ship for the verification of the appropriateness of the tank test; the lines (sheer plan, body plan and half-breadth plan) should be detailed enough to demonstrate the similarity between the model ship and the actual ship;

.3 lightweight of the ship and displacement table for the verification of the deadweight;

.4 detailed report on the method and results of the tank test; this should include at least the tank test results at sea trial condition and under the condition as specified in paragraph 2.2 of the EEDI Calculation guidelines;

.5 detailed calculation process of the ship speed, which should include the basis for the estimation of experience-based parameters such as roughness coefficient, and wake scaling coefficient;

.6 reasons for exempting a tank test, if applicable; this should include lines and tank test results of ships of the same type, and the comparison of the principal particulars of such ships and the ship in question. Appropriate technical justification should be provided, explaining why the tank test is unnecessary; and

.7 for LNG carriers, detailed calculation process of P_{AE} and $SFC_{SteamTurbine}$.

4.2.8 The verifier should issue the report on the Preliminary Verification of the EEDI after it has verified the attained EEDI at the design stage, in accordance with paragraphs 4.1 and 4.2 of these guidelines.

4.3 Final verification of the attained EEDI at sea trial

4.3.1 Sea trial conditions should be set as the conditions specified in paragraph 2.2 of the EEDI Calculation guidelines, if possible.

4.3.2 Prior to the sea trial, the following documents should be submitted to the verifier: a description of the test procedure to be used for the speed trial, the final displacement table and the measured lightweight, or a copy of the survey report of deadweight, as well as a copy of the NO_x Technical File, as necessary. The test procedure should include, as a minimum, descriptions of all necessary items to be measured and corresponding measurement methods to be used for developing power curves under the sea trial condition.

4.3.3 The verifier should attend the sea trial and confirm:

.1 propulsion and power supply system, particulars of the engines or steam turbines, and other relevant items described in the EEDI Technical File;

.2 draught and trim;

.3 sea conditions;

.4 ship speed; and

.5 shaft power and RPM.

4.3.4 Draught and trim should be confirmed by the draught measurements taken prior to the sea trial. The draught and trim should be as close as practical to those at the assumed conditions used for estimating the power curves.

4.3.5 Sea conditions should be measured in accordance with ITTC Recommended Procedure 7.5-04-01-01.1 Speed and Power Trials Part 1; 2012 revision 1 or ISO 15016:2002[2], as amended.

4.3.6 Ship speed should be measured in accordance with ITTC Recommended Procedure 7.5-04-01-01 Speed and Power Trials Part 1; 2012 revision 1 or ISO 15016:2002[2], as amended, and at more than two points the range of which includes the power of the main engine as specified in paragraph 2.5 of the EEDI Calculation guidelines.

4.3.7 The main engine output, shaft power of propeller shaft (for LNG carriers having diesel electric propulsion system) or steam turbine output (for LNG carrier having steam turbine propulsion system) should be measured by shaft power meter or a method which the engine manufacturer recommends and the verifier approves. Other methods may be acceptable upon agreement of the shipowner and shipbuilder and with the approval of the verifier.

4.3.8 The submitter should develop power curves based on the measured ship speed and the measured output of the main engine at sea trial. For the development of the power curves, the submitter should calibrate the measured ship speed, if necessary, by taking into account the effects of wind, tide, waves, shallow water, displacement, water temperature and water density in accordance with ISO 15016:2002[3], as amended. Upon agreement with the shipowner, the submitter should submit a report on the speed trials, including details of the power curve development, to the verifier for verification.

4.3.9 The submitter should compare the power curves obtained as a result of the sea trial and the estimated power curves at the design stage. In case differences are observed, the attained EEDI should be recalculated, as necessary, in accordance with the following:

.1 for ships for which a sea trial is conducted under the condition as specified in paragraph 2.2 of the EEDI Calculation guidelines: the attained EEDI should be recalculated using the measured ship speed at sea trial at the power of the main engine as specified in paragraph 2.5 of the EEDI Calculation guidelines; and

.2 for ships for which a sea trial cannot be conducted under the conditions as specified in paragraph 2.2 of the EEDI Calculation guidelines: if the measured ship speed at the power of the main engine as specified in paragraph 2.5 of the EEDI Calculation guidelines at the sea trial conditions is different from the expected ship speed on the power curve at the corresponding condition, the shipbuilder should recalculate the attained EEDI by adjusting the ship speed under the conditions as specified in paragraph 2.2 of the EEDI Calculation guidelines by an appropriate correction method that is agreed by the verifier.

[3] ITTC Recommended Procedure 7.5-04-01-01 is considered as preferable standard available from URL at ITTC.SNAME.ORG. Revised version of ISO 15016 should be available by early 2014.

An example of a possible method for speed adjustment is given in figure 2.

> **Note:** Further consideration would be necessary for the speed adjustment methodology in paragraph 4.3.9.2 of these guidelines. One of the concerns relates to a possible situation where the power curve for sea trial condition is estimated in an excessively conservative manner (i.e. power curve is shifted in a leftward direction) with the intention to get an upward adjustment of the ship speed by making the measured ship speed at sea trial easily exceed the lower-estimated speed for sea trial condition at design stage.

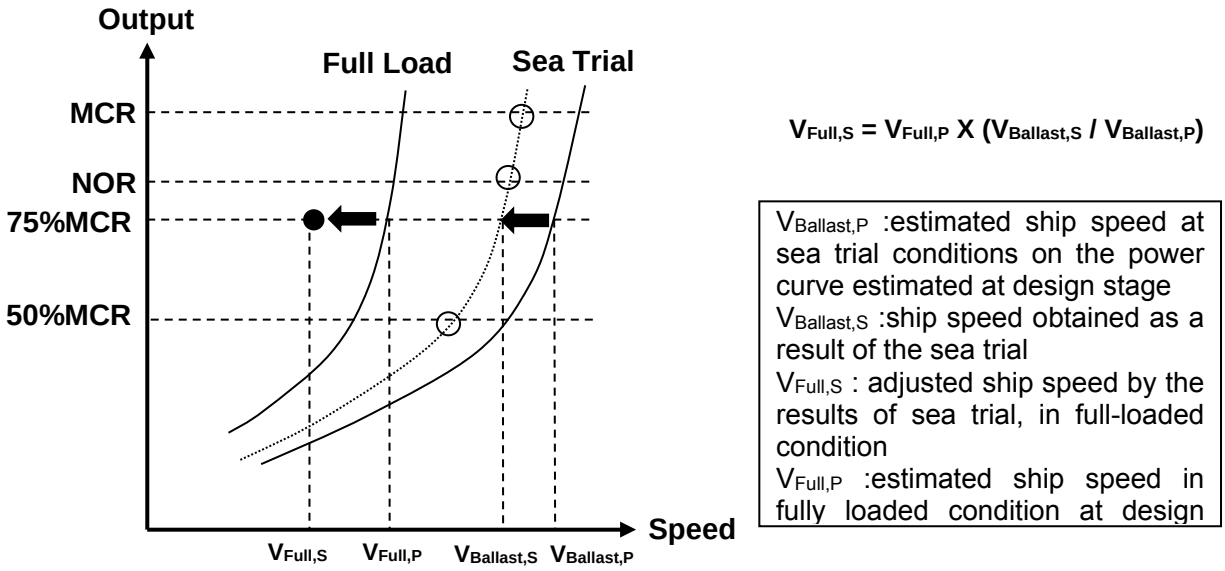


Figure 2: An example of possible ship speed adjustment

4.3.10 In cases where the finally determined deadweight/gross tonnage differs from the designed deadweight/gross tonnage used in the EEDI calculation during the preliminary verification, the submitter should recalculate the attained EEDI using the finally determined deadweight/gross tonnage. The finally determined gross tonnage should be confirmed in the Tonnage Certificate of the ship.

4.3.11 The electrical efficiency $\eta_{(i)}$ should be taken as 91.3% for the purpose of calculating the attained EEDI. Alternatively, if a value of more than 91.3% is to be applied, $\eta_{(i)}$ should be obtained by measurement and verified by a method approved by the verifier.

4.3.12 In case where the attained EEDI is calculated at the preliminary verification by using *SFC* based on the manufacturer's test report, due to the non-availability at that time of the approved NO_x Technical File, the EEDI should be recalculated by using *SFC* in the approved NO_x Technical File. Also, for steam turbines, the EEDI should be recalculated by using *SFC* confirmed by the Administration or an organization recognized by the Administration at the sea trial.

4.3.13 The EEDI Technical File should be revised, as necessary, by taking into account the results of sea trials. Such revision should include, as applicable, the adjusted power curve based on the results of sea trials (namely, modified ship speed under the condition as specified in paragraph 2.2 of the EEDI Calculation guidelines), the finally determined deadweight/gross tonnage, η for LNG carriers having diesel electric propulsion system and

SFC described in the approved NO_x Technical File, and the recalculated attained EEDI based on these modifications.

4.3.14 The EEDI Technical File, if revised, should be submitted to the verifier for confirmation that the (revised) attained EEDI is calculated in accordance with regulation 20 of MARPOL Annex VI and the EEDI Calculation guidelines.

4.4 Verification of the attained EEDI in case of major conversion

4.4.1 In cases of a major conversion of a ship, the shipowner should submit to a verifier an application for an Additional Survey with the EEDI Technical File duly revised, based on the conversion made and other relevant background documents.

4.4.2 The background documents should include as a minimum, but are not limited to:

.1 details of the conversion;

.2 EEDI parameters changed after the conversion and the technical justifications for each respective parameter;

.3 reasons for other changes made in the EEDI Technical File, if any; and

.4 calculated value of the attained EEDI with the calculation summary, which should contain, as a minimum, each value of the calculation parameters and the calculation process used to determine the attained EEDI after the conversion.

4.4.3 The verifier should review the revised EEDI Technical File and other documents submitted and verify the calculation process of the attained EEDI to ensure that it is technically sound and reasonable and follows regulation 20 of MARPOL Annex VI and the EEDI Calculation guidelines.

4.4.4 For verification of the attained EEDI after a conversion, speed trials of the ship are required, as necessary.

APPENDIX 1

SAMPLE OF EEDI TECHNICAL FILE

1 Data

1.1 General information

Shipbuilder	JAPAN Shipbuilding Company
Hull no.	12345
IMO no.	94111XX
Ship type	Bulk carrier

1.2 Principal particulars

Length overall	250.0 m
Length between perpendiculars	240.0 m
Breadth, moulded	40.0 m
Depth, moulded	20.0 m
Summer load line draught, moulded	14.0 m
Deadweight at summer load line draught	150,000 tons

1.3 Main engine

Manufacturer	JAPAN Heavy Industries Ltd.
Type	6J70A
Maximum continuous rating (MCR)	15,000 kW x 80 rpm
SFC at 75% MCR	165.0 g/kWh
Number of set	1
Fuel type	Diesel Oil

1.4 Auxiliary engine

Manufacturer	JAPAN Diesel Ltd.
Type	5J-200
Maximum continuous rating (MCR)	600 kW x 900 rpm
SFC at 50% MCR	220.0 g/kWh
Number of set	3
Fuel type	Diesel Oil

1.5 Ship speed

Ship speed in deep water at summer load line draught at 75% of MCR	14.25 knots

2 Power curves

The power curves estimated at the design stage and modified after the speed trials are shown in figure 2.1.

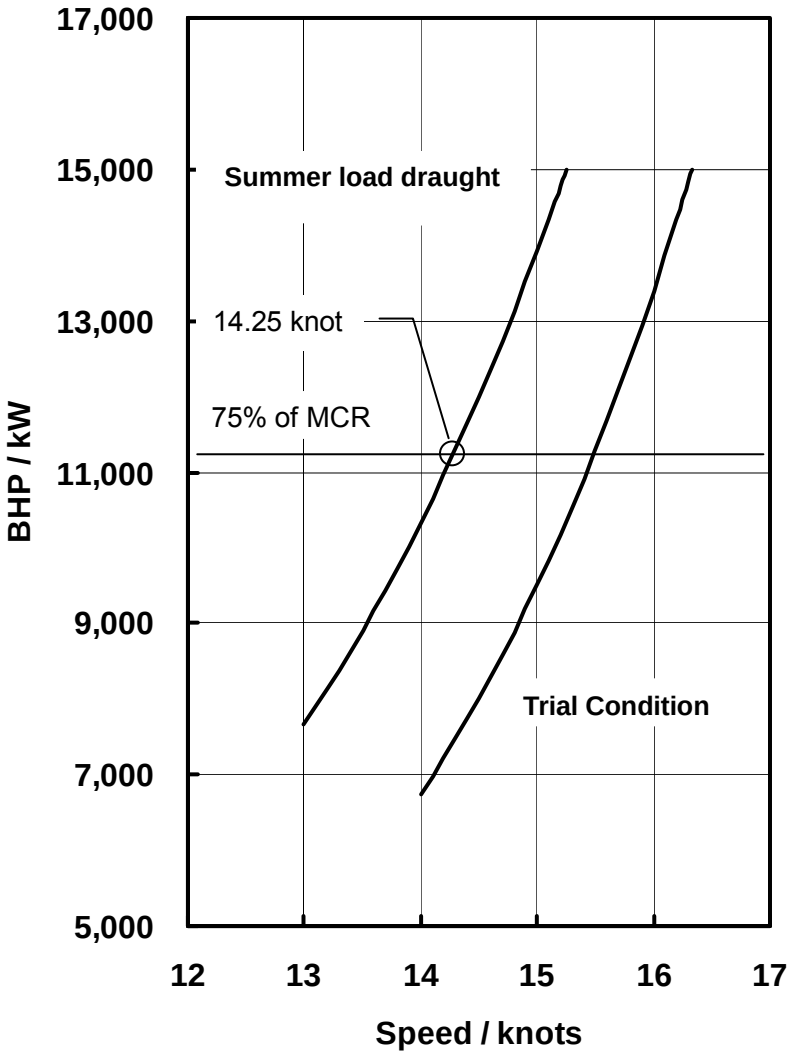


Figure 2.1: Power curves

3 Overview of propulsion system and electric power supply system

3.1 Propulsion system

3.1.1 Main engine
Refer to paragraph 1.3 of this appendix.

3.1.2 Propeller

Type	Fixed pitch propeller
Diameter	7.0 m
Number of blades	4
Number of set	1

3.2 Electric power supply system

3.2.1 Auxiliary engines
Refer to paragraph 1.4 of this appendix.

3.2.2 Main generators

Manufacturer	JAPAN Electric
Rated output	560 kW (700 kVA) x 900 rpm
Voltage	AC 450 V
Number of set	3

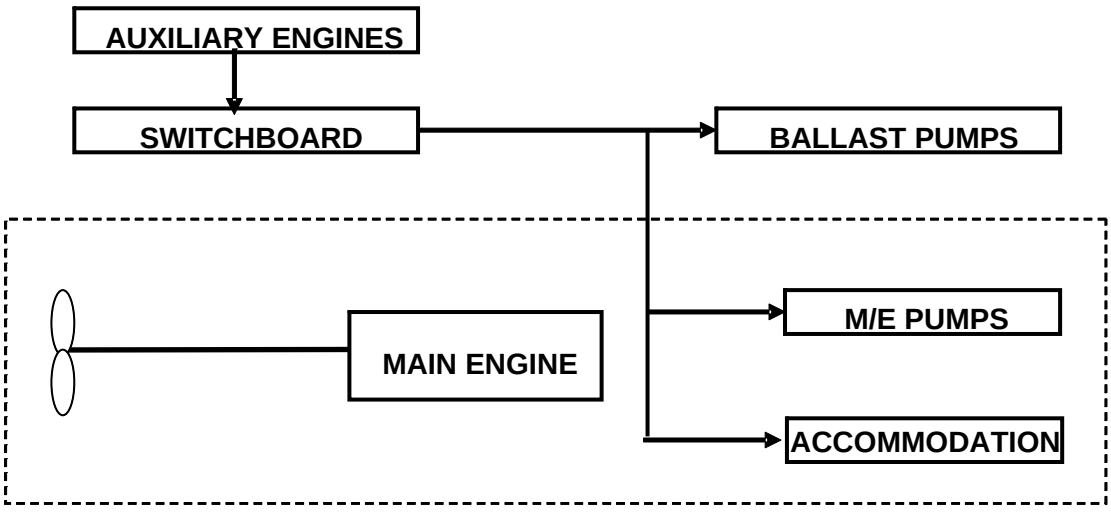


Figure 3.1: Schematic figure of propulsion and electric power supply system

4 Estimation process of power curves at design stage

Power curves are estimated based on model test results. The flow of the estimation process is shown below.

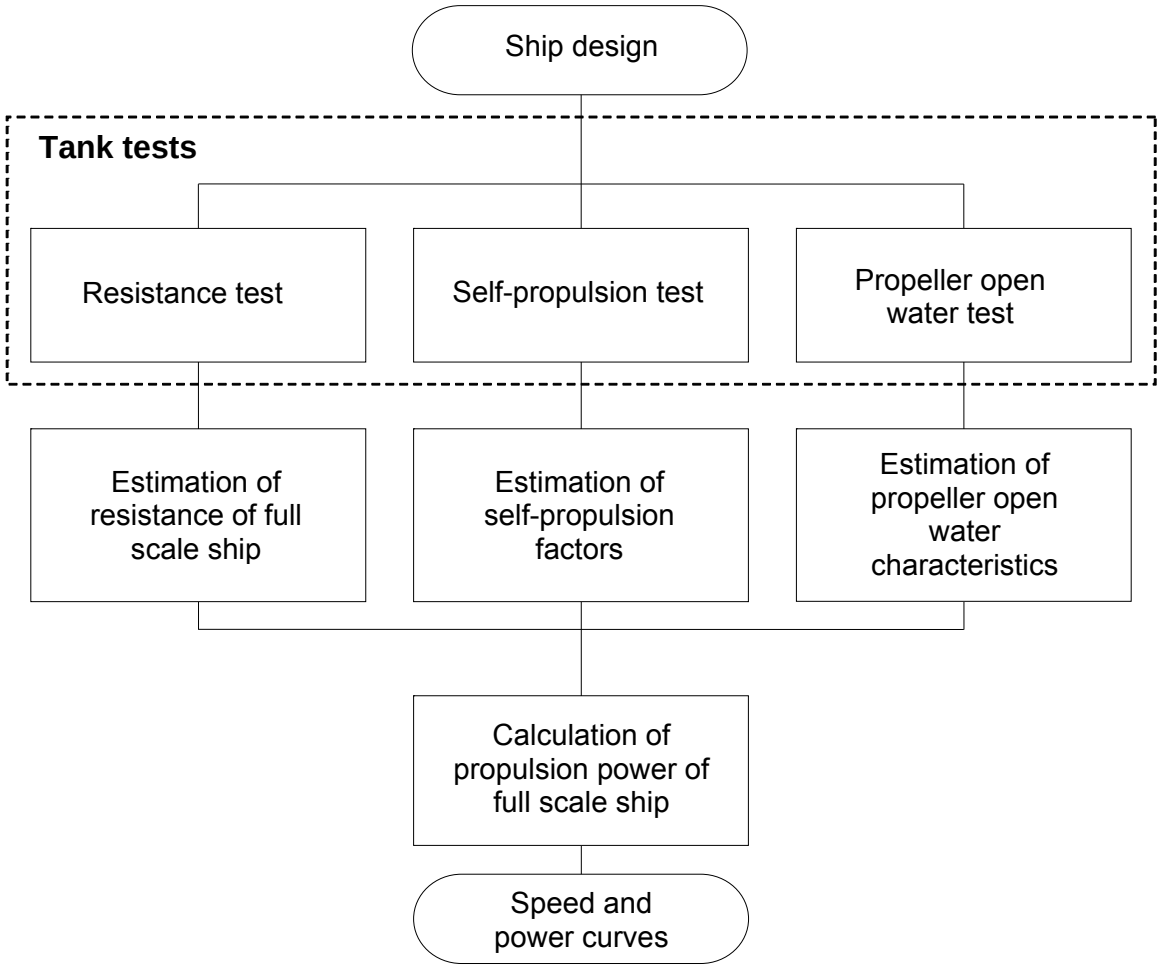


Figure 4.1: Flow-chart of process for estimating power curves

5 Description of energy saving equipment

5.1 Energy saving equipment the effects of which are expressed as $P_{AEeff(i)}$ and/or $P_{eff(i)}$ in the EEDI calculation formula

N/A

5.2 Other energy saving equipment

(Example)

5.2.1 Rudder fins

5.2.2 Propeller boss cap fins

……
(Specifications, schematic figures and/or photos, etc., for each piece of equipment or device should be indicated. Alternatively, attachment of a commercial catalogue may be acceptable.)

6 Calculated value of attained EEDI

6.1 Basic data

Type of ship	Capacity DWT	Speed V_{ref} (knots)
Bulk Carrier	150,000	14.25

6.2 Main engine

MCR_{ME} (kW)	Shaft gen.	P_{ME} (kW)	Type of fuel	C_{FME}	SFC_{ME} (g/kWh)
15,000	N/A	11,250	Diesel Oil	3.206	165.0

6.3 Auxiliary engines

P_{AE} (kW)	Type of fuel	C_{FAE}	SFC_{AE} (g/kWh)
625	Diesel Oil	3.206	220.0

6.4 Ice class

N/A

6.5 Innovative electrical energy efficient technology

N/A

6.6 Innovative mechanical energy efficient technology

N/A

6.7 Cubic capacity correction factor

N/A

6.8 Calculated value of attained EEDI

$$EEDI = \frac{\left(\prod_{j=1}^{M} f_j\right)\left(\sum_{i=1}^{nME} P_{ME(i)} \cdot C_{FME(i)} \cdot SFC_{ME(i)}\right) + \left(P_{AE} \cdot C_{FAE} \cdot SFC_{AE}\right)}{f_i \cdot f_c \cdot Capacity \cdot f_w \cdot V_{ref}} + \frac{\left\{\left(\prod_{j=1}^{M} f_j \cdot \sum_{i=1}^{nPTI} P_{PTI(i)} - \sum_{i=1}^{neff} f_{eff(i)} \cdot P_{AEeff(i)}\right) C_{FAE} \cdot SFC_{AE}\right\} - \left(\sum_{i=1}^{neff} f_{eff(i)} \cdot P_{eff(i)} \cdot C_{FME} \cdot SFC_{ME}\right)}{f_i \cdot f_c \cdot Capacity \cdot f_w \cdot V_{ref}}$$

$$= \frac{1 \times (11250 \times 3.206 \times 165.0) + (625 \times 3.206 \times 220.0) + 0 - 0}{1 \cdot 1 \cdot 150000 \cdot 1 \cdot 14.25}$$

$$= 2.99 \quad (\text{g} - \text{CO}_2/\text{ton} \cdot \text{mile})$$

attained EEDI: 2.99 g-CO_2/ton mile

7 Calculated value of attained $EEDI_{weather}$

7.1 Representative sea conditions

	Mean wind speed	Mean wind direction	Significant wave height	Mean wave period	Mean wave direction
BF6	12.6 (m/s)	0 (deg.)*	3.0 (m)	6.7 (s)	0 (deg.)*

* Heading direction of wind/wave in relation to the ship's heading, i.e. 0 (deg.) means the ship is heading directly into the wind.

7.2 Calculated weather factor, f_w

f_w	0.900

7.3 Calculated value of attained $EEDI_{weather}$

attained $EEDI_{weather}$: 3.32 g-CO_2/ton mile

APPENDIX 2

GUIDELINES FOR VALIDATION OF ELECTRIC POWER TABLES FOR EEDI (EPT-EEDI)

1 INTRODUCTION

The purpose of these guidelines is to assist recognized organizations in the validation of Electric Power Tables (EPT) for the calculation of the Energy Efficiency Design Index (EEDI) for ships. As such, these guidelines support the implementation of the EEDI Calculation guidelines and the *Guidelines on survey and certification of the Energy Efficiency Design Index (EEDI)*. These guidelines will also assist shipowners, shipbuilders, ship designers and manufacturers in relation to aspects of the development of more energy efficient ships and also in understanding the procedures for the EPT-EEDI validation.

2 OBJECTIVES

These guidelines provide a framework for the uniform application of the EPT-EEDI validation process for ships for which required auxiliary engine power is calculated under paragraph 2.5.6.4 of the EEDI Calculation guidelines.

3 DEFINITIONS

3.1 *Applicant* means an organization, primarily a shipbuilder or a ship designer, which requests the EPT-EEDI validation in accordance with these guidelines.

3.2 *Validator* means a recognized organization which conducts the EPT-EEDI validation in accordance with these guidelines.

3.3 *Validation* for the purpose of these guidelines means review of submitted documents and survey during construction and sea trials.

3.4 *Standard EPT-EEDI-Form* refers to the layout given in appendix 3, containing the EPT-EEDI results that will be the subject of validation. Other supporting documents submitted for this purpose will be used as reference only and will not be subject to validation.

3.5 P_{AE} herein is defined as per the definition in paragraph 2.5.6 of the EEDI Calculation guidelines.

3.6 *Ship service and engine-room loads* refer to all the load groups which are needed for the hull, deck, navigation and safety services, propulsion and auxiliary engine services, engine-room ventilation and auxiliaries and ship's general services.

3.7 *Diversity factor* is the ratio of the "total installed load power" and the "actual load power" for continuous loads and intermittent loads. This factor is equivalent to the product of service factors for load, duty and time.

4 APPLICATION

4.1 These guidelines are applicable to ships as stipulated in paragraph 2.5.6.4 of the EEDI Calculation guidelines.

4.2 These guidelines should be applied for new ships for which an application for an EPT-EEDI validation has been submitted to a validator.

4.3 The steps of the validation process include:

.1 review of documents during the design stage

.1 check if all relevant loads are listed in the EPT;

.2 check if reasonable service factors are used; and

.3 check the correctness of the P_{AE} calculation based on the data given in the EPT.

.2 survey of installed systems and components during construction stage

.1 check if a randomly selected set of installed systems and components are correctly listed with their characteristics in the EPT.

.3 survey of sea trials

.1 check if selected units/loads specified in EPT are observed.

5 SUPPORTING DOCUMENTS

5.1 The applicant should provide as a minimum the ship electric balance load analysis.

5.2 Such information may contain shipbuilders' confidential information. Therefore, after the validation, the validator should return all or part of such information to the applicant at the applicant's request.

5.3 A special EEDI condition during sea trials may be needed and defined for each ship and included in the sea trial schedule. For this condition, a special column should be inserted into the EPT.

6 PROCEDURES FOR VALIDATION

6.1 General

P_{AE} should be calculated in accordance with the EPT-EEDI Calculation guidelines. EPT-EEDI validation should be conducted in two stages: preliminary validation at the design stage and final validation during sea trials. The validation process is presented in figure 1.

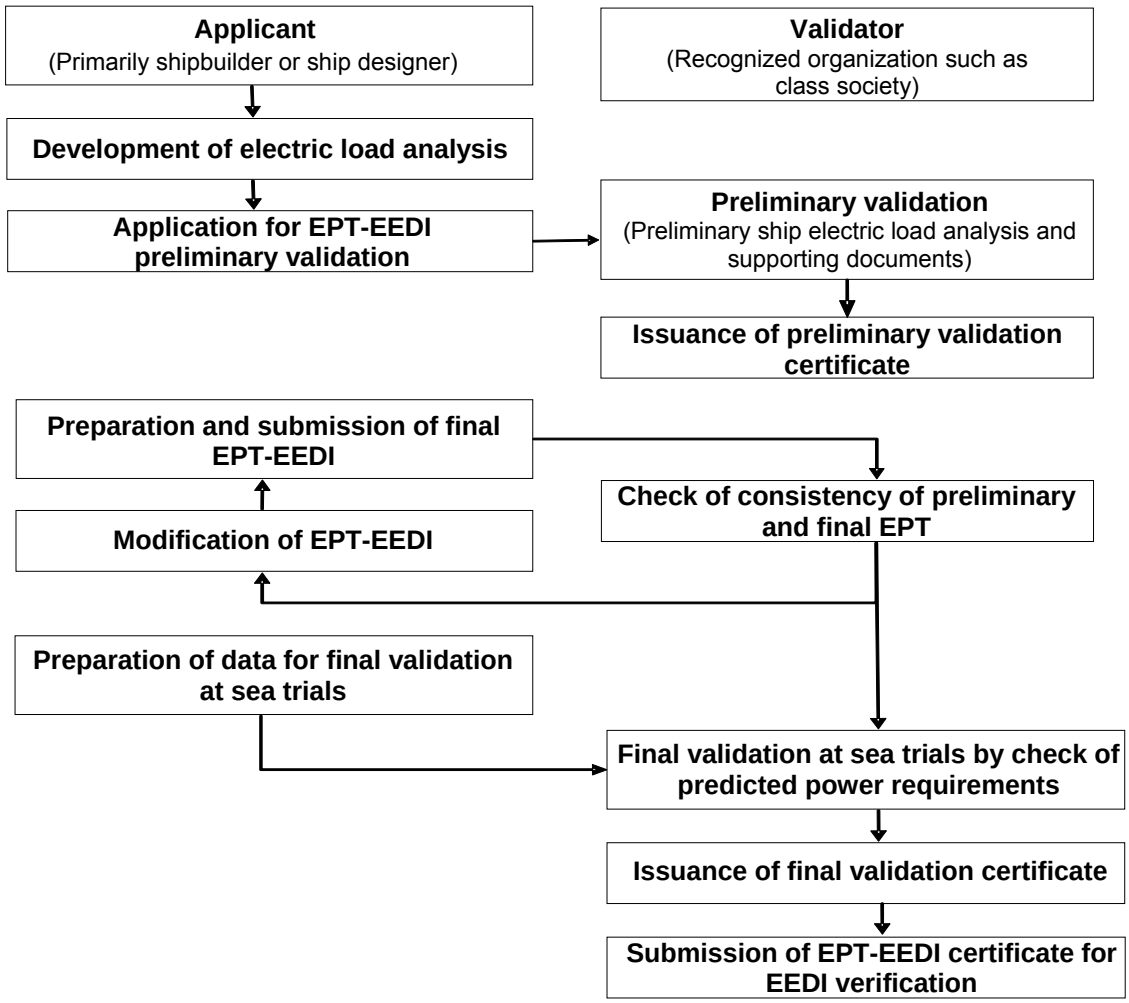


Figure 1: Basic flow of EPT-EEDI validation process

6.2 Preliminary validation at the design stage

6.2.1 For the preliminary validation at the design stage, the applicant should submit to a validator an application for the validation of EPT-EEDI, inclusive of the EPT-EEDI Form, and all the relevant and necessary information for the validation as supporting documents.

6.2.2 The applicant should supply as a minimum the supporting data and information, as specified in appendix A (to be developed).

6.2.3 The validator may request from the applicant additional information to that contained in these guidelines, as necessary, to enable the validator to examine the calculation process of the EPT-EEDI. The estimation of the ship EPT-EEDI at the design stage depends on each applicant's experience, and it may not be practicable to fully examine the technical aspects and details of each machinery component. Therefore, the preliminary validation should focus on the calculation process of the EPT-EEDI that should follow best marine practices.

> **Note:** A possible way forward for more robust validation is to establish a standard methodology of deriving the ship EPT by setting standard formats as agreed and used by industry.

6.3 Final validation

6.3.1 The final validation process should as a minimum should include a check of the ship electric load analysis to ensure that all electric consumers are listed; their specific data and the calculations in the power table itself are correct and are supported by sea trial results. If necessary, additional information has to be requested.

6.3.2 For the final validation, the applicant should revise the EPT-EEDI Form and supporting documents as necessary, by taking into account the characteristics of the machinery and other electrical loads actually installed on board the ship. The EEDI condition at sea trials should be defined and the expected power requirements in these conditions documented in the EPT. Any changes within the EPT from design stage to construction stage should be highlighted by the shipyard.

6.3.3 The preparation for the final validation includes a desk top check comprising:

.1 consistency of preliminary and final EPT;

.2 changes of service factors (compared to the preliminary validation);

.3 all electric consumers are listed;

.4 their specific data and the calculations in the power table itself are correct; and

.5 in case of doubt, component specification data is checked in addition.

6.3.4 A survey prior to sea trials is performed to ensure that machinery characteristics and data as well as other electric loads comply with those recorded in the supporting documents. This survey does not cover the complete installation but selects randomly a number of samples.

6.3.5 For the purpose of sea trial validation, the surveyor will check the data of selected systems and/or components given in the special column added to the EPT for this purpose or the predicted overall value of electric load by means of practicable measurements with the installed measurement devices.

7 ISSUANCE OF THE EPT-EEDI STATEMENT OF VALIDATION

7.1 The validator should stamp the EPT-EEDI Form as "Noted" having validated the EPT-EEDI in the preliminary validation stage, in accordance with these guidelines.

7.2 The validator should stamp the EPT-EEDI Form as "Endorsed" having validated the final EPT-EEDI in the final validation stage in accordance with these guidelines.

APPENDIX 3

ELECTRIC POWER TABLE FORM FOR ENERGY EFFICIENCY DESIGN INDEX (EPT-EEDI FORM) AND STATEMENT OF VALIDATION

Ship ID:
IMO no.: _____
Ship's name: _____
Shipyard: _____
Hull no.: _____

Applicant:

Name: _____
Address: _____
_____

Validation stage:

☐ Preliminary validation

☐ Final validation

Summary results of EPT-EEDI

Load group	Seagoing condition EEDI Calculation guidelines		Remarks
	Continuous load (kW)	Intermittent load (kW)	
Ship service and engine-room loads			
Accommodation and cargo loads			
Total installed load			
Diversity factor			
Normal seagoing load			
Weighted average efficiency of generators			
P_{AE}			

Supporting documents

Title	ID or remarks

Validator details:
Organization: _____
Address: _____
_____

This is to certify that the above-mentioned electrical loads and supporting documents have been reviewed in accordance with EPT-EEDI Validation guidelines and the review shows a reasonable confidence for use of the above P_{AE} in EEDI calculations.

Date of review: _____ Statement of validation no. _____

This statement is valid on condition that the electric power characteristics of the ship do not change.

Signature of Validator

_____
Printed name:

***

ANNEX 6

RESOLUTION MEPC.255(67)

Adopted on 17 October 2014

AMENDMENTS TO THE 2013 INTERIM GUIDELINES FOR DETERMINING MINIMUM PROPULSION POWER TO MAINTAIN THE MANOEUVRABILITY OF SHIPS IN ADVERSE CONDITIONS (RESOLUTION MEPC.232(65))

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

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

RECALLING ALSO that, at its sixty-second session, the Committee adopted, by resolution MEPC.203(62), Amendments to the annex of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (inclusion of regulations on energy efficiency for ships in MARPOL Annex VI),

NOTING that the amendments to MARPOL Annex VI adopted at its sixty-second session by resolution MEPC.203(62), including a new chapter 4 for regulations on energy efficiency for ships, entered into force on 1 January 2013,

NOTING ALSO that regulation 21.5 of MARPOL Annex VI, as amended, requires that the installed propulsion power shall not be less than the propulsion power needed to maintain the manoeuvrability of the ship under adverse conditions as defined in the guidelines to be developed by the Organization,

NOTING FURTHER that, at its sixty-fifth session, the Committee adopted, by resolution MEPC.232(65), the *2013 Interim guidelines for determining minimum propulsion power to maintain the manoeuvrability of ships in adverse conditions* (the interim guidelines),

RECOGNIZING that the amendments to MARPOL Annex VI require the adoption of relevant guidelines for the smooth and uniform implementation of the regulations and to provide sufficient lead time for industry to prepare,

HAVING CONSIDERED, at its sixty-seventh session, proposed amendments to the interim guidelines,

1 ADOPTS amendments to the *2013 Interim guidelines for determining minimum propulsion power to maintain the manoeuvrability of ships in adverse conditions*, as set out in the annex to the present resolution;

2 INVITES Administrations to take the aforementioned amendments into account when developing and enacting national laws which give force to and implement provisions set forth in regulation 21.5 of MARPOL Annex VI, as amended;

3 REQUESTS the Parties to MARPOL Annex VI and other Member Governments to bring the amendments to the attention of shipowners, ship operators, shipbuilders, ship designers and any other interested groups;

4 AGREES to keep the interim guidelines, as amended, under review, in light of experience gained with their application.

ANNEX

AMENDMENTS TO THE 2013 INTERIM GUIDELINES FOR DETERMINING MINIMUM PROPULSION POWER TO MAINTAIN THE MANOEUVRABILITY OF SHIPS IN ADVERSE CONDITIONS (RESOLUTION MEPC.232(65))

1 The footnote related to paragraph 2 "Applicability" is replaced with the following:

"* These interim guidelines are applied to ships required to comply with regulations on Energy Efficiency for Ships according to regulation 21 of MARPOL Annex VI during Phase 0 and Phase 1 (i.e. for those ship types as in table 1 of appendix with the size of equal or more than 20,000 DWT)."

2 The title of the appendix is replaced with the following:

"ASSESSMENT PROCEDURES TO MAINTAIN THE MANOEUVRABILITY UNDER ADVERSE CONDITIONS, APPLICABLE DURING PHASE 0 AND PHASE 1 OF THE EEDI IMPLEMENTATION"

3 Paragraph 1.1 of the appendix is replaced with the following:

"1.1 The procedures as described below are applicable during Phase 0 and Phase 1 of the EEDI implementation as defined in regulation 21 of MARPOL Annex VI (see also paragraph 0 – Purpose of these interim guidelines)."

***

INTERNATIONAL MARITIME ORGANIZATION

E

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

MEPC.1/Circ.795/Rev.2
1 December 2014

UNIFIED INTERPRETATIONS TO MARPOL ANNEX VI

1 The Marine Environment Protection Committee, at its sixty-seventh session (13 to 17 October 2014), approved a unified interpretation to MARPOL Annex VI concerning the applicability of the requirements for a bunker delivery note and requested the Secretariat to issue a consolidated text of the Unified Interpretations to MARPOL Annex VI, for dissemination as MEPC.1/Circ.795/Rev.2 (MEPC 67/20, paragraph 4.71).

2 The consolidated text of all existing unified interpretations to MARPOL Annex VI, including those set out in circular MEPC.1/Circ.795/Rev.1, is set out in the annex.

3 Member Governments are invited to apply the annexed Unified Interpretations to MARPOL Annex VI, as appropriate, and bring them to the attention of all Parties concerned.

4 This circular supersedes MEPC.1/Circ.795/Rev.1.

***

ANNEX

UNIFIED INTERPRETATIONS TO MARPOL ANNEX VI

1 Definition of "new ship"

Regulation 2
Definitions

Regulation 2.23 reads as follows:

"23 *New ship* means a ship:

.1 for which building contract is placed on or after 1 January 2013; or

.2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after 1 July 2013; or

.3 the delivery of which is on or after 1 July 2015."

***Interpretation*:**

1.1 For the application of the definition "new ship" as specified in regulation 2.23 to each Phase specified in table 1 of regulation 21, it should be interpreted as follows:

.1 the date specified in regulation 2.23.1 should be replaced with the start date of each Phase;

.2 the date specified in regulation 2.23.2 should be replaced with the date six months after the start date of each Phase; and

.3 the date specified in regulation 2.23.3 should, for Phase 1, 2 and 3, be replaced with the date 48 months after the start date of each Phase.

1.2 With the above interpretations, the required EEDI of each Phase is applied to the following new ship which falls into one of the categories defined in regulations 2.25 to 2.31 and to which chapter 4 is applicable:

.1 the required EEDI of Phase 0 is applied to the following new ship:

.1 the building contract of which is placed in Phase 0, and the delivery is before 1 January 2019; or

.2 the building contract of which is placed before Phase 0, and the delivery is on or after 1 July 2015 and before 1 January 2019; or

in the absence of a building contract,

.3 the keel of which is laid or which is at a similar stage of construction on or after 1 July 2013 and before 1 July 2015, and the delivery is before 1 January 2019; or

.4 the keel of which is laid or which is at a similar stage of construction before 1 July 2013, and the delivery is on or after 1 July 2015 and before 1 January 2019.

.2 the required EEDI of Phase 1 is applied to the following new ship:

.1 the building contract of which is placed in Phase 1, and the delivery is before 1 January 2024; or

.2 the building contract of which is placed before Phase 1, and the delivery is on or after 1 January 2019 and before 1 January 2024; or

in the absence of a building contract,

.3 the keel of which is laid or which is at a similar stage of construction on or after 1 July 2015 and before 1 July 2020, and the delivery is before 1 January 2024; or

.4 the keel of which is laid or which is at a similar stage of construction before 1 July 2015, and the delivery is on or after 1 January 2019 and before 1 January 2024.

.3 the required EEDI of Phase 2 is applied to the following new ship:

.1 the building of which contract is placed in Phase 2, and the delivery is before 1 January 2029; or

.2 the building contract of which is placed before Phase 2, and the delivery is on or after 1 January 2024 and before 1 January 2029; or

in the absence of a building contract,

.3 the keel of which is laid or which is at a similar stage of construction on or after 1 July 2020 and before 1 July 2025, and the delivery is before 1 January 2029; or

.4 the keel of which is laid or which is at a similar stage of construction before 1 July 2020, and the delivery is on or after 1 January 2024 and before 1 January 2029.

.4 the required EEDI of Phase 3 is applied to the following new ship:

.1 the building of which contract is placed in Phase 3; or

.2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after 1 July 2025; or

.3 the delivery of which is on or after 1 January 2029.

2 Major conversion

Regulation 2.24 reads as follows:

> "24 *Major conversion* means in relation to chapter 4 of this Annex a conversion of a ship:
>
> .1 which substantially alters the dimensions, carrying capacity or engine power of the ship; or
>
> .2 which changes the type of the ship; or
>
> .3 the intent of which in the opinion of the Administration is substantially to prolong the life of the ship; or
>
> .4 which otherwise so alters the ship that, if it were a new ship, it would become subject to relevant provisions of the present Convention not applicable to it as an existing ship; or
>
> .5 which substantially alters the energy efficiency of the ship and includes any modifications that could cause the ship to exceed the applicable required EEDI as set out in regulation 21 of this Annex."

***Interpretation*:**

2.1 For regulation 2.24.1, any substantial change in hull dimensions and/or capacity (e.g. change of length between perpendiculars (L_{PP}) or change of assigned freeboard) should be considered a major conversion. Any substantial increase of total engine power for propulsion (e.g. 5% or more) should be considered a major conversion. In any case, it is the Administration's authority to evaluate and decide whether an alteration should be considered as major conversion, consistent with chapter 4.

> **Note:** Notwithstanding paragraph 2.1, assuming no alteration to the ship structure, both decrease of assigned freeboard and temporary increase of assigned freeboard due to the limitation of deadweight or draft at calling port should not be construed as a major conversion. However, an increase of assigned freeboard, except a temporary increase, should be construed as a major conversion.

2.2 Notwithstanding paragraph 2.1, for regulation 2.24.5, the effect on Attained EEDI as a result of any change of ships' parameters, particularly any increase in total engine power for propulsion, should be investigated. In any case, it is the Administration's authority to evaluate and decide whether an alteration should be considered as major conversion, consistent with chapter 4.

2.3 A company may, at any time, voluntarily request re-certification of the EEDI, with IEE Certificate reissuance, on the basis of any new improvements to the ships' efficiency that are not considered to be major conversions.

2.4 In regulation 2.24.4, the terms "new ship" and "existing ship" should be understood as they are used in MARPOL Annex I, regulation 1.9.1.4, rather than as the defined terms in regulations 2.22 and 2.23.

2.5 The term "a ship" referred to in regulation 5.4.2 is interpreted as "new ship".

3 Ships dedicated to the carriage of fruit juice in refrigerated cargo tanks

Regulation 2.30 reads as follows:

> "30 *Refrigerated cargo carrier* means a ship designed exclusively for the carriage of refrigerated cargoes in holds."

***Interpretation*:**

Ships dedicated to the carriage of fruit juice in refrigerated cargo tanks should be categorized as refrigerated cargo carrier.

4 Timing for existing ships to have on board a SEEMP

Regulation 5
Surveys

Regulation 5.4.4 reads as follows:

> ".4 For existing ships, the verification of the requirement to have a SEEMP on board according to regulation 22 shall take place at the first intermediate or renewal survey identified in paragraph 1 of this regulation, whichever is the first, on or after 1 January 2013."

Regulation 6
Issue or endorsement of a Certificate

Regulation 6.4 reads as follows:

> "4 An International Energy Efficiency Certificate for the ship shall be issued after a survey in accordance with the provisions of regulation 5.4 of this Annex to any ship of 400 gross tonnage and above before that ship may engage in voyages to ports or offshore terminals under the jurisdiction of other Parties."

Regulation 22
Ship Energy Efficiency Management Plan (SEEMP)

Regulation 22.1 reads as follows:

> "1 Each ship shall keep on board a ship specific Ship Energy Efficiency Management Plan (SEEMP). This may form part of the ship's Safety Management System (SMS)."

***Interpretation*:**

4.1 The International Energy Efficiency Certificate (IEEC) should be issued for both new and existing ships to which chapter 4 applies. Ships which are not required to keep an SEEMP on board are not required to be issued with an IECC.

4.2 The SEEMP required by regulation 22.1 is not required to be placed on board an existing ship to which this regulation applies until the verification survey specified in regulation 5.4.4 is carried out.

4.3 For existing ships, a SEEMP required in accordance with regulation 22 should be verified on board according to regulation 5.4.4, and an IEEC should be issued, not later than the first intermediate or renewal survey, in accordance with chapter 2, whichever is earlier, on or after 1 January 2013, i.e. a survey connected to an intermediate/renewal survey of the IAPP Certificate.

4.4 The intermediate or renewal survey referenced in paragraph 4.3 relates solely to the timing of the verification of the SEEMP on board, i.e. these IAPP Certificate survey windows will also become the IEEC initial survey date for existing ships. The SEEMP is, however, a survey item solely under chapter 4 and is not a survey item relating to IAPP Certificate surveys.

4.5 In the event that the SEEMP is not available on board during the first intermediate/renewal survey of the IAPP Certificate on or after 1 January 2013, the RO should seek the advice of the Administration concerning the issuance of an IEEC and be guided accordingly. However, the validity of the IAPP Certificate is not impacted by the lack of a SEEMP as the SEEMP is a survey item solely under chapter 4 and not under the IAPP Certificate surveys.

4.6 With respect to ships required to keep on board a SEEMP, such ships exclude platforms (including FPSOs and FSUs) and drilling rigs, regardless of their propulsion, and any other ship without means of propulsion.

4.7 The SEEMP should be written in a working language or languages understood by ships' personnel.

5 Section 2.3 of the supplement to the IAPP Certificate

Regulation 8
Form of Certificates

Regulation 8.1 reads as follows:

> "1 The International Air Pollution Prevention Certificate shall be drawn up in a form corresponding to the model given in appendix I to this Annex and shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy."

Appendix 1
Form of International Air Pollution Prevention (IAPP) Certificate (Regulation 8)

Section 2.3 of the supplement to International Air Pollution Prevention Certificate reads as follows:

"2.3 Sulphur oxides (SO_x) and particulate matter (regulation 14)

2.3.1 When the ship operates outside of an Emission Control Area specified in regulation 14.3, the ship uses:

.1 fuel oil with a sulphur content as documented by bunker delivery notes that does not exceed the limit value of:

- 4.50% m/m (not applicable on or after 1 January 2012); or ☐
- 3.50% m/m (not applicable on or after 1 January 2020); or ☐
- 0.50% m/m, and/or ☐

.2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in 2.6 that is at least as effective in terms of SO_x emission reductions as compared to using a fuel oil with a sulphur content limit value of:

- 4.50% m/m (not applicable on or after 1 January 2012); or ☐
- 3.50% m/m (not applicable on or after 1 January 2020); or ☐
- 0.50% m/m ☐

2.3.2 When the ship operates inside an Emission Control Area specified in regulation 14.3, the ship uses:

.1 fuel oil with a sulphur content as documented by bunker delivery notes that does not exceed the limit value of:

- 1.00% m/m (not applicable on or after 1 January 2015); or ☐
- 0.10% m/m, and/or ☐

.2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in 2.6 that is at least as effective in terms of SO_x emission reductions as compared to using a fuel oil with a sulphur content limit value of:

- 1.00% m/m (not applicable on or after 1 January 2015); or ☐
- 0.10% m/m ☐

***Interpretation*:**

Section 2.3 of the Supplement ("as documented by bunker delivery notes") allows for an "x" to be entered in advance of the dates indicated in all of the relevant check boxes recognizing that the bunker delivery notes, required to be retained on board for a minimum period of three years, provide the subsequent means to check that a ship is actually operating in a manner consistent with the intent as given in section 2.3.

6 Identical replacement engines

Regulation 13
Nitrogen oxides (NO_x)

Regulation 13.1.1.2 reads as follows:

".2 each marine diesel engine with a power output of more than 130 kW which undergoes a major conversion on or after 1 January 2000 except when demonstrated to the satisfaction of the Administration that such engine is an identical replacement to the engine which it is replacing and is otherwise not covered under paragraph 1.1.1 of this regulation."

Regulation 13.2.2 reads as follows:

> "2.2 For a major conversion involving the replacement of a marine diesel engine with a non-identical marine diesel engine or the installation of an additional marine diesel engine, the standards in this regulation in force at the time of the replacement or addition of the engine shall apply."

Interpretation:

6.1 In regulation 13.1.1.2, the term "identical" (and hence, by application of the converse, in regulation 13.2.2 the term "non-identical") as applied to engines under regulation 13 should be taken as:

6.2 An "identical engine" is, as compared to the engine being replaced[1], an engine which is of the same:

.1 design and model;

.2 rated power;

.3 rated speed;

.4 use;

.5 number of cylinders; and

.6 fuel system type (including, if applicable, injection control software):

.1 for engines without EIAPP certification, have the same NO_x critical components and settings[2]; or

.2 for engines with EIAPP certification, belonging to the same Engine Group/Engine Family.

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1 In those instances where the replaced engine will not be available to be directly compared with the replacing engine at the time of updating the Supplement to the IAPP Certificate reflecting that engine change it is to be ensured that the necessary records in respect of the replaced engine are available in order that it can be confirmed that the replacing engine represents "an identical engine".

2 For engines without EIAPP Certification there will not be the defining NO_x critical component markings or setting values as usually given in the approved Technical File. Consequently, in these instances, the assessment of "... same NO_x critical components and settings ..." shall be established on the basis that the following components and settings are the same:

Fuel system:

.1 fuel pump model and injection timing; and

.2 injection nozzle model;

Charge air:

.1 configuration and, if applicable, turbocharger model and auxiliary blower specification; and

.2 cooling medium (seawater/freshwater).

7 Time of replacement of an engine

Regulation 13.2.2 reads as follows:

> "2.2 For a major conversion involving the replacement of a marine diesel engine with a non-identical marine diesel engine, or the installation of an additional marine diesel engine, the standards in this regulation in force at the time of the replacement or addition of the engine shall apply."

Interpretation:

7.1 The term "time of the replacement or addition" of the engine in regulation 13.2.2 should be taken as the date of:

.1 the contractual delivery date of the engine to the ship[3]; or

.2 in the absence of a contractual delivery date, the actual delivery date of the engine to the ship[3], provided that the date is confirmed by a delivery receipt; or

.3 in the event the engine is fitted on board and tested for its intended purpose on or after 1 July 2016, the actual date that the engine is tested on board for its intended purpose applies in determining the standards in this regulation in force at the time of the replacement or addition of the engine.

7.2 The date in paragraph 7.1 above, provided the conditions associated with those dates apply, is the "Date of major conversion – According to regulation 13.2.2" to be entered in the Supplement of IAPP Certificate. In this case, the "Date of installation", which applies only for identical replacement engines, should be filled in with "N.A.".

7.3 If the engine is delivered in accordance with either paragraphs 7.1.1 or 7.1.2 above before 1 January 2016, but not tested before 1 July 2016 due to unforeseen circumstances beyond the control of the shipowner, then the provisions of "unforeseen delay in delivery" may be considered by the Administration in a manner similar to UI4 of MARPOL Annex I.

8 VOC management plan

Regulation 15
Volatile organic compounds (VOCs)

Regulations 15.6 and 15.7 read as follows:

> "6 A tanker carrying crude oil shall have on board and implement a VOC management plan approved by the Administration. Such a plan shall be prepared taking into account the guidelines developed by the Organization. The plan shall be specific to each ship and shall at least:
>
> .1 provide written procedures for minimizing VOC emissions during the loading, sea passage and discharge of cargo;
>
> .2 give consideration to the additional VOC generated by crude oil washing;
>
> .3 identify a person responsible for implementing the plan; and

[3] The engine is to be fitted on board and tested for its intended purpose before 1 July 2016.

.4 for ships on international voyages, be written in the working language of the master and officers and, if the working language of the master and officers is not English, French or Spanish, include a translation into one of these languages.

7 This regulation shall also apply to gas carriers only if the types of loading and containment systems allow safe retention of non-methane VOCs on board or their safe return ashore.†"

***Interpretation*:**

The requirement for a VOC management plan applies only to a tanker carrying crude oil.

9 Continuous-feed type shipboard incinerators

Regulation 16
Shipboard incineration

Regulation 16.9 reads as follows:

"9 For incinerators installed in accordance with the requirements of paragraph 6.1 of this regulation the combustion chamber gas outlet temperature shall be monitored at all times the unit is in operation. Where that incinerator is of the continuous-feed type, waste shall not be fed into the unit when the combustion chamber gas outlet temperature is below 850°C. Where that incinerator is of the batch-loaded type, the unit shall be designed so that the combustion chamber gas outlet temperature shall reach 600°C within five minutes after start-up and will thereafter stabilize at a temperature not less than 850°C."

***Interpretation*:**

For the application of this regulation, the term "waste shall not be fed into the unit" should be interpreted as follows:

The introduction of sludge oil, generated during normal operation of a ship, into a continuous-feed type incinerator during the warm-up process at combustion chamber temperatures above 500°C[4] in order to achieve the normal operation combustion chamber temperature of 850°C is allowed. The combustion chamber flue gas outlet temperature should reach 850°C within the period of time specified in the manufacturer's operations manual but should not be more than five minutes.

† Resolution MSC.30(61), International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk.

[4] For the introduction of sludge oil into the incinerator, two conditions need to be fulfilled to secure smokeless and complete combustion:

.1 the combustion chamber flue gas outlet temperature has to be above 850°C as required by regulation 16.9 of MARPOL Annex VI to ensure smokeless combustion; and

.2 the combustion chamber temperature (material temperature of the fire brickwork) has to be above 500°C to ensure a sufficient evaporation of the burnable components of the sludge oil.

10 Applicability of the requirements for a bunker delivery note

Regulation 18
Fuel oil availability and quality

Regulation 18.5 reads as follows:

> "5 For each ship subject to regulations 5 and 6 of this Annex, details of fuel oil for combustion purposes delivered to and used on board shall be recorded by means of a bunker delivery note that shall contain at least the information specified in appendix V to this Annex."

Regulation 18.6 reads as follows:

> "6 The bunker delivery note shall be kept on board the ship in such a place as to be readily available for inspection at all reasonable times. It shall be retained for a period of three years after the fuel oil has been delivered on board."

Interpretation:

For the application of these regulations, they should be interpreted as being applicable to all ships of 400 gross tonnage or above and, at the Administration's discretion, to ships of less than 400 gross tonnage.

INTERNATIONAL MARITIME ORGANIZATION

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

Circular Letter No.3495
30 October 2014

To: All IMO Members
Parties to the MARPOL Convention which are not Members of IMO

Subject: **Amendments to MARPOL**

1 MEPC 67 (13 to 17 October 2014) considered and approved the following draft amendments with a view to adoption at MEPC 68 (11 to 15 May 2015):

.1 draft amendments to MARPOL Annexes I, II, IV and V (to make relevant parts of the Polar Code mandatory); and

.2 draft amendments to MARPOL Annex I (amendments to regulation 12).

2 The Secretary-General has the honour to transmit herewith, in accordance with article 16(2)(a) of the MARPOL Convention, the text of the draft amendments referred to above, given in the annexes, with a view to their consideration for adoption at MEPC 68 in accordance with article 16(2)(b), (c) and (d) of the said Convention.

***

ANNEX 1

DRAFT AMENDMENTS TO MARPOL ANNEXES I, II, IV AND V

ANNEX I
REGULATIONS FOR THE PREVENTION OF POLLUTION BY OIL

Chapter 1
General

Regulation 3 – Exemptions and waivers

1 In paragraph 1, the words "or section 1.2 of part II-A of the Polar Code" are inserted between "chapters 3 and 4 of this Annex" and "relating to construction".

2 A new paragraph 5.2.2 is added as follows:

".2 voyages within Arctic waters; or"

3 The existing paragraphs 5.2.2 to 5.2.6 are renumbered as paragraphs 5.2.3 to 5.2.7 and the subparagraphs are renumbered accordingly.

4 The chapeau of the new paragraph 5.2.3 is replaced with the following:

".3 voyages within 50 nautical miles from the nearest land outside special areas or Arctic waters where the tanker is engaged in:"

Regulation 4 – Exceptions

5 The chapeau is replaced with the following:

"Regulations 15 and 34 of this Annex and paragraph 1.1.1 of part II-A of the Polar Code shall not apply to:"

Chapter 3
Requirements for machinery spaces of all ships

Part B
Equipment

Regulation 14 – Oil filtering equipment

6 Paragraph 5.1 is replaced with the following:

".1 any ship engaged exclusively on voyages within special areas or Arctic waters, or"

7 In paragraph 5.3.4, between the words "with special areas" and "or has been accepted", the words "or Arctic waters" are inserted.

Part C
Control of discharge of oil

Regulation 15 – Control of discharge of oil

8 At the end of the title for section A, the words "except in Arctic waters" are added.

9 At the end of the title for section C, the words "and Arctic waters" are added.

Chapter 4
Requirements for the cargo area of oil tankers

Part C
Control of operational discharges of oil

Regulation 34 – Control of discharge of oil

10 At the end of the title for section A, the words "except in Arctic waters" are added.

Chapter 6
Reception facilities

Regulation 38 – Reception facilities

11 In paragraph 2.5, the words "and paragraph 1.1.1 of part II-A of Polar Code" are added after the words "regulations 15 and 34 of this Annex".

12 In paragraph 3.5, the words "and paragraph 1.1.1 of part II-A of Polar Code" are added after the words "regulation 15 of this Annex".

Chapter 11
International Code for ships operating in polar waters

13 A new chapter 11 is added after existing chapter 10 as follows:

"**Chapter 11 – International Code for ships operating in polar waters**

Regulation 46 – Definitions

For the purpose of this Annex,

1 *Polar Code* means the International Code for ships operating in polar waters, consisting of an introduction, parts I-A and II-A and parts I-B and II-B, as adopted by resolutions [MEPC….(…) and MSC….(…)], as may be amended, provided that:

.1 amendments to the environment-related provisions of the introduction and chapter 1 of part II-A of the Polar Code are adopted, brought into force and take effect, in accordance with the provisions of article 16 of the present Convention concerning the amendment procedures applicable to an appendix to an annex; and

.2 amendments to part II-B of the Polar Code are adopted by the Marine Environment Protection Committee in accordance with its Rules of Procedure.

2 *Arctic waters* means those waters which are located north of a line from the latitude 58º00´.0 N and longitude 042º00´0 W to latitude 64°37´0 N, longitude 035°27´0 W and thence by a rhumb line to latitude 67º03´9 N, longitude 026º33´4 W and thence by a rhumb line to Sørkapp, Jan Mayen and by the southern shore of Jan Mayen to the Island of Bjørnøya, and thence by a great circle line from the Island of Bjørnøya to Cap Kanin Nos and hence by the northern shore of the Asian Continent eastward to the Bering Strait and thence from the Bering Strait westward to latitude 60ºN as far as Il'pyrskiy and following the 60th North parallel eastward as far as and including Etolin Strait and thence by the northern shore of the North American continent as far south as latitude 60ºN and thence eastward along parallel of latitude 60ºN, to longitude 56º37´1 W and thence to the latitude 58º00´0 N, longitude 042º00´0 W.

3 *Polar waters* means Arctic waters and/or the Antarctic area.

Regulation 47 – Application and requirements

1 This chapter applies to all ships operating in polar waters.

2 Unless expressly provided otherwise, any ship covered by paragraph 1 of this regulation shall comply with the environment-related provisions of the introduction and with chapter 1 of part II-A of the Polar Code, in addition to any other applicable requirements of this Annex.

3 In applying chapter 1 of part II-A of the Polar Code, consideration should be given to the additional guidance in part II-B of the Polar Code."

Appendix II
Form of IOPP Certificate and Supplements

Appendix

Supplement to the international Oil Pollution Prevention Certificate (IOPP Certificate) – Form A

14 A new section 8 is added after existing section 7 as follows:

"8 Compliance with part II-A – chapter 1 of the Polar Code

8.1 The ship is in compliance with additional requirements in the environment-related provisions of the Introduction and section 1.2 of chapter 1 of part II-A of the Polar Code..... "

Supplement to the international Oil Pollution Prevention Certificate (IOPP Certificate) – Form B

15 A new section 11 is added after existing section 10 as follows:

"11 Compliance with part II-A –chapter 1 of the Polar Code

11.1 The ship is in compliance with additional requirements in the environmental part of the introduction and section 1.2 of chapter I of part II-A of the Polar Code."

ANNEX II
REGULATIONS FOR THE CONTROL OF POLLUTION OF NOXIOUS LIQUID SUBSTANCES IN BULK

Chapter 1
General

Regulation 3 – Exceptions

1 In the chapeau of paragraph 1, between the words "this Annex" and "shall not apply", the words "and chapter 2 of part II-A of the Polar Code" are inserted.

Chapter 6
Measures of control by port States

Regulation 16 – Measures of control

2 In paragraph 3, the reference to "regulation 13 and of this regulation" is replaced with "regulation 13 and of this regulation, and chapter 2 of part II-A of the Polar Code when the ship is operating in Arctic waters,"

Chapter 10
International Code for ships operating in polar waters

3 A new chapter 10 is added after existing chapter 9 as follows:

"**Chapter 10 – International Code for ships operating in polar waters**

Regulation 21 – Definitions

For the purpose of this Annex,

1 *Polar Code* means the International Code for ships operating in polar waters, consisting of an introduction, part I-A and part II-A and parts I-B and II-B, as adopted by resolutions [MEPC….(…) and MSC….(…)] as may be amended, provided that:

.1 amendments to the environment-related provisions of the introduction and chapter 2 of part II-A of the Polar Code are adopted, brought into force and take effect in accordance with the provisions of article 16 of the present Convention concerning the amendment procedures applicable to an appendix to an annex; and

.2 amendments to part II-B of the Polar Code are adopted by the Marine Environment Protection Committee in accordance with its Rules of Procedure.

2 *Arctic waters* means those waters which are located north of a line from the latitude 58º00´.0 N and longitude 042º00´0 W to latitude 64°37´0 N, longitude 035°27´0 W and thence by a rhumb line to latitude 67º03´9 N, longitude 026º33´4 W and thence by a rhumb line to Sørkapp, Jan Mayen and by the southern shore of Jan Mayen to the Island

of Bjørnøya, and thence by a great circle line from the Island of Bjørnøya to Cap Kanin Nos and hence by the northern shore of the Asian Continent eastward to the Bering Strait and thence from the Bering Strait westward to latitude 60ºN as far as Il'pyrskiy and following the 60th North parallel eastward as far as and including Etolin Strait and thence by the northern shore of the North American continent as far south as latitude 60ºN and thence eastward along parallel of latitude 60ºN, to longitude 56º37´1 W and thence to the latitude 58º00´0 N, longitude 042º00´0 W.

3 *Polar waters* means Arctic waters and/or the Antarctic area.

Regulation 22 – Application and requirements

1 This chapter applies to all ships certified to carry noxious liquid substances in bulk, operating in polar waters.

2 Unless expressly provided otherwise, any ship covered by paragraph 1 of this regulation shall comply with the environment-related provisions of the introduction and with chapter 2 of part II-A of the Polar Code, in addition to any other applicable requirements of this Annex.

3 In applying chapter 2 of part II-A of the Polar Code, consideration should be given to the additional guidance in part II-B of the Polar Code."

Appendix IV
Standard format for the Procedures and Arrangements Manual

Section 1 – Main features of MARPOL Annex II

4 At the end of paragraph 1.3, the following sentence is added:

"In addition, under chapter 2 of part II-A of the Polar Code, more stringent discharge criteria apply in Arctic waters."

Section 4 – Procedures relating to the cleaning of cargo tanks, the discharge of residues, ballasting and deballasting

5 In paragraph 4.4.3, the words "Antarctic area (the sea area south of latitude 60º S)" are replaced with the words "polar waters".

ANNEX IV
REGULATIONS FOR THE PREVENTION OF POLLUTION BY SEWAGE FROM SHIPS

Chapter 1
General

Regulation 3 – Exceptions

1 The chapeau of paragraph 1 is replaced with the following:

"1 Regulation 11 of this Annex and section 4.2 of chapter 4 of part II-A of the Polar Code, shall not apply to:"

Chapter 7
International Code for ships operating in polar waters

2 A new chapter 7 is added after existing chapter 6 as follows:

"**Chapter 7 – International Code for ships operating in polar waters**

Regulation 17 – Definitions

For the purpose of this Annex,

1 *Polar Code* means the International Code for ships operating in polar waters, consisting of an introduction, part I-A and part II-A and parts I-B and II-B, as adopted by resolutions [MEPC….(…) and MSC….(…)] as may be amended, provided that:

.1 amendments to the environment-related provisions of the introduction and chapter 4 of part II-A of the Polar Code are adopted, brought into force and take effect in accordance with the provisions of article 16 of the present Convention concerning the amendment procedures applicable to an appendix to an annex; and

.2 amendments to part II-B of the Polar Code are adopted by the Marine Environment Protection Committee in accordance with its Rules of Procedure.

2 *Antarctic area* means the sea area south of latitude 60º S.

3 *Arctic waters* means those waters which are located north of a line from the latitude 58º00.´0 N and longitude 042º00´0 W to latitude 64°37´0 N, longitude 035°27´0 W and thence by a rhumb line to latitude 67º03´9 N, longitude 026º33´4 W and thence by a rhumb line to Sørkapp, Jan Mayen and by the southern shore of Jan Mayen to the Island of Bjørnøya, and thence by a great circle line from the Island of Bjørnøya to Cap Kanin Nos and hence by the northern shore of the Asian Continent eastward to the Bering Strait and thence from the Bering Strait westward to latitude 60ºN as far as Il'pyrskiy and following the 60th North parallel eastward as far as and including Etolin Strait and thence by the northern shore of the North American continent as far south as latitude 60ºN and thence eastward along parallel of latitude 60ºN, to longitude 56º37´1 W and thence to the latitude 58º00´0 N, longitude 042º00´0 W.

4 *Polar waters* means Arctic waters and/or the Antarctic area.

Regulation 18 – Application and requirements

1 This chapter applies to all ships operating in polar waters certified in accordance with this Annex.

2 Unless expressly provided otherwise, any ship covered by paragraph 1 of this regulation shall comply with the environment-related provisions of the introduction and with chapter 4 of part II-A of the Polar Code, in addition to any other applicable requirements of this Annex."

ANNEX V
REGULATIONS FOR THE PREVENTION OF POLLUTION BY SEWAGE FROM SHIPS

Chapter 1
General

Regulation 3 – General prohibition on discharge of garbage into the sea

1 In paragraph 1, the reference to "regulation 4, 5, 6 and 7 of this Annex" are replaced with "regulation 4, 5, 6 and 7 of this Annex and section 5.2 of part II-A of the Polar Code, as defined in regulation 13.1 of this Annex."

Regulation 7 – Exceptions

2 The chapeau of paragraph 1 is replaced with the following:

"1 Regulations 3, 4, 5 and 6 of this Annex and section 5.2 of chapter 5 of part II-A of the Polar Code shall not apply to:"

3 Paragraph 2.1 is replaced with the following:

".1 The en route requirements of regulations 4 and 6 of this Annex and chapter 5 of part II-A of the Polar Code shall not apply to the discharge of food wastes where it is clear the retention on board of these food wastes presents an imminent health risk to the people on board."

Regulation 10 – Placards, garbage management plans and garbage record keeping

4 In paragraph 1.1, the words "and section 5.2 of part II-A of the Polar Code" are added after the references to "regulations 3, 4, 5 and 6 of this Annex".

Chapter 3
International Code for ships operating in polar waters

5 A new chapter 3 is added as follows:

"**Chapter 3 – International Code for ships operating in polar waters**

Regulation 13 – Definitions

For the purpose of this Annex,

1 *Polar Code* means the International Code for Ships Operating in Polar Waters, consisting of an introduction, part I-A and part II-A and parts I-B and II-B, as adopted by resolutions [MEPC….(…) and MSC….(…)] as may be amended, provided that:

.1 amendments to the environment-related provisions of the introduction and chapter 5 of part II-A of the Polar Code are adopted, brought into force and take effect in accordance with the provisions of article 16 of the present Convention concerning the amendment procedures applicable to an appendix to an annex; and

.2 amendments to part II-B of the Polar Code are adopted by the Marine Environment Protection Committee in accordance with its Rules of Procedure.

2 *Arctic waters* means those waters which are located north of a line from the latitude 58º00.´0 N and longitude 042º00´0 W to latitude 64°37´0 N, longitude 035°27´0 W and thence by a rhumb line to latitude 67º03´9 N, longitude 026º33´4 W and thence by a rhumb line to Sørkapp, Jan Mayen and by the southern shore of Jan Mayen to the Island of Bjørnøya, and thence by a great circle line from the Island of Bjørnøya to Cap Kanin Nos and hence by the northern shore of the Asian Continent eastward to the Bering Strait and thence from the Bering Strait westward to latitude 60ºN as far as Il'pyrskiy and following the 60th North parallel eastward as far as and including Etolin Strait and thence by the northern shore of the North American continent as far south as latitude 60ºN and thence eastward along parallel of latitude 60ºN, to longitude 56º37´1 W and thence to the latitude 58º00´0 N, longitude 042º00´0 W.

3 *Polar waters* means Arctic waters and/or the Antarctic area.

Regulation 14 – Application and requirements

1 This chapter applies to all ships to which this Annex applies, operating in polar waters.

2 Unless expressly provided otherwise, any ship covered by paragraph 1 of this regulation shall comply with the environment-related provisions of the introduction and with chapter 5 of part II-A of the Polar Code, in addition to any other applicable requirements of this Annex.

3 In applying chapter 5 of part II-A of the Polar Code, consideration should be given to the additional guidance in part II-B of the Polar Code."

Appendix
Form of Garbage Record Book

6 The chapeau of section 4.1.3 is replaced with the following:

"4.1.3 When garbage is discharged into the sea in accordance with regulations 4, 5 or 6 of MARPOL Annex V or chapter 5 of part II-A of the Polar Code:"

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ANNEX 2

DRAFT AMENDMENTS TO REGULATION 12 OF MARPOL ANNEX I

ANNEX I
REGULATIONS FOR THE PREVENTION OF POLLUTION BY OIL

Chapter 3
Requirements for machinery spaces of all ships

Part A
Construction

Regulation 12 is replaced by the following:

"1 Unless indicated otherwise, this regulation applies to every ship of 400 gross tonnage and above except that regulation 12.3.5 need only be applied as far as is reasonable and practicable for ships delivered on or before 31 December 1979, as defined in regulation 1.28.1.

2 Oil residue (sludge) may be disposed of directly from the oil residue (sludge) tank(s) to reception facilities through the standard discharge connection referred to in regulation 13 of this Annex, or to any other approved means of disposal of oil residue (sludge), such as an incinerator, auxiliary boiler suitable for burning oil residues (sludge) or other acceptable means which shall be annotated in item 3.2 of the Supplement to IOPP Certificate Form A or B.

3 Oil residue (sludge) tank(s) shall be provided and:

.1 shall be 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;

.2 shall be provided with a designated pump that is capable of taking suction from the oil residue (sludge) tank(s) for disposal of oil residue (sludge) by means as described in regulation 12.2.

.3 shall have no discharge connections to the bilge system, oily bilge water holding tank(s), tank top or oily water separators, except that:

.1 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 discharge piping system;

.2 the sludge tank discharge piping and bilge-water piping may be connected to a common piping leading to the standard discharge connection referred to in regulation 13 of this Annex; the connection of both systems to the possible common piping leading to the standard discharge connection referred to in regulation 13 shall not allow for the transfer of sludge to the bilge system;

.4 shall not be arranged with any piping that has direct connection overboard, other than the standard discharge connection referred to in regulation 13 of this Annex; and

.5 shall be designed and constructed so as to facilitate their cleaning and the discharge of residues to reception facilities.

4 Ships constructed before [1 January 2017] shall be arranged to comply with regulation 12.3.3 not later than the first renewal survey carried out on or after [1 January 2017]."