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DEC 09, 2024

Early Application of the Amendments to SEEMP Part II on a Voluntary Basis and Reporting of Revised Ship Fuel Oil Consumption Data

Applicable to: This FLEET SAFETY LETTER should be brought to the attention of ship-owners, ship managers, operators, Masters of Vanuatu-registered ships and Recognized Organizations

Vanuatu Logistics and Administration Services Ltd. (VLAS) is announcing the voluntary early implementation of amendments to Appendix IX of MARPOL Annex VI, as adopted under Resolution MEPC.385(81). These amendments aim to enhance the reporting of ship fuel oil consumption data and support global efforts for improved energy efficiency and environmental protection in the maritime industry.

While the official enforcement date for these changes is set for August 1, 2025, VLAS will adopt the amendments early, starting January 1, 2025. All ships under our administration are encouraged to revise their Ship Energy Efficiency Management Plan (SEEMP) Part II by this date to ensure compliance with the new requirements.

Additionally, VLAS invites all vessels registered under its administration to collect and report their fuel oil consumption data at an enhanced level of granularity throughout the entire calendar year of 2025 and beyond. These efforts will ensure full compliance and contribute to meeting global standards for sustainable maritime operations.

For any questions or further clarification, please contact our office.


Berke Ayazli
by the direction of the
Assistant Commissioner of Maritime Affairs
The Republic of Vanuatu



ANNEX 3

**RESOLUTION MEPC.385(81)
(adopted on 22 March 2024)**

**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

(Low-flashpoint fuels and other fuel oil related issues, marine diesel engine replacing steam system, accessibility of data and inclusion of data on transport work and enhanced granularity in the IMO Ship Fuel Consumption Database (IMO DCS))

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

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

RECALLING ALSO article 16 of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocols of 1978 and 1997 relating thereto (MARPOL), which specifies the amendment procedure and confers upon the appropriate body of the Organization the function of considering amendments thereto for adoption by the Parties,

HAVING CONSIDERED, at its eighty-first session, proposed amendments to MARPOL Annex VI concerning low-flashpoint fuels and other fuel oil related issues, marine diesel engine replacing a steam system, and accessibility of data and inclusion of data on transport work and enhanced granularity in the IMO Ship Fuel Consumption Database (IMO DCS), which were circulated in accordance with article 16(2)(a) of MARPOL,

1 ADOPTS, in accordance with article 16(2)(d) of MARPOL, amendments to MARPOL 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 MARPOL, that the amendments shall be deemed to have been accepted on 1 February 2025 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 MARPOL, the said amendments shall enter into force on 1 August 2025 upon their acceptance in accordance with paragraph 2 above;

4 ALSO INVITES the Parties to consider the early application of the amendments to appendix IX with regard to information to be submitted to the IMO Ship Fuel Oil Consumption Database from 1 January 2025;

5 REQUESTS the Secretary-General, for the purposes of article 16(2)(e) of MARPOL, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to MARPOL;

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

ANNEX

AMENDMENTS TO MARPOL ANNEX VI

(Low-flashpoint fuels and other fuel oil related issues, marine diesel engine replacing steam system, accessibility of data and inclusion of data on transport work and enhanced granularity in the IMO Ship Fuel Consumption Database (IMO DCS))

Regulation 2*Definitions*

- 1 Paragraph 1.14 is replaced by the following:

"1.14 *Fuel oil* means any fuel delivered to and intended for use on board a ship."

- 2 A new paragraph 1.33 is inserted after existing paragraph 1.32, as follows:

"1.33 *Gas fuel* means a fuel oil with a vapour pressure exceeding 0.28 MPa absolute at a temperature of 37.8°C.*"

* Refer to paragraph 2.2.18 of the *International Code of Safety for Ships using Gases or other Low-flashpoint Fuels (IGF Code)*

Regulation 13*Nitrogen oxides (NO_x)***Major conversion**

- 3 Paragraph 2.2 is replaced by the following:

"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 at the time of the replacement or addition of the engine shall apply. For the purpose of this regulation, the installation of a marine diesel engine replacing a steam system shall be considered a replacement engine. In the case of replacement engines only, if it is not possible for such a replacement engine to meet the standards set forth in paragraph 5.1.1 of this regulation (Tier III, as applicable), then that replacement engine shall meet the standards set forth in paragraph 4 of this regulation (Tier II), taking into account the guidelines developed by the Organization*. The Administration shall notify the Organization in those instances where a Tier II rather than a Tier III replacement engine has been installed on or after 1 August 2025 in accordance with the provisions of this paragraph.

* Refer to the 2024 Guidelines as required by regulation 13.2.2 of MARPOL Annex VI in respect of non-identical replacement engines not required to meet the Tier III limit (resolution MEPC.386(81)).

Regulation 14

Sulphur oxides (SO_x) and particulate matter

- 4 Paragraph 12 is replaced by the following:

"12 The requirements of paragraphs 10 and 11 above are not applicable to a fuel oil service system used for a low-flashpoint fuel or a gas fuel."

Regulation 18

Fuel oil availability and quality

- 5 The existing chapeau of paragraph 3 is replaced by the following:

"3 Fuel oil delivered to and used on board a ship to which this Annex applies shall meet the following requirements:"

- 6 The existing chapeau of paragraph 3.2 is replaced by the following:

"3.2 fuel oil derived by methods other than petroleum refining shall not:"

- 7 Paragraph 4 is replaced by the following:

"4 This regulation does not apply to coal in its solid form or nuclear fuels. Paragraphs 5.1, 8.1 and 8.2 of this regulation do not apply to a low-flashpoint fuel or a gas fuel."

- 8 Paragraph 5 is replaced by the following new paragraphs 5.1 and 5.2, as follows:

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

5.2 For each ship subject to regulations 5 and 6 of this Annex, details of low-flashpoint fuel or gas fuel delivered to and used on board that ship shall be recorded by means of a bunker delivery note that shall include at least the information specified in items 1 to 6 of appendix V to this Annex, the density as determined by a test method appropriate to the fuel type together with the associated temperature and a declaration signed and certified by the fuel oil supplier's representative that the fuel oil is in conformity with paragraph 3 of this regulation. In addition the sulphur content of a low-flashpoint fuel or a gas fuel delivered to a ship specifically for use on board that ship shall be documented on the bunker delivery note by the supplier in terms of either the actual value as determined by a test method appropriate to the fuel type or, with the agreement of the appropriate authority at the port of supply, a statement that the sulphur content, when tested by such a method, is less than 0.001% m/m."

- 9 Paragraph 9.2 is replaced by the following:

".2 require local suppliers to provide the bunker delivery note and, if applicable, the MARPOL delivered sample as required by this regulation, certified by the fuel oil supplier that the fuel oil meets the requirements of regulations 14 and 18 of this Annex; "

Regulation 27

Collection and reporting of ship fuel oil consumption data

10 New paragraphs 14 and 15 are added after existing paragraph 13, as follows:

"14 On an ad hoc basis, the Secretary-General of the Organization may share data with analytical consultancies and research entities, under strict confidentiality rules.

15 The Secretary-General of the Organization, on the request of a company, shall grant access to the fuel oil consumption reports of the company's owned ship(s) in a non-anonymized form to the general public."

Appendix I

Form of International Air Pollution Prevention (IAPP) Certificate (regulation 8)

11 Paragraph 2.3.5 is replaced by the following:

"In accordance with regulation 14.12, the requirement for fitting or designating sampling point(s) in accordance with regulation 14.10 or 14.11 is not applicable for a fuel oil service system used for a low-flashpoint fuel or a gas fuel.....□"

Appendix IX

Information to be submitted to the IMO Ship Fuel Oil Consumption Database (regulation 27)

12 Appendix IX is replaced by the following:

" Appendix IX

Information to be submitted to the IMO Ship Fuel Oil Consumption Database (regulation 27)

Identity of the ship

IMO Number.....

Period of calendar year for which the data is submitted

Start date (dd/mm/yyyy)

End date (dd/mm/yyyy).....

Technical characteristics of the ship

Year of delivery.....

Ship type, as defined in regulation 2.2 of this Annex or other (to be stated)

Gross tonnage¹ (GT).....

Net tonnage (NT)²

Deadweight tonnage (DWT)³

Power output (rated power)⁴ of main and auxiliary reciprocating internal combustion engines over 130 kW (to be stated in kW)

Attained EEDI⁵ (if applicable).....

Attained EEXI⁶ (if applicable)

Ice class⁷

Fuel oil consumption data

Total fuel oil consumption by fuel oil type⁵ in metric tonnes and methods used for collecting fuel oil consumption data:.....

Total fuel oil consumption by fuel oil type⁵ per consumer type in metric tonnes and methods used for collecting fuel oil consumption data:

Main Engine(s)

Auxiliary Engine(s)/Generator(s)

Oil-fired Boiler(s)

Others (specify)

Fuel oil consumption while the ship is not under way by fuel oil type⁵ per consumer type in metric tonnes and methods used for collecting fuel oil consumption data:

Main Engine(s)

Auxiliary Engine(s)/Generator(s)

Oil-fired Boiler(s)

Others (specify)

Total distance travelled (nm).....

¹ Gross tonnage should be calculated in accordance with the International Convention on Tonnage Measurement of Ships, 1969.

² Net tonnage should be calculated in accordance with the International Convention on Tonnage Measurement of Ships, 1969. If not applicable, note "N/A".

³ DWT means the difference in tonnes between the displacement of a ship in water of relative density of 1,025 kg/m³ at the summer load draught and the lightweight of the ship. The summer load draught should be taken as the maximum summer draught as certified in the stability booklet approved by the Administration or an organization authorized by it. If not applicable, note "N/A".

⁴ Rated power means the maximum continuous rated power as specified on the nameplate of the engine.

⁵ Refer to the *2022 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.364(79)).

⁶ Refer to the *2022 Guidelines on the method of calculation of the attained Energy Efficiency Existing Ship Index (EEXI)* (resolution MEPC.350(78)).

⁷ Ice class should be consistent with the definition set out in the International Code for Ships Operating in Polar Waters (Polar Code) (resolutions MEPC.264(68) and MSC.385(94)). If not applicable, note "N/A".

Laden distance travelled (nm) (on a voluntary basis)

Hours under way

Total amount of onshore power supplied (kWh)

For ships to which regulation 28 of MARPOL Annex VI applies

Total transport work

Applicable CII⁸: ☐ AER ☐ cgDIST

Required annual operational CII⁹

Attained annual operational CII before any correction¹⁰

Attained annual operational CII¹¹

Installation of innovative technology¹², if applicable: ☐ A ☐ B-1 ☐ B-2 ☐ C-1 ☐ C-2

Operational carbon intensity rating¹³: ☐ A ☐ B ☐ C ☐ D ☐ E

CII for trial purpose (on voluntary basis)¹⁴:

☐ EEPI (gCO₂/t/nm)

☐ cbDIST (gCO₂/berth/nm)

☐ clDIST (gCO₂/m/nm)

☐ EEOI (gCO₂/t/nm)¹⁵"

⁸ Refer to the 2022 Guidelines on operational carbon intensity indicators and the calculation methods (CII guidelines, G1) (resolution MEPC.352(78)).

⁹ Refer to the 2022 Guidelines on the reference lines for use with operational carbon intensity indicators (CII reference lines guidelines, G2) (resolution MEPC.353(78)) and 2021 Guidelines on the operational carbon intensity reduction factors relative to reference lines (CII reduction factors guidelines, G3) (resolution MEPC.338(76)).

¹⁰ As calculated in accordance with the 2022 Guidelines on operational carbon intensity indicators and the calculation methods (CII guidelines, G1) (resolution MEPC.352(78)) before any correction using Interim guidelines on correction factors and voyage adjustments for CII calculations (G5) (resolution MEPC.355(78)).

¹¹ As calculated in accordance with the 2022 Guidelines on operational carbon intensity indicators and the calculation methods (CII guidelines, G1) (resolution MEPC.352(78)) and having been corrected taking into account Interim guidelines on correction factors and voyage adjustments for CII calculations (G5) (resolution MEPC.355(78)).

¹² Refer to the 2021 Guidance on treatment of innovative energy efficiency technologies for calculation and verification of the attained EEDI and EEXI (MEPC.1/Circ.896).

¹³ Refer to the 2022 Guidelines on the operational carbon intensity rating of ships (CII rating guidelines, G4) (resolution MEPC.354(78)).

¹⁴ Refer to the 2022 Guidelines on operational carbon intensity indicators and the calculation methods (CII guidelines, G1) (resolution MEPC.352(78)).

¹⁵ Refer to the Guidelines for voluntary use of the ship energy efficiency operational indicator (EEOI) (MEPC.1/Circ.684).

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MEPC.1/Circ.913
21 October 2024

**GUIDANCE ON THE APPLICATION OF THE AMENDMENTS TO APPENDIX IX OF
MARPOL ANNEX VI ON INCLUSION OF DATA ON TRANSPORT WORK AND
ENHANCED GRANULARITY IN THE IMO SHIP FUEL CONSUMPTION
DATABASE (IMO DCS) AS ADOPTED BY RESOLUTION MEPC.385(81)**

1 The Marine Environment Protection Committee, at its eighty-second session (30 September to 4 October 2024), approved the *Guidance on the application of the amendments to appendix IX of MARPOL Annex VI on inclusion of data on transport work and enhanced granularity in the IMO Ship Fuel Consumption Database (IMO DCS)* as adopted by resolution MEPC.385(81), as set out in the annex.

2 Member Governments are invited to bring the annexed Guidance to the attention of masters, seafarers, shipowners, ship operators and other stakeholders concerned.

ANNEX

GUIDANCE ON THE APPLICATION OF THE AMENDMENTS TO APPENDIX IX OF MARPOL ANNEX VI ON INCLUSION OF DATA ON TRANSPORT WORK AND ENHANCED GRANULARITY IN THE IMO SHIP FUEL CONSUMPTION DATABASE (IMO DCS) AS ADOPTED BY RESOLUTION MEPC.385(81)

The amended regulations 27.1 and 27.2 of MARPOL Annex VI read as follows:

"1 From calendar year 2019, each ship of 5,000 gross tonnage and above shall collect the data specified in appendix IX to this Annex, for that and each subsequent calendar year or portion thereof, as appropriate according to the methodology included in the SEEMP.

2 Except as provided for in paragraphs 4, 5 and 6 of this regulation, at the end of each calendar year, the ship shall aggregate the data collected in that calendar year or portion thereof, as appropriate."

Regulation 5.4.5 of MARPOL Annex VI reads as follows:

"5 The Administration shall ensure that for each ship to which regulation 27 applies, the SEEMP complies with regulation 26.2 of this Annex. This shall be done prior to collecting data under regulation 27 of this Annex in order to ensure the methodology and processes are in place prior to the beginning of the ship's first reporting period. Confirmation of compliance shall be provided to and retained on board the ship;"

Regulation 26.2 of MARPOL Annex VI reads as follows:

"2 In the case of a ship of 5,000 gross tonnage and above, the SEEMP shall include a description of the methodology that will be used to collect the data required by regulation 27.1 of this Annex and the processes that will be used to report the data to the ship's Administration."

Guidance on application

Within the scope of application of the amendments to appendix IX of MARPOL Annex VI adopted by resolution MEPC.385(81) and aiming to maintain uniform data granularity throughout the collection and reporting process over a calendar year, the term "portion thereof" in regulations 27.1 and 27.2 of MARPOL Annex VI should be applied in such a way that all data portions for the same calendar year are to be collected and reported at the same level of granularity.

Prior to collecting data specified in appendix IX of MARPOL Annex VI as amended by resolution MEPC.385(81), each ship to which regulation 27 applies should have their SEEMP revised to ensure compliance with regulation 26.2 of MARPOL Annex VI, taking into account the *2024 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)* (resolution MEPC.395(82)).

In light of this, Administrations are invited to apply the amendments adopted by resolution MEPC.385(81) as follows:

For ships flying the flag of the Administration which implements the amendments early (1 January 2025):

- .1 the SEEMP should undergo revision and verification by the Administration, or its recognized organization, to incorporate a description of the methodology intended for collecting data with enhanced granularity before 1 January 2025 or the delivery date for ships delivered on or after 1 January 2025. Those planning to retrofit flow meters or other methodologies should complete these actions within the same time frame; and
- .2 data will be collected and reported with an enhanced level of granularity throughout the entire year of 2025 and beyond.

For ships flying the flag of the Administration which implements the amendments on the entry-into-force date (1 August 2025):

- .1 the SEEMP should undergo revision and verification by the Administration, or its recognized organization, to incorporate a description of the methodology intended for collecting data with enhanced granularity before 1 January 2026. Those planning to retrofit flow meters or employ other methodologies should complete these actions within the same time frame;
 - .2 data will be collected with the existing level of granularity throughout the entire year of 2025 and, therefore, the data reported at the beginning of 2026 will be based on this consistent level. Data will be collected and reported with the enhanced level of granularity from 1 January 2026 and beyond; and
 - .3 ships delivered on or after 1 August 2025 should collect data at the enhanced level of granularity from the date of delivery and the data reported at the beginning of 2026 will be based on appendix IX of MARPOL Annex VI in the annex to resolution MEPC.385(81), as this provides consistent data collection and reporting for such ships on or after the entry-into-force date.
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ANNEX 6

RESOLUTION MEPC.388(81) (adopted on 22 March 2024)

AMENDMENTS TO THE 2022 GUIDELINES FOR THE DEVELOPMENT OF A SHIP ENERGY EFFICIENCY MANAGEMENT PLAN (SEEMP) (RESOLUTION MEPC.346(78))

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 that regulation 26 of MARPOL Annex VI requires each ship to keep on board a Ship Energy Efficiency Management Plan (SEEMP), to be developed and reviewed, taking into account the guidelines adopted by the Organization,

NOTING ALSO that, at its seventy-eighth session, it adopted, by resolution MEPC.346(78), the *2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*,

HAVING CONSIDERED, at its eighty-first session, proposed amendments to the *2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*,

1 ADOPTS amendments to the *2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*, the text of which is set out in the annex to the present resolution;

2 REQUESTS the Parties to MARPOL Annex VI and other Member Governments to bring the annexed amendments to the attention of masters, seafarers, shipowners, ship operators and any other interested parties.

ANNEX

AMENDMENTS TO THE 2022 GUIDELINES FOR THE DEVELOPMENT OF A SHIP ENERGY EFFICIENCY MANAGEMENT PLAN (SEEMP) (RESOLUTION MEPC.346(78))

- 1 A new paragraph 2.5 is added after paragraph 2.4, as follows:

"2.5 *Consumer type* means a type of engine or set of engines, boiler, fuel cell or others used for the same purpose."

- 2 Section 7 is replaced by the following:

**"7 GUIDANCE ON METHODOLOGY FOR COLLECTING DATA ON FUEL OIL
CONSUMPTION, DISTANCE TRAVELLED AND HOURS UNDER WAY
AND OTHER ITEMS**

Total annual fuel oil¹ consumption

7.1 Fuel oil consumption should include all the fuel oil consumed on board including but not limited to the fuel oil consumed by the main engines, auxiliary engines, gas turbines, boilers and inert gas generator, for each type of fuel oil consumed, regardless of whether a ship is under way or not. Methods for collecting data on annual fuel oil consumption in metric tonnes include (in no particular order):

- .1 method using bunker delivery notes (BDNs):

This method determines the annual total amount of fuel oil used based on BDNs, which are required for fuel oil for combustion purposes delivered to and used on board a ship in accordance with regulation 18 of MARPOL Annex VI; BDNs are required to be retained on board for three years after the fuel oil has been delivered. The Data Collection Plan should set out how the ship will operationalize the summation of BDN information and conduct tank readings. The main components of this approach are as follows:

- .1 annual fuel oil consumption would be the total mass of fuel oil used on board the vessel as reflected in the BDNs. In this method, the BDN fuel oil quantities would be used to determine the annual total mass of fuel oil consumption, plus the amount of fuel oil left over from the last calendar year period and less the amount of fuel oil carried over to the next calendar year period;
- .2 to determine the difference between the amount of remaining tank oil before and after the period, the tank reading should be carried out at the beginning and the end of the period;
- .3 in the case of a voyage that extends across the data reporting period, the tank reading should occur by tank monitoring at the ports of departure and arrival of the voyage and by statistical methods, such as rolling average using voyage days;

¹ Regulation 2.1.14 of MARPOL Annex VI defines "fuel oil" as any fuel delivered to and intended for combustion purposes for propulsion or operation on board a ship, including gas, distillate and residual fuels.

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- .4 fuel oil tank readings should be carried out by appropriate methods such as automated systems, soundings and dip tapes. The method for tank readings should be specified in the Data Collection Plan;
 - .5 the amount of any fuel oil offloaded should be subtracted from the fuel oil consumption of that reporting period. This amount should be based on the records of the ship's oil record book; and
 - .6 any supplemental data used for closing identified difference in bunker quantity should be supported with documentary evidence;
- .2 method using flow meters:
- This method determines the annual total amount of fuel oil consumption by measuring fuel oil flows on board by using flow meters. In case of the breakdown of flow meters, manual tank readings or other alternative methods will be conducted instead. The Data Collection Plan should set out information about the ship's flow meters and how the data will be collected and summarized, as well as how necessary tank readings should be conducted, as follows:
- .1 annual fuel oil consumption may be the sum of daily fuel oil consumption data of all relevant fuel oil consuming processes on board measured by flow meters;
 - .2 the flow meters applied to monitoring should be located so as to measure all fuel oil consumption on board. The flow meters and their link to specific fuel oil consumers should be described in the Data Collection Plan;
 - .3 note that it should not be necessary to correct this fuel oil measurement method for sludge if the flow meter is installed after the daily tank as sludge will be removed from the fuel oil prior to the daily tank;
 - .4 the flow meters applied to monitoring fuel oil flow should be identified in the Data Collection Plan. Any consumer not monitored with a flow meter should be clearly identified, and an alternative fuel oil consumption measurement method should be included; and
 - .5 calibration of the flow meters should be specified. Calibration and maintenance records should be available on board;
- .3 method using bunker fuel oil tank monitoring on board:
- .1 to determine the annual fuel oil consumption, the amount of daily fuel oil consumption data measured by tank readings which are carried out by appropriate methods

such as automated systems, soundings and dip tapes will be aggregated. The tank readings will normally occur daily when the ship is at sea and each time the ship is bunkering or de-bunkering; and

.2 the summary of monitoring data containing records of measured fuel oil consumption should be available on board;

.4 method using LNG cargo tank monitoring on board:

LNG ships use the Custody Transfer Monitoring System (CTMS) to monitor/record the cargo volumes inside the tanks. When calculating the consumption:

.1 the LNG liquid volume consumed is converted to mass using the methane density of 422 kg/m³. This is because LNG is transported at methane boiling point, while other heavier hydrocarbons have a higher boiling point and remain at liquid state; and

.2 nitrogen mass content is subtracted for each laden voyage from LNG consumption as it does not contribute to CO₂ emissions;

.5 method using cargo tank monitoring on board for ships using cargo other than LNG as a fuel:

.1 to determine the annual fuel oil consumption, the amount of daily fuel oil consumption data measured by tank readings which are carried out by appropriate methods to the cargo used as a fuel. The method for tank readings should be specified in the SEEMP Data Collection Plan; and

.2 the tank readings will normally occur daily when the ship is at sea and each time the ship is loading or discharging cargo; and the summary of monitoring data containing records of measured fuel oil consumption should be available on board.

7.2 Any corrections, e.g. density, temperature, nitrogen content for LNG, if applied, should be documented.²

Fuel oil consumption per consumer type

7.3 For the collection of fuel oil consumption per consumer type (main engines, auxiliaries, boilers and others), the methods can include:

.1 method using flow meters:

² For example, ISO 8217 provides a method for liquid fuel.

This method determines the annual fuel oil consumption by measuring fuel oil flows on board by using flow meters. In case of the breakdown of flow meters, manual tank readings or other alternative methods will be conducted instead. The Data Collection Plan should set out information about the ship's flow meters and how the data will be collected and summarized, as well as how necessary tank readings should be conducted, as follows:

- .1 annual fuel oil consumption may be the sum of daily fuel oil consumption data of each consumer type on board measured by flow meters;
 - .2 the flow meters applied to monitoring should be located so as to measure all fuel oil consumption for each consumer type;
 - .3 note that it should not be necessary to correct this fuel oil measurement method for sludge if the flow meter is installed after the daily tank as sludge will be removed from the fuel oil prior to the daily tank;
 - .4 the flow meters applied to monitoring fuel oil flow and their link to specific fuel consumer types should be identified in the Data Collection Plan. Any individual consumer of a consumer type not monitored with a flow meter should be clearly identified, and an alternative fuel oil consumption measurement method should be included; and
 - .5 calibration of the flow meters should be specified. Calibration and maintenance records should be available on board;
- .2 method using bunker fuel oil tank monitoring on board:
- .1 to determine the annual fuel oil consumption of each consumer type, the amount of daily fuel oil consumption data measured by tank readings which are carried out by appropriate methods such as automated systems, soundings and dip tapes will be aggregated. The tank readings will normally occur daily when the ship is at sea and each time the ship is bunkering or de-bunkering; and
 - .2 the summary of monitoring data containing records of measured fuel oil consumption should be available on board;

7.4 If there is a consumer type whose fuel oil consumption cannot be determined directly according to one of the methods indicated in paragraphs 7.3.1 and 7.3.2, the annual fuel oil consumption of that consumer type should be determined according to one of the following methods. The method used to determine the annual fuel oil consumption of each consumer type should be described in detail in the Data Collection Plan. Note that each consumer type may use a different method to measure fuel oil consumption.

.1 method using subtraction:

If the fuel consumption for only one of the consumer types is not available, the fuel consumption of this consumer type may be derived by subtracting the fuel consumption of the other consumer types from the total annual fuel oil consumption measured in paragraph 7.1; and

.2 method using estimated fuel oil consumption:

In cases where none of the above methods in paragraphs 7.3.1, 7.3.2 and 7.4.1 can be applied, an alternative method that is to the satisfaction of the Administration or any organization recognized by it may be used to estimate the annual fuel oil consumption of the consumer type, based for example on manufacturer data or actual historic fuel consumption for a specified period.

Conversion factor C_F

7.5 If fuel oils are used that do not fall into one of the categories as described in the *2022 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.364(79)), and have no C_F -factor assigned (e.g. some "hybrid fuel oils"), the fuel oil supplier should provide a C_F -factor for the respective product supported by documentary evidence.

Distance travelled

7.6 Appendix IX of MARPOL Annex VI specifies that distance travelled should be submitted to the Administration and:

- .1 distance travelled over ground in nautical miles should be recorded in the logbook in accordance with SOLAS regulation V/28.1;³
- .2 the distance travelled while the ship is under way under its own propulsion should be included in the aggregated data of distance travelled for the calendar year; and
- .3 other methods to measure distance travelled accepted by the Administration may be applied. In any case, the method applied should be described in detail in the Data Collection Plan.

7.7 Laden distance should be calculated as the distance sailed when the ship is loaded.

Hours under way

7.8 Appendix IX of MARPOL Annex VI specifies that hours under way should be submitted to the Administration. Hours under way should be an aggregated duration while the ship is under way under its own propulsion.

³ Distance travelled measured using satellite data is distance travelled over the ground.

Data quality

7.9 The Data Collection Plan should include data quality control measures which should be incorporated into the existing safety management system. Additional measures to be considered could include:

- .1 the procedure for identification of data gaps and correction thereof; and
- .2 the procedure to address data gaps if monitoring data is missing, for example, flow meter malfunctions.

Total amount of onshore power supplied

7.10 Total amount of onshore power supplied should be calculated as the sum of amount of onshore power supplied in kWh. The amount of onshore power supplied should be recorded based on relevant document by power supplier. The document should be stored. This information as shown on the bill from the port or electricity provider could be included in the electronic record.

Total transport work

7.11 Total transport work is the annual sum of each voyage's transport work which is distance sailed multiplied by cargo carried during a voyage. Relevant transport work metrics per ship types are provided in Table 1 below.

Table 1: Transport work to be reported per ship type

Ship type	Transport work metric
bulk carriers, tankers, combination carriers, gas carriers, LNG carriers, general cargo ships, ro-ro cargo ships (vehicle carriers), ro-ro cargo ships	$\sum_v (cargo_mass_v \times distance_v)$
containerships	$\sum_v ((cargo_mass_v + container_mass_v) \times distance_v))$ and $\sum_v (No_of_TEU_v \times distance_v)$
cruise passenger ships	$\sum_v (No_of_passengers_v \times distance_v)$
ro-ro passenger ships	$\sum_v (No_of_passengers_v \times distance_v)$ and $\sum_v (cargo_mass_v \times distance_v)$

A standardized data reporting format

7.12 Regulation 27.3 of MARPOL Annex VI states that the data specified in appendix IX of the Annex are to be communicated electronically using a standardized form developed by the Organization. The collected data should be reported to the Administration in the standardized format shown in appendix 3."

3 Appendix 2, section 4 is replaced by the following:

4 Ship engines and other fuel oil consumers and fuel oil types used

	Engines or other fuel oil consumer type	Power	Fuel oil types
1	Type/model of main engine	(kW)	
2	Type/model of auxiliary engine	(kW)	
3	Boiler	(...)	
4	Inert gas generator	(...)	
5	Others (Specify)	(...)	

4 Appendix 2, sections 6 and 7 are replaced by the following:

"6 Method to measure fuel oil consumption

The applied methods for measurement for each consumer type of this ship are given below. The description explains the procedure for measuring data and calculating annual values, measurement equipment involved, etc.

Engines or other fuel oil consumer type	Method	Description
Type/model of main engine		
Type/model of auxiliary engine		
Boiler		
Others (Specify)		

7 Method to measure distance travelled including laden distance

Description

"

ANNEX 9

DRAFT MEPC RESOLUTION

**AMENDMENTS TO THE 2022 GUIDELINES FOR THE DEVELOPMENT OF A SHIP
ENERGY EFFICIENCY MANAGEMENT PLAN (SEEMP) (RESOLUTION MEPC.346(78),
AS AMENDED BY RESOLUTION MEPC.388(81))**

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 that regulation 26 of MARPOL Annex VI requires each ship to keep on board a Ship Energy Efficiency Management Plan (SEEMP), to be developed and reviewed, taking into account the guidelines adopted by the Organization,

RECALLING that, at its seventy-eighth session, it adopted, by resolution MEPC.346(78), the *2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*,

RECALLING ALSO that, at its eighty-first session, it adopted, by resolution MEPC.388(81), amendments to the *2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*,

HAVING CONSIDERED, at its eighty-second session, proposed amendments to the *2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*,

1 ADOPTS amendments to the *2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*, the text of which is set out in the annex to the present resolution; and

2 REQUESTS the Parties to MARPOL Annex VI and other Member Governments to bring the annexed Guidelines to the attention of masters, seafarers, shipowners, ship operators and any other interested parties.

ANNEX

**DRAFT AMENDMENTS TO THE 2022 GUIDELINES FOR THE DEVELOPMENT OF A
SHIP ENERGY EFFICIENCY MANAGEMENT PLAN (SEEMP)
(RESOLUTION MEPC.346(78))**

Appendix 3

Standardized data reporting format for the data collection system and operational carbon intensity to the administration

1 Appendix 3 is replaced by the following:

"

APPENDIX 3

**STANDARDIZED DATA REPORTING FORMAT FOR THE DATA COLLECTION SYSTEM
AND OPERATIONAL CARBON INTENSITY TO THE ADMINISTRATION**

Identity of the ship

Name of the ship	
Company	
Flag	
IMO number	
Period of the calendar year for which the data is submitted	
Start date for DCS (dd/mm/yy)	
End date for DCS (dd/mm/yy)	

Technical characteristics of the ship

Year of delivery		
Ship type, as defined in regulation 2.2 of MARPOL Annex VI or other (to be stated)		
Gross tonnage (GT)		
Net tonnage (NT)		
Deadweight tonnage (DWT)		
Power output (rated power) over 130 (kW)	Main Engine(s)	
	Auxiliary Engine(s)	
Attained EEDI (if applicable)		
Attained EEXI (if applicable)		
Ice class (if applicable)		

Fuel oil¹ consumption data

Total fuel oil consumption data		
Fuel oil type	Quantity in metric tonnes (t)	Method(s) used for collecting fuel oil consumption data (BDN / Flow meters / bunker FO tank monitoring / LNG cargo tank monitoring / Cargo tank monitoring other than LNG)
Diesel/Gas Oil (CF: 3.206)		
LFO (CF: 3.151)		
HFO (CF: 3.114)		
LPG (Propane) (CF: 3.000)		
LPG (Butane) (CF: 3.030)		
Ethane (CF: 2.927)		
LNG (CF: 2.750)		
Methanol (CF: 1.375)		
Ethanol (CF: 1.913)		
Other (.....) (Cf:)		

Total fuel oil consumption data per consumer type			
Fuel oil type	Consumer type	Quantity in metric tonnes (t)	Method used for collecting fuel oil consumption data (Flow meters / bunker FO tank monitoring / subtraction / estimated)
Diesel/Gas Oil (CF: 3.206)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
LFO (CF: 3.151)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
HFO (CF: 3.114)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
LPG (Propane) (CF: 3.000)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
LPG (Butane) (CF: 3.030)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler (s)		
	Others (specify)		
Ethane (CF: 2.927)	Main engines (s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler (s)		
	Others (specify)		

¹ Regulation 2.1.14 of MARPOL Annex VI defines "fuel oil" as any fuel delivered to and intended for combustion purposes for propulsion or operation on board a ship, including gas, distillate and residual fuels.

LNG (CF: 2.750)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
Methanol (CF: 1.375)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
Ethanol (CF: 1.913)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
Other(.....) (Cf:)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler (s)		
	Others (specify)		

Fuel oil consumption data while the ship is not under way, per consumer type			
Fuel oil type	Consumer type	Quantity in metric tonnes (t)	Method used for collecting fuel oil consumption data
Diesel/Gas Oil (CF: 3.206)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
LFO (CF: 3.151)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
HFO (CF: 3.114)	Main engines(s)		
	Auxiliary engines		
	Fired Boiler(s)		
	Others (specify)		
LPG (Propane) (CF: 3.000)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
LPG (Butane) (CF: 3.030)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
Ethane (CF: 2.927)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
LNG (CF: 2.750)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
Methanol (CF: 1.375)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler (s)		
	Others (specify)		

Ethanol (CF: 1.913)	Main engines (s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		
Other (.....) (Cf:)	Main engines(s)		
	Auxiliary engine(s)/Generator(s)		
	Fired Boiler(s)		
	Others (specify)		

Total Distance Travelled (nm)	
Laden distance travelled (nm) (on a voluntary basis)	
Hours under way (h)	
Total amount of onshore power supplied (kWh)	

For ships to which regulation 28 of MARPOL Annex VI applies:

Total transport work	
Applicable CII	☐ AER ; ☐ cgDIST
Required annual operational CII	
Start date for annual CII (dd/mm/yy) ²	
End date for annual CII (dd/mm/yy) ³	
Attained annual operational CII before any correction (AER in g CO ₂ /dwt.nm or cgDIST in g CO ₂ /gt.nm)	
Attained annual operational CII (AER in g CO ₂ /dwt.nm or cgDIST in g CO ₂ /gt.nm)	
Installation of innovative technology, if applicable (refer to MEPC.1/Circ.896)	☐ A ; ☐ B-1 ; ☐ B-2 ; ☐ C-1 ; ☐ C-2
Operational carbon intensity rating	☐ A ; ☐ B ; ☐ C ; ☐ D ; ☐ E
CII for trial purpose (none, one or more on voluntary basis)	☐ EEPI ; ☐ cbDIST ; ☐ cDIST ; ☐ EEOI
EEPI (gCO ₂ /dwt.nm)	
cbDIST (gCO ₂ /berth.nm)	
cDIST (gCO ₂ /m.nm)	
EEOI (gCO ₂ /t.nm or others)	

"

² In the event of any transfer of a ship addressed in regulations 27.4, 27.5 or 27.6, these dates should be completed consistent with regulation 28.3 of MARPOL Annex VI (i.e. full 12-month period from 1 January to 31 December in the calendar year during which the transfer took place).

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MEPC.1/Circ.914
21 October 2024

**REVISED SAMPLE FORMAT FOR THE CONFIRMATION OF COMPLIANCE
PURSUANT TO REGULATION 5.4.5 OF MARPOL ANNEX VI**

- 1 The Marine Environment Protection Committee (MEPC), at its seventieth session, adopted *Amendments to MARPOL Annex VI (Data collection system for fuel oil consumption of ships)* by resolution MEPC.278(70), which entered into force on 1 March 2018.
- 2 MEPC 72 approved *A sample format for the confirmation of compliance pursuant to regulation 5.4.5 of MARPOL Annex VI* (MEPC.1/Circ.876).
- 3 MEPC 76 adopted resolution MEPC.328(76), amending MARPOL Annex VI by including regulations pertaining to mandatory goal-based technical and operational measures to reduce the carbon intensity of international shipping, which entered into force on 1 November 2022, and consequently also renumbering other relevant regulations.
- 4 MEPC 82 adopted the *2024 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)* (resolution MEPC.395(82)) and revoked the *2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)* (resolution MEPC.346(78)).
- 5 In accordance with regulation 26.2 of MARPOL Annex VI, applicable on or after 1 November 2022, in the case of a ship of 5,000 gross tonnage and above, the SEEMP shall include a description of the methodology that will be used to collect the data required by regulation 27.1 of MARPOL Annex VI and the process that will be used to report the data to the ship's Administration.
- 6 In addition, in accordance with regulation 5.4.5 of MARPOL Annex VI, the Administration shall ensure that for each ship to which regulation 27.1 applies, the SEEMP complies with regulation 26.2. This shall be done prior to collecting data under regulation 27.1 in order to ensure the methodology and process are in place prior to the beginning of the ship's first reporting period. Confirmation of compliance shall be provided to and retained on board the ship.
- 7 MEPC 82, having reaffirmed the need for smooth implementation and uniform application of the aforementioned amendments to MARPOL Annex VI, approved a revised sample format for the confirmation of compliance pursuant to regulation 5.4.5 of MARPOL Annex VI, as set out in the annex.

- 8 Member Governments are invited to:
- .1 use the annexed sample format when applying regulation 5.4.5 of MARPOL Annex VI; and
 - .2 bring the present revision of MEPC.1/Circ.876 to the attention of their Administration, industry, relevant shipping organizations, shipping companies and other stakeholders concerned, as appropriate.
- 9 This circular revokes MEPC.1/Circ.876.

ANNEX

SAMPLE FORMAT FOR CONFIRMATION OF COMPLIANCE

CONFIRMATION OF COMPLIANCE – SEEMP PART II

Issued under the provisions of the Protocol of 1997, as amended, to amend the International Convention for the Prevention of Pollution by Ships, 1973, as modified by the Protocol of 1978 related thereto (hereinafter referred to as "the Convention") under the authority of the Government of:

.....

(full designation of the Party)

by
(full designation of the competent person or organization authorized under the provisions of the Convention)

Particulars of ship*

Name of ship

Distinctive number or letters.

IMO Number†

Port of registry

Gross tonnage.

SEEMP part II date of revision, as applicable

THIS IS TO CONFIRM:

Taking into account the *2024 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)* adopted by resolution MEPC.395(82), the ship's SEEMP has been developed and complies with regulation 26.2 of Annex VI of the Convention.

Issued at:
(place of issue of confirmation)

Date (dd/mm/yyyy)
(date of issue) *(signature of duly authorized official issuing the confirmation)*

(seal or stamp of the authority, as appropriate)

* Alternatively, the particulars of the ship may be placed horizontally in boxes.

† In accordance with the *IMO Ship Identification Number Scheme*, adopted by the Organization by resolution A.1117(30).