INTERNATIONAL MARITIME ORGANIZATION

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MARINE ENVIRONMENT PROTECTION COMMITTEE
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REPORT OF THE MARINE ENVIRONMENT PROTECTION COMMITTEE ON ITS EIGHTY-THIRD SESSION

Attached are annexes 1 to 13 and 15 to 22 to the report of the Marine Environment Protection Committee on its eighty-third session (MEPC 83/17).

(see document MEPC 83/17/Add.2 for annex 14)

LIST OF ANNEXES

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ANNEX 1

RESOLUTION MEPC.397(83)
(adopted on 11 April 2025)

AMENDMENTS TO THE NO_x TECHNICAL CODE 2008

(Use of multiple engine operational profiles for a marine diesel engine, including clarifying engine test cycles)

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,

RECALLING FURTHER regulation 13 of MARPOL Annex VI, which makes the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines (hereafter "NO_x Technical Code 2008") mandatory under that Annex,

HAVING CONSIDERED, at its eighty-third session, draft amendments to the NO_x Technical Code 2008 concerning the use of multiple engine operational profiles for a marine diesel engine, including clarifying engine test cycles, as appropriate, approved at its eighty-second session and duly circulated in accordance with article 16(2)(a) of MARPOL,

1 ADOPTS, in accordance with article 16(2)(d) of MARPOL, amendments to the NO_x Technical Code 2008, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with articles 16(2)(f)(ii) and (iii) of MARPOL, that the amendments shall be deemed to have been accepted on 1 September 2026 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 March 2027 upon their acceptance in accordance with paragraph 2 above;

4 ALSO INVITES the Parties to note that the said amendments shall enter into effect as follows:

(a) for a new individual engine or a parent engine of an engine family or engine group that has not been previously certified, the said amendments apply no later than 1 January 2028, based on the issue date of the EIAPP Certificate for the individual engine or parent engine;

(b) in the case of a new member engine to an engine family or engine group for which the parent engine was certified before 1 January 2028, prior to the certification of that member engine it would need to be shown that the engine family or engine group complied with the said amendments no later than 1 January 2030 based on the issue date of the EIAPP Certificate for that member engine;

(c) the said amendments do not apply to a marine diesel engine which already has an EIAPP Certificate except:

(i) in the case of an engine that is subject to substantial modification on or after 1 January 2028, the said amendments would apply as specified in the definitions of "substantial modification" set out in amended paragraph 1.3.2 of the NO_x Technical Code 2008 based on the issue date of the EIAPP Certificate for that engine; and

(ii) in the case of an identical replacement engine installed on or after 1 January 2028, the version of the NO_x Technical Code 2008 at the time of issuance of the EIAPP Certificate to the original engine applies, unless the replaced engine is already equipped with multiple engine operational profiles, in which case the provisions of the new chapter 8 of the NO_x Technical Code 2008 apply;

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 THE NO_x TECHNICAL CODE 2008

(Use of multiple engine operational profiles for a marine diesel engine, including clarifying engine test cycles)

Chapter 1 – General

1.3 Definitions

1 Paragraph 1.3.2 is replaced by the following:

"1.3.2 *Substantial modification of a marine diesel engine* means:

.1 For engines installed on ships constructed on or after 1 January 2000, *substantial modification* means any modification to an engine that could potentially cause the engine to exceed the applicable emission limit set out in regulation 13. Routine replacement of engine components by parts specified in the technical file that do not alter emission characteristics shall not be considered a "substantial modification" regardless of whether one part or many parts are replaced. For the recertification of such an engine following a substantial modification, the version of this Code that was used for the original certification shall apply except if the engine was or is now equipped with an auxiliary control device or has multiple engine operational profiles. Where an auxiliary control device is fitted, the requirements of 2.5 and 3.3 of this Code shall apply. Where there are multiple engine operating profiles, the requirements of chapter 8 of this Code shall apply.

.2 For engines installed on ships constructed before 1 January 2000, *substantial modification* means any modification made to an engine that increases its existing emission characteristics established by the simplified measurement method as described in 6.3 in excess of the allowances set out in 6.3.11. These changes include, but are not limited to, changes in its operations or in its technical parameters (e.g. changing camshafts, fuel injection systems, air systems, combustion chamber configuration, or timing calibration of the engine). The installation of a certified approved method pursuant to regulation 13.7.1.1 or certification pursuant to regulation 13.7.1.2 is not considered to be a substantial modification for the purpose of the application of regulation 13.2 of the annex. For recertification of such an engine following a substantial modification, 2.5, 3.3 and, where that engine has multiple engine operating profiles, chapter 8 of this Code shall apply."

2 New paragraphs 1.3.21 to 1.3.37 are added as follows:

"1.3.21 *Engine operational profile* means a particular set of NO_x influencing settings applied in the base emission control strategy which influences the NO_x emission performance. Those settings may relate to, but are not limited to, fuel injection, inlet and exhaust valve operation, charge air management, exhaust bypass/wastegate or exhaust after-treatment controls and auxiliary control devices.

1.3.22 *Multiple engine operational profiles* means that more than one engine operational profile is available for selection on a marine diesel engine.

1.3.23 *Auxiliary control device* means a system, function or control strategy installed on a marine diesel engine that is used to protect the engine and/or its ancillary equipment against operating conditions that could result in damage or failure, or that is used to facilitate the starting of the engine. An auxiliary control device may also be a strategy or measure that has been satisfactorily demonstrated not to be a defeat device. An auxiliary control device includes any element of design that includes sensors, or other arrangements which, by an action of the control system, can activate, modulate, delay or deactivate the operation of any part of the base emission control system. Any device or strategy the activation of which causes a non-progressive change in emissions is also an auxiliary control device. An auxiliary control device not declared at the time of the first certification of a marine diesel engine shall be considered a defeat device.

1.3.24 *Defeat device* means a device that measures, senses or responds to operating variables (e.g. engine speed, temperature, intake pressure or any other parameter) for the purpose of activating, modulating, delaying or deactivating the operation of any component or the function of the emission control system such that the effectiveness of the emission control system is reduced under conditions encountered during normal operation, unless the use of such a device is substantially included in the applied emission certification test procedures. An auxiliary control device accepted as part of the Administration's review of the NO_x certification pack is not a defeat device.

1.3.25 *Base emission control strategy* means the emission control strategy active at any time an auxiliary control device is not active. It consists of any parameter, element of design, or operating control that is designed to modulate as a function of engine load and/or speed in a manner that affects the emission performance of the engine. The modulation of parameters is to be progressive and shall not result in a disproportionate change in emissions.

1.3.26 *Rational emission control strategy* means the base emission control strategy applied to a marine diesel engine which ensures that the emission values at the individual mode points as used to give the weighted specific emission value are representative of the emission values during normal operation of the engine.

1.3.27 *Irrational emission control strategy* means any strategy or measure that, when a marine diesel engine is operated under normal conditions of use, reduces the effectiveness of an emission control system to a level below that expected from the applicable emission test procedures.

1.3.28 *Not-to-exceed emission limit value* means the maximum permitted NO_x emission value at a given operating condition as determined in accordance with 3.3 of this Code within the not-to-exceed zone of the engine.

1.3.29 *Not-to-exceed zone* means the power or torque and speed area of a marine diesel engine within the limit area of the not-to-exceed zone as declared by the applicant that the engine is certified to operate within under steady-state conditions. In the case of the C1 cycle, as given by 3.2 of this Code, the not-to-exceed zone corresponds to the whole of the limit area of the not-to-exceed zone.

1.3.30 *Limit area of the not-to-exceed zone* means the power or torque and speed boundaries of the not-to-exceed zone at and above 25% rated power for all test cycles as given by 3.2 of this Code except for the C1 cycle where it is at and above 50% engine load.

1.3.31 *Point emission value* means the NO_x emission value expressed in terms of g/kWh at the reference conditions of humidity and temperature given by this Code at a particular power or load and speed point.

1.3.32 *NO_x certification pack* means the package of information supplied by the applicant to the Administration as required to be submitted by 2.5 and 3.3 of this Code.

1.3.33 *Propulsion engine* means a marine diesel engine that is used for direct or indirect propulsion. A propulsion engine may additionally perform non-propulsion duties during or separately to propulsion duties.

1.3.34 *Non-propulsion engine* means a marine diesel engine that is not a propulsion engine. An engine that solely or in part provides athwartships movement of a ship is not a propulsion engine.

1.3.35 *Constant-speed engine* means a marine diesel engine that is limited to constant-speed operation.

1.3.36 *Constant-speed engine operation* means a marine diesel engine regulated by a speed control device that automatically controls the operator demand to maintain engine's nominal speed across the load range.[*]

Additionally, an idle speed setting may be provided that can be used during start-up or shutdown.

[*] In service, such a speed control device may either maintain a fixed speed or a load dependent speed such that at maximum load the speed could be up to around 10% lower than at zero load.

1.3.37 *Variable-speed engine* means an engine that is not a constant-speed engine."

Chapter 2 – Surveys and certification

3 A new section 2.5 is added as follows:

"2.5 Rational emission control strategy

2.5.1 In addition to 2.2, the requirements of this section shall apply.

2.5.2 A rational emission control strategy shall be applied to each marine diesel engine across the whole of its operating load and speed range. The means by which that is achieved shall be documented by the applicant to the Administration within a NO_x certification pack. The information included in that pack shall be such as to demonstrate to the satisfaction of the Administration that a rational emission control strategy is applied during normal operation of the engine.

2.5.3 For an engine where one or more auxiliary control devices are applied, each of those shall be declared to the Administration within the NO_x certification pack irrespective of whether those operate under steady-state or transient conditions. An auxiliary control device which is not so declared shall be considered a defeat device and hence invalidate the NO_x certification of an engine to which such an undeclared device is applied.

2.5.4 For screening of the base emission control strategy, the NO_x certification pack shall include:

.1 a list of all NO_x emission influencing setting and operating values controlled by an engine's base emission control strategy, for example fuel injection, inlet and exhaust valve operation, charge air management, exhaust bypass/wastegate or exhaust after-treatment controls;

.2 a record of the reference values for the settings and operating values identified in 2.5.4.1 at each of the mode points of the applicable test cycle;

.3 documentation that whenever the engine is operating between two mode points as identified in 2.5.4.2, the emission control strategy interpolates progressively between the mode points;

.4 documentation to show that, along lines of constant power and varying speed from the line between the mode points to the limit area of the not-to-exceed zone of the engine, the base emission control strategy shall ensure that any variation in the point emission values is progressive and justified from the value at that power on the line between the mode points, unless rationalized by an auxiliary control device or explained by a physical limitation of the engine;

.5 a declaration that the engine's base emission control strategy only reacts to changes in engine load and speed;

.6 any other information the applicant considers relevant; and

.7 any other information the Administration requests.

2.5.5 For each auxiliary control device which may operate under steady-state conditions, the NO_x certification pack shall include:

.1 a justification of the need for that device; and

.2 a description for that device, including:

.1 details of the conditions under which that device will operate and the functioning of that device;

.2 how each modulated parameter of the emission control system achieves the stated purpose of the base emission control strategy;

.3 the process used to ensure that the modulation is limited to the conditions where the stated purpose of the auxiliary control device operational strategy arises and to set the modulation to be the minimum necessary to achieve that stated purpose;

.4 the effect of the application of that device on the engine's base emission control strategy;

.5 for auxiliary control devices that operate above 25% engine power, the effect on the point emission values shall be documented;

.6 for auxiliary control devices that operate within the declared not-to-exceed zone, an estimate of the effect on the point emission values shall be documented;

.7 any other information the applicant considers relevant; and

.8 any other information the Administration requests.

.3 Auxiliary control devices that only operate during transient conditions need not be included in the NO_x certification pack for screening.

2.5.6 The technical file as required by 2.3.4 shall contain the following information:

.1 identification of those auxiliary control devices declared under 2.5.3;

.2 for those auxiliary control devices covered under 2.5.5, the operating conditions which will cause those devices to function;

.3 the means by which the operation of those auxiliary control devices under 2.5.5 may be verified as part of the onboard NO_x verification procedure; and

.4 where the provisions of 2.3.6 apply, the means by which it is to be verified that the required quantities of additional substance used are consistent with achieving the engine's intended base emission control strategy shall be included as part of the onboard NO_x verification procedure.

2.5.7 Where acceptable to the Administration, the documentation requirements of 2.5.4 and 2.5.5 may alternatively be made by reference to that in respect of marine diesel engines comparable, in terms of NO_x emissions characteristics, to the engine to be certified.

2.5.8 The provisions of this section only apply to a marine diesel engine which is installed in a ship as an identical replacement engine if the requirements of this section applied at the time the engine family or engine group to which that engine belongs was first certified."

Chapter 3 – Nitrogen oxides emission standards

3.1 Maximum allowable NO_x emission limits for marine diesel engines

4 Paragraph 3.1.4 is replaced by the following:

"3.1.4 In the case of a marine diesel engine to be certified in accordance with paragraph 5.1.1 of regulation 13, the specific emission at each individual mode point shall not exceed the applicable NO_x emission limit value by more than 50% except as follows:

.1 The 10% mode point in the D2 test cycle specified in 3.2.4.

.2 The 10% mode point in the C1 test cycle specified in 3.2.5.

.3 The idle mode point in the C1 test cycle specified in 3.2.5."

3.2 Test cycles and weighting factors to be applied

5 Section 3.2 is replaced by the following:

"**3.2 Test cycles and weighting factors to be applied**

3.2.1 For every individual engine or parent engine of an engine family or engine group, one or more of the relevant test cycles specified in 3.2.2 to 3.2.5 shall be applied for verification of compliance with the applicable NO_x emission limit contained in regulation 13. Appendix IX provides guidance on the selection of the appropriate test cycle but where discrepancies exist the text of chapter 3 takes precedence.

3.2.2 For a fixed pitch propeller propulsion engine or a propeller-law operated non-propulsion engine, test cycle E3 shall be applied in accordance with table 1.

3.2.3 For a propulsion engine that does not operate with a fixed pitch propeller, including an engine fitted as part of a diesel-electric installation or an engine operated with a controllable-pitch propeller, test cycle E2 shall be applied in accordance with table 2.

3.2.4 For a non-propulsion engine that is a constant-speed engine, test cycle D2 shall be applied in accordance with table 3.

3.2.5 For a non-propulsion engine that operates as a variable-speed engine, not included above, test cycle C1 shall be applied in accordance with table 4.

Table 1 – Test cycle for a marine diesel engine meeting paragraph 3.2.2

Test cycle E3	Speed	100%	91%	80%	63%
	Power	100%	75%	50%	25%
	Weighting factor	0.2	0.5	0.15	0.15

Table 2 – Test cycle for a marine diesel engine meeting paragraph 3.2.3

Test cycle E2	Speed	100%	100%	100%	100%*
	Power	100%	75%	50%	25%
	Weighting factor	0.2	0.5	0.15	0.15

* There are exceptional cases, including large bore engines intended for E2 applications, in which, owing to their oscillating masses and construction, engines cannot be run at low load at nominal speed without the risk of damaging essential components. In such cases, the engine manufacturer should make an application to the Administration that the test cycle as given in table 2 above may be modified for the 25% power mode with regard to the engine speed. The adjusted engine speed at 25% power, however, should be as close as possible to the rated engine speed, as recommended by the engine manufacturer and approved by the Administration. The applicable weighting factors for the test cycle should remain unchanged.

Table 3 – Test cycle for a marine diesel engine meeting paragraph 3.2.4

Test cycle D2	Speed	100%	100%	100%	100%	100%
	Power	100%	75%	50%	25%	10%
	Weighting factor	0.05	0.25	0.3	0.3	0.1

Table 4 – Test cycle for a marine diesel engine meeting paragraph 3.2.5

Test cycle C1	Speed	Rated				Intermediate			Idle
	Torque	100%	75%	50%	10%	100%	75%	50%	0%
	Weighting factor	0.15	0.15	0.15	0.1	0.1	0.1	0.1	0.15

3.2.6 The torque figures given in test cycle C1 are percentage values that represent for a given test mode the ratio of the required torque to the maximum possible torque at this given speed.

3.2.7 The intermediate speed for test cycle C1 shall be declared by the manufacturer, taking into account the following requirements:

.1 For engines that are designed to operate over a speed range on a full load torque curve, the intermediate speed shall be the declared maximum torque speed if it occurs between 60% and 75% of rated speed.

.2 If the declared maximum torque speed is less than 60% of rated speed, then the intermediate speed shall be 60% of the rated speed.

.3 If the declared maximum torque speed is greater than 75% of the rated speed, then the intermediate speed shall be 75% of rated speed.

.4 For engines that are not designed to operate over a speed range on the full load torque curve at steady-state conditions, the intermediate speed will typically be between 60% and 70% of the maximum rated speed.

3.2.8 If an engine manufacturer applies for a new test cycle application on an engine already certified under a different test cycle specified in 3.2.2 to 3.2.5, then it may not be necessary for that engine to undergo the full certification process for the new application. In this case, the engine manufacturer may demonstrate compliance by recalculation, by applying the measurement results from the specific modes of the first certification test to the calculation of the total weighted emissions for the new test cycle application, using the corresponding weighting factors from the new test cycle."

6 A new section 3.3 is added as follows:

"3.3 Not-to-exceed emission values within the limit area of the not-to-exceed zone

3.3.1 The boundaries, in terms of power or torque and speed, of the not-to-exceed zone at or above 25% power shall be declared to the Administration by the applicant as part of the NO_x certification pack. Operation outside these not-to-exceed zone boundaries, within the limit area of the not-to-exceed zone, shall only be permitted during starting, stopping, accelerations, deceleration, load pick-up or load rejection. However, operation below 25% power and at or above 63% speed for the E3, E2, and D2 test cycles and below 50% load for the C1 test cycle shall be permitted subject to it being shown in accordance with the requirements of 2.5 that a rational emission control strategy continues to be applied.

3.3.2 The technical file as required by 2.3.4 shall additionally contain the following information:

.1 the power or torque and speed boundaries, as given by 3.3.1, within which the engine is certified to operate; and

.2 the onboard NO_x verification procedure shall include means to verify that the engine only operates within the power or torque and speed boundaries as given by 3.3.1.

3.3.3 Additional to the emission testing under 3.2 the Administration may, at its discretion, require that up to three point emission values be determined at load points within the not-to-exceed zone in order to verify that the not-to-exceed zone requirements are complied with. The load points to be tested shall be agreed between the applicant and the Administration as part of the review of the NO_x certification pack. Point emission values are to be determined in accordance with the procedures given by chapter 5 and appendix X. To be acceptable each of those point emission values so determined shall not exceed the respective not-to-exceed emission limit value, N_{Lz}, as determined using the procedure in appendix X.

Point emission value ≤ emission limit value, N_{Lz}, at that point

3.3.4 Alternative means by which it is to be shown that a point emission value may be determined or the not-to-exceed zone requirements are complied with may be used subject to their acceptability to the Administration.

3.3.5 For member engines of engine families or engine groups first certified prior to the effective date of the requirements under this section, demonstration of compliance with the requirements of this section may be on the basis solely of documentation which is to be acceptable to the Administration."

Chapter 4 – Approval of serially manufactured engines: Engine family and engine group concepts

7 In paragraph 4.3.8.2, sub-paragraphs 4.3.8.2.12 to 4.3.8.2.14 are added, after the existing sub-paragraph 4.3.8.2.11, as follows:

".12 multiple engine operational profiles as covered by chapter 8.

.13 base emission control strategy.

.14 auxiliary control devices."

8 Paragraph 4.3.10.5 is deleted.

Chapter 6 – Procedures for demonstrating compliance with NO_x emissions on board

9 In paragraph 6.2.2.3, at the end of sub-paragraph 6.2.2.3.15, the word "or" is deleted, at the end of sub-paragraph 6.2.2.3.16, "." is replaced with ",", and new sub-paragraphs 6.2.2.3.17 to 6.2.2.3.19 are added after sub-paragraph 6.2.2.3.16 as follows:

".17 list of identification references of all engine operational profiles available for the engine and, if applicable, the conditions under which each is to be used (see chapter 8 of the Code);

.18 list of auxiliary control devices accepted for the engine and the operating conditions under which those devices function; or

.19 the engine power or engine load and speed boundaries above 25% engine power within which the engine is certified to operate."

10 A new chapter 8 is added as follows:

"**Chapter 8 – Multiple engine operational profiles**

8.1 Acceptance of multiple engine operational profiles

8.1.1 The switching between engine operational profiles under onboard conditions is permitted, subject to the provisions of this chapter, in the following cases:

.1 for a marine diesel engine certified to be in-service switchable between emission tiers;

.2 for a marine diesel engine certified to more than one test cycle application in accordance with 3.2 where the engine operational profile is in-service switchable based on the duty the engine is performing; or

.3 for a marine diesel engine certified to the same emission standard, the same rated power, same rated speed and the same test cycle which is in-service switchable between multiple engine operational profiles.

8.1.2 A marine diesel engine certified in accordance with 8.1.1.1 and/or 8.1.1.2 may additionally be switchable, at a particular tier and or duty, between multiple engine operational profiles in which cases the provisions of 8.1.1.3 also apply.

8.1.3 Each engine operating profile shall be identified in the technical file as required by 2.3.4 together with the conditions, if applicable, under which each engine operating profile is to be used.

8.2 Certification of multiple engine operational profiles

8.2.1 For a marine diesel engine to which 8.1.1.1 applies, the parent engine test report for each tier shall be included in the technical file as required by 2.4.1.5. The parent engine specific emission value for each tier shall be entered under 1.9.6 of the Supplement to the EIAPP Certificate.

8.2.2 For a marine diesel engine to which 8.1.1.2 applies, the parent engine test report for each test cycle shall be included in the technical file as required by 2.4.1.5. The test cycles for which the engine is certified shall be shown on the EIAPP Certificate. The parent engine specific emission value for each test cycle shall be entered and identified under 1.9.6 of the Supplement to the EIAPP Certificate.

8.2.3 For a marine diesel engine to which 8.1.1.3 applies:

.1 the engine test report for each engine with the parent engine features and characteristics identified in 4.3.9 or 4.4.8, for each engine operational profile, shall be determined in accordance with the provisions of chapter 5 of this Code. Where there is a mode point condition which is the same among the different engine operational profiles, that is not required to be repeated for each test cycle. The required testing may not necessarily be undertaken on the same physical engine;

.2 the specific emission value determined in accordance with 5.12.6.1 for each engine operational profile shall not exceed the applicable limit value as given by regulation 13;

.3 the multiple engine operational profile parent engine specific emission value shall be determined in accordance with 5.12.6.1 from the highest NO_x emission rate, q_{mgasi} as per 5.12.5.2, at each mode point across all the engine operational profiles for which the engine is to be certified;

.4 the parent engine test report for each engine operational profile for which the engine is to be certified shall be included in the technical file as required by 2.4.1.5 together with the determination of the multiple engine operational profile parent engine specific emission value;

.5 the multiple engine operational profile parent engine specific emission value shall be entered under 1.9.6 of the Supplement to the EIAPP Certificate; and

.6 Section 2.2.1 of the Supplement to the IAPP Certificate shall be completed to identify which engines installed on a ship are approved to operate with multiple engine operational profiles.

8.3 Use of multiple engine operational profiles

8.3.1 An engine operational profile shall only be used in accordance with the associated conditions as given in the technical file.

8.3.2 The identification reference of the engine operational profile in use shall be recorded as part of the onboard NO_x verification procedure together with data that demonstrates that the conditions attached to the use of that engine operational profile were being complied with.

8.3.3 On change from one engine operational profile to another, the date and time of the completion of that change shall be recorded as part of the onboard NO_x verification procedure for that engine."

Appendix V – Parent engine test report and test data

11 The title of appendix V is replaced by the following:

"**Parent engine test report, test data, and determination of the highest composite specific emission value**"

12 The title of section 1 is replaced by the following:

"**Section 1 – Parent engine test report**
(see 5.10 and 8.2 of the Code)"

13 The title of section 2 is replaced by the following:

"**Section 2 – Parent engine test data to be included in the technical file, additionally, for marine diesel engines to which 8.1.1.3 applies, the relevant test data for all engine operational profiles for which the engine is certified which are to be included in the technical file** *(see 2.4.1.5 and 8.2 of the Code)*"

14 A new section 3 is added after the existing section 2 as follows:

"**Section 3 – Multiple engine operational profile parent engine, determination of the composite specific emission value to be included in the technical file for engines with those multiple engine operational profiles**
(see 8.2 of the Code)

Calculation of the highest composite specific emission value in accordance with 8.2.3.3."

Appendix VII – Checklist for an engine parameter check method

15 In paragraph 1, at the end of sub-paragraph 1.14.1, "." is replaced with ";", and sub-paragraphs 1.15 to 1.17 are added after the existing sub-paragraph 1.14 as follows:

"1.15 list of identification references of all engine operational profiles available for the engine and associated conditions, if applicable, under which each is to be used (see chapter 8 of the Code);

1.16 list of auxiliary control devices accepted for the engine and the operating conditions under which those devices function;

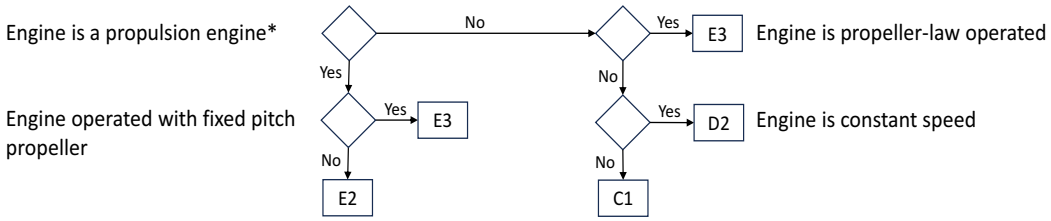
1.17 the engine power or engine load and speed boundaries within which the engine is certified to operate."

16 A new appendix IX is added as follows:

"**Appendix IX – Flow chart for engine certification test cycle determination**

(refer to 3.2 of the Code)

Test cycle selection flowchart



* A propulsion engine may additionally perform non-propulsion duties during or separately to propulsion duties. An engine that solely or in part provides athwartships movement of a ship is not a propulsion engine.

"

17 A new appendix X is added as follows:

"**Appendix X – Calculation of not-to-exceed emission limit value within not-to-exceed zone**

(refer to chapters 3 and 5 of the Code)

1 This appendix describes the method for determining the not-to-exceed emission limit value, N_{Lz}, at any point within the not-to-exceed zone for comparison with a determined point emission value as set out in 3.3 of this Code.

2 Where engine test results are used to determine a point emission value, formula (1) shall be used to generate that value. At that point, the tolerance requirements of 5.9.6.2 of this Code apply:

$$N_{Mn} = \frac{q_{mNOx}}{P_{Mn}} \quad (1)$$

where:

N_{Mn} = NO_x at the point *Mn* in g/kWh

P_{Mn} = Power at the point *Mn* (brake plus auxiliary) in kW

q_{mNOx} = Mass flow rate of NO_x in g/h – see 5.12.5.2 of this Code

q_{mNOx} is to be corrected for humidity and temperature consistent with the method used for the engine test from 5.12.4 of this Code.

3 Designation of not-to-exceed zone for E2, E3 and D2 test cycles in limit area of the not-to-exceed zone

3.1 The limit area of the not-to-exceed zone for engines certified to the E2 and E3 test cycles is defined by a speed boundary of equal to or greater than 63% and a power boundary of equal to or greater than 25%. The limit area of the not-to-exceed zone for the D2 cycle is defined by a power boundary of equal to or greater than 25%, at the nominal speed of the engine.

3.2 For the E3 and variable-speed application of the E2 cycle certified engines, the applicant is to define, in accordance with 3.3.1 of this Code, the not-to-exceed zone within the limit area of the not-to-exceed zone as wide or as narrow as applicable for their intended applications of the engine. The applicant-defined not-to-exceed zone shall encompass all normal steady-state speed load combinations within the limit area of the not-to-exceed zone for the applications of the engine.

3.3 The applicant's designated not-to-exceed zone can be defined by any mathematical formula(e), lists of coordinates or other method of defining the boundary. The not-to-exceed zone does not need to extend to the boundary of the limit area of the not-to-exceed zone.

3.4 For D2 and constant-speed E2 cycle certified engines, the not-to-exceed zone shall be a line of power greater than 25% at the nominal speed.

4 Determination of not-to-exceed emission limit value for E2, E3 and D2 test cycles

4.1 The not-to-exceed emission limit value at each NO_x checkpoint shall be determined in accordance with the requirements of this section.

Note: If there is an auxiliary control device that causes a NO_x discontinuity within the not-to-exceed zone, follow the additional procedure in section 6 to insert proxy NO_x emission points to address the area(s) of discontinuity.

4.2 Interpolated NO_x value N_y at power P_y between mode points as determined using formula (2):

$$N_y = N_{Ma} + \left(P_y - P_{Ma}\right) \cdot \frac{(N_{Mb} - N_{Ma})}{(P_{Mb} - P_{Ma})} \quad (2)$$

where:

N_y = Interpolated NO_x value at power P_y

N_{Ma} = Measured point emission value according to formula (1) at nearest measured mode point at power below checkpoint power

N_{Mb} = Measured point emission value according to formula (1) at nearest measured mode point at power above checkpoint power

P_y = Power at checkpoint

P_{Ma} = Power at mode point below checkpoint

P_{Mb} = Power at mode point above checkpoint

4.3 Determine the not-to-exceed emission limit value at power P_y between the mode points, to the Tier, as applicable.

.1 For Tier II

The not-to-exceed emission limit value at power P_y is given by formula (3)

$$N_{Lv} = N_y \cdot 1.2 \quad (3)$$

where:

N_{Lv} = Not-to-exceed emission limit value at power P_y

N_y = Interpolated NO_x value at power P_y

.2 For Tier III

The not-to-exceed emission limit value, N_{Lv}, at power P_y shall be either set by 3.1.4 of this Code or as determined in accordance with formula (4), whichever is the lower.

N_{Lv} is the lower of N_{cap} or N_{LV},

with:

$$N_{LV}, = N_y + 0.25 \cdot N_{LC} \quad (4)$$

$$N_{cap} = 1.5 \cdot N_{LC} \quad (5)$$

where:

N_{LC} = NO_x cycle limit for engine

N_{Cap} = the maximum mode point value for the engine according to 3.1.4 of this Code

4.4 If the checkpoint power P_y is on the propeller law curve for an E3 certified engine or the nominal speed line for a constant-speed E2 or a D2 certified engine:

$$N_{Lz} = N_{Lv} \quad (6)$$

For this situation the determination of the not-to-exceed emission limit value, N_{Lz}, is complete for that checkpoint. Otherwise, continue with 4.5.

4.5 For E3 and variable-speed application of the E2 cycle certified engines, where the checkpoint power P_y is located at a speed not on the line between the measured mode points, carry out the additional procedure in 4.5.1 to 4.5.4.

.1 Determine the NO_x limit at either edge of the not-to-exceed zone, N_{Le}, for the selected checkpoint power P_y along a line of constant power, in accordance with formula (7):

$$N_{Le} = N_y \cdot F_\beta \cdot 1.5 \quad (7)$$

with:

$$F_\beta = \frac{N_{LC}}{N_C} \quad (8)$$

where:

N_{Le} = NO_x limit at edge of not-to-exceed zone

N_{LC} = NO_x cycle limit for engine

N_C = NO_x specific emission value for the engine from 5.12.6.1 of this Code

.2 Determine the not-to-exceed emission limit value at a checkpoint power P_y which is on the constant power line between the mode point line and the edge of the not-to-exceed zone in accordance with formula (9):

$$N_{Lz\prime} = N_{Lv\prime} + (n_z - n_v) \cdot \frac{(N_{Le} - N_{Lv\prime})}{(n_e - n_v)} \quad (9)$$

with:

For tier II, $N_{Lv\prime} = N_{Lv}$ from formula (3)

For tier III, $N_{Lv\prime}$ is from formula (4)

where:

$N_{Lz\prime}$ = NO_x limit at required checkpoint

N_{Le} = NO_x limit at edge of not-to-exceed zone

n_z = Speed at required checkpoint

n_e = Speed at edge of applicants selected not-to-exceed zone at checkpoint power (may be on lower or higher side of mode line as required for value of n_z)

n_v = Speed on measured mode line at selected power

For engines certified to the E2 test cycle, the speed on the measured mode line, n_v, is the nominal speed.

For engines certified to the E3 test cycle, the speed on the measured mode line, n_v, is determined by the cube law propeller curve:

$$n_v = n_{MCR} \cdot \sqrt[3]{\frac{P_y}{P_{MCR}}} \quad (10)$$

where:

n_{MCR} = Rated speed from 1.3.12 of this Code
P_y = Power at checkpoint

P_{MCR} = Rated power from 1.3.11 of this Code

.3 Determine the not-to-exceed emission limit value at power P_y as applicable:

.1 For Tier II

The NO_x limit is the interpolated result:

$$N_{Lz} = N_{Lz'} \quad (11)$$

.2 For Tier III

The not-to-exceed emission limit value at power P_y shall be set by 3.1.4 of this Code or as determined in accordance with 4.5.3.1 whichever is lower:

N_{Lz} is the lower of N_{cap} or $N_{Lz'}$

5 Determination of not-to-exceed emission limit value for the C1 test cycle

5.1 For the C1 test cycle within the limit area of the not-to-exceed zone, screening is conducted between the measured mode points of 100%, 75%, and 50% load at both intermediate speed (mode points 5, 6 and 7 respectively) and rated speed (mode points 1, 2 and 3, respectively).

This creates two zones, Zone A and Zone B, where double linear interpolation or extrapolation is carried out between the nearest mode points:

.1 Zone A uses mode points 5, 1, 6 and 2. Zone A may extend above the torque line from mode point 5 and mode point 1 or beyond the speed line from mode point 1 to mode point 5.

.2 Zone B uses mode points 6, 2, 7 and 3. Zone B may extend beyond the speed line from mode point 2 to mode point 3.

.3 The applicant may request that the Administration exclude operating points from the limit area of the not-to-exceed zone screening if the applicant can demonstrate that the engine is not capable of operating at steady state at those points when installed on a ship. Otherwise, the not-to-exceed zone consists of the entire limit area of the not-to-exceed zone.

5.2 Determine if the checkpoint is in Zone A or Zone B by determining if the checkpoint torque, T_z, is higher or lower than the torque on the boundary between Zone A and Zone B (75% load line) for the checkpoint speed.

$$T_v = T_{M6} + (n_z - n_I) \cdot \frac{(T_{M6} - T_{M2})}{(n_I - n_R)} \quad (12)$$

where:

T_v = Torque at checkpoint speed on a straight line between mode point 6 and mode point 2 (75% load line)

T_{M6} = Torque at mode point 6 (75% of torque at intermediate speed)

T_{M2} = Torque at mode point 2 (75% of torque at rated speed)

n_z = Checkpoint speed

n_I = Intermediate speed

n_R = Rated speed

5.3 Determine the interpolated/extrapolated NO_x value at desired checkpoint:

.1 If the checkpoint torque, T_z, is greater than T_v, use equation (13) and (14) for the interpolation or extrapolation.

$$N_z = N_u + (T_Z - T_u) \cdot \frac{(N_u - N_v)}{(T_u - T_v)} \quad (13)$$

with:

$$T_U = T_{M5} + (n_z - n_I) \cdot \frac{(T_{M5} - T_{M1})}{(n_I - n_R)} \quad (14)$$

where:

T_{M1} = Torque at mode point 1 (100% of torque at rated speed)

T_{M5} = Torque at mode point 5 (100% of torque at intermediate speed)

T_v = Torque at checkpoint speed on a straight line between mode point 6 and mode point 2 (75% load line) from formula (12)

T_u = Torque at checkpoint speed on a straight line between mode point 5 and mode point 1 (100% load line) from formula (14)

T_z = Torque at checkpoint

N_u = Interpolated NO_x at checkpoint speed on 100% load line

N_v = Interpolated NO_x at checkpoint speed on 75% load line

n_z = Checkpoint speed

n_I = Intermediate speed

n_R = Rated speed

.2 If the checkpoint torque, T_z, is less than T_v use equation (15) and (16) for the interpolation or extrapolation.

$$N_z = N_v + (T_Z - T_v) \cdot \frac{(N_v - N_w)}{(T_v - T_w)} \quad (15)$$

with:

$$T_w = T_{M7} + (n_z - n_I) \cdot \frac{(T_{M7} - T_{M3})}{(n_I - n_R)} \quad (16)$$

where:

T_{M3} =Torque at mode point 3 (50% of torque at rated speed)

T_{M7} =Torque at mode point 7 (50% of torque at intermediate speed)

T_v =Torque at checkpoint speed on a straight line between mode point 6 and mode point 2 (75% load line) from formula (12)

T_w =Torque at checkpoint speed on a straight line between mode point 7 and mode point 3 (50% load line) from formula (16)

T_z =Torque at checkpoint

N_v =Interpolated NO_x at checkpoint speed on 75% load line

N_w =Interpolated NO_x at checkpoint speed on 50% load line

n_z = Checkpoint speed

n_I =Intermediate speed

n_R =Rated speed

5.4 Determine the not-to-exceed emission limit value at checkpoint:

.1 For Tier II

The not-to-exceed emission limit value is given by formula (17):

$$N_{Lz} = N_z \cdot 1.2 \quad (17)$$

where:

N_{Lz} = Not-to-exceed emission limit value at checkpoint
N_z = Interpolated NO_x value at power P_z

.2 For Tier III

The not-to-exceed emission limit value shall be either set by 3.1.4 of this Code or as determined in accordance with 5.3, whichever is the lower:

N_{Lz} is the lower of N_{cap} or N_{Lz},

with:

$$N_{Lz'} = N_z + 0.25 \cdot N_{LC} \quad (18)$$

$$N_{cap} = 1.5 \cdot N_{LC} \quad (19)$$

where:

N_z = Interpolated NO_x value at checkpoint

N_{LC} = NO_x cycle limit for engine

N_{Cap} = the maximum mode point value according to 3.1.4 of this Code

6 Method to address discontinuity in the operation zone due to an auxiliary control device

6.1 For each approved auxiliary control device, where there is operation in the not-to-exceed zone that causes a discontinuity in the NO_x emissions it can be necessary to introduce additional proxy mode points to account for the discontinuity in the area of engine operation where that auxiliary control device is active.

6.2 There will be two or more proxy mode points to cover the action of an auxiliary control device.

6.3 N_y is calculated in the same manner as 4.2 using the proxy points where necessary in the interpolation.

6.4 Use good engineering judgement that may include simulation or in-house testing to determine the appropriate NO_x level and location of the proxy points.

6.5 The engine power of the proxy mode points may overlap to account for hysteresis that may occur as a result of approaching the points from rising or falling power. The overlap should also take into account any variation in the operating point of the auxiliary control device based on engine speed.

6.6 Include the proxy mode points as part of the auxiliary control device documentation supplied to the Administration in the NO_x certification pack."

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ANNEX 2

RESOLUTION MEPC.398(83)
(adopted on 11 April 2025)

AMENDMENTS TO THE NO_x TECHNICAL CODE 2008

(Certification of an engine subject to substantial modification or being certified to a Tier to which the engine was not certified at the time of its installation)

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,

RECALLING FURTHER regulation 13 of MARPOL Annex VI, which makes the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines (hereafter "NO_x Technical Code 2008") mandatory under that Annex,

HAVING CONSIDERED, at its eighty-third session, draft amendments to the NO_x Technical Code 2008 concerning the certification of an engine subject to substantial modification or being certified to a Tier to which the engine was not certified at the time of its installation, as appropriate, approved at its eighty-second session and duly circulated in accordance with article 16(2)(a) of MARPOL,

1 ADOPTS, in accordance with article 16(2)(d) of MARPOL, amendments to the NO_x Technical Code 2008, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(ii) and (iii) of MARPOL, that the amendments shall be deemed to have been accepted on 1 March 2026 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 September 2026 upon their acceptance in accordance with paragraph 2 above;

4 ALSO INVITES the Parties to consider the early application of the amendments to the NO_x Technical Code 2008 concerning the certification of an engine subject to substantial modification or being certified to a Tier to which the engine was not certified at the time of its installation;

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 THE NO_x TECHNICAL CODE 2008

(Certification of an engine subject to substantial modification or being certified to a Tier to which the engine was not certified at the time of its installation)

Chapter 7 – Certification of an existing engine

1 Chapter 7 is split into two sections with the following titles:

"7.1 Certification of an existing engine under regulation 13.7"

and

"7.2 Certification of an engine subject to substantial modification or being certified to a Tier to which the engine was not certified at the time of its installation"

2 Existing paragraphs 7.1 to 7.6 are renumbered as sub-paragraphs 7.1.1 to 7.1.6.

3 New sub-paragraphs 7.2.1 to 7.2.12 are added as follows:

"7.2.1 Further to 2.1.1.4, 2.1.2.2 and 4.4.4, the procedures as given in this section shall be followed where an installed marine diesel engine:

.1 has been subject to substantial modification; or

.2 is to be certified to a Tier to which it was not certified at the time of its installation.

7.2.2 The requirements of this Code apply other than as specifically provided for by this section.

7.2.3 The procedures given by this section may be accepted for an Individual Engine or for an Engine Group represented by the Parent Engine. It shall not be accepted for Engine Family certification.

7.2.4 Where, as a result of the substantial modification, the rated power and/or the rated speed of the engine is altered from the original condition the engine nameplate shall be replaced accordingly.

7.2.5 In setting the load points of the test cycle to be followed the provisions of 6.4.6.7 shall apply. In the case of the 100% load point this shall, subject to the Engine Emission test plan, be allowed to be no lower than 85% of rated power. If that value cannot be achieved, then the test shall be deferred to such time that at least that power level can be achieved. The test cycle 100% power weighting factor under 3.2 shall be applied irrespective of actual power developed at that load point.

7.2.6 At each load point of a test cycle, the provisions of 6.4.6.8 shall apply rather than those of 5.9.6.2.

7.2.7 In the case of the E3 test cycle, if the actual propeller curve differs from the E3 curve, the load point used shall be set using the measured engine power.

7.2.8 Engine performance and ambient condition monitoring equipment requirements shall be in accordance with the requirements of 6.4.5.1.

7.2.9 In terms of the NO_x correction for humidity and temperature, the provisions of 6.4.13 shall apply.

7.2.10 The Engine Emission test plan as prepared by the applicant shall be agreed with the Administration before scheduling that test.

7.2.11 The certification of a Member Engine of the Engine Group as established following the provisions of this section shall follow the procedures specified in 2.2.2.

7.2.12 Guidance in respect of the certification of a marine diesel engine subject to substantial modification or being certified to a Tier to which the engine was not certified at the time of its installation is given by figure 4 of appendix II of this Code. Where discrepancies exist, the text of the NO_x Technical Code 2008 takes precedence."

Appendix II

Flow charts for survey and certification of marine diesel engines (refer to 2.2.9 and 2.3.11 of the NO_x Technical Code 2008)

4 The existing title of appendix II is replaced with the following:

"Flow charts for survey and certification of marine diesel engines (refer to 2.2.9, 2.3.11 and 7.2.12 of the NO_x Technical Code 2008)"

5 In the chapeau, reference to chapter 7 and figure 4 are inserted, to read:

"Guidance for compliance with survey and certification of marine diesel engines, as described in chapters 2 and 7 of this Code, is given in figures 1, 2, 3 and 4 of this appendix."

6 In the chapeau, a new line "Figure 4: Certification of an engine subject to substantial modification or being certified to a Tier to which the engine was not certified at the time of its installation" is added after the line of "Figure 3: Renewal, annual or intermediate survey on board a ship".

7 A new figure 4 is added after figure 3 as follows:

"

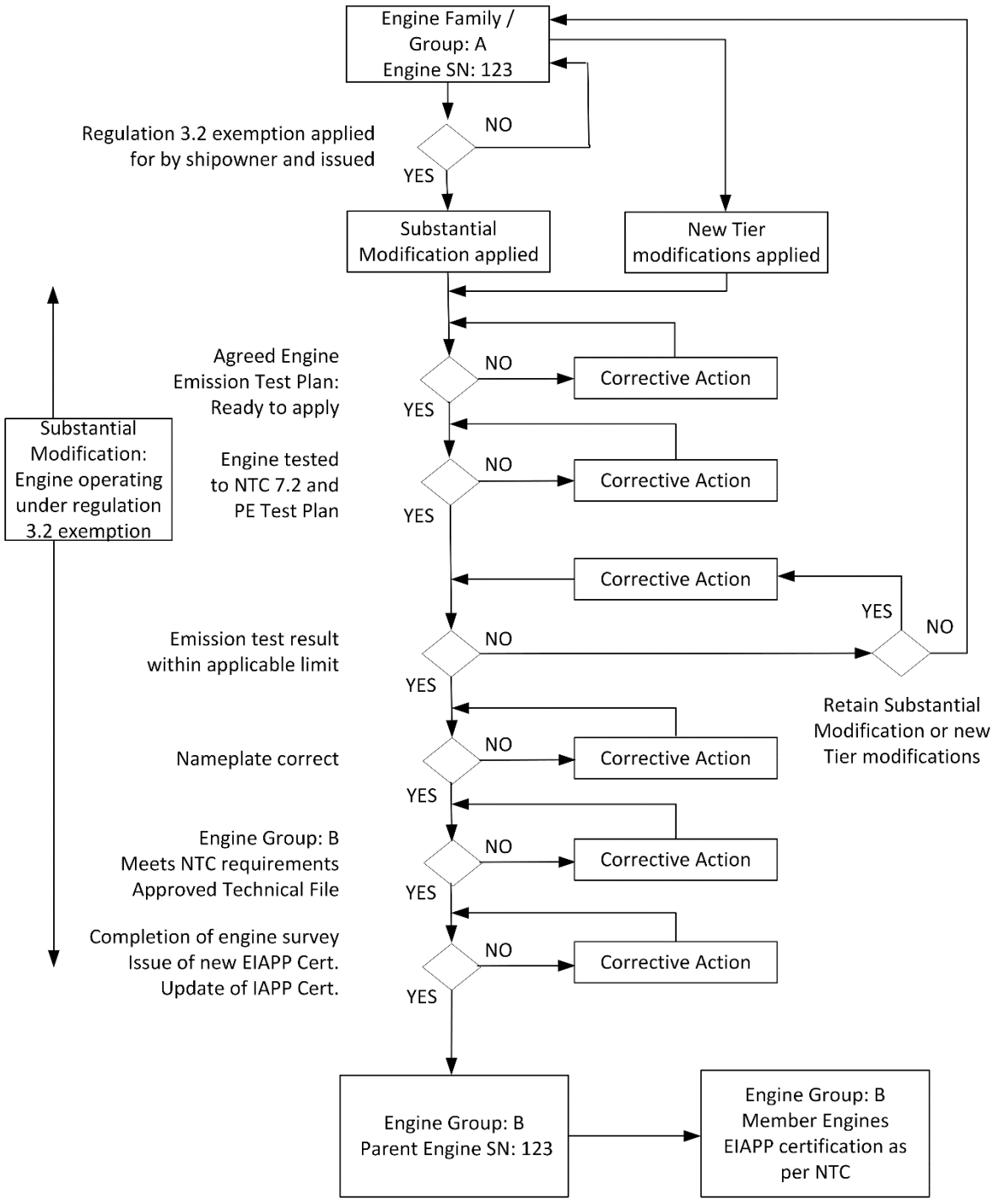

Figure 4: Certification of an engine subject to substantial modification or being certified to a tier to which the engine was not certified at the time of its installation in accordance with 7.2 of this Code

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ANNEX 3

RESOLUTION MEPC.399(83)
(adopted on 11 April 2025)

2025 GUIDELINES ON SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEMS

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 fifty-eighth session, it adopted, by resolution MEPC.176(58), a revised MARPOL Annex VI (hereinafter "MARPOL Annex VI") and, by resolution MEPC.177(58), a revised Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines (hereinafter "NO_x Technical Code 2008"),

NOTING regulation 13 of MARPOL Annex VI, which makes the NO_x Technical Code 2008 mandatory under that Annex,

NOTING ALSO that the use of NO_x-reducing devices is envisaged in the NO_x Technical Code 2008 and that selective catalytic reduction (SCR) systems are such NO_x-reducing devices for compliance with the Tier III NO_x limit,

NOTING FURTHER that, at its seventy-first session, it adopted, by resolution MEPC.291(71), the *2017 Guidelines addressing additional aspects to the NO_x Technical Code 2008 with regard to particular requirements related to marine diesel engines fitted with Selective Catalytic Reduction (SCR) Systems* (2017 SCR Guidelines), and, at its seventy-fourth session, by resolution MEPC.313(74), amendments thereto,

RECOGNIZING the need to update the 2017 SCR Guidelines in line with the latest developments,

HAVING CONSIDERED, at its eighty-third session, a draft revision of the 2017 SCR Guidelines, prepared by the Sub-Committee on Pollution Prevention and Response,

1 ADOPTS the *2025 Guidelines on selective catalytic reduction (SCR) systems*, as set out in the annex to the present resolution;

2 INVITES Administrations to implement the 2025 SCR Guidelines and apply them to SCR systems installed on ships the keels of which are laid or which are at a similar stage of construction on or after 1 November 2025; or SCR systems installed on ships the keels of which are laid or which are at a similar stage of construction before 1 November 2025 which have a contractual delivery date of SCR systems to the ship on or after 1 May 2026 or, in the absence of a contractual delivery date, the actual delivery of the SCR system to the ship on or after 1 May 2026;

3 REQUESTS Parties to MARPOL Annex VI and other Member Governments to bring the annexed Guidelines to the attention of shipowners, ship operators, shipbuilders, marine diesel engine manufacturers and any other interested parties;

4 AGREES to keep these Guidelines under review in light of experience gained with their application, with a view to incorporating them into the NO_x Technical Code 2008;

5 ALSO AGREES that these Guidelines supersede the 2017 SCR Guidelines, adopted by resolution MEPC.291(71) and amended by resolution MEPC.313(74).

ANNEX

2025 GUIDELINES ON SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEMS

TABLE OF CONTENTS

1 INTRODUCTION

1.1 The use of NO_x-reducing devices is envisaged in section 2.2.5 of the NO_x Technical Code 2008 (NTC 2008) and a Selective Catalytic Reduction (SCR) system is one of such devices.

1.2 The NTC 2008 contains two ways for pre-certification of engine systems fitted with NO_x-reducing devices:

.1 engine fitted with SCR: approval in accordance with paragraph 2.2.5.1 and test in accordance with chapter 5 of the NTC 2008; and

.2 a simplified measurement method in accordance with section 6.3 of the NTC 2008 as regulated in paragraph 2.2.5.2 (Primary failure case) of the Code.

1.3 According to paragraph 2.2.5.1 of the NTC 2008, where a NO_x-reducing device is to be included within the EIAPP certification, it must be recognized as a component of the engine, and its presence shall be recorded in the engine's Technical File.

1.4 Administrations are invited to take these Guidelines into account when certifying engines fitted with SCR.

2 GENERAL

2.1 Purpose

The purpose of these Guidelines is to provide guidance in addition to the requirements of the NTC 2008 for design, testing, surveys and certification of marine diesel engines fitted with an SCR system to ensure its compliance with the requirements of regulation 13 of MARPOL Annex VI.

2.2 Application

These Guidelines apply to marine diesel engines fitted with SCR for compliance with regulation 13 of MARPOL Annex VI.

2.3 Definitions

Unless provided otherwise, the terms in these Guidelines have the same meaning as the terms defined in regulation 2 of MARPOL Annex VI and in section 1.3 of the NTC 2008.

2.3.1 "Engine system fitted with SCR" means a system consisting of a marine diesel engine, an SCR chamber and a reductant injection system. When a control device on NO_x-reducing performance is provided, it is also regarded as a part of the system.

2.3.2 "Catalyst block" means a block of certain dimension through which exhaust gas passes and which contains catalyst composition on its inside surface to reduce NO_x from the exhaust gas.

2.3.3 "SCR chamber" means an integrated unit which contains the catalyst block(s) and into which flow exhaust gas and reductant.

2.3.4 "Reductant injection system" means a system which consists of the pump(s) to supply reductant to the nozzle(s), the nozzle(s) spraying reductant into the exhaust gas stream and control device(s) of the spray.

2.3.5 "AV (area velocity) value" means a value of the exhaust gas flow rate passing through the catalyst blocks (m^3/h) per total active surface area of the catalyst blocks in the SCR chamber (m^2). Therefore, the unit of AV value is (m/h). The exhaust gas flow volume is the volume defined at 0°C and 101.3 kPa.

2.3.6 "SV (space velocity) value" means a value of the exhaust gas flow rate passing through the catalyst block(s) (m^3/h) per total volume of the catalyst block(s) in the SCR chamber (m^3). Therefore, the unit of SV value is (1/h). The exhaust gas flow volume is the volume defined at 0°C and 101.3 kPa.

2.3.7 "Total volume of the catalyst block" means the volume (m^3) based on the outer dimensions of the catalyst block.

2.3.8 "LV (linear velocity) value" means a value of the exhaust gas flow rate passing through the catalyst blocks (m^3/h) per catalyst block's section (m^2) in a normal direction of exhaust gas flow. Therefore, the unit of LV value is (m/h). The exhaust gas flow volume is the volume defined at 0°C and 101.3 kPa.

2.3.9 "Block section" means the cross-sectional area (m^2) of the catalyst block based on the outer dimensions.

2.3.10 "NO_x reduction rate η" means a value deriving from the following formula. Unit of η is (%):

$$\eta = \frac{(c_{inlet} - c_{outlet})}{c_{inlet}} \cdot 100$$

Where: c_{inlet} is NO_x concentration (ppm) as measured at the inlet of the SCR chamber;

c_{outlet} is NO_x concentration (ppm) as measured at the outlet of the SCR chamber.

2.3.11 "Catalyst block casing or frame" means a casing or frame of an assembly (module) of several catalyst blocks.

3 PRE-CERTIFICATION PROCEDURE

3.1 General

3.1.1 Engine systems fitted with SCR should be certified in accordance with chapter 2 of the NTC 2008. The procedures provided by Scheme A or Scheme B of these Guidelines should be applied.

3.1.2 The applicant for certification should be the entity responsible for the complete engine system fitted with SCR.

3.1.3 The applicant should supply all necessary documentation, including the Technical File for the complete system, a description of the required onboard NO_x verification procedure and, where applicable, the description of the confirmation test procedure.

3.2 Technical File and onboard NO_x verification procedures

In addition to the information supplied in paragraph 3.1.3 of these Guidelines and items in section 2.4 of the NTC 2008, engine systems fitted with SCR should include the following information in the Technical File:

.1 reductant: component/type and concentration;

.2 reductant injection system including critical dimensions and supply volume;

.3 design features of SCR specific components in the exhaust duct from the engine exhaust manifold to the SCR chamber. The design features are to be specified by the applicant and may include, but are not limited to:

.1 any restrictions specified by the applicant relating to exhaust duct configuration/design, including the position and number of bends in the exhaust duct along with orientation and geometry, exhaust duct changes of diameter and arrangements fitted to manipulate exhaust flow, where applicable;

.2 minimum distance between reductant injection point(s) and SCR chamber;

.3 position of reductant injection equipment within the duct and the direction of reductant injection, e.g. counter flow or parallel flow;

.4 reductant mixing arrangements;

.5 reductant lances, nozzles, atomizing arrangement;

.6 inlet plenum design, top entry or bottom entry;

.7 where an SCR bypass arrangement is stipulated by the applicant, the control specifications, identification of the bypass valve and its control device; and

.8 where an integrated reductant injection and SCR chamber arrangement is supplied as a packaged item to be fitted into an exhaust duct, the parameters of such a unit which may affect NO_x emissions;

.4 catalyst block specification and arrangement in the SCR chamber. The details of the catalyst block specification and the arrangement of catalyst blocks within the SCR chamber may include, but are not limited to:

.1 installation of blocks within the SCR chamber, including the number of blocks, number of layers and the SCR chamber casing and frame to prevent exhaust gas slip;

.2 catalyst block geometry;

.3 limiting characteristics such as CPSI (cells per square inch) and ranges for physical parameters such as the space velocity (SV), area velocity (AV) and linear velocity (LV), or a part number or specification number specified by the applicant on the catalyst block;

.4 catalyst material: this may be identified by means of a part number or specification number. The means to ensure a correct catalyst block installed on board against the Technical File, where a part number or specification number specified by the applicant on the catalyst block casing or frame is acceptable;

.5 arrangement of soot-blowing equipment;

.6 inspection and access arrangements. The inspection of the SCR chamber should be limited to ensuring that the correct catalyst blocks are fitted during assembly of the SCR and the inspection of spare catalyst blocks can be accepted to demonstrate compliance at surveys other than at the initial assembly of the SCR; and

.7 any baffle plates or other devices installed within the SCR chamber for exhaust gas and reductant flow distribution;

.5 inlet parameters, including allowable exhaust gas temperature (maximum and minimum) at the inlet of the SCR chamber;

.6 cross-unit parameters: allowable pressure loss (Δp) between inlet and outlet of the SCR chamber and in the exhaust duct caused by SCR components. Where there is any element of the SCR system upstream and/or downstream of the SCR chamber which affects the allowable pressure loss, then this allowable pressure loss (Δp) is to be based on the entire SCR system;

.7 aspects related to the fuel oil quality resulting in continued compliance of the engine with the applicable NO_x emission limit to assure continued NO_x reduction may include, but are not limited to:

.1 the maximum allowable sulphur content of fuel oil which can be combusted, while maintaining compliance; and

.2 guidance on applicable fuel oil composition and fuel oil contaminants under operational conditions;

.8 factors related to the deterioration rate of SCR performance, e.g. exchange condition for SCR catalyst blocks and recommended exchange time of SCR catalyst blocks:

.1 where a reductant control strategy incorporates a NO_x measurement device, this is acceptable as a means of monitoring catalyst condition/degradation. A NO_x measurement device, incorporated in an SCR feedback or feed-forward reductant control system, should not be required to be in compliance with appendix III of the NTC 2008 if the suitability of this NO_x measurement device is proven by a comparison with measurements according to chapter 5 of NTC 2008.

The applicant should specify a procedure and/or calculation routine that utilizes the readings of the NO_x measurement device to generate criteria for the determination of the catalyst condition/ degradation.

The applicant should demonstrate that the outcome of the proposed method is sufficiently accurate to adequately monitor the catalyst condition/degradation. This may be achieved by comparing the outcome of the proposed method with the results from the same method, calculated with the readings from an analyser complying with 3.4 of appendix III of the NTC 2008, during an exhaust emission test conducted in accordance with chapter 5 of NTC 2008. The applicant should specify the accuracy of the NO_x measurement device based on a defined calibration procedure and/or exchange requirements for the device. The justified frequency of monitoring should be stated by the applicant.

The exchange criteria of catalyst blocks against the reading of the NO_x measurement device are to be specified by the applicant as well as the maintenance, service and calibration requirements for the NO_x measurement device. The criteria should ensure timely exchange of the catalyst blocks.

Depending on the proposed onboard verification procedure for the assessment of catalyst condition/degradation, an allowance may be given according to section 7.5 of these Guidelines. Generated alarms or failure codes, in case of exceeded threshold values as defined by the applicant, are to be provided;

.2 where a strategy without a NO_x measurement device is applied, the applicant should additionally specify periodical spot checks as the method to assess the NO_x reduction rate as an indicator for catalyst condition/degradation. The applicant is to provide the details of:

.1 the expected deterioration curve under expected operating conditions or the life of the catalyst under expected operating conditions;

.2 factors which can influence catalyst NO_x reduction efficiency; and

.3 guidance on how to assess catalyst NO_x reduction efficiency based on periodical spot checks or monitoring as specified by the applicant, if applicable; records are to be kept for inspection during annual, intermediate and renewal surveys. The frequency of periodical spot checks is to be defined by the applicant considering the expected deterioration of the catalyst. The frequency for spot-checks should be after installation and at least once every 12 months.

Periodical spot checks do not need to be witnessed by the Administration. In cases where spot checks are required, the checks should be performed at least at 50% of the rated power (for propulsion engines, 75% is preferable), and the guidance on how to assess catalyst condition/degradation should include the following items:

.1 procedure for spot checks:

.1 details of NO_x measurement device including calibration requirements. NO_x measurement device should meet the requirements of appendix III of the NTC 2008;

.2 performance of zero and span check;

.3 test condition (e.g. power and speed setting ranges as well as other applicable engine and SCR settings);

.4 a test report template for the data to be recorded;

.5 sampling probe position(s) for NO_x measurement;

.6 test procedures including time duration for "engine with SCR" stabilization and the NO_x emission measurement; and

.7 records and results of spot checks should be kept and logged in the record book of engine parameters and should be made available during the initial, annual, intermediate and renewal surveys.

.2 criteria to assess catalyst NO_x reduction rate in accordance with the specification as provided by the applicant; and

.3 other strategies on monitoring the catalyst condition/degradation are subject to the approval of the Administration. These strategies should be accepted only if they cover the entire SCR chamber with all catalyst blocks installed. Testing of single catalyst blocks after removing them from the SCR chamber should not be considered as representative for the entire SCR system;

.9 controlling arrangements and settings of the SCR, e.g. model, specification of control device. This is to include, but not be limited to:

.1 the reductant injection control strategy should include whether it is a feed-forward reductant injection control or feedback reductant injection control strategy;

.2 instrumentation and sensors which are part of the SCR control arrangement, as applicable;

.3 crew instructions for allowable adjustment of control parameters including details of how to prevent unauthorized alteration of the system configuration parameters, programmable logic controller (PLC) data, and central processing units (CPU) as applicable;

.4 where a NO_x measurement device is used, the following details should be included:

.1 type/model (identification number);

.2 calibration, zero and span check procedures and the periodicity of such checks, if applicable;

.3 zero and span gases to be carried on board if applicable; and

.4 servicing, maintenance and/or exchange requirements;

.5 where the engine system fitted with SCR has different operating modes (e.g. modes for Tier II and Tier III compliance separately), details of the control philosophy for selecting different modes of operation and recording the mode of operation together with means of changing between modes; and

.6 auxiliary control devices, as mentioned in regulation 13.9 and defined in regulation 2.4 of MARPOL Annex VI, respectively, may be used on engine systems fitted with SCR, covering starting and stopping, low load operation and reversing operation, subject to the approval of the Administration;

.10 measures to minimize reductant slip. The maximum reductant slip may be specified by the applicant. Supporting information, including reductant injection rates under certain engine loads, the catalyst temperature or exhaust gas temperature when reductant injection occurs, etc. may be included in order to prevent reductant slip from exceeding the specified maximum level. Reductant slip monitoring in the exhaust duct downstream of the SCR or an equivalent means may be accepted as a means to minimize reductant slip. Alternatively, means of alleviating reductant slip (for example, through the use of an ammonia slip catalyst or active catalyst thermal management) may be accepted as a means to minimize reductant slip;

.11 where the parameter check method is used as the verification procedure:

For systems without NO_x measurement devices, the applicant should provide details of the relationship between engine load and reductant consumption and the means of checking that reductant flow is appropriate. The Technical File should include proposals for maintaining records of reductant consumption and also reductant composition and quality. Records of reductant composition and quality may be based on delivery notes where these delivery notes include reductant concentration and quality parameters.

Reductant delivery notes may also be accepted for the purposes of verifying that the system has been operated by using reductant. In such cases, the reductant delivery notes should be made available at annual, intermediate and renewal surveys.
Where it is proposed to produce aqueous reductant on board, the recording system should consider records of feedstock deliveries and quality;

.12 any other parameter(s) as specified by the applicant; and

.13 a description of a method of storing records should be included for the purpose of maintenance, surveys and inspections:

.1 if paragraph 3.2.8.1 is applied as a means for monitoring catalyst condition/degradation, the readings from the NO_x measurement device documenting the deterioration rate of SCR performance, including threshold values, alarms or failure codes; or

.2 if paragraph 3.2.8.2 is applied as a means for monitoring catalyst condition/degradation, records and results of spot checks should be available on board; and

.3 for the parameter check method as described in paragraph 3.2.8.11, records of reductant composition and quality may be based on delivery notes where these delivery notes include reductant concentration and quality parameters. Reductant delivery notes may also be accepted for the purposes of verifying that the system has been operated using reductant. Where it is proposed to produce aqueous reductant on board, the recording system should consider records of feedstock deliveries and quality.

3.3 Measures to minimize reductant slip

When SCR uses urea solution, ammonia solution or ammonia gas as reductant, measures to prevent reductant slip should be provided to avoid the supply of an excessive amount of reductant in the system. The reductant injection system should be designed to prevent emissions of any harmful substance from the system.

3.4 Pre-certification procedure

Test and pre-certification of an engine system fitted with SCR should be conducted either by Scheme A (as given in section 5 of these Guidelines), or by Scheme B (as given in sections 6 and 7 of these Guidelines), as appropriate.

3.5 EIAPP certificate

3.5.1 An Engine International Air Pollution Prevention (EIAPP) certificate (see appendix I of NTC 2008) should be issued by the Administration after approval of the Technical File.

3.5.2 When an applicant chooses Scheme B for pre-certification, the IAPP initial survey should not be completed until the onboard initial confirmation test provides compliant results. The applicant remains the responsible entity until final acceptance of the system.

3.5.3 When the engine is to be certified to both Tier II and Tier III, the EIAPP certificate should be completed for both Tier II and Tier III with a single Technical File covering both Tier modes.

3.5.4 In the context of the EIAPP certificate the term "Engine manufacturer" is the applicant for the certification of a system consisting of a marine diesel engine, an SCR chamber and a reductant injection system in accordance with the provisions of paragraph 4.4.4 of NTC 2008.

4 FAMILY AND GROUP CONCEPTS FOR ENGINE SYSTEMS FITTED WITH SCR

4.1 The requirements in chapter 4 of NTC 2008 apply equally to engine systems fitted with SCR.

4.2 The parent engine is to be the engine system fitted with SCR with the highest NO_X emission value of the group/family as specified in paragraphs 4.3.9.1 and 4.4.8.1 of NTC 2008. In cases where there is more than one combined engine/SCR system with the same highest NO_x emission value given to two decimal places (cycle value in g/kWh) within an engine family or an engine group, the parent engine is the system with the highest raw NO_x value emitted from the engine.

4.3 The parent engine for Tier II compliance is not necessarily the same parent of the combined engine/SCR system for Tier III compliance.

5 TEST PROCEDURES FOR SCHEME A

5.1 General

5.1.1 A test for a combined system of an engine fitted with an SCR in Scheme A is to ensure compliance with the applicable NO_x emission limits of MARPOL Annex VI, as required. The test bed measurement procedures of chapter 5 of NTC 2008 should apply.

5.1.2 Notwithstanding paragraph 5.1.1, the applicant may choose to test the combined system of an engine fitted with an SCR with a bypass arrangement without that bypass installed for the purpose of test bed measurement. Any effect on the fluid dynamics or reductant distribution caused by the absence of the by-pass arrangement is to be presented by the applicant.

5.2 Calculation of gaseous emissions

5.2.1 The calculation method in section 5.12 of NTC 2008 is also applied to engine systems fitted with SCR. No allowance is made for the reductant solution injected into the exhaust gas stream in respect of its effect on exhaust gas mass flow rate calculation (appendix VI) or dry/wet correction factor (equation (11), paragraph 5.12.3.2.2 of NTC 2008). The NO_x correction factor for humidity and temperature (equations (16) or (17), paragraphs 5.12.4.5 and 5.12.4.6, respectively, of NTC 2008) should not be applied.

5.2.2 For an engine system fitted with SCR, the following parameters should be measured and recorded in the engine test report in accordance with section 5.10 of NTC 2008:

.1 injection rate of reductant at each load point (kg/h);

.2 exhaust gas temperature at the inlet and outlet of the SCR chamber (°C);

.3 pressure loss (kPa): it is necessary to measure the pressure at the inlet and at the outlet of the SCR chamber and to calculate pressure loss Δp. It would also be permissible to measure the pressure loss Δp of the SCR chamber with a differential pressure sensor. The allowable Δp limit should be confirmed; and

.4 other parameter(s) as specified by the Administration.

6 TEST PROCEDURES FOR SCHEME B

6.1 General

6.1.1 A test for an engine system fitted with SCR in Scheme B is to ensure that the system complies with the applicable NO_x emission limits in MARPOL Annex VI, as required. The test procedures in Scheme B are as follows:

.1 an engine is tested to obtain the NO_x emission value (g/kWh) in accordance with paragraph 6.2.1 of these Guidelines;

.2 the SCR NO_x reduction rate may be calculated by modelling tools, taking into account geometrical reference conditions, chemical NO_x conversion models as well as other parameters to be considered;

.3 for every type of catalytic element, an SCR chamber, not necessarily to full scale, is to be tested in accordance with section 6.3 of these Guidelines in order to generate data for the calculation model as that used in paragraph 6.1.1.2 of these Guidelines;

.4 the NO_x emission from the engine system fitted with SCR, which is calculated in accordance with section 6.4 of these Guidelines using the NO_x emission value from the engine and the NO_x reduction rate of the SCR chamber; at this point the Technical File will be completed and this NO_x emission value will be entered into the supplement of the EIAPP certificate; and

.5 the NO_x emission performance of the engine combined with the SCR is verified by a confirmation test in accordance with the procedure in paragraph 7.5 of these Guidelines.

6.1.2 The calculation of gaseous emissions in paragraph 6.1.1.1 of these Guidelines should be undertaken in accordance with paragraph 5.2.1 of these Guidelines.

6.2 Verification test procedures for an engine

6.2.1 The purpose of the test of an engine is to establish the emission values for use in section 6.4 of these Guidelines. These measurements should be in accordance with chapter 5 of NTC 2008.

6.2.2 Paragraph 5.9.8.1 of the NTC 2008 requires engine conditions to be measured at each mode point, for an engine system. This equally applies in the case of an engine fitted with SCR. Additionally, exhaust gas temperature at the intended inlet of the SCR chamber should be determined and recorded in the test report as required by section 5.10 of NTC 2008.

6.3 Test procedures for SCR chambers

6.3.1 General

6.3.1.1 The SCR chamber for validation testing may be either a full-scale SCR chamber or a scaled version. A SCR chamber should demonstrate the reduction in NO_x concentrations (ppm) expected in exhaust gas measured in section 6.2 of these Guidelines. Therefore, the NO_x reduction rate of the SCR chamber should be determined for each individual mode point. Where undertaken on a scaled version of the SCR chamber the scaling process should be validated to the satisfaction of the Administration.

6.3.1.2 The scaling process is to correspond with the modelling tool of paragraph 6.1.1.2 of these Guidelines, and take into account geometrical reference conditions, and chemical NO_x conversion models, and other parameters which have an influence on the NO_x conversion rate in the modelling tool. If the scaling process could not be validated satisfactorily by theoretical analysis or calculations taking into consideration the complex conditions in the SCR chamber, such as uniformity of gas speed and reductant, a combined engine and SCR system validation test in accordance with Scheme A should be undertaken.

6.3.1.3 The modelling tool of paragraph 6.1.1.2 of these Guidelines is acceptable for use in other engine groups which operate within the same defined boundary conditions.

6.3.2 Test conditions at each mode point

Exhaust gas, catalyst, reductant and an injection system should satisfy the following conditions at each mode point:

.1 **Exhaust gas flow**
Exhaust gas flow rate for the test should be scaled accordingly to account for the dimension of the catalyst model.

.2 **Exhaust gas component**
Exhaust gas for the test should either be diesel engine exhaust gas or simulated gas.

Where diesel exhaust gas is used, it should correspond, in terms of concentrations, to the exhaust gas in section 6.2 of these Guidelines, in terms of NO_x, O_2, CO_2, H_2O and SO_2 (±5% of the required concentration for each emission species).

Where simulated gas is used, it should correspond, in terms of concentrations, to the exhaust gas in section 6.2 of these Guidelines, in terms of NO, NO_2, O_2, CO_2, H_2O and SO_2 (±5% of the required concentration for each emission species) balance N_2.

An exemption for one or more of the above-mentioned gas species' concentration requirements may be allowed subject to a demonstration test showing that the gas or gases do not affect the NO_x reduction rate by more than 2%.

.3 **Exhaust gas temperature**
The temperature of exhaust gas used for the test should correspond to the temperatures obtained from testing in section 6.2 of these Guidelines, ensuring that the SCR chamber is activated at every load point, other than as provided for by 3.1.4 of the NTC 2008, and that no ammonia bisulphate formation, or reductant destruction, takes place.

.4 **Catalyst blocks and AV, SV value**
The catalyst blocks used in the test should be representative of the catalyst blocks to be used in the SCR chamber in service. AV, SV or LV value should, in the case of full scale tests, be within -5% or above of the required value as obtained in testing from section 6.2 of these Guidelines. In the case of scaled tests it should correspond to the above.

.5 **Reductant**
The reductant concentration on the surface of the tested catalyst should be representative of the reductant concentration on the surface of the catalyst during actual engine operation. Ammonia gas may be used as a reductant for the SCR chamber test, provided that it results in an equivalent concentration on the catalyst surface.

6.3.3 Stability for measurement

All measurements should be recorded after they have stabilized.

6.3.4 List of data to be derived from the model

6.3.4.1 Operating data which is to be given in the Technical File should be derived from the modelling process or otherwise justified.

6.3.4.2 Exhaust gas analysers should be in accordance with appendix III and appendix IV of NTC 2008 or otherwise to the satisfaction of the Administration.

6.3.5 Test report for SCR chamber

Data recorded under paragraph 6.3.1.1 of these Guidelines should be recorded in the test report as required by section 5.10 of NTC 2008.

6.4 Calculation of the specific emission

6.4.1 The NO_x emission value of the engine system fitted with SCR should be calculated as follows:

$$\text{gas}_x = \frac{\sum_{i=1}^{i=n} \left((100 - \eta_i)/100 \right) \cdot q_{mgas_i} \cdot W_{F_i}}{\sum_{i=1}^{i=n} \left(P_{\text{i}} \cdot W_{F_i} \right)}$$

Where: η_i NO_x reduction rate (%) derived in accordance with section 6.3 of these Guidelines;

q_{mgas_i} = Mass flow of NO_x gas measured in accordance with section 6.2 of these Guidelines;

W_{F_i} = Weighting factor;

P_{i} = Measured power at individual mode points in accordance with section 6.2 of these Guidelines.

The weighting factors and number of modes (n) used in the above calculation shall be according to the provisions of section 3.2 of the NTC 2008.

6.4.2 The NO_x emission value (g/kWh) calculated in accordance with paragraph 6.4.1 of these Guidelines should be compared to the applicable emission limit. This emission value is entered into 1.9.6 of the Supplement to the EIAPP certificate (appendix I of NTC 2008).

6.5 Test report to be submitted to the Administration

The test report referenced under paragraphs 6.2.2 and 6.3.5 of these Guidelines, together with the data from section 6.4 of these Guidelines should be consolidated into the overall documentation to be submitted to the Administration.

7 ONBOARD CONFIRMATION TEST FOR SCHEME B

7.1 After installation on board of an engine system fitted with SCR and before entry into service an initial confirmation test should be performed on board.

7.2 The engine system fitted with the SCR should be verified as corresponding to the description given in the Technical File.

7.3 The confirmation test should be undertaken as close as possible to 25%, 50% and 75% of rated power, independent of test cycle.

7.4 At each mode point of the confirmation test the operating values as given in the Technical File should be verified.

7.5 NO_x emission concentrations should be measured at the inlet and outlet of the SCR chamber. The NO_x reduction rate should be calculated. Both values should either be dry or wet. The value obtained for NO_x reduction rate should be compared to the initial confirmation test required value at each mode point as given in the Technical File. Reduction efficiency values obtained at each of the test points should not be less than the corresponding values as given in the Technical File by more than 5%.

7.6 The NO_x analyser should meet the requirements of chapter 5 of NTC 2008.

7.7 When an engine system fitted with SCR is in a group defined in chapter 4 of these Guidelines, the confirmation test should be conducted only for the parent engine system of the group. Where the parent engine system of the group is not the first one to complete the onboard confirmation test as required by chapter 7 of these Guidelines, the onboard confirmation test is to be done for all installed engine systems within the engine group unless it is an identical NO_x specification member engine or the parent engine system has been installed and tested successfully. Where the parent engine system is not available to be installed on board, the first installed member engine system of the engine group can be chosen and adjusted to the worst-case NO_x emission for confirmation test on board instead. The test results should be verified as described in the Technical File.

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ANNEX 4

RESOLUTION MEPC.400(83)
(adopted on 11 April 2025)

AMENDMENTS TO THE 2021 GUIDELINES ON THE OPERATIONAL CARBON INTENSITY REDUCTION FACTORS RELATIVE TO REFERENCE LINES (CII REDUCTION FACTORS GUIDELINES, G3) (RESOLUTION MEPC.338(76))

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 28.5 of MARPOL Annex VI requires CII reduction (Z) factors to be established for each ship type to which regulation 28 is applicable,

RECALLING that, at its seventy-sixth session, it adopted, by resolution MEPC.338(76), the *2021 Guidelines on the operational carbon intensity reduction factors relative to reference lines (CII reduction factors guidelines, G3)*, in which Z factors for the years 2027 to 2030 were not specified at the time of adoption,

NOTING that regulation 28.11 of MARPOL Annex VI requires that the review of CII regulations shall be completed by the Organization by 1 January 2026,

HAVING CONSIDERED, at its eighty-third session, draft amendments to the *2021 Guidelines on the operational carbon intensity reduction factors relative to reference lines (CII reduction factors guidelines, G3)*,

1 ADOPTS amendments to the *2021 Guidelines on the operational carbon intensity reduction factors relative to reference lines (CII reduction factors guidelines, G3)*, 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 requirements set forth in regulation 28.4 of MARPOL Annex VI;

3 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;

4 AGREES to keep the Guidelines under review in light of experience gained with their implementation and in light of the further review of the CII framework.

ANNEX

AMENDMENTS TO THE 2021 GUIDELINES ON THE OPERATIONAL CARBON INTENSITY REDUCTION FACTORS RELATIVE TO REFERENCE LINES (CII REDUCTION FACTORS GUIDELINES, G3)

4 The reduction factors for the required annual operational CII of ship types

1 Table 1 is replaced by the following:

"Table 1: Reduction factor (Z%) for the CII relative to the 2019 reference line

Year	Reduction factor relative to 2019
2023	5%
2024	7%
2025	9%
2026	11%
2027	13.625%
2028	16.250%
2029	18.875%
2030	21.500%

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ANNEX 5

WORK PLAN FOR PHASE 2 OF THE REVIEW OF THE SHORT-TERM GHG REDUCTION MEASURE

This work plan is indicative and may be further updated in the future, and does not prejudge the outcome of consideration on any possible changes to the short-term GHG reduction measure.[1]

Date	Meeting[2]	Objectives
Spring 2026	MEPC 84	1. Further consider and finalize the development of the enhanced SEEMP framework 2. Further consider and finalize the development of the cgHRS metric for cruise passenger ships 3. Consider proposals to ensure synergies between the IMO carbon intensity/energy efficiency framework and the IMO net-zero framework (e.g. energy-based approach) with a view to finalization as soon as possible. Therefore, pursue incentives for energy efficiency and for the adoption of better operational practices in the shipping value chain or other technologies to reduce emissions from ships in line with the 2023 IMO GHG Strategy
Autumn 2026	MEPC 85	1. Further consider the development of other CII metrics 2. Further consider proposals to ensure synergies between the IMO carbon intensity/energy efficiency framework and the IMO net-zero framework (e.g. energy-based approach) with a view to finalization as soon as possible. Therefore, pursue incentives for energy efficiency and for the adoption of better operational practices in the shipping value chain or other technologies to reduce emissions from ships in line with the 2023 IMO GHG Strategy
Spring 2027	MEPC 86	1. Further consider the development of other CII metrics 2. Consider further concrete proposals for CII correction factors and/or reference line adjustments, if any 3. Further consider proposals to ensure synergies between the IMO carbon intensity/energy efficiency framework and the IMO net-zero framework (e.g. energy-based approach) with a view to finalization as soon as possible. Therefore, pursue incentives for energy efficiency and for the adoption of better operational practices in the shipping value chain or other technologies to reduce emissions from ships in line with the 2023 IMO GHG Strategy

[1] This work plan does not prevent any Member State or international organization from submitting additional proposals during phase 2.

[2] Possible intersessional or correspondence groups may be established by the Committee.

Date	Meeting[2]	Objectives
Spring 2028	MEPC 87	1. Conclude the consideration of other CII metrics 2. Further consider and finalize the development of revised reference lines, as appropriate 3. Consider further concrete proposals for CII correction factors and/or reference line adjustments, as appropriate 4. Finalize phase 2 of the review 5. Further consider proposals to ensure synergies between the IMO carbon intensity/energy efficiency framework and the IMO net-zero framework, with a view to finalization as soon as possible, and develop a possible way forward for the IMO carbon intensity/energy efficiency framework beyond 2030, as appropriate. Therefore, pursue incentives for energy efficiency and for the adoption of better operational practices in the shipping value chain or other technologies to reduce emissions from ships in line with the 2023 IMO GHG Strategy

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ANNEX 6

RESOLUTION MEPC.401(83)
(adopted on 11 April 2025)

AMENDMENTS TO THE 2024 GUIDELINES FOR THE DEVELOPMENT OF A SHIP ENERGY EFFICIENCY MANAGEMENT PLAN (SEEMP)
(RESOLUTION MEPC.395(82))

THE MARINE ENVIRONMENT PROTECTION COMMITTEE

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution 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 eighty-second session, it adopted, by resolution MEPC.395(82), the 2024 *Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*,

HAVING CONSIDERED, at its eighty-third session, draft amendments to the *2024 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*,

1 ADOPTS amendments to the *2024 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 INVITES Administrations to take the annexed Guidelines as amended into account when developing SEEMP Part II in accordance with the amendments to appendix IX of MARPOL Annex VI as adopted by resolution MEPC.385(81) on information to be submitted to the IMO Ship Fuel Oil Consumption Database;

3 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

AMENDMENTS TO THE 2024 GUIDELINES FOR THE DEVELOPMENT OF A SHIP ENERGY EFFICIENCY MANAGEMENT PLAN (SEEMP) (RESOLUTION MEPC.395(82))

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

1 In paragraph 7.1, the term "boilers" is replaced by "fired boilers".

2 In the chapeau of paragraph 7.3, the term "boilers" is replaced by "fired boilers".

3 A new section "Under way and not under way" is added after the existing section "Conversion factor C_F" and before the section "Distance travelled", as follows:

"**Under way and not under way**

7.6 Under way is defined as the period between full ahead on passage (FAOP) and end of sea passage (EOSP) as per the *Guidelines for setting up a maritime single window* (FAL.5/Circ.42/Rev.3).

Full ahead on passage is more commonly referred to in performance monitoring systems as begin of sea passage, which is also defined in the *IMO Compendium on facilitation and electronic business* (IMO Compendium) under IMO 0597 (Code EV10).

"Not under way" is therefore the period between end of sea passage and full ahead on passage.

Note that canal passage, that is the period between begin canal passage (EV08) and end canal passage (EV09) which are also defined in the IMO Compendium under IMO 0597 should be considered not under way due to frequent manoeuvring, acceleration and deceleration."

Distance travelled

4 Existing paragraphs 7.6 and 7.7 are renumbered as 7.7 and 7.8 respectively, and the renumbered sub-paragraph 7.7.2 is replaced by the following:

".2 the distance travelled while the ship is under way should be included in the aggregated data of distance travelled for the calendar year; and"

Hours under way

5 Existing paragraph 7.8 is renumbered as 7.9 and replaced by the following:

"7.9 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."

6 Existing paragraphs 7.9 to 7.12 are renumbered as 7.10 to 7.13 respectively.

APPENDIX 2 SAMPLE FORM OF SHIP FUEL OIL CONSUMPTION DATA-COLLECTION PLAN (PART II OF THE SEEMP)

7 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	Fired boiler	(…)	
4	Inert gas generator	(…)	
5	Others (Specify)	(…)	

"

8 Section 6 is replaced by the following:

"**6 Method to measure fuel oil consumption**

The applied method for measurement of total fuel consumption for this ship is given below. The description explains the procedure for measuring data and calculating annual values, measurement equipment involved, etc.

Method	**Description**

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		
Fired boiler		
Others (Specify)		

"

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ANNEX 7

RESOLUTION MEPC.402(83)
(adopted on 11 April 2025)

GUIDELINES FOR TEST-BED AND ONBOARD MEASUREMENTS OF METHANE (CH_4) AND/OR NITROUS OXIDE (N_2O) EMISSIONS FROM MARINE DIESEL ENGINES

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 eightieth session, it adopted, by resolution MEPC.377(80), the *2023 IMO Strategy on Reduction of GHG Emissions from Ships* (2023 IMO GHG Strategy) setting out the levels of ambition for the international shipping sector in reducing GHG emissions,
NOTING that the 2023 IMO GHG Strategy provides that in order to support the global availability and uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources, the Organization may consider and analyse measures to address emissions of methane (CH_4) and nitrous oxide (N_2O),

HAVING CONSIDERED, at its eighty-third session, draft guidelines for test-bed and onboard measurements of methane (CH_4) and/or nitrous oxide (N_2O) emissions from marine diesel engines,

1 ADOPTS the *Guidelines for test-bed and onboard measurements of methane (CH_4) and/or nitrous oxide (N_2O) emissions from marine diesel engines*, as set out in the annex to the present resolution;

2 INVITES Member States to encourage shipowners, ship operators, shipbuilders, marine diesel engine manufacturers and any other interested groups to voluntarily apply these Guidelines when undertaking measurements, calculation and reporting of CH_4 and/or N_2O emission values from marine diesel engines;

3 ALSO INVITES Member States to share data gathered in applying these Guidelines to future sessions of the Committee;

4 AGREES to keep these Guidelines under review in light of the experience gained with their implementation.

ANNEX

GUIDELINES FOR TEST-BED AND ONBOARD MEASUREMENTS OF METHANE (CH_4) AND/OR NITROUS OXIDE (N_2O) EMISSIONS FROM MARINE DIESEL ENGINES

1 Introduction

1.1 The purpose of these Guidelines is to specify the protocol for test-bed and onboard measurements, calculation and reporting of methane (CH_4) and/or nitrous oxide (N_2O) emission values from marine diesel engines, as well as documentation and verification of CH_4 and/or N_2O emission values.

1.2 The measurements, calculations and reporting for CH_4 and/or N_2O emission values should be carried out in accordance with the NO_x Technical Code 2008 as amended, (NTC 2008) other than as specifically provided for in the protocol set out in appendix 1 of these Guidelines. All references in appendix 1 are to NTC 2008.

1.3 For onboard measurements, the protocol set out in appendix 1 may be accepted for an Individual Engine or for an Engine Group represented by the Parent Engine. It should not be accepted for an Engine Family without further justifications. For test-bed measurements, the protocol may also be accepted for an Engine Family.[1]

2 Information to be included in the CH_4 and/or N_2O file

2.1 The applicant for the establishment of the emission values should prepare a CH_4 and/or N_2O file that should contain the following information:

.1 details of the engine as tested should include but are not limited to:

.1 model and designation;

.2 rated power and rated speed;

.3 listing of NO_x critical components as fitted and settings / operating values as applied including, for CH_4, NO_x certified maximum liquid-to-gas fuel ratios across load range; and

.4 other components and settings / operating values which affect CH_4 and/or N_2O emissions;

.2 details, including drawings of exhaust system, showing sampling position(s);

.3 where C_{slip} is reported, including crankcase emissions, details of how that was determined should be provided;

.4 a copy of the relevant engine test data, as given in appendix 2 of these Guidelines and any additional data to fully define the engine performance and enable calculation of the gaseous emissions of CH_4 and/or N_2O. For test-bed measurements, this information can also be provided in the test report as referred to in section 5.10 of the NTC 2008;

[1] The composition of an Engine Family or an Engine Group as defined in NTC 2008 is set solely by factors affecting NO_x emissions; those cannot be assumed to be equally applicable to CH_4 and/or N_2O emissions. In some instances, such as liquid-to-gas fuel ratio, the requirements for highest NO_x will tend to result in lowest CH_4.

.5 where a CH_4 and/or N_2O reducing device or system is used, the CH_4 and/or N_2O file should contain documentation on the emission abatement device, giving details of its intended purpose, manner of operation, critical components and settings / operating values together with information on any consumables necessary for its operation. Where exhaust gas samples are to be drawn from both before and after the device, details of analyser changeover arrangements and sequencing should be given if only one set of analysers is to be used.

3 Verification of the CH_4 and/or N_2O emission values

3.1 In order to confirm that the emission values have been established in accordance with these Guidelines, the CH_4 and/or N_2O file should be submitted to the Administration for verification.

3.2 On receipt of the CH_4 and/or N_2O file from the applicant and satisfactory completion of the verification, a Statement of emission values for CH_4 and/or N_2O should be issued by the Administration. The form of Statement of emission values for CH_4 and/or N_2O is set out in appendix 3 of these Guidelines.

APPENDIX 1

PROTOCOL FOR TEST-BED AND ONBOARD MEASUREMENTS OF CH_4 AND/OR N_2O EMISSIONS FROM MARINE DIESEL ENGINES BASED ON THE NO_x TECHNICAL CODE 2008

Explanatory note:
This protocol does not amend mandatory provisions in NTC 2008. Measurements, calculations and reporting of CH_4 and/or N_2O emission values should be carried out in accordance with NTC 2008, other than as specifically provided for in the protocol.

<table>
<tr><th>Paragraph of NO_x Technical Code 2008</th><th>Addition to NTC 2008</th></tr>
<tr><td>Abbreviations, subscripts and symbols</td><td></td></tr>
<tr><td></td><td>In table 1, the definitions of N_2O and NMHC are added as follows:
<table>
<tr><th>Symbol</th><th>Definition</th></tr>
<tr><td>N_2O</td><td>Nitrous oxide</td></tr>
<tr><td>NMHC</td><td>Non-methane hydrocarbons</td></tr>
</table></td></tr>
<tr><td></td><td>In table 2, abbreviations for FTIR, NDUV, NMC are added as follows:
<table>
<tr><th>Symbol</th><th>Definition</th></tr>
<tr><td>FTIR</td><td>Fourier transform infrared (analyser)</td></tr>
<tr><td>NDUV</td><td>Non-dispersive ultraviolet (analyser)</td></tr>
<tr><td>NMC</td><td>Non-methane cutter</td></tr>
</table>
Note: NMC = FID with non-methane cutter</td></tr>
<tr><td></td><td>In table 3, symbols and terms for C_{fCH4}, C_{fN2O} and $C_{slip-CH4}$ are added as follows:
<table>
<tr><th>Symbol</th><th>Term</th></tr>
<tr><td>C_{fCH4}</td><td>g CH_4 / g fuel[2]</td></tr>
<tr><td>C_{fN2O}</td><td>g N_2O / g total fuel (applies to both gas and liquid fuels)</td></tr>
<tr><td>$C_{slip-CH4}$</td><td>% (of the mass of the methane containing fuel used by the energy converter)</td></tr>
</table>
Note: $C_{slip-CH4}$ is a factor accounting for CH_4 (expressed in % of mass of methane containing fuel consumed in the energy converter) which is emitted from the energy converter (including fuel from combustion chamber/oxidation process and from crankcase, as appropriate).</td></tr>
</table>

[2] For methane containing fuels, the $C_{slip-CH4}$ is covering the role of C_{fCH4}, so C_{fCH4} is set to zero for these fuels. For the purpose of these Guidelines, non-methane gas fuels should be regarded as liquid fuels.

Chapter 3	
3.2 Test cycles and weighting factors to be applied	For the test cycles E2 and E3, the specific emission at the 10% mode point or the lowest mode point at which gas fuel would be used should be measured and reported in addition to the existing mode points. **For onboard measurements only**: In setting the load points of the test cycle to be followed the provisions of 6.4.6.7 should apply. In the case of the 100% load point this should, subject to the engine emission test plan, be allowed to be no lower than 85% of rated power. If that value cannot be achieved, then the test should be deferred to such time that at least that power level can be achieved. The test cycle 100% power weighting factor under 3.2 should be applied irrespective of the actual power developed at that load point.
Chapter 5	
5.2.5.3 Positioning of abatement device or system	Requirements do not necessarily apply to CH_4 and/or N_2O abatement device or system. The installation requirements of the device should be respected and provided in the CH_4 and/or N_2O file.
5.6.1 Permissible deviations of instruments for engine-related parameters and other essential parameters	**For onboard measurements only**: Engine performance and ambient condition monitoring equipment requirements should be in accordance with the requirements of 6.4.5.1.
5.9.2	CH_4 and/or N_2O should be added to the list of main exhaust components. In the case of CH_4, this means CH_4 as reported by the measurement device before correction for NMC efficiency.
5.9.3.2 Exhaust gas temperature at sample probe for HC	For the measurement of CH_4 and/or N_2O, there are no minimum temperature requirements.
5.9.6.2 Test sequence	**For onboard measurements only**: At each load point of a test cycle the provisions of 6.4.6.8 should apply rather than those of 5.9.6.2. In the case of the E3 test cycle, if the actual propeller curve differs from the E3 curve, the load point used should be set using the measured engine power.
5.11 Data evaluation for gaseous emissions	In addition to the concentrations for the species to be determined as specified by 5.11 of NTC 2008, the concentrations of CH_4 and/or N_2O are to be determined. The averaged results are to be given in ppm.
	Where the NMC methane efficiency is not 0% and/or the NMC ethane efficiency is not 100% the CH_4 concentration to be used in equation 18a is calculated as follows: $$c_{NMHC} = \frac{c_{HC}\,(w/oCutter)\cdot(1 - Em) - c_{HC}\,(wCutter)}{Ee - Em}$$

Where:

c_{HC} *(wCutter)* HC concentration with sample gas through NMC (ppmC1)

c_{HC} *(w/oCutter)* HC concentration with NMC bypassed – i.e. usual HC reading (c_{HC}) (ppmC1)

Em NMC methane efficiency – appendix IV, 8.5.1

Ee NMC ethane efficiency – appendix IV, 8.5.2

CH_4 concentration:

$$c_{CH4} = c_{HC} - c_{NMHC}$$

5.12.5.1 Calculation of the emission mass flow rates

For the calculation of the emission mass flow rates in 5.12.5.1, u_{gas} values for N_2O and/or CH_4 should be calculated using table 5 as extended:

Gas		HC	CH_4	N_2O
ρ_{gas} kg/m^3		*	0.716	1.9631
	ρ_e†	Coefficient u_{gas}‡		
Liquid fuel**	1.2943	0.000479	0.000553	0.001517
Rapeseed Methyl Ester	1.2950	0.000536	0.000553	0.001516
Methanol	1.2610	0.001133	0.000568	0.001557
Ethanol	1.2757	0.000805	0.000561	0.001539
Natural gas	1.2661	0.000558*	0.000565	0.001551
Propane	1.2805	0.000512	0.000559	0.001533
Butane	1.2832	0.000505	0.000558	0.001530

* In the case of HC emissions when using natural gas as the fuel, the given u_{gas} value of 0.000558 should be used for NMHC on the basis of CH2.93. For total HC, the u_{gas} of CH_4 should be used.

5.12.5.2 The CH_4 and/or N_2O concentration to be entered into equation 18a is the value from 5.11 on a wet basis.

5.12.6 Calculation of the specific emission	Calculate C_{fCH4} (g/kg fuel and g/kWh), C_{fN2O} (g/kg fuel and g/kWh) and $C_{slip\text{-}CH4}$ (% of the mass of the methane containing fuel used by the engine) for each load point where emissions are measured. $C_{fgas} = q_{mgas}$ /fuel flow $C_{slip\text{-}CH4} = (q_{mCH4}$ /fuel flow)·100 Calculate the average weighed emissions $C_{fgas} = \sum\_i=1...n\ (q_{mgas} \cdot W_{Fi}) / sum\_i=1..n\ (q_{fuel,i} \cdot W_{Fi})$ With $q_{fuel,i}$ being the fuel flow at each mode point. $C_{slip\text{-}CH4} = \sum\_i=1...n\ (\ q_{mCH4} \cdot W_{Fi}) / 10 / sum\_i=1..n\ (q_{fuel,i} \cdot W_{Fi})$ q_{mgas} (g/h): see section 5.12.5.2 of the NTC 2008, equation 18a Fuel flow (kg/h) as measured.
Appendix III	
	Section 1.1 CH_4 and/or N_2O are added to the list of components included in the exhaust gas analysis system.
	Figure 1 • For arrangements of exhaust gas analysis measurement systems for the measurement of CH_4, refer to ISO 8178-1 section 7.4.4. • NMC and N_2O analyser should be arranged, installed and operated in accordance with the respective manufacturer's recommendations.
	Section 1.2 Analysers for CH_4 and N_2O: see section 3
	Section 3 **3.6 Methane (CH_4) analysis** The reference method for CH_4 should be FID + NMC. Other principles / systems should be accepted if proven against FID+NMC with exhaust gases of the compositions to be measured. It should be ensured that the HC / CH_4 analyser(s) to be used have duly calibrated ranges for the respective concentrations to be measured. The NMC should have the capacity to handle the expected CH_4 and NMHC concentrations.

	3.7 Nitrous oxide (N_2O) analysis An FTIR analyser, an NDIR (non-dispersive infrared) analyser, laser infrared analyser or NDUV analyser may be used in accordance with the instrument supplier's instructions. Note: According to sections 5.4.2 and 5.4.3 of the NTC 2008, other systems or analysers may, subject to the approval of the Administration, be accepted if they yield equivalent results to that of the equipment referenced.
Appendix IV	**Calibration of the analytical and measurement instruments**
	Requirements of table 1 or table 3 regarding fuel measurement device apply separately to both liquid fuel meter and gas fuel meter.
	In addition to the calibration procedures of appendix IV of the NTC 2008, relevant parts of ISO 8178-1 for calibration of CH_4 and/or N_2O measurement instruments should be applied. FID should be calibrated with NMC bypassed with NMC efficiencies E_e and E_m determined separately.
	Section 2 "C_2H_6 and purified synthetic air" is added to 2.2.1.5. A new sub-paragraph "2.2.1.6 N_2O and purified nitrogen" is added after the existing 2.2.1.5.
	Section 5 N_2O is added to the list of analysers in the first sentence of 5.4.2.
8.4	For measurement of N_2O, a new section 8.4 applies
8.4.1	The interference should be checked prior to first use of an analyser and after major servicing or updating of software.
8.4.2	In those cases where the analyser applies compensation algorithms which use as inputs the concentrations of other measured gases those measurements should be undertaken concurrently with this verification check.
8.4.3	For NDIR - The potential for cross interferences effects of CO, CO_2, H_2O, CH_4 and SO_2 as applicable should be checked.
8.4.3.1	Apart from H_2O the interference species are dependent on the selected N_2O absorption band used by the device which should be known. From that knowledge good engineering judgement should be used to determine the interference gases to be used based on those which may be expected to be present in the exhaust gases to be measured.

8.4.4	For FTIR or Laser Infrared – The inference gases depend on the selected N_2O absorption band used by the device which should be known. Based on that knowledge good engineering judgement should be used to determine the interference gases to be used.
8.4.5	The combined effect of the interference gases should not be more 1.0 µmol/mol.
8.4.6	Verification procedure: .1 The concentrations of the interference span gases as identified from 8.4.3 or 8.4.4 should be at least as high as the maximum values to be encountered in service. Those interference gases may be presented in the form of a multi-component span gas. .2 The N_2O analyser is started, operated, zeroed and spanned as in service. .3 Humified interference test gas should be fed into the analyser. That test gas should be generated by bubbling the multi-component span gas through distilled H_2O in a sealed container. If the sample is not treated by a dryer the container temperature should be controlled to generate a H_2O concentration at least as high as the expected maximum when in service. If the sample is treated by a dryer the container temperature should be controlled to generate a H_2O concentration at least as high as the expected maximum based on the dryer outlet temperature when in service. .4 The water mole fraction of the test gas should be determined from measurements taken as close as possible to the analyser inlet. Those measurements may be dew point and absolute pressure. .5 Condensation in the piping leading from the container generating the humidified test gas to the analyser should be minimized by maintaining an adequate minimum temperature. .6 Following stabilization, the analyser output should be recorded for 30 s. The arithmetic mean response over that period should be compared with the limit in 8.4.5.
8.4.6.1	As an alternative to the multi-component span gas in 8.4.6 individual span gases may be run separately. Where an interference gas concentration is higher than that to be measured in service the determined interference value should be scaled down by the ratio of in-service maximum / span concentration. Where the H_2O concentration is below that to be measured in service, but not below 0.025 mol/mol H_2O content, the determined

	interference may be scaled up by the ratio of maximum in-service value / the value used. The sum of the individual interferences should be compared with the limit in 8.4.5.
8.4.7	An interference verification check report documenting the procedure as followed, including the rational for the interference gases used and their concentrations, and the outcomes of that procedure is to be prepared and should be available as may be required.
8.4.8	Alternative approaches to the verification of N_2O analyser interference may be acceptable. Where so used the justification for the approach taken should be included in the report as required by 8.4.7. Irrespective of the procedure followed the limit given by 8.4.5 remains applicable.
8.5	**Efficiency of the non-methane cutter (NMC)**
	The NMC is used for the removal of the non-methane hydrocarbons from the sample gas by oxidizing all hydrocarbons except CH_4. Ideally, the conversion rate for CH_4 is 0% and for the other hydrocarbons, as represented by ethane, is 100%. Since the performance of NMC can deteriorate rapidly and without warning if operated outside certain ranges of gas concentrations and temperature ranges, the efficiency of the NMC should be checked as part of the pretest verification procedures under 6.1 and again on completion of the measurement exercise (at the time of rechecking the analysers in accordance with 5.9.9 of NTC 2008) with the average of the two *Em* and *Ee* values so obtained being used to correct the measured CH_4 concentrations. For onboard measurement, the efficiency of the NMC may be assessed in a laboratory before and after the measurement exercise. With the agreement of the Administration, alternative approaches to the assessment of NMC efficiency may be accepted. Methane efficiency < 15% Ethane efficiency > 98%
8.5.1	**NMC methane efficiency**
	Methane calibration gas at a concentration typical of that to be measured is flowed through the FID analyser with and without the NMC bypassed. The methane efficiency, *Em*, is determined as: $$Em = 1 - \frac{C_M\,(wCutter)}{C_M\,(w/oCutter)}$$

	Where: C_M *(wCutter)* HC concentration with CH_4 flowing through the NMC (ppmC1) C_M *(w/oCutter)* HC concentration with CH_4 bypassing NMC (ppmC1)
8.5.2	**NMC ethane efficiency**
	Ethane calibration gas at a concentration typical of the expected non-methane hydrocarbon concentration to be measured is flowed through the FID analyser with and without the NMC bypassed. The ethane efficiency, *Ee*, is determined as: $Ee = 1 - \frac{C_E\,(wCutter)}{C_E\,(w/oCutter)}$ Where: C_E *(wCutter)* HC concentration with C_2H_6 flowing through the NMC (ppmC1) C_E *(w/oCutter)* HC concentration with C_2H_6 bypassing NMC (ppmC1)

APPENDIX 2

ENGINE TEST REPORT AND TEST DATA – CH_4 AND/OR N_2O CALCULATIONS

Engine	
Manufacturer	
Engine type	
Emission abatement device	
Engine family or Engine group identification	
Serial number	
Rated power	
Rated speed	

Emissions test results:					
Test cycle					
C_{fCH4} weighted					g/kg fuel
$C_{slip\text{-}CH4}$ weighted					% (of the mass of the methane containing fuel used by the engine)
N_2O (weighted)					g/kg total fuel
Test identification					
Date/time					
Test site					
Test number					
Company					
Date and place of report					
Signature					

Measurement equipment					
	Manufacturer	Model	Measurement ranges	Calibration	
				Span gas conc.	Deviation of calibration
Analyser					
HC / CH_4 Analyser*			ppm		%
N_2O Analyser			ppm		%
CO Analyser			ppm		%
CO_2 Analyser			%		%
O_2 Analyser			%		%
Speed			rpm		%

Torque			Nm		%
Power, if applicable			kW		%
Fuel flow-liquid					%
Fuel flow-gas					%
Air flow					%
Exhaust flow					%
Temperatures					
Charge air coolant inlet			°C		°C
Exhaust gas			°C		°C
Inlet air			°C		°C
Charge air			°C		°C
Fuel-liquid			°C		°C
Fuel-gas			°C		°C
Pressures					
Exhaust gas			kPa		kPa
Charge air			kPa		kPa
Atmospheric			kPa		kPa
Vapour pressure					
Intake air			kPa		%
Humidity					
Intake air			%		%

* For FID+NMC

Make and model of NMC		
	Before measurement	After measurement
NMC CH_4 gas concentration	ppmC	ppmC
HC with CH_4 through NMC	ppmC	ppmC
HC with CH_4 bypassing NMC	ppmC	ppmC
NMC methane efficiency *Em*		
NMC C_2H_6 gas concentration	ppmC	ppmC
HC with C_2H_6 through NMC	ppmC	ppmC
HC with C_2H_6 bypassing NMC	ppmC	ppmC
NMC ethane efficiency *Ee*		

Liquid fuel characteristics

Fuel type				
Fuel properties:			**Fuel elemental analysis:**	
Density	ISO 3675	kg/m^3	Carbon	% m/m
Viscosity	ISO 3104	mm^2/s	Hydrogen	% m/m
Water	ISO 3733	% V/V	Nitrogen	% m/m
Lower heating value/Hu		MJ/kg	Oxygen	% m/m
			Sulphur	% m/m

Gas fuel characteristics

Fuel type:				
Fuel properties			**Fuel elemental analysis**	
Methane number	EN16726:2015		Carbon	% m/m
Lower heating value		MJ/kg	Hydrogen	% m/m
Boiling point		°C	Nitrogen	% m/m
Density at boiling point		kg/m³	Oxygen	% m/m
Pressure at boiling point		Bar (abs)	Sulphur	% m/m
			Methane, CH_4	mol%
			Ethane, C_2H_6	mol%
			Propane, C_3H_8	mol%
			Isobutane, i C_4H_{10}	mol%
			N-Butane, n C_4H_{10}	mol%
			Pentane, C_5H_{12}	mol%
			C_6+	mol%
			CO_2	mol%

Gaseous emissions data

Mode	1	2	3	4	5	6	7	8	9	10
Power/Torque (%)										
Speed (%)										
Time at beginning of mode										

Gaseous emissions data:										
Sampling position										
HC concentration (ppmC)										
CH_4 concentration (ppmC)* recorded#										
CH_4 concentration (ppmC)* - corrected#										
N_2O concentration (ppm)*										
CO concentration (ppm)										
CO_2 concentration (%)										
O_2 concentration (%)										
CH_4 mass flow (kg/h)*#										
N_2O mass flow (kg/h)*										
CO mass flow (kg/h)										
CO_2 mass flow (kg/h)										
O_2 mass flow (kg/h)										
CH_4 (g/kg)*#										
CH_4 (g/kWh)* #										
N_2O (g/kg)*										
N_2O (g/kWh)*										

* As applicable.

As applicable to either liquid or gas fuel.

Engine parameters to be measured and recorded

Mode	1	2	3	4	5	6	7	8	9	10
Power/Torque (%)										
Speed (%)										
Time at beginning of mode										

Engine data										
Speed (rpm)										
Power (kW)										
Mean effective pressure (kPa)										
Fuel rack/gas admission duration** (mm/sec)										
Liquid-to-gas fuel ratio (on mass basis)										
Liquid Fuel flow (kg/h or m^3/h*)										
Gas Fuel flow (kg/h)										
Exhaust flow (q_{mew}) (kg/h)										
Exhaust temperature at the sampling point (ºC)										
Charge air coolant temperature in (ºC)										
Charge air coolant temperature out (ºC)										
Charge air temperature (ºC)										
Charge air reference temperature (ºC)										
Charge air pressure (kPa)										
Fuel-liquid temperature before the engine (ºC)										
Fuel-gas temperature before the engine (ºC)										

Ambient data										
Atmospheric pressure (kPa)										
Intake air temperature (°C)										
Intake air humidity (g/kg)										
Relative humidity (RH) of intake air* %										
Air temperature at RH sensor* (°C)										
Dry bulb temperature of intake air* (°C)										
Wet bulb temperature of intake air* (°C)										

* As applicable.
** Only for engines to be tested with gas fuel.

Abatement device:

The report should state whether reported data before or after device- hence the gaseous emission data page will need to be repeated, if both are to be given.

Additionally, if both before and after data given, the analyser data should, if relevant, be repeated to cover all analysers used.

For each Mode Point, the following device data should additionally be recorded: Settings, Operating values and Consumption (specified rates).

APPENDIX 3

FORM OF STATEMENT OF EMISSION VALUES FOR METHANE (CH_4) AND/OR NITROUS OXIDE (N_2O)

Issued in accordance with the *Guidelines for test-bed and onboard measurements of methane (CH_4) and/or nitrous oxide (N_2O) emissions from marine diesel engines* (resolution MEPC.402(83)) under the authority of the Government of:

……
(full designation of the country)

by.....
(full designation of the competent person or organization authorized)

Particulars of applicant

Name of applicant……

THIS IS TO DECLARE THAT:

1 the applicant has submitted to this Administration the information recommended by the Guidelines for test-bed and onboard measurements of CH_4 and/or N_2O emissions from marine diesel engines (resolution MEPC.402(83));

2 the emission value(s) have been established in accordance with the Guidelines for test-bed and onboard measurements of CH_4 and/or N_2O emissions from marine diesel engines (resolution MEPC.402(83));

3 the engine weighted verified emissions value(s) are as follows:

1	Engine manufacturer and model	
2	Engine serial number	
3	Abatement device manufacturer and model	
4	Device serial number	
5	Use (applicable test cycle(s) – NTC 3.2)	
6	C_{fCH4} (g/kg fuel)*	
7	$C_{slip\text{-}CH4}$ % (of the mass of the methane containing fuel used by the engine)*	
8	C_{fN2O} (g/kg fuel)*	

* Include as appropriate

Issued at……...
(place of issue of the Statement)

(dd/mm/yyyy): ....
(date of issue) *(signature of duly authorized official issuing the Statement)*

(seal or stamp of the authority, as appropriate)

***

ANNEX 8

WORK PLAN FOR THE DEVELOPMENT OF A REGULATORY FRAMEWORK FOR THE USE OF ONBOARD CARBON CAPTURE AND STORAGE (OCCS)

Goal: The goal of this work is to develop a regulatory framework for the use of onboard carbon capture and storage (OCCS), in order to reduce net GHG emissions from ships without negatively affecting the environment

Objectives: The work has the following objectives:

.1 avoiding emissions to air and discharges to sea that are harmful to the environment and ensuring traceability of the captured carbon;

.2 consider legal barriers that may hinder the use of OCCS and transportation and transfer of the captured carbon to safe permanent storage or utilization;

.3 facilitate access to certified reception facilities for the value chain for permanent storage or utilization of captured carbon;

.4 enable recording and reporting of relevant data; and

.5 develop options that take into account GHG emission reductions from onboard carbon capture in the IMO GHG regulatory framework.

Boundaries (freedoms and constraints):

.1 issues related to health, safety and the human element will be addressed by the Maritime Safety Committee (MSC) and its sub-committees. MSC and MEPC should liaise to ensure alignment of the overall regulatory framework for onboard carbon capture;

.2 issues related to accounting of emissions from ships using OCCS will be addressed by the workstreams on further development of the LCA framework, and decisions made in this process will affect the regulatory framework for OCCS;

.3 the regulatory framework should take a technology-neutral approach and needs to consider the diverse types of technology for OCCS;

.4 the regulatory framework needs to consider the environmental risks associated with the use of OCCS, and the transfer and discharge to shore; and

.5 decisions and developments in other workstreams related to the short-term and mid-term GHG reduction measures may impact the work and should be considered.

Tasks:

.1 avoiding emissions to air and discharges to sea that are harmful to the environment and ensuring traceability of the captured carbon;

.1 understand and identify the environmental risks of the different onboard carbon capture technologies;

.2 develop measures to minimize the negative impact on the environment:

.1 develop guidelines on testing, survey, and certification of OCCS, including development of provisions to minimize emissions/discharge of substances that are harmful to the environment and ensure the availability of the data needed for LCA calculations;

.2 review the existing IMO regulatory framework in a structured manner to identify existing instruments that should be amended, and potential additional guidelines or regulations that may be needed; and

.3 consider the need to define the acceptable means of disposal or use of captured carbon;

.3 develop provisions for enforcement to ensure that the OCCS on ships comply with environment regulations and standards, including consideration of what existing regulations and guidelines need to be updated; and

.4 review the status of technological development of onboard carbon capture applications, including their potential in reducing GHG emissions from ships;

.2 consider legal barriers that may hinder the use of OCCS and transportation and transfer of the captured carbon to safe permanent storage or utilization:

.1 identify and understand the impact of any legal barriers; and

.2 decide on further actions as appropriate;

.3 facilitate access to certified reception facilities for the value chain for permanent storage or utilization of captured carbon:

.1 consider monitoring the development of relevant regulations applicable to facilities for permanent storage or utilization of captured carbon, carbon capture facilities, national regulations, and installation of OCCS on ships;

.2 consider if and how to address compatibility between ships and reception facilities ashore; and

.3 engage in a principal discussion on how to address the quality and concentration of the captured carbon delivered ashore;

.4 enable recording and reporting of relevant data:

.1 consider and identify what data should be recorded and reported and how;

.2 consider how to enable the traceability of the captured carbon; and

.3 update relevant guidelines and provisions as appropriate;

.5 develop options that take into account GHG emission reductions from onboard carbon capture in the IMO GHG regulatory framework:

.1 consider how GHG emission reductions achieved through OCCS could be reflected in the IMO regulatory framework; and

.2 update relevant guidelines as needed.

Timing: Aim to complete the work in 2028, and priority tasks as soon as possible. The tasks associated with objective 1 (tasks 1.1 to 1.4) should be prioritized.

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ANNEX 9

RESOLUTION MEPC.403(83)
(adopted on 11 April 2025)

AMENDMENTS TO THE 2022 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,

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

RECALLING that, at its seventy-ninth session, it adopted, by resolution MEPC.365(79), the *2022 Guidelines on survey and certification of the Energy Efficiency Design Index (EEDI)*,

RECALLING ALSO that, at its eightieth session, it adopted, by resolution MEPC.374(80), amendments to the *2022 Guidelines on survey and certification of the Energy Efficiency Design Index (EEDI)*,

HAVING CONSIDERED, at its eighty-third session, draft amendments to the *2022 Guidelines on survey and certification of the Energy Efficiency Design Index (EEDI)*, as amended,

1 ADOPTS the amendments to the *2022 Guidelines on survey and certification of the Energy Efficiency Design Index (EEDI)*, as set out in the annex to the present resolution;

2 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;

3 AGREES to keep these Guidelines, as amended, under review, in light of the experience gained with their application.

ANNEX

AMENDMENTS TO THE *2022 GUIDELINES ON SURVEY AND CERTIFICATION OF THE ENERGY EFFINCIENCY DESIGN INDEX (EEDI)* (RESOLUTION MEPC.365(79), AS AMENDED BY RESOLUTION MEPC.374(80))

1 Paragraph 4.3.5 is replaced by the following:

"4.3.5 Sea conditions should be measured in accordance with ITTC Recommended Procedure 7.5-04-01-01.1 *Preparation, Conduct and Analysis of Speed/Power Trials* 2024 or ISO 15016:2025.[*]"

2 Paragraph 4.3.6 is replaced by the following:

"4.3.6 Ship speed should be measured in accordance with ITTC Recommended Procedure 7.5-04-01-01.1 *Preparation, Conduct and Analysis of Speed/Power Trials* 2024 or ISO 15016:2025,[*] and at more than two points of which range includes the power of the main engine as specified in paragraph 2.2.5 of the EEDI Calculation Guidelines."

3 Paragraph 4.3.8 is replaced by the following:

"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, current, waves, shallow water, displacement, water temperature and water density in accordance with ITTC Recommended Procedure 7.5-04-01-01.1 *Preparation, Conduct and Analysis of Speed/Power Trials* 2024 or ISO 15016:2025.[*] 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."

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[*] Until 1 May 2026, ISO 15016:2015 may also be used.

ANNEX 10

OUTCOME OF THE ROLL-CALL VOTE ON THE APPROVAL OF THE DRAFT AMENDMENTS TO MARPOL ANNEX VI ON THE IMO NET-ZERO FRAMEWORK WITH A VIEW TO CIRCULATION

No.	MEMBER STATE	YES	NO	ABSTAIN	NOT PRESENT
1.	ALGERIA		**X**		
2.	ANGOLA				**X**
3.	ANTIGUA AND BARBUDA	**X**			
4.	ARGENTINA			**X**	
5.	AUSTRALIA			**X**	
6.	AUSTRIA	**X**			
7.	AZERBAIJAN			**X**	
8.	BAHAMAS	**X**			
9.	BAHRAIN				**X**
10.	BANGLADESH			**X**	
11.	BARBADOS	**X**			
12.	BELGIUM	**X**			
13.	BELIZE	**X**			
14.	BRAZIL	**X**			
15.	BRUNEI DARUSSALAM		**X**		
16.	CAMBODIA			**X**	
17.	CANADA	**X**			
18.	CHILE	**X**			
19.	CHINA	**X**			
20.	COLOMBIA			**X**	
21.	COOK ISLANDS	**X**			
22.	COSTA RICA				**X**
23.	CROATIA	**X**			
24.	CYPRUS	**X**			
25.	DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA		**X**		
26.	DENMARK	**X**			
27.	DOMINICAN REPUBLIC				**X**
28.	ECUADOR	**X**			
29.	EGYPT			**X**	
30.	EL SALVADOR			**X**	
31.	ERITREA				**X**
32.	ESTONIA	**X**			
33.	ETHIOPIA				**X**
34.	FIJI			**X**	
35.	FINLAND	**X**			
36.	FRANCE	**X**			
37.	GERMANY	**X**			
38.	GHANA			**X**	
39.	GREECE	**X**			

No.	MEMBER STATE	YES	NO	ABSTAIN	NOT PRESENT
40.	GRENADA	**X**			
41.	GUATEMALA	**X**			
42.	HONDURAS	**X**			
43.	ICELAND	**X**			
44.	INDIA	**X**			
45.	INDONESIA	**X**			
46.	IRAN (ISLAMIC REPUBLIC OF)		**X**		
47.	IRAQ		**X**		
48.	IRELAND	**X**			
49.	ISRAEL				**X**
50.	ITALY	**X**			
51.	JAMAICA	**X**			
52.	JAPAN	**X**			
53.	JORDAN				**X**
54.	KENYA	**X**			
55.	KIRIBATI			**X**	
56.	KUWAIT		**X**		
57.	LATVIA	**X**			
58.	LEBANON				**X**
59.	LIBERIA			**X**	
60.	LIBYA				**X**
61.	LITHUANIA	**X**			
62.	LUXEMBOURG	**X**			
63.	MADAGASCAR			**X**	
64.	MALAYSIA		**X**		
65.	MALTA	**X**			
66.	MARSHALL ISLANDS			**X**	
67.	MEXICO	**X**			
68.	MONACO				**X**
69.	MONTENEGRO				**X**
70.	MOROCCO		**X**		
71.	NAMIBIA	**X**			
72.	NETHERLANDS (KINGDOM OF THE)	**X**			
73.	NEW ZEALAND			**X**	
74.	NIGERIA				**X**
75.	NORWAY	**X**			
76.	OMAN		**X**		
77.	PAKISTAN		**X**		
78.	PALAU			**X**	
79.	PANAMA	**X**			
80.	PARAGUAY	**X**			
81.	PERU	**X**			
82.	PHILIPPINES	**X**			
83.	POLAND	**X**			
84.	PORTUGAL	**X**			
85.	QATAR		**X**		
86.	REPUBLIC OF KOREA	**X**			
87.	ROMANIA	**X**			

No.	MEMBER STATE	YES	NO	ABSTAIN	NOT PRESENT
88.	RUSSIAN FEDERATION		**X**		
89.	SAINT KITTS AND NEVIS	**X**			
90.	SAINT LUCIA	**X**			
91.	SAINT VINCENT AND THE GRENADINES	**X**			
92.	SAMOA	**X**			
93.	SAN MARINO	**X**			
94.	SAUDI ARABIA		**X**		
95.	SENEGAL	**X**			
96.	SEYCHELLES		**X**		
97.	SINGAPORE	**X**			
98.	SLOVENIA	**X**			
99.	SOLOMON ISLANDS			**X**	
100.	SOUTH AFRICA	**X**			
101.	SPAIN	**X**			
102.	SRI LANKA			**X**	
103.	SURINAME			**X**	
104.	SWEDEN	**X**			
105.	SWITZERLAND	**X**			
106.	THAILAND		**X**		
107.	TRINIDAD AND TOBAGO				**X**
108.	TÜRKİYE	**X**			
109.	TUVALU			**X**	
110.	UGANDA			**X**	
111.	UKRAINE	**X**			
112.	UNITED ARAB EMIRATES		**X**		
113.	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	**X**			
114.	URUGUAY	**X**			
115.	VANUATU			**X**	
116.	VENEZUELA (BOLIVARIAN REPUBLIC OF)		**X**		
117.	VIET NAM			**X**	
118.	YEMEN				**X**
	TOTAL	**63**	**16**	**24**	**15**

Only YES and NO votes are counted: 63 + 16 = 79
Simple majority = 40

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ANNEX 11

DRAFT AMENDMENTS TO MARPOL ANNEX VI

REGULATIONS FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

(Draft 2025 revised MARPOL Annex VI)

Chapter 1 – General

Regulation 1
Application

The provisions of this Annex shall apply to all ships, except where expressly provided otherwise.

Regulation 2
Definitions

1 For the purpose of this Annex:

.1 *Annex* means Annex VI to the International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL), as modified by the Protocol of 1978 relating thereto, and as modified by the Protocol of 1997, as amended by the Organization, provided that such amendments are adopted and brought into force in accordance with the provisions of article 16 of the present Convention.

.2 *A similar stage of construction* means the stage at which:

.1 construction identifiable with a specific ship begins; and

.2 assembly of that ship has commenced comprising at least 50 tonnes or one per cent of the estimated mass of all structural material, whichever is less.

.3 *Anniversary date* means the day and the month of each year that will correspond to the date of expiry of the International Air Pollution Prevention Certificate.

.4 *Audit* means a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.

.5 *Audit Scheme* means the IMO Member State Audit Scheme established by the Organization and taking into account the guidelines developed by the Organization.[1]

.6 *Audit Standard* means the Code for Implementation.

.7 *Auxiliary control device* means a system, function or control strategy installed on a marine diesel engine that is used to protect the engine and/or its ancillary equipment against operating conditions that could result in damage or failure,

[1] Refer to *Framework and procedures for the IMO Member State Audit Scheme* (resolution A.1067(28)).

or that is used to facilitate the starting of the engine. An auxiliary control device may also be a strategy or measure that has been satisfactorily demonstrated not to be a defeat device.

.8 *Calendar year* means the period from 1 January until 31 December inclusive.

.9 *Code for Implementation* means the IMO Instruments Implementation Code (III Code) adopted by the Organization by resolution A.1070(28).

.10 *Committee* means the Marine Environment Protection Committee of the Organization.

.11 *Company* means the owner of the ship or any other organization or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the owner of the ship and who on assuming such responsibility has agreed to take over all the duties and responsibilities imposed by the International Management Code for the Safe Operation of Ships and for Pollution Prevention.

.12 *Continuous feeding* is defined as the process whereby waste is fed into a combustion chamber without human assistance while the incinerator is in normal operating conditions with the combustion chamber operative temperature between 850°C and 1,200°C.

.13 *Defeat device* means a device that measures, senses or responds to operating variables (e.g. engine speed, temperature, intake pressure or any other parameter) for the purpose of activating, modulating, delaying or deactivating the operation of any component or the function of the emission control system such that the effectiveness of the emission control system is reduced under conditions encountered during normal operation, unless the use of such a device is substantially included in the applied emission certification test procedures.

.14 *Electronic Record Book* means a device or system, approved by the Administration, used to electronically record the required entries for discharges, transfers and other operations as required under this Annex in lieu of a hard copy record book.[2]

.15 *Emission* means any release of substances, subject to control by this Annex, from ships into the atmosphere or sea.

.16 *Emission control area* means an area where the adoption of special mandatory measures for emissions from ships is required to prevent, reduce and control air pollution from NO_x or SO_x and particulate matter or all three types of emissions and their attendant adverse impacts on human health and the environment. Emission control areas shall include those listed in, or designated under, regulations 13 and 14 of this Annex.

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

.18 *Gas fuel* means a fuel oil with a vapour pressure exceeding 0.28 MPa absolute at a temperature of 37.8°C.[3]

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2 Refer to the *Guidelines for the use of electronic record books under MARPOL* (resolution MEPC.312(74)).

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

.19 *Gross tonnage* means the gross tonnage calculated in accordance with the tonnage measurement regulations contained in Annex I to the International Convention on Tonnage Measurements of Ships, 1969, or any successor Convention.

.20 *In-use sample* means a sample of fuel oil in use on a ship.

.21 *Installations* in relation to regulation 12 of this Annex means the installation of systems, equipment, including portable fire-extinguishing units, insulation or other material on a ship, but excludes the repair or recharge of previously installed systems, equipment, insulation or other material, or the recharge of portable fire-extinguishing units.

.22 *Installed* means a marine diesel engine that is or is intended to be fitted on a ship, including a portable auxiliary marine diesel engine, only if its fuelling, cooling or exhaust system is an integral part of the ship. A fuelling system is considered integral to the ship only if it is permanently affixed to the ship. This definition includes a marine diesel engine that is used to supplement or augment the installed power capacity of the ship and is intended to be an integral part of the ship.

.23 *Irrational emission control strategy* means any strategy or measure that, when a marine diesel engine is operated under normal conditions of use, reduces the effectiveness of an emission control system to a level below that expected from the applicable emission test procedures.

.24 *Low-flashpoint fuel* means gaseous or liquid fuel oil having a flashpoint lower than otherwise permitted under paragraph 2.1.1 of regulation 4 of chapter II-2 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended.

.25 *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.

.26 *MARPOL delivered sample* means the sample of fuel oil delivered in accordance with regulation 18.8.1 of this Annex.

.27 *NO_x Technical Code* means the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines adopted by resolution 2 of the 1997 MARPOL Conference, as amended by the Organization, provided that such amendments are adopted and brought into force in accordance with the provisions of article 16 of the present Convention.

.28 *Onboard sample* means a sample of fuel oil intended to be used or carried for use on board that ship.

.29 *Ozone-depleting substances* means controlled substances defined in paragraph (4) of article 1 of the Montreal Protocol on Substances that Deplete the Ozone Layer, 1987, listed in Annexes A, B, C or E to the said Protocol in force at the time of application or interpretation of this Annex.

Ozone-depleting substances that may be found on board ship include, but are not limited to:

Halon 1211	Bromochlorodifluoromethane
Halon 1301	Bromotrifluoromethane
Halon 2402	1,2-Dibromo-1,1,2,2-tetrafluoroethane (also known as Halon 114B2)
CFC-11	Trichlorofluoromethane
CFC-12	Dichlorodifluoromethane
CFC-113	1,1,2-Trichloro-1,2,2-trifluoroethane
CFC-114	1,2-Dichloro-1,1,2,2-tetrafluoroethane
CFC-115	Chloropentafluoroethane

.30 *Shipboard incineration* means the incineration of wastes or other matter on board a ship, if such wastes or other matter were generated during the normal operation of that ship.

.31 *Shipboard incinerator* means a shipboard facility designed for the primary purpose of incineration.

.32 *Ships constructed* means ships the keels of which are laid or that are at a similar stage of construction.

.33 *Sludge oil* means sludge from the fuel oil or lubricating oil separators, waste lubricating oil from main or auxiliary machinery, or waste oil from bilge water separators, oil filtering equipment or drip trays.

.34 *Sulphur content of fuel oil* means the concentration of sulphur in a fuel oil, measured in % m/m as tested in accordance with a standard acceptable to the Organization.[4]

.35 *Tanker* in relation to regulation 15 of this Annex means an oil tanker as defined in regulation 1 of Annex I to the present Convention or a chemical tanker as defined in regulation 1 of Annex II to the present Convention.

.36 *Unmanned non-self-propelled (UNSP) barge* means a barge that:

.1 is not propelled by mechanical means;

.2 has no system, equipment and/or machinery fitted that may generate emissions regulated by this Annex; and

.3 has neither persons nor living animals on board.

[4] Refer to ISO 8754:2003 Petroleum products – Determination of sulphur content – Energy-dispersive X-ray fluorescence spectrometry.

2 For the purpose of chapter 4:

.1 *A ship delivered on or after 1 September 2019* means a ship:

.1 for which the building contract is placed on or after 1 September 2015; 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 March 2016; or

.3 the delivery of which is on or after 1 September 2019.

.2 *Attained annual operational CII* is the operational carbon intensity indicator value achieved by an individual ship in accordance with regulations 26 and 28 of this Annex.

.3 *Attained EEDI* is the EEDI value achieved by an individual ship in accordance with regulation 22 of this Annex.

.4 *Attained EEXI* is the EEXI value achieved by an individual ship in accordance with regulation 23 of this Annex.

.5 *Bulk carrier* means a ship which is intended primarily to carry dry cargo in bulk, including such types as ore carriers as defined in regulation 1 of chapter XII of the International Convention for the Safety of Life at Sea (SOLAS), 1974, (as amended) but excluding combination carriers.

.6 *Combination carrier* means a ship designed to load 100% deadweight with both liquid and dry cargo in bulk.

.7 *Containership* means a ship designed exclusively for the carriage of containers in holds and on deck.

.8 *Conventional propulsion* means a method of propulsion where a main reciprocating internal combustion engine(s) is the prime mover and coupled to a propulsion shaft either directly or through a gear box.

.9 *Cruise passenger ship* means a passenger ship not having a cargo deck, designed exclusively for commercial transportation of passengers in overnight accommodations on a sea voyage.

.10 *Distance travelled* means distance travelled over ground.

.11 *Existing ship* means a ship which is not a new ship.

.12 *Gas carrier* means a cargo ship, other than an LNG carrier as defined in paragraph 2.14 of this regulation, constructed or adapted and used for the carriage in bulk of any liquefied gas.

.13 *General cargo ship* means a ship with a multi-deck or single deck hull designed primarily for the carriage of general cargo. This definition excludes specialized dry cargo ships, which are not included in the calculation of reference lines for general cargo ships, namely livestock carrier, barge carrier, heavy load carrier, yacht carrier, nuclear fuel carrier.

.14 *LNG carrier* means a cargo ship constructed or adapted and used for the carriage in bulk of liquefied natural gas (LNG).

.15 *Major conversion* means 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 24 of this Annex or the applicable required EEXI as set out in regulation 25 of this Annex.

.16 *New ship* means a ship:

.1 for which the 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.

.17 *Non-conventional propulsion* means a method of propulsion, other than conventional propulsion, including diesel-electric propulsion, turbine propulsion and hybrid propulsion systems.

.18 *Passenger ship* means a ship which carries more than 12 passengers.

.19 *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 MSC.385(94) and MEPC.264(68), 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.

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

.21 *Required annual operational CII* is the target value of attained annual operational CII in accordance with regulations 26 and 28 of this Annex for the specific ship type and size.

.22 *Required EEDI* is the maximum value of attained EEDI that is allowed by regulation 24 of this Annex for the specific ship type and size.

.23 *Required EEXI* is the maximum value of attained EEXI that is allowed by regulation 25 of this Annex for the specific ship type and size.

.24 *Ro-ro cargo ship* means a ship designed for the carriage of roll-on-roll-off cargo transportation units.

.25 *Ro-ro cargo ship (vehicle carrier)* means a multi-deck roll-on-roll-off cargo ship designed for the carriage of empty cars and trucks.

.26 *Ro-ro passenger ship* means a passenger ship with roll-on-roll-off cargo spaces.

.27 *Tanker* means an oil tanker as defined in regulation 1 of Annex I of the present Convention or a chemical tanker or an NLS tanker as defined in regulation 1 of Annex II to the present Convention.

3 For the purpose of chapter 5:

.1 *Attained annual GHG fuel intensity (attained annual GFI),* expressed in grams of CO_2eq per unit of energy (gCO_2eq/MJ), means the weighted average GHG intensity of all fuels used on board a ship in a given calendar year on a well-to-wake (WtW) basis, taking into account guidelines to be developed by the Organization in accordance with regulation 33 of this Annex.

.2 *CO_2 equivalent (CO_2eq)* means the metric measure used to aggregate the emissions of CO_2, CH_4 and N_2O on the basis of their 100 year global warming potential (GWP), by converting the amounts of CH_4 and N_2O to the equivalent amount of CO_2 as given into the fifth IPCC Assessment Report.

.3 *Compliance deficit*, expressed in tonnes of CO_2eq, means the amount of under-compliance by a ship with the target annual GFI in accordance with regulation 36 of this Annex.

.4 *Existing ship* means a ship which is not a new ship.

.5 *Fuel* means any energy source or energy carrier used on board a ship for propulsion or for the operation of any equipment on board a ship.

.6 *Fuel Lifecycle Label* (FLL) means the technical tool to collect and convey information relevant for the life cycle GHG intensity assessment (LCA) of a fuel.

.7 *GFI compliance balance*, expressed in tonnes of CO_2eq, means the measurement of a ship's GFI compliance status against the target annual GHG fuel intensity in accordance with regulation 36 of this Annex.

.8 *GHG fuel intensity (GFI),* expressed in grams of CO_2eq per unit of energy (gCO_2eq/MJ), refers to the amount of life cycle GHG emissions per unit of energy used on board a ship on a well-to-wake basis, taking into account guidelines developed by the Organization.[5]

.9 *Greenhouse gas (GHG) emissions* means any release of carbon dioxide (CO_2), methane (CH_4) or nitrous oxide (N_2O) into the atmosphere.

.10 *New ship* means a ship:

.1 for which the building contract is placed on or after 1 January 2028; 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 2028; or

.3 the delivery of which is on or after 1 July 2030.

.11 *Remedial unit (RU)*, expressed in tonnes of CO_2eq, is a non-transferable unit acquired by means of GHG emissions pricing contributions to the IMO Net-Zero Fund, for use by the ship to balance its compliance deficit in accordance with regulation 36 of this Annex.

.12 *Reward* means an annual compensation provided by the IMO Net-Zero Fund for used ZNZs in accordance with regulation 39 of this Annex.

.13 *Semi-submersible vessel* is a type of ship that is designed to carry ships, marine facilities and large loads, generally installed with high superstructure or deck room or floating tank at tow or stern, and is able to partially submerge in cargo handling.

.14 *Ship account* means a mandatory account for a ship to which chapter 5 of this Annex applies within the IMO GFI Registry in accordance with regulation 38 of this Annex.

.15 *Ship account statement* means the annual ship account statement issued by the IMO GFI Registry reflecting the transactions recorded in that account in accordance with regulation 38 of this Annex.

.16 *Surplus unit (SU),* expressed in tonnes of CO_2eq, means a transferable unit a ship in direct compliance is eligible to receive in accordance with regulation 36 of this Annex.

.17 *Sustainable fuel certification scheme (SFCS)* is a scheme, administered by a legal entity, which certifies that a fuel is compliant with the requirements set out in chapter 5 of this Annex and its associated guidelines.

[5] Refer to the *2024 Guidelines on life cycle GHG intensity of marine fuels* (resolution MEPC.391(81)), as may be amended.

.18 *Target annual GHG fuel intensity (target annual GFI)*, expressed in grams of CO_2eq per unit of energy (gCO_2eq/MJ), is the value of the two tiers target annual GFI (base target and direct compliance target) in accordance with regulation 35 of this Annex.

.19 *Zero or near-zero GHG emission technologies, fuels and/or energy sources (ZNZs)* means the type of ZNZs that qualifies for the annual fuel reward in accordance with regulation 39.

Regulation 3
Exceptions and exemptions

General

1 Regulations of this Annex shall not apply to:

.1 any emission necessary for the purpose of securing the safety of a ship or saving life at sea; or

.2 any emission resulting from damage to a ship or its equipment:

.1 provided that all reasonable precautions have been taken after the occurrence of the damage or discovery of the emission for the purpose of preventing or minimizing the emission; and

.2 except if the owner or the master acted either with intent to cause damage, or recklessly and with knowledge that damage would probably result.

Trials for ship emission reduction and control technology research

2 The Administration of a Party may, in cooperation with other Administrations as appropriate, issue an exemption from specific provisions of this Annex for a ship to conduct trials for the development of ship emission reduction and control technologies and engine design programmes. Such an exemption shall only be provided if the applications of specific provisions of the Annex or the revised NO_x Technical Code 2008 could impede research into the development of such technologies or programmes. A permit issued under this regulation shall not exempt a ship from the reporting requirement under regulation 27 and regulation 37 shall not alter the type and scope of data required to be reported under regulation 27 and regulation 37. A permit for such an exemption shall only be provided to the minimum number of ships necessary and be subject to the following provisions:

.1 for marine diesel engines with a per cylinder displacement up to 30 L, the duration of the sea trial shall not exceed 18 months. If additional time is required, a permitting Administration or Administrations may permit a renewal for one additional 18-month period; or

.2 for marine diesel engines with a per cylinder displacement at or above 30 L, the duration of the ship trial shall not exceed five years and shall require a progress review by the permitting Administration or Administrations at each intermediate survey. A permit may be withdrawn based on this review if the testing has not adhered to the conditions of the permit or if it is determined that the technology or programme is not likely to produce effective results in the reduction and control of ship emissions. If the reviewing Administration or

Administrations determine that additional time is required to conduct a test of a particular technology or programme, a permit may be renewed for an additional time period not to exceed five years.

Emissions from seabed mineral activities

3.1 Emissions directly arising from the exploration, exploitation and associated offshore processing of seabed mineral resources are, consistent with article 2(3)(b)(ii) of the present Convention, exempt from the provisions of this Annex. Such emissions include the following:

.1 emissions resulting from the incineration of substances that are solely and directly the result of exploration, exploitation and associated offshore processing of seabed mineral resources, including but not limited to the flaring of hydrocarbons and the burning of cuttings, muds, and/or stimulation fluids during well completion and testing operations, and flaring arising from upset conditions;

.2 the release of gases and volatile compounds entrained in drilling fluids and cuttings;

.3 emissions associated solely and directly with the treatment, handling or storage of seabed minerals; and

.4 emissions from marine diesel engines that are solely dedicated to the exploration, exploitation and associated offshore processing of seabed mineral resources.

3.2 The requirements of regulation 18 of this Annex shall not apply to the use of hydrocarbons that are produced and subsequently used on-site as fuel, when approved by the Administration.

Unmanned non-self-propelled barges

4 The Administration may exempt an unmanned non-self-propelled (UNSP) barge[6] from the requirements of regulations 5.1 and 6.1 of this Annex by means of an International Air Pollution Prevention Exemption Certificate for Unmanned Non-self-propelled (UNSP) Barges, for a period not exceeding five years provided that the barge has undergone a survey to confirm that conditions referred to in regulations 2.1.32.1 to 2.1.32.3 of this Annex are met.

Regulation 4
Equivalents

1 The Administration of a Party may allow any fitting, material, appliance or apparatus to be fitted in a ship or other procedures, alternative fuel oils, or compliance methods used as an alternative to those required by this Annex if such fitting, material, appliance or apparatus or other procedures, alternative fuel oils, or compliance methods are at least as effective in terms of emissions reductions as those required by this Annex, including any of the standards set forth in regulations 13 and 14.

[6] Refer to the *Guidelines for exemption of unmanned non-self-propelled* (UNSP) *barges from certain survey and certification requirements under the MARPOL Convention* (MEPC.1/Circ.892).

2 The Administration of a Party that allows a fitting, material, appliance or apparatus or other procedures, alternative fuel oils, or compliance methods used as an alternative to those required by this Annex shall communicate to the Organization for circulation to the Parties particulars thereof, for their information and appropriate action, if any.

3 The Administration of a Party should take into account any relevant guidelines developed by the Organization[7] pertaining to the equivalents provided for in this regulation.

4 The Administration of a Party that allows the use of an equivalent as set forth in paragraph 1 of this regulation shall endeavour not to impair or damage its environment, human health, property or resources or those of other States.

Chapter 2 – Survey, certification and means of control

Regulation 5
Surveys

1 Every ship of 400 gross tonnage and above and every fixed and floating drilling rig or other platform shall, to ensure compliance with the requirements of chapter 3 of this Annex, be subject to the surveys specified below:

.1 An initial survey before the ship is put into service or before the certificate required under regulation 6 of this Annex is issued for the first time. This survey shall be such as to ensure that the equipment, systems, fittings, arrangements and material fully comply with the applicable requirements of chapter 3 of this Annex;

.2 A renewal survey at intervals specified by the Administration, but not exceeding five years, except where regulation 9.2, 9.5, 9.6 or 9.7 of this Annex is applicable. The renewal survey shall be such as to ensure that the equipment, systems, fittings, arrangements and material fully comply with applicable requirements of chapter 3 of this Annex;

.3 An intermediate survey within three months before or after the second anniversary date or within three months before or after the third anniversary date of the certificate which shall take the place of one of the annual surveys specified in paragraph 1.4 of this regulation. The intermediate survey shall be such as to ensure that the equipment and arrangements fully comply with the applicable requirements of chapter 3 of this Annex and are in good working order. Such intermediate surveys shall be endorsed on the IAPP Certificate issued under regulation 6 or 7 of this Annex;

.4 An annual survey within three months before or after each anniversary date of the certificate, including a general inspection of the equipment, systems, fittings, arrangements and material referred to in paragraph 1.1 of this regulation to ensure that they have been maintained in accordance with paragraph 5 of this regulation and that they remain satisfactory for the service for which the ship is intended. Such annual surveys shall be endorsed on the IAPP Certificate issued under regulation 6 or 7 of this Annex; and

[7] Refer to the *2021 Guidelines for exhaust gas cleaning systems* (resolution MEPC.340(77)) and its corrigendum, and to the *2023 Guidelines for Thermal Waste Treatment Devices (TWTD)* (resolution MEPC.373(80).

.5 An additional survey either general or partial, according to the circumstances, shall be made whenever any important repairs or renewals are made as prescribed in paragraph 5 of this regulation or after a repair resulting from investigations prescribed in paragraph 6 of this regulation. The survey shall be such as to ensure that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs or renewals are in all respects satisfactory and that the ship complies in all respects with the requirements of chapter 3 of this Annex.

2 In the case of ships of less than 400 gross tonnage, the Administration may establish appropriate measures in order to ensure that the applicable provisions of chapter 3 of this Annex are complied with.

3 Surveys of ships as regards the enforcement of the provisions of this Annex shall be carried out by officers of the Administration.

.1 The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it. Such organizations shall comply with the guidelines adopted by the Organization.[8]

.2 The survey of marine diesel engines and equipment for compliance with regulation 13 of this Annex shall be conducted in accordance with the revised NO_x Technical Code 2008.

.3 When a nominated surveyor or recognized organization determines that the condition of the equipment does not correspond substantially with the particulars of the certificate, it shall ensure that corrective action is taken and shall in due course notify the Administration. If such corrective action is not taken, the certificate shall be withdrawn by the Administration. If the ship is in a port of another Party, the appropriate authorities of the port State shall also be notified immediately. When an officer of the Administration, a nominated surveyor or recognized organization has notified the appropriate authorities of the port State, the Government of the port State concerned shall give such officer, surveyor or organization any necessary assistance to carry out their obligations under this regulation.

.4 In every case, the Administration concerned shall fully guarantee the completeness and efficiency of the survey and shall undertake to ensure the necessary arrangements to satisfy this obligation.

4 Ships to which chapter 4 of this Annex applies shall also be subject to the surveys specified below, taking into account the guidelines adopted by the Organization:[9]

.1 an initial survey carried out before a new ship is put in service and before the International Energy Efficiency Certificate is issued. The survey shall verify

[8] Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)). Refer also to the *Survey Guidelines under the Harmonized System of Survey and Certification (HSSC), 2023* (resolution A.1186(33)).

[9] Refer to the *2022 Guidelines on survey and certification of the Energy Efficiency Design Index* (resolution MEPC.365(79), as amended by resolutions MEPC.374(80) and MEPC.403(83); and the *2022 Guidelines on survey and certification of the attained Energy Efficiency Existing Ship Index (EEXI)* (resolution MEPC.351(78)).

that the ship's attained EEDI is in accordance with the requirements in chapter 4 of this Annex, and that the SEEMP required by regulation 26 of this Annex is on board;

.2 a general or partial survey, according to the circumstances, carried out after a major conversion of a new ship to which this regulation applies. The survey shall ensure that the attained EEDI is recalculated as necessary and meets the requirement of regulation 24 of this Annex, with the reduction factor applicable to the ship type and size of the converted ship in the phase corresponding to the date of contract or keel laying or delivery determined for the original ship in accordance with regulation 2.2.16 of this Annex;

.3 in cases where the major conversion of a new or existing ship is so extensive that the ship is regarded by the Administration as a newly constructed ship, the Administration shall determine the necessity of an initial survey on attained EEDI. Such a survey, if determined necessary, shall ensure that the attained EEDI is calculated and meets the requirement of regulation 24 of this Annex, with the reduction factor applicable corresponding to the ship type and size of the converted ship at the date of the contract of the conversion, or in the absence of a contract, the commencement date of the conversion. The survey shall also verify that the SEEMP required by regulation 26 of this Annex is on board and, for a ship to which regulation 27 applies, has been revised appropriately to reflect a major conversion in those cases where the major conversion affects data-collection methodology and/or reporting processes;

.4 for existing ships, the verification of the requirement to have a SEEMP on board according to regulation 26 of this Annex 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;

.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;

.6 the Administration shall ensure that, for each ship to which regulation 28 applies, the SEEMP complies with regulation 26.3.1 of this Annex. This shall be done prior to 1 January 2023. Confirmation of compliance shall be provided to, and retained on board, the ship;

.7 the verification that the ship's attained EEXI is in accordance with the requirements in regulations 23 and 25 of this Annex shall take place at the first annual, intermediate or renewal survey identified in paragraph 1 of this regulation or the initial survey identified in paragraphs 4.1 and 4.3 of this regulation, whichever is the first, on or after 1 January 2023; and

.8 notwithstanding paragraph 4.7 of this regulation, a general or partial survey, according to the circumstances, carried out after a major conversion of a ship to which regulation 23 of this Annex applies. The survey shall ensure that the attained EEXI is recalculated as necessary and meets the requirement of regulation 25 of this Annex.

5 Ships to which chapter 5 of this Annex applies shall also be subject to the survey specified below, taking into account the guidelines adopted by the Organization:[10]

.1 an initial survey carried out before a new ship is put in service and before the International Energy Efficiency Certificate is issued. The survey shall verify that the SEEMP required by regulation 26 of this Annex is on board; and

.2 for existing ships, the Administration shall ensure that, for each ship to which chapter 5 of this Annex applies, the SEEMP complies with regulation 26.4 of this Annex. This shall be done prior to 1 January 2028. Confirmation of compliance shall be provided to, and retained on board, the ship.

6 The equipment shall be maintained to conform with the provisions of this Annex and no changes shall be made in the equipment, systems, fittings, arrangements or material covered by the survey, without the express approval of the Administration. The direct replacement of such equipment and fittings with equipment and fittings that conform with the provisions of this Annex is permitted.

7 Whenever an accident occurs to a ship or a defect is discovered that substantially affects the efficiency or completeness of its equipment covered by this Annex, the master or owner of the ship shall report at the earliest opportunity to the Administration, a nominated surveyor or recognized organization responsible for issuing the relevant certificate.

Regulation 6
Issue or endorsement of Certificates and Statements of Compliance related to fuel oil consumption reporting, operational carbon intensity rating and annual GHG fuel intensity

International Air Pollution Prevention Certificate

1 An International Air Pollution Prevention (IAPP) Certificate shall be issued, after an initial or renewal survey in accordance with the provisions of regulation 5 of this Annex, to:

.1 any ship of 400 gross tonnage and above engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties; and

.2 platforms and drilling rigs engaged in voyages to waters under the sovereignty or jurisdiction of other Parties.

2 A ship constructed before the date this Annex enters into force for that particular ship's Administration, shall be issued with an IAPP Certificate in accordance with paragraph 1 of this regulation no later than the first scheduled dry-docking after the date of such entry into force, but in no case later than three years after this date.

3 Such certificate shall be issued or endorsed either by the Administration or by any person or organization duly authorized by it.[11] In every case, the Administration assumes full responsibility for the certificate.

[10] Refer to the *2022 Guidelines on survey and certification of the Energy Efficiency Design Index* (resolution MEPC.365(79), as amended by resolution MEPC.374(80), as may be further amended; and the *2022 Guidelines on survey and certification of the attained Energy Efficiency Existing Ship Index (EEXI)* (resolution MEPC.351(78)).

[11] Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

International Energy Efficiency Certificate

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.

5 The certificate shall be issued or endorsed either by the Administration or any organization duly authorized by it.[12] In every case, the Administration assumes full responsibility for the certificate.

Statement of Compliance related to fuel oil consumption reporting and operational carbon intensity rating

6 Upon receipt of reported data pursuant to regulation 27.3 of this Annex and attained annual operational CII pursuant to regulation 28.2 of this Annex, the Administration or any organization duly authorized by it[13] shall:

.1 determine whether the data has been reported in accordance with regulation 27 of this Annex;

.2 verify that the attained annual operational CII reported is based on the data submitted in accordance with regulation 27 of this Annex;

.3 based on the verified attained annual operational CII, determine the operational carbon intensity rating of the ship in accordance with regulation 28.6 of this Annex; and

.4 issue a Statement of Compliance related to fuel oil consumption reporting and operational carbon intensity rating to the ship no later than five months from the beginning of the calendar year, upon determination and verification pursuant to regulations 6.6.1 to 6.6.3 of this Annex. In every case, the Administration assumes full responsibility for this Statement of Compliance.

7 Upon receipt of reported data pursuant to regulations 27.4, 27.5 or 27.6 of this Annex, the Administration or any organization duly authorized by it[14] shall promptly determine whether the data has been reported in accordance with regulation 27 and, if so, issue a Statement of Compliance to the ship. In every case, the Administration assumes full responsibility for this Statement of Compliance.

8 Notwithstanding paragraph 6 of this regulation, a ship rated as D for three consecutive years or rated as E in accordance with regulation 28 of this Annex shall not be issued a Statement of Compliance unless a plan of corrective actions is duly developed and reflected in the SEEMP and verified by the Administration or any organization duly authorized by it[15] in accordance with regulations 28.7 and 28.8 of this Annex.

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12 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

13 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

14 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

15 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

Statement of Compliance related to the annual GHG fuel intensity

9 Upon receipt of reported data pursuant to regulation 37 of this Annex on attained annual GFI, target annual GFI and GFI compliance balance, the Administration, or any organization duly authorized by it,[16] shall:

.1 verify whether the data has been reported in accordance with regulations 33.1 and 37.1 of this Annex;

.2 verify that the attained annual GFI was calculated in accordance with regulations 33 and 34 of this Annex;

.3 verify that the target annual GFI was calculated in accordance with regulation 35 of this Annex;

.4 verify that the GFI compliance balance was determined in accordance with regulation 36 of this Annex;

.5 report the verified data to the IMO GFI Registry in accordance with regulation 37 of this Annex;

.6 verify, upon receipt from the IMO GFI Registry of the annual ship account statement, that the ship complies with chapter 5 of this Annex and has paid the annual administrative fee to the IMO GFI Registry;

.7 verify for a ship eligible for rewards the total amount of GHG emissions avoided by the use of ZNZs in accordance with regulation 39; and

.8 issue a Statement of Compliance related to annual GHG fuel intensity to the ship no later than nine months after the beginning of the calendar year, upon verification pursuant to regulations 6.9.1 to 6.9.7. In every case, the Administration assumes full responsibility for this Statement of Compliance.

10 Upon receipt of reported data pursuant to regulation 37.7 of this Annex, the Administration or any organization duly authorized by it[17] shall promptly verify and determine whether the data has been reported in accordance with regulation 37.1 and, if so, issue a Statement of Compliance to the ship taking into account guidelines to be developed by the Organization.[18] In every case, the Administration assumes full responsibility for this Statement of Compliance.

Regulation 7
Issue of a Certificate by another Party

1 A Party may, at the request of the Administration, cause a ship to be surveyed and, if satisfied that the provisions of this Annex are complied with, shall issue or authorize the issue of an IAPP Certificate or an International Energy Efficiency Certificate to the ship, and where appropriate, endorse or authorize the endorsement of such certificates on the ship, in accordance with this Annex.

16 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

17 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

18 Refer to guidelines to be developed by the Organization.

2 A copy of the certificate and a copy of the survey report shall be transmitted as soon as possible to the requesting Administration.

3 A certificate so issued shall contain a statement to the effect that it has been issued at the request of the Administration and it shall have the same force and receive the same recognition as a certificate issued under regulation 6 of this Annex.

4 No IAPP Certificate, International Energy Efficiency Certificate or UNSP Exemption Certificate shall be issued to a ship which is entitled to fly the flag of a State which is not a Party.

Regulation 8
Form of Certificates and Statements of Compliance related to fuel oil consumption reporting, operational carbon intensity rating and annual GHG fuel intensity

International Air Pollution Prevention Certificate

1 The IAPP 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.

International Energy Efficiency Certificate

2 The International Energy Efficiency Certificate shall be drawn up in a form corresponding to the model given in appendix VIII to this Annex and shall be at least in English, French or Spanish. If an official language of the issuing Party is also used, this shall prevail in case of a dispute or discrepancy.

Statement of Compliance related to fuel oil consumption reporting and operational carbon intensity rating

3 The Statement of Compliance pursuant to regulations 6.6 and 6.7 of this Annex shall be drawn up in a form corresponding to the model given in appendix X to this Annex and shall be at least in English, French or Spanish. If an official language of the issuing Party is also used, this shall prevail in case of a dispute or discrepancy.

International Air Pollution Prevention Exemption Certificate for Unmanned Non-self-propelled Barges

4 In accordance with regulation 3.4 of this Annex, the International Air Pollution Prevention Exemption Certificate for Unmanned Non-self-propelled Barges shall be drawn up in the form corresponding to the model given in appendix XI 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 the event of a dispute or discrepancy.

Statement of Compliance related to the annual GHG fuel intensity

5 The Statement of Compliance issued pursuant to paragraphs 9 and 10 of regulation 6 of this Annex shall be drawn up in a form corresponding to the model given in appendix XIII to this Annex and shall be at least in English, French or Spanish. If an official language of the issuing Party is also used, this shall prevail in case of a dispute or discrepancy.

Regulation 9
Duration and validity of Certificates and Statements of Compliance related to fuel oil consumption reporting, operational carbon intensity rating and the annual GHG fuel intensity

International Air Pollution Prevention Certificate

1 An IAPP Certificate shall be issued for a period specified by the Administration, which shall not exceed five years.

2 Notwithstanding the requirements of paragraph 1 of this regulation:

.1 when the renewal survey is completed within three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing certificate;

.2 when the renewal survey is completed after the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing certificate; and

.3 when the renewal survey is completed more than three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of completion of the renewal survey.

3 If a certificate is issued for a period of less than five years, the Administration may extend the validity of the certificate beyond the expiry date to the maximum period specified in paragraph 1 of this regulation, provided that the surveys referred to in regulations 5.1.3 and 5.1.4 of this Annex applicable when a certificate is issued for a period of five years are carried out as appropriate.

4 If a renewal survey has been completed and a new certificate cannot be issued or placed on board the ship before the expiry date of the existing certificate, the person or organization authorized by the Administration may endorse the existing certificate and such a certificate shall be accepted as valid for a further period that shall not exceed five months from the expiry date.

5 If a ship, at the time when a certificate expires, is not in a port in which it is to be surveyed, the Administration may extend the period of validity of the certificate, but this extension shall be granted only for the purpose of allowing the ship to complete its voyage to the port in which it is to be surveyed, and then only in cases where it appears proper and reasonable to do so. No certificate shall be extended for a period longer than three months, and a ship to which an extension is granted shall not, on its arrival in the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port without having a new certificate. When the renewal survey is completed, the new certificate shall be valid to a date not exceeding five years from the date of expiry of the existing certificate before the extension was granted.

6 A certificate issued to a ship engaged on short voyages that has not been extended under the foregoing provisions of this regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it. When the renewal survey is completed, the new certificate shall be valid to a date not exceeding five years from the date of expiry of the existing certificate before the extension was granted.

7 In special circumstances, as determined by the Administration, a new certificate need not be dated from the date of expiry of the existing certificate as required by paragraph 2.1, 5 or 6 of this regulation. In these special circumstances, the new certificate shall be valid to a date not exceeding five years from the date of completion of the renewal survey.

8 If an annual or intermediate survey is completed before the period specified in regulation 5 of this Annex, then:

.1 the anniversary date shown on the certificate shall be amended by endorsement to a date that shall not be more than three months later than the date on which the survey was completed;

.2 the subsequent annual or intermediate survey required by regulation 5 of this Annex shall be completed at the intervals prescribed by that regulation using the new anniversary date; and

.3 the expiry date may remain unchanged, provided one or more annual or intermediate surveys, as appropriate, are carried out so that the maximum intervals between the surveys prescribed by regulation 5 of this Annex are not exceeded.

9 A certificate issued under regulation 6 or 7 of this Annex shall cease to be valid in any of the following cases:

.1 if the relevant surveys are not completed within the periods specified under regulation 5.1 of this Annex;

.2 if the certificate is not endorsed in accordance with regulation 5.1.3 or 5.1.4 of this Annex; and

.3 upon transfer of the ship to the flag of another State. A new certificate shall only be issued when the Government issuing the new certificate is fully satisfied that the ship is in compliance with the requirements of regulation 5.5 of this Annex. In the case of a transfer between Parties, if requested within three months after the transfer has taken place, the Government of the Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration copies of the certificate carried by the ship before the transfer and, if available, copies of the relevant survey reports.

International Energy Efficiency Certificate

10 The International Energy Efficiency Certificate shall be valid throughout the life of the ship subject to the provisions of paragraph 11 below.

11 An International Energy Efficiency Certificate issued under this Annex shall cease to be valid in any of the following cases:

.1 if the ship is withdrawn from service or if a new certificate is issued following major conversion of the ship; or

.2 upon transfer of the ship to the flag of another State. A new certificate shall only be issued when the Government issuing the new certificate is fully satisfied that the ship is in compliance with the requirements of chapter 4 of this Annex. In the case of a transfer between Parties, if requested within three

months after the transfer has taken place, the Government of the Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration copies of the certificate carried by the ship before the transfer and, if available, copies of the relevant survey reports; or

.3 if the ship's equipment, systems, fittings, arrangements or material covered by the survey were changed without the express approval of the Administration, as provided for in regulation 5.5 of this Annex, unless regulation 3 of this Annex applies.

Statement of Compliance related to fuel oil consumption reporting and operational carbon intensity rating

12 The Statement of Compliance issued pursuant to regulation 6.6 of this Annex shall be valid for the calendar year in which it is issued and for the first five months of the following calendar year. The Statement of Compliance issued pursuant to regulation 6.7 of this Annex shall be valid for the calendar year in which it is issued, for the following calendar year, and for the first five months of the subsequent calendar year. All Statements of Compliance shall be kept on board for at least five years.

Statement of Compliance related to the annual GHG fuel intensity

13 The Statement of Compliance issued pursuant to regulation 6.9 of this Annex shall be valid for the calendar year in which it is issued and for the first nine months of the following calendar year. The Statement of Compliance issued pursuant to regulation 6.10 of this Annex shall be valid until for the calendar year in which it is issued, for the following calendar year, and for the first nine months of the subsequent calendar year. All Statements of Compliance shall be kept on board for at least five years.

Regulation 10
Port State control on operational requirements

1 A ship, when in a port or an offshore terminal under the jurisdiction of another Party, is subject to inspection by officers duly authorized by such Party concerning operational requirements under this Annex,[19] where there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of air pollution from ships.

2 In the circumstances given in paragraph 1 of this regulation, the Party shall take steps to ensure that the ship shall not sail until the situation has been brought to order in accordance with the requirements of this Annex.

3 Procedures relating to the port State control prescribed in article 5 of the present Convention shall apply to this regulation.

4 Nothing in this regulation shall be construed to limit the rights and obligations of a Party carrying out control over operational requirements specifically provided for in the present Convention.

5 In relation to chapters 4 and 5 of this Annex, any port State inspection may verify, when appropriate, that there are valid Statements of Compliance related to fuel oil consumption reporting and operational carbon intensity rating and to annual GHG fuel intensity, an International Energy Efficiency Certificate and a Ship Energy Efficiency Management Plan on board, in accordance with article 5 of the present Convention.

[19] Refer to the *Procedures for port State control, 2023* (resolution A.1185(33)).

6 Notwithstanding the requirements in paragraph 5 of this regulation, any port State inspection may inspect whether the Ship Energy Efficiency Management Plan is duly implemented by the ship in accordance with regulation 28 of this Annex.

Regulation 11
Detection of violations and enforcement

1 Parties shall cooperate in the detection of violations and the enforcement of the provisions of this Annex, using all appropriate and practicable measures of detection and environmental monitoring, and adequate procedures for reporting and accumulation of evidence.

2 A ship to which this Annex applies may, in any port or offshore terminal of a Party, be subject to inspection by officers appointed or authorized by that Party for the purpose of verifying whether the ship has emitted any of the substances covered by this Annex in violation of the provision of this Annex. If an inspection indicates a violation of this Annex, a report shall be forwarded to the Administration for any appropriate action.

3 Any Party shall furnish to the Administration evidence, if any, that the ship has emitted any of the substances covered by this Annex in violation of the provisions of this Annex. If it is practicable to do so, the competent authority of the former Party shall notify the master of the ship of the alleged violation.

4 Upon receiving such evidence, the Administration shall investigate the matter and may request the other Party to furnish further or better evidence of the alleged contravention. If the Administration is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken in accordance with its law as soon as possible. The Administration shall promptly inform the Party that has reported the alleged violation, as well as the Organization, of the action taken.

5 A Party may also inspect a ship to which this Annex applies when it enters the ports or offshore terminals under its jurisdiction, if a request for an investigation is received from any Party together with sufficient evidence that the ship has emitted any of the substances covered by the Annex in any place in violation of this Annex. The report of such investigation shall be sent to the Party requesting it and to the Administration so that the appropriate action may be taken under the present Convention.

6 The international law concerning the prevention, reduction and control of pollution of the marine environment from ships, including that law relating to enforcement and safeguards, in force at the time of application or interpretation of this Annex, applies, mutatis mutandis, to the rules and standards set forth in this Annex.

Chapter 3 – Requirements for control of emissions from ships

Regulation 12
Ozone-depleting substances

1 This regulation does not apply to permanently sealed equipment where there are no refrigerant charging connections or potentially removable components containing ozone-depleting substances.

2 Subject to the provisions of regulation 3.1, any deliberate emissions of ozone-depleting substances shall be prohibited. Deliberate emissions include emissions occurring in the course of maintaining, servicing, repairing or disposing of systems or equipment, except that deliberate emissions do not include minimal releases associated with

the recapture or recycling of an ozone-depleting substance. Emissions arising from leaks of an ozone-depleting substance, whether or not the leaks are deliberate, may be regulated by Parties.

3.1 Installations that contain ozone-depleting substances, other than hydrochlorofluorocarbons, shall be prohibited:

.1 on ships constructed on or after 19 May 2005; or

.2 in the case of ships constructed before 19 May 2005 which have a contractual delivery date of the equipment to the ship on or after 19 May 2005 or, in the absence of a contractual delivery date, the actual delivery of the equipment to the ship on or after 19 May 2005.

3.2 Installations that contain hydrochlorofluorocarbons shall be prohibited:

.1 on ships constructed on or after 1 January 2020; or

.2 in the case of ships constructed before 1 January 2020 which have a contractual delivery date of the equipment to the ship on or after 1 January 2020 or, in the absence of a contractual delivery date, the actual delivery of the equipment to the ship on or after 1 January 2020.

4 The substances referred to in this regulation, and equipment containing such substances, shall be delivered to appropriate reception facilities when removed from ships.

5 Each ship subject to regulation 6.1 shall maintain a list of equipment containing ozone-depleting substances.[20]

6 Each ship subject to regulation 6.1 that has rechargeable systems that contain ozone-depleting substances shall maintain an ozone-depleting substances record book. This record book may form part of an existing logbook or electronic record book[21] as approved by the Administration. An electronic recording system referred to in regulation 12.6, as adopted by resolution MEPC.176(58), shall be considered an electronic record book, provided the electronic recording system is approved by the Administration on or before the first IAPP Certificate renewal survey carried out on or after 1 October 2020, but not later than 1 October 2025, taking into account the guidelines developed by the Organization.

7 Entries in the ozone-depleting substances record book shall be recorded in terms of mass (kg) of substance and shall be completed without delay on each occasion, in respect of the following:

.1 recharge, full or partial, of equipment containing ozone-depleting substances;

.2 repair or maintenance of equipment containing ozone-depleting substances;

.3 discharge of ozone-depleting substances to the atmosphere:

.1 deliberate; and

.2 non-deliberate;

[20] See appendix I, Supplement to International Air Pollution Prevention Certificate (IAPP Certificate), section 2.1.

[21] Refer to the *Guidelines for the use of electronic record books under MARPOL* (resolution MEPC.312(74)).

.4 discharge of ozone-depleting substances to land-based reception facilities; and

.5 supply of ozone-depleting substances to the ship.

Regulation 13
Nitrogen oxides (NO_x)

Application

1.1 This regulation shall apply to:

.1 each marine diesel engine with a power output of more than 130 kW installed on a ship; and

.2 each marine diesel engine with a power output of more than 130 kW that 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 that it is replacing and is otherwise not covered under paragraph 1.1.1 of this regulation.

1.2 This regulation does not apply to:

.1 a marine diesel engine intended to be used solely for emergencies or solely to power any device or equipment intended to be used solely for emergencies on the ship on which it is installed, or a marine diesel engine installed in lifeboats intended to be used solely for emergencies; and

.2 a marine diesel engine installed on a ship solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly, provided that such engine is subject to an alternative NO_x control measure established by the Administration.

1.3 Notwithstanding the provisions of paragraph 1.1 of this regulation, the Administration may provide an exclusion from the application of this regulation for any marine diesel engine that is installed on a ship constructed, or for any marine diesel engine that undergoes a major conversion, before 19 May 2005, provided that the ship on which the engine is installed is solely engaged in voyages to ports or offshore terminals within the State the flag of which the ship is entitled to fly.

Major conversion

2.1 For the purpose of this regulation, *major conversion* means a modification on or after 1 January 2000 of a marine diesel engine that has not already been certified to the standards set forth in paragraph 3, 4 or 5.1.1 of this regulation where:

.1 the engine is replaced by a marine diesel engine or an additional marine diesel engine is installed, or

.2 any substantial modification, as defined in the revised NO_x Technical Code 2008, is made to the engine, or

.3 the maximum continuous rating of the engine is increased by more than 10% compared to the maximum continuous rating of the original certification of the engine.

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.[22] 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.

2.3 A marine diesel engine referred to in paragraph 2.1.2 or 2.1.3 of this regulation shall meet the following standards:

.1 for ships constructed prior to 1 January 2000, the standards set forth in paragraph 3 of this regulation shall apply; and

.2 for ships constructed on or after 1 January 2000, the standards in force at the time the ship was constructed shall apply.

Tier I[23]

3 Subject to regulation 3 of this Annex, the operation of a marine diesel engine that is installed on a ship constructed on or after 1 January 2000 and prior to 1 January 2011 is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_2) from the engine is within the following limits, where *n* = rated engine speed (crankshaft revolutions per minute):

.1 17.0 g/kWh when *n* is less than 130 rpm;

.2 45 $n^{(-0.2)}$ g/kWh when *n* is 130 or more but less than 2,000 rpm; and

.3 9.8 g/kWh when *n* is 2,000 rpm or more.

Tier II

4 Subject to regulation 3 of this Annex, the operation of a marine diesel engine that is installed on a ship constructed on or after 1 January 2011 is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_2) from the engine is within the following limits, where *n* = rated engine speed (crankshaft revolutions per minute):

.1 14.4 g/kWh when *n* is less than 130 rpm;

.2 44 $n^{(-0.23)}$ g/kWh when *n* is 130 or more but less than 2,000 rpm; and

.3 7.7 g/kWh when *n* is 2,000 rpm or more.

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22 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)).

23 Refer to the *Guidelines for the application of the NO_X Technical Code relative to certification and amendments of Tier I engines* (MEPC.1/ Circ.679).

Tier III

5.1 Subject to regulation 3 of this Annex, in an emission control area designated for Tier III NO_x control under paragraph 6 of this regulation (NO_x Tier III emission control area), the operation of a marine diesel engine that is installed on a ship is prohibited:

.1 except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_2) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):

.1 3.4 g/kWh when n is less than 130 rpm;

.2 $9\ n^{(-0.2)}$ g/kWh when n is 130 or more but less than 2,000 rpm;

.3 2.0 g/kWh when n is 2,000 rpm or more;

when

.2 that ship is constructed on or after:

.1 1 January 2016 and is operating in the North American Emission Control Area or the United States Caribbean Sea Emission Control Area;

.2 1 January 2021 and is operating in the Baltic Sea Emission Control Area or the North Sea Emission Control Area;

.3 1 March 2026 and is operating in the Norwegian Sea Emission Control Area. For the Norwegian Sea Emission Control Area, "ship constructed on or after 1 March 2026" means a ship:

.1 for which the building contract is placed on or after 1 March 2026; 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 September 2026; or

.3 the delivery of which is on or after 1 March 2030.

when

.3 that ship is operating in a NO_x Tier III emission control area other than an emission control area described in paragraph 5.1.2 of this regulation, and is constructed on or after the date of adoption of such an emission control area, or a later date as may be specified in the amendment designating the NO_x Tier III emission control area, whichever is later:

.1 that ship is constructed on or after 1 January 2025 and is operating in the Canadian Arctic Emission Control Area;

.2 that ship is constructed on or after 1 January 2027 and is operating in the North-East Atlantic Emission Control Area. For the North-East Atlantic Emission Control Area, "ship constructed on or after 1 January 2027" means a ship:

.1 for which the building contract is placed on or after 1 January 2027; 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 2027; or

.3 the delivery of which is on or after 1 January 2031.

5.2 The standards set forth in paragraph 5.1.1 of this regulation shall not apply to:

.1 a marine diesel engine installed on a ship with a length (*L*), as defined in regulation 1.19 of Annex I to the present Convention, of less than 24 metres when it has been specifically designed, and is used solely, for recreational purposes; or

.2 a marine diesel engine installed on a ship with a combined nameplate diesel engine propulsion power of less than 750 kW if it is demonstrated, to the satisfaction of the Administration, that the ship cannot comply with the standards set forth in paragraph 5.1.1 of this regulation because of design or construction limitations of the ship; or

.3 a marine diesel engine installed on a ship constructed prior to 1 January 2021 of less than 500 gross tonnage, with a length (*L*), as defined in regulation 1.19 of Annex I to the present Convention, of 24 metres or over when it has been specifically designed, and is used solely, for recreational purposes.

5.3 The tier and on/off status of marine diesel engines installed on board a ship to which paragraph 5.1 of this regulation applies which are certified to both Tier II and Tier III or which are certified to Tier II only shall be recorded in such logbook or electronic record book[24] as prescribed by the Administration at entry into and exit from a NO_x Tier III emission control area, or when the on/off status changes within such an area, together with the date, time and position of the ship.

5.4 Emissions of nitrogen oxides from a marine diesel engine subject to paragraph 5.1 of this regulation that occur immediately following building and sea trials of a newly constructed ship, or before and following converting, repairing, and/or maintaining the ship, or maintenance or repair of a Tier II engine or a dual fuel engine when the ship is required to not have gas fuel or gas cargo on board due to safety requirements, for which activities take place in a shipyard or other repair facility located in a NO_x Tier III emission control area, are temporarily exempted provided the following conditions are met:

.1 the engine meets the Tier II NO_x limits; and

.2 the ship sails directly to or from the shipyard or other repair facility, does not load or unload cargo during the duration of the exemption, and follows any additional specific routeing requirements indicated by the port State in which the shipyard or other repair facility is located, if applicable.

[24] Refer to the *Guidelines for the use of electronic record books under MARPOL* (resolution MEPC.312(74)).

5.5 The exemption described in paragraph 5.4 of this regulation applies only for the following period:

.1 for a newly constructed ship, the period beginning at the time the ship is delivered from the shipyard, including sea trials, and ending at the time the ship directly exits the NO_x Tier III emission control area(s) or, with regard to a ship fitted with a dual fuel engine, the ship directly exits the NO_x Tier III emission control area(s) or proceeds directly to the nearest gas fuel bunkering facility appropriate to the ship located in the NO_x Tier III emission control area(s);

.2 for a ship with a Tier II engine undergoing conversion, maintenance or repair, the period beginning at the time the ship enters the NO_x Tier III emission control area(s) and proceeds directly to the shipyard or other repair facility, and ending at the time the ship is released from the shipyard or other repair facility and directly exits the NO_x Tier III emission control area (s) after performing sea trials, if applicable; or

.3 for a ship with a dual fuel engine undergoing conversion, maintenance or repair, when the ship is required to not have gas fuel or gas cargo on board due to safety requirements, the period beginning at the time the ship enters the NO_x Tier III emission control area(s) or when it is degassed in the NO_x Tier III emission control area(s) and proceeds directly to the shipyard or other repair facility, and ending at the time when the ship is released from the shipyard or other repair facility and directly exits the NO_x Tier III emission control area(s) or proceeds directly to the nearest gas fuel bunkering facility appropriate to the ship located in the NO_x Tier III emission control area(s).

Emission control area

6 For the purposes of this regulation, a NO_x Tier III emission control area shall be any sea area, including any port area, designated by the Organization in accordance with the criteria and procedures set forth in appendix III. The NO_x Tier III emission control areas are:

.1 the North American Emission Control Area, which means the area described by the coordinates provided in appendix VII to this Annex;

.2 the United States Caribbean Sea Emission Control Area, which means the area described by the coordinates provided in appendix VII to this Annex;

.3 the Baltic Sea area as defined in regulation 1.11.2 of Annex I of the present Convention;

.4 the North Sea area as defined in regulation 1.14.6 of Annex V of the present Convention;

.5 the Canadian Arctic Emission Control Area, which means the area described by the coordinates provided in appendix VII to this Annex;

.6 the Norwegian Sea as defined in regulation 13.9.4 of Annex II of the present Convention; and

.7 the North-East Atlantic Emission Control Area, which means the area described by the coordinates provided in appendix VII to this Annex.

Marine diesel engines installed on a ship constructed prior to 1 January 2000

7.1 Notwithstanding paragraph 1.1.1 of this regulation, a marine diesel engine with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 L installed on a ship constructed on or after 1 January 1990 but prior to 1 January 2000 shall comply with the emission limits set forth in paragraph 7.4 of this regulation, provided that an approved method[25] for that engine has been certified by an Administration of a Party and notification of such certification has been submitted to the Organization by the certifying Administration.[26] Compliance with this paragraph shall be demonstrated through one of the following:

.1 installation of the certified approved method, as confirmed by a survey using the verification procedure specified in the approved method file, including appropriate notation on the ship's IAPP Certificate of the presence of the approved method; or

.2 certification of the engine confirming that it operates within the limits set forth in paragraph 3, 4 or 5.1.1 of this regulation and an appropriate notation of the engine certification on the ship's IAPP Certificate.

7.2 Paragraph 7.1 of this regulation shall apply no later than the first renewal survey that occurs 12 months or more after deposit of the notification in paragraph 7.1. If a shipowner of a ship on which an approved method is to be installed can demonstrate to the satisfaction of the Administration that the approved method was not commercially available despite best efforts to obtain it, then that approved method shall be installed on the ship no later than the next annual survey of that ship that falls after the approved method is commercially available.

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 L installed on a ship constructed on or after 1 January 1990, but prior to 1 January 2000, the IAPP 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.

7.4 Subject to regulation 3 of this Annex, the operation of a marine diesel engine described in paragraph 7.1 of this regulation is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_2) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):

.1 17.0 g/kWh when n is less than 130 rpm;

.2 $45\ n^{(-0.2)}$ g/kWh when n is 130 or more but less than 2,000 rpm; and

.3 9.8 g/kWh when n is 2,000 rpm or more.

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

26 Refer to the *2014 Guidelines in respect of the information to be submitted by an Administration to the Organization covering the certification of an approved method as required under regulation 13.7.1 of MARPOL Annex VI* (resolution MEPC.242(66)).

7.5 Certification of an approved method shall be in accordance with chapter 7 of the revised NO_x Technical Code 2008 and shall include verification:

.1 by the designer of the base marine diesel engine to which the approved method applies that the calculated effect of the approved method will not decrease engine rating by more than 1.0%, increase fuel consumption by more than 2.0% as measured according to the appropriate test cycle set forth in the revised NO_x Technical Code 2008, or adversely affect engine durability or reliability; and

.2 that the cost of the approved method is not excessive, which is determined by a comparison of the amount of NO_x reduced by the approved method to achieve the standard set forth in paragraph 7.4 of this regulation and the cost of purchasing and installing such approved method.[27]

Certification

8 The revised NO_x Technical Code 2008 shall be applied in the certification, testing and measurement procedures for the standards set forth in this regulation.

9 The procedures for determining NO_x emissions set out in the revised NO_x Technical Code 2008 are intended to be representative of the normal operation of the engine. Defeat devices and irrational emission control strategies undermine this intention and shall not be allowed. This regulation shall not prevent the use of auxiliary control devices that are used to protect the engine and/or its ancillary equipment against operating conditions that could result in damage or failure or that are used to facilitate the starting of the engine.

Regulation 14
Sulphur oxides (SO_x) and particulate matter

General requirements

1 The sulphur content of fuel oil used or carried for use on board a ship shall not exceed 0.50% m/m.

2 The worldwide average sulphur content of residual fuel oil supplied for use on board ships shall be monitored taking into account the guidelines developed by the Organization.[28]

Requirements within emission control areas

3 For the purpose of this regulation, an emission control area shall be any sea area, including any port area, designated by the Organization in accordance with the criteria and procedures set forth in appendix III. The emission control areas under this regulation are:

.1 the Baltic Sea area as defined in regulation 1.11.2 of Annex I of the present Convention;

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27 The cost of an approved method shall not exceed 375 Special Drawing Rights/metric tonne NO_X calculated in accordance with the cost-effectiveness (*Ce*) formula below:

$$Ce = \frac{Cost\ of\ approved\ method \cdot 10^6}{Power\ (kW) \cdot 0.768 \cdot 6{,}000\ (hours/year) \cdot 5\ (years) \cdot \Delta NO_x\ (g/kWh)}$$

Refer to *Definitions for the cost-effectiveness formula in regulation 13.7.5 of the revised MARPOL Annex VI* (MEPC.1/Circ.678).

28 Refer to the *2020 Guidelines for monitoring the worldwide average sulphur content of fuel oils supplied for use on board ships* (resolution MEPC.326(75)).

.2 the North Sea area as defined in regulation 1.14.6 of Annex V of the present Convention;

.3 the North American Emission Control Area, which means the area described by the coordinates provided in appendix VII;

.4 the United States Caribbean Sea Emission Control Area, which means the area described by the coordinates provided in appendix VII;

.5 the Mediterranean Sea Emission Control Area, which means the area described by the coordinates provided in appendix VII;

.6 the Canadian Arctic Emission Control Area, which means the area described by the coordinates provided in appendix VII;

.7 the Norwegian Sea as defined in regulation 13.9.4 of Annex II of the present Convention; and

.8 the North-East Atlantic Emission Control Area, which means the area described by the coordinates provided in appendix VII.

4 While a ship is operating within an emission control area, the sulphur content of fuel oil used on board that ship shall not exceed 0.10% m/m.

5 The sulphur content of fuel oil referred to in paragraph 1 and paragraph 4 of this regulation shall be documented by its supplier as required by regulation 18 of this Annex.

6 Those ships using separate fuel oils to comply with paragraph 4 of this regulation and entering or leaving an emission control area set forth in paragraph 3 of this regulation shall carry a written procedure showing how the fuel oil changeover is to be done, allowing sufficient time for the fuel oil service system to be fully flushed of all fuel oils exceeding the applicable sulphur content specified in paragraph 4 of this regulation prior to entry into an emission control area. The volume of low sulphur fuel oils in each tank as well as the date, time and position of the ship when any fuel oil changeover operation is completed prior to the entry into an emission control area or commenced after exit from such an area shall be recorded in such logbook or electronic record book[29] as prescribed by the Administration.

7 During the first 12 months immediately following entry into force of an amendment designating a specific emission control area under paragraph 3 of this regulation, ships operating in that emission control area are exempt from the requirements in paragraphs 4 and 6 of this regulation and from the requirements of paragraph 5 of this regulation insofar as they relate to paragraph 4 of this regulation.

In-use and onboard fuel oil sampling and testing

8 If the competent authority of a Party requires the in-use or onboard sample to be analysed, it shall be done in accordance with the verification procedure set forth in appendix VI to determine whether the fuel oil being used or carried for use on board meets the requirements in paragraph 1 or paragraph 4 of this regulation. The in-use sample shall be drawn taking into

[29] Refer to *Guidelines for the use of electronic record books under MARPOL* (resolution MEPC.312(74)).

account the guidelines developed by the Organization.[30] The onboard sample shall be drawn taking into account the guidelines developed by the Organization.[31]

9 The sample shall be sealed by the representative of the competent authority with a unique means of identification installed in the presence of the ship's representative. The ship shall be given the option of retaining a duplicate sample.

In-use fuel oil sampling point

10 For each ship subject to regulations 5 and 6 of this Annex, sampling point(s) shall be fitted or designated for the purpose of taking representative samples of the fuel oil being used on board the ship taking into account the guidelines developed by the Organization.[32]

11 For a ship constructed before 1 April 2022, the sampling point(s) referred to in paragraph 10 shall be fitted or designated not later than the first renewal survey as identified in regulation 5.1.2 of this Annex on or after 1 April 2023.

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.

13 The competent authority of a Party shall, as appropriate, utilize the sampling point(s) which is(are) fitted or designated for the purpose of taking representative sample(s) of the fuel oil being used on board in order to verify that the fuel oil complies with this regulation. Taking fuel oil samples by the competent authority of the Party shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

Regulation 15
Volatile organic compounds

1 If the emissions of volatile organic compounds (VOCs) from a tanker are to be regulated in a port or ports or a terminal or terminals under the jurisdiction of a Party, they shall be regulated in accordance with the provisions of this regulation.

2 A Party regulating tankers for VOC emissions shall submit a notification to the Organization.[33] This notification shall include information on the size of tankers to be controlled, the cargoes requiring vapour emission control systems and the effective date of such control. The notification shall be submitted at least six months before the effective date.

3 A Party that designates ports or terminals at which VOC emissions from tankers are to be regulated shall ensure that vapour emission control systems, approved by that Party taking into account the safety standards for such systems developed by the Organization,[34] are provided in any designated port and terminal and are operated safely and in a manner so as to avoid undue delay to a ship.

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30 Refer to the *2019 Guidelines for on board sampling for the verification of the sulphur content of the fuel oil used on board ships* (MEPC.1/Circ.864/Rev.1).

31 Refer to the *2020 Guidelines for on board sampling of fuel oil intended to be used or carried for use on board a ship* (MEPC.1/Circ.889).

32 Refer to the 2019 Guidelines for on board sampling for the verification of the sulphur content of the fuel oil used on board ships (MEPC.1/Circ.864/Rev.1).

33 Refer to *Notification to the Organization on ports or terminals where volatile organic compounds (VOCs) emissions are to be regulated* (MEPC.1/Circ.509).

34 Refer to *Standards for vapour emission control systems (MSC/Circ.585)*.

4 The Organization shall circulate a list of the ports and terminals designated by Parties to other Parties and Member States of the Organization for their information.

5 A tanker to which paragraph 1 of this regulation applies shall be provided with a vapour emission collection system approved by the Administration taking into account the safety standards for such systems developed by the Organization,[35] and shall use this system during the loading of relevant cargoes. A port or terminal that has installed vapour emission control systems in accordance with this regulation may accept tankers that are not fitted with vapour collection systems for a period of three years after the effective date identified in paragraph 2 of this regulation.

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.[36] 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

.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.[37]

Regulation 16
Shipboard incineration

1 Except as provided in paragraph 4 of this regulation, shipboard incineration shall be allowed only in a shipboard incinerator.

2 Shipboard incineration of the following substances shall be prohibited:

.1 residues of cargoes subject to Annex I, II or III or related contaminated packing materials;

.2 polychlorinated biphenyls (PCBs);

35 Refer to *Standards for vapour emission control systems (MSC/Circ.585)*.

36 Refer to the *Guidelines for the development of a VOC management plan* (resolution MEPC.185(59)). Refer also to *Technical information on systems and operation to assist development of VOC management plans* (MEPC.1/Circ.680), and *Technical information on a vapour pressure control system in order to facilitate the development and the update of VOC management plans* (MEPC.1/Circ.719).

37 Refer to the *International Code for the construction and equipment of ships carrying liquefied gases in bulk* (IGC Code) (resolution MSC.5(48), as amended).

.3 garbage, as defined by Annex V, containing more than traces of heavy metals;

.4 refined petroleum products containing halogen compounds;

.5 sewage sludge and sludge oil neither of which is generated on board the ship; and

.6 exhaust gas cleaning system residues.

3 Shipboard incineration of polyvinyl chlorides (PVCs) shall be prohibited, except in shipboard incinerators for which IMO Type Approval Certificates[38] have been issued.

4 Shipboard incineration of sewage sludge and sludge oil generated during normal operation of a ship may also take place in the main or auxiliary power plant or boilers, but in those cases, shall not take place inside ports, harbours or estuaries.

5 Nothing in this regulation either:

.1 affects the incineration at sea prohibitions of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, as amended, and the 1996 Protocol thereto, or other requirements thereof,

or

.2 precludes the development, installation and operation of alternative design shipboard thermal waste treatment devices that meet or exceed the requirements of this regulation.

6.1 Except as provided in paragraph 6.2 of this regulation, each incinerator on a ship constructed on or after 1 January 2000 or incinerator that is installed on board a ship on or after 1 January 2000 shall meet the requirements contained in appendix IV. Each incinerator subject to this paragraph shall be approved by the Administration taking into account the standard specification for shipboard incinerators developed by the Organization;[39]

6.2 The Administration may allow exclusion from the application of paragraph 6.1 of this regulation to any incinerator installed on board a ship before 19 May 2005, provided that the ship is solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly.

7 Incinerators installed in accordance with the requirements of paragraph 6.1 of this regulation shall be provided with a manufacturer's operating manual, which is to be retained with the unit and which shall specify how to operate the incinerator within the limits described in paragraph 2 of appendix IV of this Annex.

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38 Type Approval Certificates issued taking into account the *Revised guidelines for the implementation of Annex V of MARPOL* (resolution MEPC.59(33), as amended by resolution MEPC.92(45)), or *Standard specification for shipboard incinerators* (resolution MEPC.76(40), as amended by resolution MEPC.93(45)), or the *2014 Standard specification for shipboard incinerators* (resolution MEPC.244(66)), as amended by resolution MEPC.368(79).

39 Refer to the *2014 Standard specification for shipboard incinerators* (resolution MEPC.244(66), as amended by resolution MEPC.368(79)), or *Standard specification for shipboard incinerators* (resolution MEPC.76(40), as amended by resolution MEPC.93(45)), and *Type approval of shipboard incinerators* (MEPC.1/Circ.793).

8 Personnel responsible for the operation of an incinerator installed in accordance with the requirements of paragraph 6.1 of this regulation shall be trained to implement the guidance provided in the manufacturer's operating manual as required by paragraph 7 of this regulation.

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.

Regulation 17
Reception facilities

1 Each Party undertakes to ensure the provision of facilities adequate to meet the:

.1 needs of ships using its repair ports for the reception of ozone-depleting substances and equipment containing such substances when removed from ships;

.2 needs of ships using its ports, terminals or repair ports for the reception of exhaust gas cleaning residues from an exhaust gas cleaning system;

without causing undue delay to ships, and

.3 needs in ship-breaking facilities for the reception of ozone-depleting substances and equipment containing such substances when removed from ships.

2 The following States may satisfy the requirements in paragraph 1 of this regulation through regional arrangements when, because of those States' unique circumstances, such arrangements are the only practical means to satisfy these requirements:

.1 small island developing States; and

.2 States the coastline of which borders on Arctic waters, provided that regional arrangements shall cover only ports within Arctic waters of those States.

3 Parties participating in a regional arrangement shall develop a Regional Reception Facilities Plan, taking into account the guidelines developed by the Organization.[40] The Government of each Party participating in the arrangement shall consult with the Organization, for circulation to the Parties of the present Convention, on:

.1 how the Regional Reception Facilities Plan takes into account the guidelines developed by the Organization;[41]

[40] Refer to the 2012 *Guidelines for the development of a Regional Reception Facilities Plan* (resolution MEPC.221(63), as amended by resolution MEPC.363(79)).

[41] Refer to the 2012 *Guidelines for the development of a Regional Reception Facilities Plan* (resolution MEPC.221(63)), as amended by resolution MEPC.363(79).

.2 particulars of the identified Regional Ships Waste Reception Centres taking into account the guidelines developed by the Organization;[42] and

.3 particulars of those ports with only limited facilities.

4 If a particular port or terminal of a Party is, taking into account the guidelines developed by the Organization,[43] remotely located from, or lacking in, the industrial infrastructure necessary to manage and process those substances referred to in paragraph 1 of this regulation and therefore cannot accept such substances, then the Party shall inform the Organization of any such port or terminal so that this information may be circulated to all Parties and Member States of the Organization for their information and any appropriate action. Each Party that has provided the Organization with such information shall also notify the Organization of its ports and terminals where reception facilities are available to manage and process such substances.

5 Each Party shall notify the Organization for circulation to the Members of the Organization of all cases where the facilities provided under this regulation are unavailable or alleged to be inadequate.

Regulation 18
Fuel oil availability and quality

Fuel oil availability

1 Each Party shall take all reasonable steps to promote the availability of fuel oils that comply with this Annex and inform the Organization of the availability of compliant fuel oils in its ports and terminals.

2.1 If a ship is found by a Party not to be in compliance with the standards for compliant fuel oils set forth in this Annex, the competent authority of the Party is entitled to require the ship to:

.1 present a record of the actions taken to attempt to achieve compliance; and

.2 provide evidence that it attempted to purchase compliant fuel oil in accordance with its voyage plan and, if it was not made available where planned, that attempts were made to locate alternative sources for such fuel oil and that despite best efforts to obtain compliant fuel oil, no such fuel oil was made available for purchase.

2.2 The ship should not be required to deviate from its intended voyage or to delay unduly the voyage in order to achieve compliance.

2.3 If a ship provides the information set forth in paragraph 2.1 of this regulation, a Party shall take into account all relevant circumstances and the evidence presented to determine the appropriate action to take, including not taking control measures.

2.4 A ship shall notify its Administration and the competent authority of the relevant port of destination when it cannot purchase compliant fuel oil.

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[42] Refer to the 2012 *Guidelines for the development of a Regional Reception Facilities Plan* (resolution MEPC.221(63)), as amended by resolution MEPC.363(79)).

[43] Refer to the 2011 Guidelines for reception facilities under MARPOL Annex VI (resolution MEPC.199(62))

2.5 A Party shall notify the Organization when a ship has presented evidence of the non-availability of compliant fuel oil.

Fuel oil quality

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

.1 except as provided in paragraph 3.2 of this regulation:

.1 the fuel oil shall be blends of hydrocarbons derived from petroleum refining. This shall not preclude the incorporation of small amounts of additives intended to improve some aspects of performance;

.2 the fuel oil shall be free from inorganic acid; and

.3 the fuel oil shall not include any added substance or chemical waste that:

.1 jeopardizes the safety of ships or adversely affects the performance of the machinery, or

.2 is harmful to personnel, or

.3 contributes overall to additional air pollution.

.2 fuel oil derived by methods other than petroleum refining shall not:

.1 exceed the applicable sulphur content set forth in regulation 14 of this Annex;

.2 cause an engine to exceed the applicable NO_x emission limit set forth in paragraphs 3, 4, 5.1.1 and 7.4 of regulation 13;

.3 contain inorganic acid; or

.4.1 jeopardize the safety of ships or adversely affect the performance of the machinery, or

.4.2 be harmful to personnel, or

.4.3 contribute overall to additional air pollution.

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.

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.

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, 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.

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.

7.1 The competent authority of a Party may inspect the bunker delivery notes on board any ship to which this Annex applies while the ship is in its port or offshore terminal, may make a copy of each delivery note, and may require the master or person in charge of the ship to certify that each copy is a true copy of such bunker delivery note. The competent authority may also verify the contents of each note through consultations with the port where the note was issued.

7.2 The inspection of the bunker delivery notes and the taking of certified copies by the competent authority under paragraph 7.1 of this regulation shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

8.1 The bunker delivery note shall be accompanied by a representative sample of the fuel oil delivered taking into account the guidelines developed by the Organization.[44] The sample is to be sealed and signed by the supplier's representative and the master or officer in charge of the bunker operation on completion of bunkering operations and retained under the ship's control until the fuel oil is substantially consumed, but in any case for a period of not less than 12 months from the time of delivery.

8.2 If a Party requires the representative sample to be analysed, it shall be done in accordance with the verification procedure set forth in appendix VI to determine whether the fuel oil meets the requirements of this Annex.

9 Parties undertake to ensure that appropriate authorities designated by them:

.1 maintain a register of local suppliers of fuel oil;

.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;

.3 require local suppliers to retain a copy of the bunker delivery note for at least three years for inspection and verification by the port State as necessary;

.4 take action as appropriate against fuel oil suppliers that have been found to deliver fuel oil that does not comply with that stated on the bunker delivery note;

[44] Refer to the *Guidelines for the sampling of fuel oil for determination of compliance with MARPOL Annex VI and SOLAS chapter II-2* (circular MSC-MEPC.2/Circ.18).

.5 inform the Administration of any ship receiving fuel oil found to be non-compliant with the requirements of regulation 14 or 18 of this Annex; and

.6 inform the Organization for circulation to Parties and Member States of the Organization of all cases where fuel oil suppliers have failed to meet the requirements specified in regulations 14 or 18 of this Annex.

10 In connection with port State inspections carried out by Parties, the Parties further undertake to:

.1 inform the Party or non-Party under whose jurisdiction a bunker delivery note was issued of cases of delivery of non-compliant fuel oil, giving all relevant information; and

.2 ensure that remedial action as appropriate is taken to bring non-compliant fuel oil discovered into compliance.

11 For every ship of 400 gross tonnage and above on scheduled services with frequent and regular port calls, an Administration may decide after application and consultation with affected States that compliance with paragraph 6 of this regulation may be documented in an alternative manner that gives similar certainty of compliance with regulations 14 and 18 of this Annex.

Chapter 4 – Regulations on the carbon intensity of international shipping

Regulation 19
Application

1 This chapter shall apply to all ships of 400 gross tonnage and above.

2 The provisions of this chapter shall not apply to:

.1 ships solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly. However, each Party should ensure, by the adoption of appropriate measures, that such ships are constructed and act in a manner consistent with the requirements of chapter 4 of this Annex, so far as is reasonable and practicable.

.2 ships not propelled by mechanical means, and platforms including FPSOs and FSUs and drilling rigs, regardless of their propulsion.

3 Regulations 22, 23, 24 and 25 of this Annex shall not apply to ships which have non-conventional propulsion, except that regulations 22 and 24 shall apply to cruise passenger ships having non-conventional propulsion and LNG carriers having conventional or non-conventional propulsion, delivered on or after 1 September 2019, as defined in regulation 2.2.1, and regulations 23 and 25 shall apply to cruise passenger ships having non-conventional propulsion and LNG carriers having conventional or non-conventional propulsion. Regulations 22, 23, 24, 25 and 28 shall not apply to category A ships as defined in the Polar Code.

4 Notwithstanding the provisions of paragraph 1 of this regulation, the Administration may waive the requirement for a ship of 400 gross tonnage and above to comply with regulations 22 and 24 of this Annex.

5 The provision of paragraph 4 of this regulation shall not apply to ships of 400 gross tonnage and above:

.1 for which the building contract is placed on or after 1 January 2017; 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 2017; or

.3 the delivery of which is on or after 1 July 2019; or

.4 in cases of a major conversion of a new or existing ship, as defined in regulation 2.2.15 of this Annex, on or after 1 January 2017, and in which regulations 5.4.2 and 5.4.3 of this Annex apply.

6 The Administration of a Party to the present Convention which allows the application of paragraph 4, or suspends, withdraws or declines the application of that paragraph, to a ship entitled to fly its flag shall forthwith communicate to the Organization for circulation to the Parties to the present Protocol particulars thereof, for their information.

Regulation 20
Goal

The goal of this chapter is to reduce the carbon intensity of international shipping, working towards the levels of ambition set out in the *IMO Strategy on reduction of GHG emissions from ships.*

Regulation 21
Functional requirements

In order to achieve the goal set out in regulation 20 of this Annex, a ship to which this chapter applies shall comply, as applicable, with the following functional requirements to reduce its carbon intensity:

.1 the technical carbon intensity requirements in accordance with regulations 22, 23, 24 and 25 of this Annex; and

.2 the operational carbon intensity requirements in accordance with regulations 26, 27 and 28 of this Annex.

Regulation 22
Attained Energy Efficiency Design Index (attained EEDI)

1 The attained EEDI shall be calculated for:

.1 each new ship;

.2 each new ship which has undergone a major conversion; and

.3 each new or existing ship which has undergone a major conversion that is so extensive that the ship is regarded by the Administration as a newly constructed ship,

which falls into one or more of the categories in regulations 2.2.5 to 2.2.7, 2.2.9, 2.2.12 to 2.2.14, 2.2.18, 2.2.20, and 2.2.24 to 2.2.27 of this Annex. The attained EEDI shall be specific to each ship and shall indicate the estimated performance of the ship in terms of energy

efficiency, and be accompanied by the EEDI technical file that contains the information necessary for the calculation of the attained EEDI and that shows the process of calculation. The attained EEDI shall be verified, based on the EEDI technical file, either by the Administration or by any organization duly authorized by it.[45]

2 The attained EEDI shall be calculated taking into account the guidelines developed by the Organization.[46]

3 For each ship subject to regulation 24 of this Annex, the Administration or any organization duly authorized by it[47] shall report to the Organization the required and attained EEDI values and relevant information, taking into account the guidelines developed by the Organization,[48] via electronic communication:

.1 within seven months of completing the survey required under regulation 5.4 of this Annex; or

.2 within seven months following 1 April 2022 for a ship delivered prior to 1 April 2022.

Regulation 23
Attained Energy Efficiency Existing Ship Index (attained EEXI)

1 The attained EEXI shall be calculated for:

.1 each ship; and

.2 each ship which has undergone a major conversion,

which falls into one or more of the categories in regulations 2.2.5 to 2.2.7, 2.2.9, 2.2.12 to 2.2.14, 2.2.20, and 2.2.24 to 2.2.27 of this Annex. The attained EEXI shall be specific to each ship and shall indicate the estimated performance of the ship in terms of energy efficiency, and be accompanied by the EEXI technical file which contains the information necessary for the calculation of the attained EEXI and which shows the process of the calculation. The attained EEXI shall be verified, based on the EEXI technical file, either by the Administration or by any organization duly authorized by it.[49]

2 The attained EEXI shall be calculated taking into account the guidelines developed by the Organization.[50]

45 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

46 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)).

47 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

48 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)).

49 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

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

3 Notwithstanding paragraph 1 of this regulation, for each ship to which regulation 22 of this Annex applies, the attained EEDI verified by the Administration or by any organization duly authorized by it[51] in accordance with regulation 22.1 of this Annex may be taken as the attained EEXI if the value of the attained EEDI is equal to or less than that of the required EEXI as required by regulation 25 of this Annex. In this case, the attained EEXI shall be verified based on the EEDI technical file.

Regulation 24
Required EEDI

1 For each:

.1 new ship,

.2 new ship which has undergone a major conversion, and

.3 new or existing ship which has undergone a major conversion that is so extensive that the ship is regarded by the Administration as a newly constructed ship

which falls into one of the categories in regulations 2.2.5, 2.2.7, 2.2.9, 2.2.11, 2.2.14 to 2.2.16, 2.2.22, and 2.2.26 to 2.2.29 and to which this chapter is applicable, the attained EEDI shall be as follows:

$$\text{Attained EEDI} \leq \text{Required EEDI} = \left(1 - \frac{X}{100}\right) \cdot \text{Reference line value}$$

where X is the reduction factor specified in table 1 for the required EEDI compared to the EEDI reference line.

2 For each new and existing ship that has undergone a major conversion which is so extensive that the ship is regarded by the Administration as a newly constructed ship, the attained EEDI shall be calculated and meet the requirement of paragraph 1 of this regulation with the reduction factor applicable corresponding to the ship type and size of the converted ship at the date of the contract of the conversion, or in the absence of a contract, the commencement date of the conversion.

[51] Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

Table 1 - *Reduction factors (in percentage) for the EEDI relative to the EEDI reference line*

Ship Type	Size	Phase 0 1 Jan 2013 – 31 Dec 2014	Phase 1 1 Jan 2015 – 31 Dec 2019	Phase 2 1 Jan 2020 – 31 Mar 2022	Phase 2 1 Jan 2020 – 31 Dec 2024	Phase 3 1 Apr 2022 and onwards	Phase 3 1 Jan 2025 and onwards
Bulk carrier	20,000 DWT and above	0	10		20		30
	10,000 and above but less than 20,000 DWT	n/a	0-10*		0-20*		0-30*
Gas carrier	15,000 DWT and above	0	10	20		30	
	10,000 and above but less than 15,000 DWT	0	10		20		30
	2,000 and above but less than 10,000 DWT	n/a	0-10*		0-20*		0-30*
Tanker	20,000 DWT and above	0	10		20		30
	4,000 and above but less than 20,000 DWT	n/a	0-10*		0-20*		0-30*
Containership	200,000 DWT and above	0	10	20		50	
	120,000 and above but less than 200,000 DWT	0	10	20		45	
	80,000 and above but less than 120,000 DWT	0	10	20		40	
	40,000 and above but less than 80,000 DWT	0	10	20		35	
	15,000 and above but less than 40,000 DWT	0	10	20		30	
	10,000 and above but less than 15,000 DWT	n/a	0-10*	0-20*		15-30*	

Ship Type	Size	Phase 0 1 Jan 2013 – 31 Dec 2014	Phase 1 1 Jan 2015 – 31 Dec 2019	Phase 2 1 Jan 2020 – 31 Mar 2022	Phase 2 1 Jan 2020 – 31 Dec 2024	Phase 3 1 Apr 2022 and onwards	Phase 3 1 Jan 2025 and onwards
General Cargo ships	15,000 DWT and above	0	10	15		30	
	3,000 and above but less than 15,000 DWT	n/a	0-10*	0-15*		0-30*	
Refrigerated cargo carrier	5,000 DWT and above	0	10		15		30
	3,000 and above but less than 5,000 DWT	n/a	0-10*		0-15*		0-30*
Combination carrier	20,000 DWT and above	0	10		20		30
	4,000 and above but less than 20,000 DWT	n/a	0-10*		0-20*		0-30*
LNG carrier***	10,000 DWT and above	n/a	10**	20		30	
Ro-ro cargo ship (vehicle carrier)***	10,000 DWT and above	n/a	5**		15		30
Ro-ro cargo ship***	2,000 DWT and above	n/a	5**		20		30
	1,000 and above but less than 2,000 DWT	n/a	0-5*,**		0-20*		0-30*
Ro-ro passenger ship***	1,000 DWT and above	n/a	5**		20		30
	250 and above but less than 1,000 DWT	n/a	0-5*,**		0-20*		0-30*
Cruise passenger ship*** having non-conventional propulsion	85,000 GT and above	n/a	5**	20		30	
	25,000 and above but less than 85,000 GT	n/a	0-5*,**	0-20*		0-30*	

* Reduction factor to be linearly interpolated between the two values dependent upon ship size. The lower value of the reduction factor is to be applied to the smaller ship size.e** Phase 1 commences for those ships on 1 September 2015.b*** Reduction factor applies to those ships delivered on or after 1 September 2019, as defined in paragraph 2.1 of regulation 2.

Note: n/a means that no required EEDI applies.

3 The reference line values shall be calculated as follows:

Reference line value = $a \cdot b^{-c}$

where *a*, *b* and *c* are the parameters given in table 2.

Table 2 – *Parameters for the determination of reference values for the different ship types*

Ship type defined in regulation 2	**a**	**b**	**c**
2.2.5 Bulk carrier	961.79	DWT of the ship where DWT≤279,000 279,000 where DWT > 279,000	0.477
2.2.6 Combination carrier	1,219.00	DWT of the ship	0.488
2.2.7 Containership	174.22	DWT of the ship	0.201
2.2.9 Cruise passenger ship having non-conventional propulsion	170.84	GT of the ship	0.214
2.2.12 Gas carrier	1,120.00	DWT of the ship	0.456
2.2.13 General cargo ship	107.48	DWT of the ship	0.216
2.2.14 LNG carrier	2,253.7	DWT of the ship	0.474
2.2.20 Refrigerated cargo carrier	227.01	DWT of the ship	0.244
2.2.24 Ro-ro cargo ship	1405.15	DWT of the ship	0.498
	1686.17*	DWT of the ship where DWT≤17,000* 17,000 where DWT > 17,000*	
2.2.25 Ro-ro cargo ship (vehicle carrier)	$(DWT/GT)^{-0.7} \cdot 780.36$ where DWT/GT < 0.3 1,812.63 where DWT/GT ≥ 0.3	DWT of the ship	0.471
2.2.26 Ro-ro passenger ship	752.16	DWT of the ship	0.381
	902.59*	DWT of the ship where DWT≤10,000* 10,000 where DWT > 10,000*	
2.2.27 Tanker	1,218.80	DWT of the ship	0.488

* to be used from phase 2 and thereafter.

4 If the design of a ship allows it to fall into more than one of the ship type definitions specified in table 2, the required EEDI for the ship shall be the most stringent (the lowest) required EEDI.

5 For each ship to which this regulation applies, 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 developed by the Organization.[52]

6 At the beginning of phase 1 and at the midpoint of phase 2, the Organization shall review the status of technological developments and, if proven necessary, amend the time periods, the EEDI reference line parameters for relevant ship types and reduction rates set out in this regulation.

Regulation 25
Required EEXI

1 For:

.1 each ship; and

.2 each ship which has undergone a major conversion

which falls into one of the categories in regulations 2.2.5 to 2.2.7, 2.2.9, 2.2.12 to 2.2.14, 2.2.20, and 2.2.24 to 2.2.27 and to which this chapter is applicable, the attained EEXI shall be as follows:

$$\text{Attained EEXI} \leq \text{Required EEXI} = \left(1 - \frac{\text{Y}}{100}\right) \bullet \text{EEDI reference line value}$$

where Y is the reduction factor specified in Table 3 for the required EEXI compared to the EEDI reference line.

Table 3 - *Reduction factors (in percentage) for the EEXI relative to the EEDI reference line*

Ship type	Size	Reduction factor
Bulk carrier	200,000 DWT and above	15
	20,000 and above but less than 200,000 DWT	20
	10,000 and above but less than 20,000 DWT	0-20*
Gas carrier	15,000 DWT and above	30
	10,000 and above but less than 15,000 DWT	20
	2,000 and above but less than 10,000 DWT	0-20*
Tanker	200,000 DWT and above	15
	20,000 and above but less than 200,000 DWT	20
	4,000 and above but less than 20,000 DWT	0-20*

[52] Refer to the *Guidelines for determining minimum propulsion power to maintain the manoeuvrability of ships in adverse conditions* (MEPC.1/Circ.850/Rev.3).

Ship type	Size	Reduction factor
Containership	200,000 DWT and above	50
	120,000 and above but less than 200,000 DWT	45
	80,000 and above but less than 120,000 DWT	35
	40,000 and above but less than 80,000 DWT	30
	15,000 and above but less than 40,000 DWT	20
	10,000 and above but less than 15,000 DWT	0-20*
General cargo ship	15,000 DWT and above	30
	3,000 and above but less than 15,000 DWT	0-30*
Refrigerated cargo carrier	5,000 DWT and above	15
	3,000 and above but less than 5,000 DWT	0-15*
Combination carrier	20,000 DWT and above	20
	4,000 and above but less than 20,000 DWT	0-20*
LNG carrier	10,000 DWT and above	30
Ro-ro cargo ship (vehicle carrier)	10,000 DWT and above	15
Ro-ro cargo ship	2,000 DWT and above	5
	1,000 and above but less than 2,000 DWT	0-5*
Ro-ro passenger ship	1,000 DWT and above	5
	250 and above but less than 1,000 DWT	0-5*
Cruise passenger ship having non-conventional propulsion	85,000 GT and above	30
	25,000 and above but less than 85,000 GT	0-30*

* Reduction factor to be linearly interpolated between the two values dependent upon ship size. The lower value of the reduction factor is to be applied to the smaller ship size.

2 The EEDI reference line values shall be calculated in accordance with regulations 24.3 and 24.4 of this Annex. For ro-ro cargo ships and ro-ro passenger ships, the reference line value to be used from phase 2 and thereafter under regulation 24.3 of this Annex shall be referred to.

3 This regulation shall be kept under review in light of its implementation, taking into account the IMO Strategy on Reduction of GHG Emissions from Ships.

Regulation 26
Ship Energy Efficiency Management Plan (SEEMP)

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). The SEEMP shall be developed and reviewed, taking into account the guidelines adopted by the Organization.[53]

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.

3 In the case of a ship of 5,000 gross tonnage and above, which falls into one or more of the categories in regulations 2.2.5 to 2.2.7, 2.2.9, 2.2.12 to 2.2.14, 2.2.20, and 2.2.24 to 2.2.27 of this Annex:

.1 On or before 1 January 2023 the SEEMP shall include:

.1 a description of the methodology that will be used to calculate the ship's attained annual operational CII required by regulation 28 of this Annex and the processes that will be used to report this value to the ship's Administration;

.2 the required annual operational CII, as specified in regulation 28 of this Annex, for the next three years;

.3 an implementation plan documenting how the required annual operational CII will be achieved during the next three years; and

.4 a procedure for self-evaluation and improvement.

.2 For a ship rated as D for three consecutive years or rated as E in accordance with regulation 28 of this Annex, the SEEMP shall be reviewed in accordance with regulation 28.8 of this Annex to include a plan of corrective actions to achieve the required annual operational CII.

4 In the case of a ship to which chapter 5 applies:

.1 On or before 1 January 2028, the SEEMP shall include:

.1 a description of the methodology that will be used to collect the data required by regulation 33 of this Annex to calculate the ship's attained annual GFI, target annual GFI and GFI compliance balance; and

.2 the processes that will be used to report the data required by regulations 33 and 37 of this Annex to the ship's Administration.

[53] Refer to the *2024 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)* (resolution MEPC.395(82), as amended by resolution MEPC.401(83)).

5 For ships to which paragraphs 3 and 4 of this regulation apply, the SEEMP shall be subject to verification and company audits taking into account guidelines developed by the Organization.[54]

Regulation 27
Collection and reporting of ship fuel oil consumption data

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.

3 Except as provided for in paragraphs 4, 5 and 6 of this regulation, within three months after the end of each calendar year, the ship shall report to its Administration or any organization duly authorized by it,[55] the aggregated value for each datum specified in appendix IX to this Annex, via electronic communication and using a standardized format developed by the Organization.[56]

4 In the event of the transfer of a ship from one Administration to another, the ship shall on the day of completion of the transfer or as close as practical thereto report to the losing Administration or any organization duly authorized by it,[57] the aggregated data for the period of the calendar year corresponding to that Administration, as specified in appendix IX to this Annex and, upon prior request of that Administration, the disaggregated data.

5 In the event of a change from one company to another, the ship shall on the day of completion of the change or as close as practical thereto report to its Administration or any organization duly authorized by it,[58] the aggregated data for the portion of the calendar year corresponding to the company, as specified in appendix IX to this Annex and, upon request of its Administration, the disaggregated data.

6 In the event of change from one Administration to another and from one company to another concurrently, paragraph 4 of this regulation shall apply.

7 The data shall be verified according to procedures established by the Administration, taking into account the guidelines developed by the Organization.[59]

8 Except as provided for in paragraphs 4, 5 and 6 of this regulation, the disaggregated data that underlies the reported data noted in appendix IX to this Annex for the previous calendar year shall be readily accessible for a period of not less than 12 months from the end of that calendar year and be made available to the Administration upon request.

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54 Refer to the *Guidelines for the verification and company audits by the Administration of part III of the Ship Energy Efficiency Management Plan (SEEMP)* (resolution MEPC.347(78)).

55 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

56 Refer to the *2024 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)* (resolution MEPC.395(82), as amended by resolution MEPC.401(83)).

57 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

58 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

59 Refer to the *2022 Guidelines for Administration verification of ship fuel oil consumption data and operational carbon intensity* (resolution MEPC.348(78)), as amended by resolution MEPC.389(81).

9 The Administration shall ensure that the reported data noted in appendix IX to this Annex by its registered ships of 5,000 gross tonnage and above are transferred to the IMO Ship Fuel Oil Consumption Database via electronic communication and using a standardized format developed by the Organization[60] not later than one month after issuing the Statements of Compliance of these ships.

10 On the basis of the reported data submitted to the IMO Ship Fuel Oil Consumption Database, the Secretary-General of the Organization shall produce an annual report to the Committee summarizing the data collected, the status of missing data, and such other relevant information as may be requested by the Committee.

11 The Secretary-General of the Organization shall grant the Administration of a ship or any organization duly authorized by it[61] access to all the reported data for all the preceding calendar years in the IMO Ship Fuel Oil Consumption Database for that ship.

12 Parties shall have access to a non-anonymized database containing data for all ships to which this regulation applies strictly for their analysis and consideration.

13 The Secretary-General of the Organization shall maintain an anonymized database such that identification of a specific ship will not be possible, and facilitate access to public user accounts.

14 The IMO Ship Fuel Oil Consumption Database shall be undertaken and managed by the Secretary-General of the Organization, pursuant to guidelines developed by the Organization.[62]

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

16 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.

Regulation 28
Operational carbon intensity

Attained annual operational carbon intensity indicator (attained annual operational CII)

1 After the end of calendar year 2023 and after the end of each following calendar year, each ship of 5,000 gross tonnage and above which falls into one or more of the categories in regulations 2.2.5 to 2.2.7, 2.2.9, 2.2.12 to 2.2.14, 2.2.20, and 2.2.24 to 2.2.27 of this Annex shall calculate the attained annual operational CII over a 12-month period from 1 January to 31 December for the preceding calendar year, using the data collected in accordance with regulation 27 of this Annex, taking into account the guidelines developed by the Organization.[63]

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60 Refer to the *2024 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)* (resolution MEPC.395(82), as amended by resolution MEPC.401(83)).

61 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

62 Refer to the *2022 Guidelines for the development and management of the IMO Ship Fuel Oil Consumption Database* (resolution MEPC.349(78)).

63 Refer to the *2022 Guidelines on operational carbon intensity indicators and the calculation methods (CII guidelines, G1)* (resolution MEPC.352(78)), and the *2022 Interim guidelines on correction factors and voyage adjustments for CII calculations (CII guidelines, G5)* (resolution MEPC.355(78)).

2 Within three months after the end of each calendar year, the ship shall report to its Administration, or any organization duly authorized by it,[64] the attained annual operational CII via electronic communication and using a standardized format developed by the Organization.[65]

3 Notwithstanding 1 and 2 of this regulation, in the event of any transfer of a ship addressed in regulations 27.4, 27.5 or 27.6 completed after 1 January 2023, a ship shall, after the end of the calendar year in which the transfer takes place, calculate and report the attained annual operational CII for the full 12-month period from 1 January to 31 December in the calendar year during which the transfer took place, in accordance with regulations 28.1 and 28.2, for verification in accordance with regulation 6.6 of this Annex, taking into account guidelines developed by the Organization.[66] Nothing in this regulation relieves any ship of its reporting obligations under regulation 27 or this regulation of this Annex.

Required annual operational carbon intensity indicator (required annual operational CII)

4 For each ship of 5,000 gross tonnage and above which falls into one or more of the categories in regulations 2.2.5 to 2.2.7, 2.2.9, 2.2.12 to 2.2.14, 2.2.20, and 2.2.24 to 2.2.27 of this Annex, the required annual operational CII shall be determined as follows:

$$\text{Required annual operational CII} = \left(1 - \frac{Z}{100}\right) \bullet \text{CII}_R$$

where,

Z is the annual reduction factor to ensure continuous improvement of the ship's operational carbon intensity within a specific rating level; and

CII_R is the reference value.

5 The annual reduction factor Z[67] and the reference value CII_R shall be the values defined taking into account the guidelines to be developed by the Organization.[68]

Operational carbon intensity rating

6 The *attained annual operational CII* shall be documented and verified against the required annual operational CII to determine operational carbon intensity rating A, B, C, D or E, indicating a major superior, minor superior, moderate, minor inferior or inferior performance level, either by the Administration or by any organization duly authorized by it,[69] taking into

64 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

65 Refer to the *2022 Guidelines for Administration verification of ship fuel oil consumption data and operational carbon intensity* (resolution MEPC.348(78)), as amended by resolution MEPC.389(81)).

66 Refer to the *2022 Guidelines for Administration verification of ship fuel oil consumption data and operational carbon intensity* (resolution MEPC.348(78)), as amended by resolution MEPC.389(81)).

67 The annual reduction factor is specific to each category of ship. This factor is defined to increase progressively to meet the objectives of the *Initial IMO Strategy on reduction of GHG emissions from ships* (resolution MEPC.304(72)).

68 Refer to the *2021 Guidelines on the operational carbon intensity reduction factors relative to reference lines (CII reduction factor guidelines, G3)* (resolution MEPC.338(76), as amended by resolution MEPC.400(83)) and the *2022 Guidelines on the reference lines for use with operational carbon intensity indicators (CII reference lines guidelines, G2)* (resolution MEPC.353(78)).

69 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

account the guidelines developed by the Organization.[70] The middle point of rating level C shall be the value equivalent to the required annual operational CII set out in paragraph 4 of this regulation.

Corrective actions and incentives

7 A ship rated as D for three consecutive years or rated as E shall develop a plan of corrective actions to achieve the required annual operational CII.

8 The SEEMP shall be reviewed to include the plan of corrective actions accordingly, taking into account the guidelines to be developed by the Organization.[71] The revised SEEMP shall be submitted to the Administration or any organization duly authorized by it[72] for verification, preferably together with, but in no case later than 1 month after reporting the attained annual operational CII in accordance with paragraph 2 of this regulation.

9 A ship rated as D for three consecutive years or rated as E shall duly undertake the planned corrective actions in accordance with the revised SEEMP.

10 Administrations, port authorities and other stakeholders as appropriate, are encouraged to provide incentives to ships rated as A or B.

Review

11 This regulation shall be kept under review in light of its implementation, taking into account the IMO Strategy on Reduction of GHG Emissions from Ships.

Regulation 29
Promotion of technical cooperation and transfer of technology relating to the improvement of energy efficiency of ships[73]

1 Administrations shall, in cooperation with the Organization and other international bodies, promote and provide support, as appropriate, directly or through the Organization to States that request technical assistance, especially developing States.

2 The Administration of a Party shall cooperate actively with other Parties, subject to its national laws, regulations and policies, to promote the development and transfer of technology and exchange of information to States which request technical assistance, particularly developing States, in respect of the implementation of measures to fulfil the requirements of chapter 4 of this Annex, in particular regulations 19.4 to 19.6.

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

71 Refer to the *2024 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)* (resolution MEPC.395(82), as amended by resolution MEPC.401(83)).

72 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

73 Refer to *Promotion of technical cooperation and transfer of technology relating to the improvement of energy efficiency of ships* (resolution MEPC.229(65)), and the *Model agreement between governments on technological cooperation for the implementation of the regulations in chapter 4 of MARPOL Annex VI* (MEPC.1/Circ.861).

Chapter 5 – Regulations on the IMO Net-Zero Framework

Regulation 30
Application

1 This chapter shall apply to all ships of 5,000 gross tonnage and above.

2 Notwithstanding paragraph 1 of this regulation, the provisions of this chapter shall not apply to:

.1 ships solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly. However, each Party should ensure, by the adoption of appropriate measures, that such ships act in a manner consistent with the requirements of chapter 5 of this Annex, so far as is reasonable and practicable;

.2 ships not propelled by mechanical means, and platforms including FPSOs and FSUs and drilling rigs, regardless of their propulsion; and

.3 semi-submersible vessels until further review of the application of this chapter.

Regulation 31
Goal

The goal of this chapter is to reduce greenhouse gas (GHG) emissions from international shipping as soon as possible, delivering on the reduction targets set out in the 2023 IMO Strategy on Reduction of GHG Emissions from Ships,[74] effectively promoting the energy transition of shipping and providing the world fleet with a needed incentive while contributing to a level playing field and a just and equitable transition.

Regulation 32
Functional requirements

In order to achieve the goal set out in regulation 31 of this Annex, a ship to which this chapter applies shall comply with the following functional requirements:

.1 requirements on the continuous improvement of the ship's GHG fuel intensity in accordance with regulation 35 of this Annex; and

.2 requirements on GHG emissions pricing contributions for excess emissions and on rewards for the uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources (ZNZs) in accordance with regulations 36 and 39.

Regulation 33
Attained annual GHG fuel intensity (attained annual GFI)

1 After the end of calendar year 2028 and after the end of each calendar year thereafter, each ship to which this chapter applies shall calculate the attained annual GFI over a 12-month period from 1 January to 31 December for the preceding calendar year (reporting period), using

[74] Refer to the *2023 IMO Strategy on Reduction of GHG Emissions from Ships* (resolution MEPC.377(80)).

the data collected in accordance with regulations 27 and 37 of this Annex and specified in appendix XII to this Annex, taking into account the guidelines to be developed by the Organization.[75]

2 The attained annual GFI of a ship in a given year (denoted as $GFI_{attained}$) shall be calculated as follows, taking into account the guidelines to be developed by the Organization:[76]

$$GFI_{attained} = \frac{\sum_{j=1}^{J} EI_j \times Energy_j}{Energy_{total}}$$

where

$GFI_{attained}$ is the attained annual GFI of a ship in a given year;

j is the fuel type;

J is the total number of fuels used during the reporting period, as reported to the IMO Ship Fuel Oil Consumption Database;

EI_j, expressed in gCO_2eq/MJ, is the GHG intensity, expressed on a well-to-wake basis of a fuel type *j*, calculated taking into account the guidelines developed by the Organization;[77]

$Energy_j$, expressed in MJ, refers to the energy consumption of fuel type j by the ship in the reporting period; and

$Energy_{total}$ expressed in MJ, refers to the total amount of energy used by the ship in the reporting period, including but not limited to fuel oil, electricity delivered from the shore power, and zero-emission energy sources, such as wind propulsion and solar power.

Regulation 34
Sustainable fuels certification schemes

1 The GHG intensity of a fuel shall be calculated using GHG emission factors and take into account all relevant metrics and indicators for each sustainability theme or aspect of a fuel as documented on the Fuel Lifecycle Label(s) (FLL).

2 GHG emission factors and sustainability themes or aspects of a fuel as documented on the FLL shall be certified, as appropriate, by a recognized Sustainable Fuels Certification Scheme (SFCS) taking into account guidelines to be developed by the Organization.[78]

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75 Refer to the guidelines to be developed on the calculation of the attained annual greenhouse gas fuel intensity (GFI Calculation Guidelines).

76 Refer to the guidelines to be developed on the calculation of the attained annual greenhouse gas fuel intensity (GFI Calculation Guidelines).

77 Refer to the *2024 Guidelines on life cycle GHG intensity of marine fuels* (resolution MEPC.391(81)), as may be amended.

78 Refer to guidelines to be developed/amend the *2024 Guidelines on life cycle GHG intensity of marine fuels* (resolution MEPC.391(81)) (LCA guidelines), as appropriate.

3 The certified information in the FLL may accompany the bunker delivery note referred to in regulation 18 of this Annex, taking into account guidelines to be developed by the Organization.[79]

4 An SFCS shall be recognized by the Committee taking into account the recognition process(es) and criteria specified in guidelines to be developed by the Organization.[80] The recognition of an SFCS shall be subject to renewal every five years and periodic review, taking into account guidelines to be developed by the Organization.[81]

5 No later than 1 March 2027, the Secretary-General of the Organization shall publish a list of recognized SFCSs, and shall update the list periodically thereafter.

6 Within three months after the end of calendar year 2027, and within three months after the end of each following calendar year, the Organization shall ensure that the legal entity administering the recognized SFCS reports data relevant to their activity for that calendar year or portion thereof to ensure transparency, traceability and environmental integrity in the certification process, taking into account guidelines to be developed by the Organization.[82] On the basis of the reported data, the Secretary-General of the Organization shall produce an annual report to the Committee.

Regulation 35
Target annual GHG fuel intensity (target annual GFI)

1 The target annual GFI (GFI_T) of a ship shall consist of the following two tiers:

.1 a Base target annual GFI (base target); and

.2 a Direct compliance target annual GFI (direct compliance target).

2 The GFI_T for each ship to which this regulation applies shall be determined/calculated as follows:

$$GFI_T = (1 - Z_T/100) \bullet GFI_{2008}$$

where

subscript T is the calendar year referred to in Table 4;

GFI_{2008} is the GFI reference value equivalent to 93.3 gCO_2eq/MJ (well-to-wake), representing the average GFI of international shipping in year 2008; and

Z_T is the annual GFI reduction factor to ensure continuous improvement of the ship's GHG fuel intensity, consisting of both an annual reduction factor for the base target and for the direct compliance target, the values of which are specified in Table 4, as compared to the GFI reference value.

[79] Refer to guidelines to be developed/amend the *2024 Guidelines on life cycle GHG intensity of marine fuels (*resolution MEPC.391(81)) (LCA guidelines), as appropriate.

[80] Refer to guidelines to be developed/amend the *2024 Guidelines on life cycle GHG intensity of marine fuels* (resolution MEPC.391(81)) (LCA guidelines), as appropriate.

[81] Refer to guidelines to be developed/amend the *2024 Guidelines on life cycle GHG intensity of marine fuels* (resolution MEPC.391(81)) (LCA guidelines), as appropriate.

[82] Refer to guidelines to be developed/amend the *2024 Guidelines on life cycle GHG intensity of marine fuels* (resolution MEPC.391(81)) (LCA guidelines), as appropriate.

Table 4 – Annual GFI reduction factors (in percentage) for the target annual GFI relative to the GFI reference value

$Year_T$	Z_T for Base target	Z_T for Direct compliance target
2028	4.0	17.0
2029	6.0	19.0
2030	8.0	21.0
2031	12.4	25.4
2032	16.8	29.8
2033	21.2	34.2
2034	25.6	38.6
2035	30.0	43.0

3 By 1 January 2032, the Committee shall determine the Z-factor (Z_T) for the Base target and Direct compliance target for the years 2036 to 2040. The 2040 Z_T for the Base target shall be set at 65%.

Regulation 36
Annual GFI compliance approaches

1 At the end of each reporting period as defined in regulation 33, each ship shall determine its GFI compliance balance, as follows, taking into account guidelines to be developed by the Organization:[83]

GFI compliance balance (expressed in tonnes of CO_2eq) =
(Direct compliance target annual GFI – Attained annual GFI) × $Energy_{total}$

2 If the GFI compliance balance is equal to or greater than zero, the ship shall be considered in direct compliance and be eligible to receive surplus units for its positive compliance balance in accordance with paragraph 11 of this regulation.

3 If the GFI compliance balance is less than zero, the ship shall determine its compliance deficit in accordance with paragraph 4 of this regulation and shall achieve compliance by balancing its deficit in accordance with the GFI compliance approaches in paragraphs 5 and/or 6, as applicable, of this regulation.

Assessment of the compliance deficit

4 A ship's compliance deficit comprises the quantification of emissions in excess of the tier(s) of the target annual GFI and shall be determined as follows, taking into account guidelines to be developed by the Organization:[84]

.1 for ships whose attained annual GFI is equal to or less than the base target but greater than the direct compliance target:

[83] Refer to the guidelines to be developed on the calculation of the attained annual greenhouse gas fuel intensity (GFI Calculation Guidelines).

[84] Refer to the guidelines to be developed on the calculation of the attained annual greenhouse gas fuel intensity (GFI Calculation Guidelines).

Tier 1 compliance deficit =
(Direct compliance target annual GFI – Attained annual GFI) × $Energy_{total}$,

Or

.2 for ships whose attained annual GFI is greater than the base target:

Tier 1 compliance deficit =
(Direct compliance target annual GFI – Base target annual GFI) × $Energy_{total}$

And

Tier 2 compliance deficit =
(Base target annual GFI – Attained annual GFI) × $Energy_{total}$

Balance of the compliance deficit

5 A ship shall balance its Tier 1 compliance deficit through remedial units acquired by means of GHG emissions pricing contributions to the IMO Net-Zero Fund, priced at Tier 1 benchmark rates in accordance with paragraph 8 of this regulation, as recorded on the ship account statement issued by the IMO GFI Registry in accordance with regulation 38 of this Annex.

6 A ship shall balance its Tier 2 compliance deficit through one or more of the following GFI compliance approaches, as recorded on the ship account statement issued by the IMO GFI Registry in accordance with regulation 38.5 of this Annex, taking into account the guidelines to be developed by the Organization:[85]

.1 surplus units transferred from other ships;

.2 surplus units banked from previous reporting periods; and/or

.3 remedial units acquired by means of GHG emissions pricing contributions to the IMO Net-Zero Fund priced at Tier 2 benchmark rates in accordance with paragraph 9 of this regulation.

7 A ship that has fully balanced its compliance deficit in accordance with paragraphs 5 and 6 of this regulation, as applicable, shall be considered as being compliant with its target annual GFI, without prejudice to the ship to recover any costs incurred in the application of this regulation that relate to the operational responsibility of the ship. For the purpose of this regulation, operational responsibility of the ship means determining the fuel used or the cargo carried or the route or the speed of the ship.

Remedial units

8 For the reporting periods 2028 to 2030, the initial price of a Tier 1 remedial unit shall be US$100 per tonne of CO_2eq on a well-to-wake basis.

9 For the reporting periods 2028 to 2030, the initial price of a Tier 2 remedial unit shall be US$380 per tonne of CO_2eq on a well-to-wake basis.

[85] Refer to guidelines to be developed by the Organization.

10 By 1 January 2028, the Committee shall determine the mechanism for reviewing and defining the price of a Tier 1 and Tier 2 remedial unit for the reporting periods starting 2031 and onwards.

Surplus units

11 The amount of surplus units a ship in direct compliance is eligible to receive shall be equal to its positive compliance balance, expressed in tonnes of CO_2eq, taking into account guidelines to be developed by the Organization.[86]

12 A surplus unit, subject to paragraphs 6 and 15 of this regulation, credited to the ship account in the IMO GFI Registry may be used once for one of the following purposes as shall be recorded in the IMO GFI Registry, taking into account guidelines to be developed by the Organization:[87]

.1 transfer to another ship to balance that ship's Tier 2 compliance deficit;

.2 banked for use in the following reporting periods; or

.3 voluntarily cancelled as a mitigation contribution.

13 A surplus unit shall only be transferred or cancelled once, but different surplus units of a ship can be used for the different purposes provided for in paragraph 12 of this regulation.

14 An unassigned surplus unit shall be automatically banked.

15 A surplus unit shall have a validity of two calendar years after the calendar year of its issuance from the IMO GFI Registry. A surplus unit not used by the ship in whose account it is credited by its expiry date shall be cancelled as a mitigation contribution.

Regulation 37
Reporting and verification of the annual GFI

1 Within three months after the end of calendar year 2028 and by 31 March after each reporting period thereafter, the ship shall report to its Administration, or any organization duly authorized by it,[88] the attained annual GFI, the target annual GFI and the GFI compliance balance of the ship for that reporting period, respectively calculated in accordance with regulations 33, 35 and 36 of this Annex, together with the data collected as specified in appendix XII of this Annex via electronic communication and using the standardized format developed by the Organization[89] for the purpose of verifying the compliance of each ship with this chapter, taking into account guidelines to be developed by the Organization.[90]

2 In the event of any transfer of a ship from one Administration to another and/or a change from one company to another completed after 1 January 2028, a ship shall, after the end of the calendar year in which the transfer and/or change takes place, comply with paragraph 1 of this regulation for the 12-month period from 1 January to 31 December of the calendar year during which the transfer and/or change took place.

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86 Refer to guidelines to be developed by the Organization.

87 Refer to guidelines to be developed by the Organization.

88 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

89 Refer 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).

90 Refer to guidelines to be developed by the Organization.

3 Within six months after the end of 2028 and by 30 June after each following reporting period, the Administration, or any organization duly authorized by it,[91] shall verify the reported data pursuant paragraph 1 of this regulation and report the verified data to the IMO GFI Registry, taking into account the guidelines to be developed by the Organization.[92]

4 Within one month after the ship's verified data has been reported to the IMO GFI Registry pursuant to paragraph 3 of this regulation or on the 31 July at the latest, the ship shall determine and record in the IMO GFI Registry its selected GFI compliance approach(es) in accordance with regulation 36 of this Annex.

5 By 31 August after each reporting period, the IMO GFI Registry shall issue, for each ship account and reporting period, a ship account statement reflecting the transactions recorded in accordance with regulation 38.4. The ship account statement shall be made available to the ship, its Administration, or any organization duly authorized by it,[93] taking into account guidelines to be developed by the Organization.[94]

6 By 30 September after each reporting period, the Administration, or any organization duly authorized by it,[95] shall on the basis of the reported data and selected GFI compliance approach(es) as recorded on the ship account statement in the IMO GFI Registry, issue a Statement of Compliance related to the annual GFI in accordance with regulation 6.9 of this Annex. The Administration, or any organization duly authorized by it,[96] shall report that Statement of Compliance in the IMO GFI Registry ship account by 31 October after each reporting period.

7 In the event of a transfer of a ship from one Administration to another and/or a change from one company to another as referred to in paragraph 2 of this regulation, the ship shall, on the day of completion of the transfer and/or change or as close as practical thereto report the data specified in regulation 33.1 of this Annex for the portion of the calendar year corresponding to that Administration and/or company to the losing Administration, or any organization duly authorized by it,[97] in the case of a transfer of Administration or to its Administration, or any organization duly authorized by it,[98] in the case of a change of company. The Administration or any organization duly authorized by it[99] shall verify the data pursuant to paragraph 1 of this regulation and issue a Statement of Compliance pursuant to 6.10 of this Annex. Within one month following the issuance of the Statement of Compliance, the Administration shall report the verified data and that Statement of Compliance to the IMO GFI Registry, taking into account guidelines to be developed by the Organization.[100]

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91 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

92 Refer to guidelines to be developed by the Organization.

93 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

94 Refer to guidelines to be developed by the Organization.

95 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

96 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

97 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

98 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

99 Refer to the Code for Recognized Organizations (RO Code) (resolutions MSC.349(92) and MEPC.237(65)).

100 Refer to guidelines to be developed by the Organization.

8 From 1 January 2028, if a ship is permanently withdrawn from service during a reporting period, the ship shall fulfil its reporting duties for the time during which the ship was operational within that period and comply with the requirements of this chapter on the day of completion of the withdrawal or as close as practical thereto, taking into account guidelines to be developed by the Organization.[101]

Regulation 38
IMO GFI Registry

Establishment

1 The Secretary-General of the Organization shall establish and administer the IMO GFI Registry to facilitate the implementation of regulation 36, taking into account the guidelines to be developed by the Organization.[102]

Ship-specific obligations

2 Each ship to which this chapter applies shall have by 1 October 2027 an account with the IMO GFI Registry and shall pay by 30 June 2028, and by 30 June of each year thereafter, the annual administration fee to the IMO GFI Registry.

3 The annual administration fee shall be determined by the Secretary-General to the IMO GFI Registry to cover its administrative cost, taking into guidelines to be developed by the Organization.[103]

Functionalities

4 In accordance with regulation 36, the IMO GFI Registry shall in each ship account, as applicable:

.1 credit the amount of surplus units a ship in direct compliance is eligible to receive;
.2 record banked surplus units between reporting periods;

.3 record all transferred surplus units from one ship account to another ship account;

.4 cancel surplus units when:

.1 used by a ship to balance its Tier 2 compliance deficit for a reporting period; and/or

.2 expired or voluntarily cancelled at the request of the ship; and/or

.5 credit remedial units to a ship account, equal to the amount and the tier type of remedial units acquired by means of GHG emissions pricing contributions to the IMO Net-Zero Fund, and cancel the remedial unit following proof of payment.

101 Refer to guidelines to be developed by the Organization.

102 Refer to guidelines to be developed by the Organization.

103 Refer to guidelines to be developed by the Organization.

5 By 31 August after the end of each reporting period, the IMO GFI Registry shall issue for each ship account and reporting period a ship account statement reflecting all the transactions recorded in accordance with paragraph 4 of this regulation and the GFI compliance balance.

6 The IMO GFI Registry shall record for each ship account for each reporting period the following information:

.1 the ship account statement;

.2 the verified attained annual GFI;

.3 the total energy consumption;

.4 the total energy consumption of each ZNZ;

.5 the GHG emissions avoided by the uptake of ZNZs;

.6 Statement of Compliance related to the annual GHG fuel intensity, and

.7 any other information, taking into account guidelines to be developed by the Organization.[104]

Access to the IMO GFI Registry

7 The Secretary-General of the Organization shall grant access to the Administration to all recorded data in the accounts of ships registered by that Administration, and to any organization duly authorized by that Administration,[105] to verify and report the ship's data in accordance with regulation 37 taking into account guidelines to be developed by the Organization.[106]

8 The Secretary-General of the Organization shall maintain the IMO GFI Registry and grant access to users, taking into account guidelines to be developed by the Organization.[107]

Reporting to the Marine Environment Protection Committee

9 On the basis of the information maintained in accordance with this regulation, the Secretary-General of the Organization shall produce an annual report to the Committee summarizing the data collected, specifying the ships with an active ship account, transaction patterns in the issuance, transferring, usage and cancellation of surplus units and remedial units, share of zero or near-zero GHG emission technologies, fuels and/or energy sources (ZNZs) used by ships in IMO GFI Registry and other relevant information as may be requested by the Committee.

104 Refer to guidelines to be developed by the Organization.

105 Refer to the *Code for Recognized Organizations (RO Code)* (resolutions MSC.349(92) and MEPC.237(65)).

106 Refer to guidelines to be developed by the Organization.

107 Refer to guidelines to be developed by the Organization.

Regulation 39
Uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources (ZNZs)

1 ZNZs shall include technologies, fuels and energy sources and be evaluated on a well-to-wake basis, taking into account guidelines to be developed by the Organization.[108] The GFI threshold for ZNZs shall be set at not greater than 19.0 gCO_2eq/MJ for an initial period until 31 December 2034, and from 1 January 2035, the threshold shall be set at not greater than 14.0 gCO_2eq/MJ taking into account guidelines developed[109] and to be developed by the Organization.[110] Notwithstanding, the Committee may approve additional ZNZs taking into account guidelines to be developed by the Organization.[111]

2 Ships may receive rewards from the IMO Net-Zero Fund for the ZNZs used, taking into account guidelines to be developed by the Organization.[112]

3 No later than 1 March 2027 and every five years thereafter the Committee shall define the reward referred to in paragraph 2 of this regulation, and the methodology to determine such reward, taking into account guidelines to be developed by the Organization.[113]

4 The Organization shall monitor and publish the share of ZNZs in the total annual energy used on board by ships falling under the scope of chapter 5 of this Annex.

Regulation 40
The IMO Net-Zero Fund

1 The Secretary-General of the Organization shall establish the IMO Net-Zero Fund to support the implementation of this chapter and achieve its goal as set out in regulation 31 of this Annex. Any costs associated with the operation of the Fund and its Governing Board shall be borne by the Fund.

2 The IMO Net-Zero Fund shall receive and manage GHG emissions pricing contributions made by ships pursuant to regulation 36, and disburse collected revenue in accordance with regulation 41.

3 The Committee shall adopt the governing provisions for the IMO Net-Zero Fund and appoint a Governing Board to oversee the day-to-day operations of the Fund on its behalf in accordance with the governing provisions.

4 The governing provisions, referred to in paragraph 3 of this regulation, shall include provisions on which entities may be eligible to receive funds from the IMO Net-Zero Fund; the types of financing mechanisms by which funds may be disbursed; the operating procedures of the IMO Net-Zero Fund and its Governing Board; which entities and organizations the IMO Net-Zero Fund may cooperate with in the disbursement of revenue; and allocations of revenue to the different purposes set out in regulation 41 of this Annex including those that promote a just and equitable transition in the context of this measure.

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108 Refer to guidelines to be developed by the Organization.

109 Refer to the *2024 Guidelines on life cycle GHG intensity of marine fuels* (resolution MEPC.391(81)).

110 Refer to guidelines to be developed by the Organization.

111 Refer to guidelines to be developed by the Organization.

112 Refer to guidelines to be developed by the Organization.

113 Refer to guidelines to be developed by the Organization.

5 The Governing Board shall have a gender and geographically balanced composition, ensuring adequate representation of developing countries, in particular of small island developing States (SIDS) and least developed countries (LDCs).

6 The Governing Board shall produce an annual report to the Committee containing an overview of its operations, including total contributions received, commitments and disbursement of revenue to the different purposes set out in regulation 41, and other relevant information as may be requested by the Committee.

7 On the basis of the Governing Board's annual report referred to in paragraph 6 of this regulation, the Committee shall periodically review the allocation of revenue to the different purposes set out in regulation 41.

8 The Fund shall be subject to audits.

Regulation 41
Disbursement of revenue

1 The IMO Net-Zero Fund shall disburse collected revenue for the following purposes, as shall be specified in its governing provisions:

.1 rewards for the use of ZNZs, in accordance with regulation 39 of this Annex;

.2 in the context of the implementation of this chapter and, promoting a just and equitable transition in States by facilitating environmental and climate protection, adaptation and resilience building within the boundaries of the energy transition in shipping, paying particular attention to the needs of developing countries, in particular least developed countries (LDCs) and small island developing States (SIDS), allocating sufficient revenue, for:

.1 researching, developing and making globally available and deploying zero and near-zero GHG emission technologies, fuels and/or energy sources, supporting the energy transition of shipping, and developing the necessary maritime, coastal and port-related infrastructure and equipment;

.2 enabling a just transition for seafarers and other maritime workforce;

.3 facilitating information-sharing, technology transfer, capacity-building, training and technical cooperation supporting the implementation of the regulations in this chapter;

.4 supporting the development and implementation of National Action Plans (NAPs),[114] including fleet renewal and upgrade; and

.5 addressing, as appropriate, disproportionately negative impacts on States, including on food security, resulting from the implementation of the regulations in this chapter;[115] and

.3 cover the administration and operational costs of the Fund and its Governing Board.

[114] Refer to resolution MEPC.367(79) on *Encouragement of Member States to develop and submit voluntary national action plans to address GHG emissions from ships*.

[115] Refer to the *2023 IMO Strategy on Reduction of GHG Emissions from Ships* (resolution MEPC.377(80)) and MEPC.1/Circ.885/Rev.1 on the *Revised procedure for assessing impacts on States of candidate measures*.

Regulation 42
Promotion of technical cooperation and transfer of technology relating to the continuous improvement of the ship's GHG fuel intensity

1 Administrations shall, in cooperation with the Organization and other international bodies, promote and provide support, as appropriate, directly or through the Organization to States that request technical assistance, especially developing States.

2 The Administration of a Party shall cooperate actively with other Parties, subject to its national laws, regulations and policies, to promote the development and transfer of technology and exchange of information to States which request technical assistance, particularly developing States, in respect of the implementation of measures to fulfil the requirements of chapter 5 of this Annex.

3 The Organization shall promote information-sharing, technology transfer, capacity-building and technical cooperation to enable the development of the necessary maritime, coastal and port-related infrastructure and equipment to support supply of zero or near-zero GHG emission fuels and/or energy sources in developing States.

Regulation 43
Food security

The Committee shall:

.1 address, including avoiding, remedying and mitigating, the disproportionately negative impacts of this chapter on food security, paying particular attention to countries exposed to food insecurity; and

.2 keep the potential impacts of this chapter on food security under continuous review.

Regulation 44
Review of the chapter

1 To ensure the continued achievement of the goal of this chapter, every five years a review shall be completed by the Organization to assess the effectiveness of this chapter in achieving its goal as set out in regulation 31 of this Annex, based on which it shall consider:

.1 amending the annual GFI reduction factor (base target and direct compliance target) in regulation 35 of this Annex;

.2 amending the threshold values for ZNZs as defined in regulation 39 of this Annex; and

.3 the possible application of this chapter to ships of 400 gross tonnage and above.

Chapter 6 – Verification of compliance with the provisions of this annex

Regulation 45
Application

Parties shall use the provisions of the Code for Implementation in the execution of their obligations and responsibilities contained in this Annex.

Regulation 46
Verification of compliance

1 Every Party shall be subject to periodic audits by the Organization in accordance with the audit standard to verify compliance with and implementation of this Annex.

2 The Secretary-General of the Organization shall have responsibility for administering the Audit Scheme, based on the guidelines developed by the Organization.[116]

3 Every Party shall have responsibility for facilitating the conduct of the audit and implementation of a programme of actions to address the findings, based on the guidelines developed by the Organization.[117]

4 The audits of all Parties shall be:

.1 based on an overall schedule developed by the Secretary-General of the Organization, taking into account the guidelines developed by the Organization; [118] and

.2 conducted at periodic intervals, taking into account the guidelines developed by the Organization. [119]

116 Refer to the *Framework and procedures for the IMO Member State Audit Scheme* (resolution A.1067(28)).

117 Refer to the *Framework and procedures for the IMO Member State Audit Scheme* (resolution A.1067(28)).

118 Refer to the *Framework and procedures for the IMO Member State Audit Scheme* (resolution A.1067(28)).

119 Refer to the *Framework and procedures for the IMO Member State Audit Scheme* (resolution A.1067(28)).

Appendix I

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

INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE

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

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

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

Particulars of ship[1]

Name of ship ……..…….…….

Distinctive number or letters ……..…….…….

IMO number[2] ……..

Port of registry ……..……..……

Gross tonnage ……..……..…….

THIS IS TO CERTIFY:

1 That the ship has been surveyed in accordance with regulation 5 of Annex VI of the Convention; and

2 That the survey shows that the equipment, systems, fittings, arrangements and materials fully comply with the applicable requirements of Annex VI of the Convention.

This Certificate is valid until (dd/mm/yyyy)[3] ……..…… subject to surveys in accordance with regulation 5 of Annex VI of the Convention.

Completion date of the survey on which this Certificate is based (dd/mm/yyyy)……

Issued at ……..…….
(place of issue of Certificate)

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

(seal or stamp of the authority, as appropriate)

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

2 In accordance with the *IMO ship identification number scheme* (resolution A.1117(30)).

3 Insert the date of expiry as specified by the Administration in accordance with regulation 9.1 of Annex VI of the Convention. The day and the month of this date correspond to the anniversary date as defined in regulation 2.1.3 of Annex VI of the Convention, unless amended in accordance with regulation 9.8 of Annex VI of the Convention.

ENDORSEMENT FOR ANNUAL AND INTERMEDIATE SURVEYS

THIS IS TO CERTIFY that, at a survey required by regulation 5 of Annex VI of the Convention, the ship was found to comply with the relevant provisions of that Annex:

Annual survey Signed. …….
(signature of duly authorized official)

Place . …….

Date (dd/mm/yyyy) ……
(seal or stamp of the authority, as appropriate)

Annual/Intermediate[4] survey Signed……
(signature of duly authorized official)

Place ……..

Date (dd/mm/yyyy) ……..
(seal or stamp of the authority, as appropriate)

Annual/Intermediate[4] survey Signed……
(signature of duly authorized official)

Place ……..

Date (dd/mm/yyyy) ……
(seal or stamp of the authority, as appropriate)

Annual survey Signed. …….
(signature of duly authorized official)

Place……..

Date (dd/mm/yyyy) ……
(seal or stamp of the authority, as appropriate)

ANNUAL/INTERMEDIATE SURVEY IN ACCORDANCE WITH REGULATION 9.8.3

THIS IS TO CERTIFY that, at an annual/intermediate[4] survey in accordance with regulation 9.8.3 of Annex VI of the Convention, the ship was found to comply with the relevant provisions of that Annex:

Signed……
(signature of duly authorized official)

Place ……..

Date (dd/mm/yyyy) ……..
(seal or stamp of the authority, as appropriate)

[4] Delete as appropriate.

ENDORSEMENT TO EXTEND THE CERTIFICATE IF VALID FOR LESS THAN FIVE YEARS WHERE REGULATION 9.3 APPLIES

The ship complies with the relevant provisions of the Annex, and this Certificate shall, in accordance with regulation 9.3 of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy) ……...

Signed. ……
(signature of duly authorized official)

Place ……..

Date (dd/mm/yyyy) ……

(seal or stamp of the authority, as appropriate)

ENDORSEMENT WHERE THE RENEWAL SURVEY HAS BEEN COMPLETED AND REGULATION 9.4 APPLIES

The ship complies with the relevant provisions of the Annex, and this Certificate shall, in accordance with regulation 9.4 of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy) ……

Signed. ……
(signature of duly authorized official)

Place ……..

Date (dd/mm/yyyy) ……

(seal or stamp of the authority, as appropriate)

ENDORSEMENT TO EXTEND THE VALIDITY OF THE CERTIFICATE UNTIL REACHING THE PORT OF SURVEY OR FOR A PERIOD OF GRACE WHERE REGULATION 9.5 OR 9.6 APPLIES

This Certificate shall, in accordance with regulation 9.5 or 9.6[4] of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy)…….

Signed. ……...
(signature of duly authorized official)

Place ……

Date (dd/mm/yyyy) …….

(seal or stamp of the authority, as appropriate)

[4] Delete as appropriate.

ENDORSEMENT FOR ADVANCEMENT OF ANNIVERSARY DATE
WHERE REGULATION 9.8 APPLIES

In accordance with regulation 9.8 of Annex VI of the Convention, the new anniversary date is (dd/mm/yyyy)……

Signed. …….
(signature of duly authorized official)

Place ……

Date (dd/mm/yyyy) ……..

(seal or stamp of the authority, as appropriate)

In accordance with regulation 9.8 of Annex VI of the Convention, the new anniversary date is (dd/mm/yyyy)……..……

Signed……..
(signature of duly authorized official)

Place ……..

Date (dd/mm/yyyy) ……

(seal or stamp of the authority, as appropriate)

SUPPLEMENT TO
INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE (IAPP CERTIFICATE)

RECORD OF CONSTRUCTION AND EQUIPMENT

Notes

1 This Record shall be permanently attached to the IAPP Certificate. The IAPP Certificate shall be available on board the ship at all times.

2 The Record 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.

3 Entries in boxes shall be made by inserting either: a cross (x) for the answers "yes" and "applicable"; or a dash (–) for the answers "no" and "not applicable", as appropriate.

4 Unless otherwise stated, regulations mentioned in this Record refer to regulations of Annex VI of the Convention and resolutions or circulars refer to those adopted by the International Maritime Organization.

1 Particulars of ship

1.1 Name of ship…….....…….....…….....

1.2 IMO number…….....…….....…….....

1.3 Date of build:

1.3.1 Date of building contract *(dd/mm/yyyy)*……..

1.3.2 Date on which keel was laid or ship was at a similar stage of construction *(dd/mm/yyyy)*……

1.3.3 Date of delivery *(dd/mm/yyyy)*:…….

1.4 Length *(L)*[5] metres …….....…….....…….....

2 Control of emissions from ships

2.1 *Ozone-depleting substances* (regulation 12)

2.1.1 The following fire-extinguishing systems, other systems and equipment containing ozone-depleting substances, other than hydrochlorofluorocarbons (HCFCs), installed before 19 May 2005 may continue in service:

System or equipment	Location on board	Substance

[5] 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.

2.1.2 The following systems containing HCFCs installed before 1 January 2020 may continue in service:

System or equipment	Location on board	Substance

2.2 *Nitrogen oxides (NO_x) (regulation 13)*

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
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	□	□	□	□	□
9f	Tier I	NTC 8 (Multiple Engine Operational Profiles)	□	□	□	□	□
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	□	□	□	□	□

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
10g	Tier II	NTC 8 (Multiple Engine Operational Profiles)	□	□	□	□	□
11a	NO_x Tier III Emission Control Areas	13.5.1.1	□	□	□	□	□
11b		13.2.2	□	□	□	□	□
11c		13.2.3.2	□	□	□	□	□
11d		13.7.1.2	□	□	□	□	□
11e	Tier III	NTC 8 (Multiple Engine Operational Profiles)	□	□	□	□	□
12	AM[6]	installed	□	□	□	□	□
13		not commercially available at this survey	□	□	□	□	□
14		not applicable	□	□	□	□	□

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 0.50% m/m, and/or
….....□

.2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 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 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 0.10% m/m, and/or
……. □

.2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 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 0.10% m/m ……..……□

2.3.3 For a ship without an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6, the sulphur content of fuel oil carried for use on board the ship shall not exceed 0.50% m/m as documented by bunker delivery notes ……..…….□

2.3.4 The ship is fitted with designated sampling point(s) in accordance with regulation 14.10 or 14.11.....□

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

2.3.5 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.......................□

2.4 *Volatile organic compounds (VOCs)* (regulation 15)

2.4.1 The tanker has a vapour collection system installed and approved in accordance with MSC/Circ.585………………….............……………….....……....……...................□

2.4.2.1 For a tanker carrying crude oil, there is an approved VOC management plan …..□

2.4.2.2 VOC management plan approval reference …………...…….................……..…

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[7] ...……...............….……□

.2 resolution MEPC.244(66) as amended[8] ….............……………………………….□

.2 installed before 1 January 2000 that complies with:

.1 resolution MEPC.59(33), as amended[9] ....…………..□

.2 resolution MEPC.76(40), as amended[7] ....…………………..□

2.6 *Equivalents* (regulation 4)

The ship has been allowed to use the following fitting, material, appliance or apparatus to be fitted in a ship or other procedures, alternative fuel oils, or compliance methods used as an alternative to that required by this Annex:

System or equipment	Equivalent used	Approval reference

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at . . . .
(place of issue of the Record)

Date (dd/mm/yyyy) . . . . *(date of issue)*

. . . . *(signature of duly authorized official issuing the Record)*

(seal or stamp of the authority, as appropriate)

7 As amended by resolution MEPC.93(45).

8 As amended by resolution MEPC.368(79).

9 As amended by resolution MEPC.92(45).

Appendix II

Test cycles and weighting factors (regulation 13)

The following test cycles and weighting factors shall be applied for verification of compliance of marine diesel engines with the applicable NO_x limit in accordance with regulation 13 of MARPOL Annex VI using the test procedure and calculation method as specified in the NO_x Technical Code.

.1 For a fixed pitch propeller propulsion engine or a propeller-law operated non-propulsion engine, test cycle E3 shall be applied in accordance with table 1;

.2 For a propulsion engine that does not operate with a fixed pitch propeller, including an engine fitted as part of a diesel-electric installation or an engine operated with a controllable-pitch propeller, test cycle E2 shall be applied in accordance with table 2;

.3 For a non-propulsion engine that is a constant-speed engine, test cycle D2 shall be applied in accordance with table 3;

.4 For a non-propulsion engine that operates as a variable-speed engine, not included above, test cycle C1 shall be applied in accordance with table 4.

Table 1 – Test cycle for a marine diesel engine as given by .1 above

Test cycle E3	Speed	100%	91%	80%	63%
	Power	100%	75%	50%	25%
	Weighting factor	0.2	0.5	0.15	0.15

Table 2 – Test cycle for a marine diesel engine as given by .2 above

Test cycle E2	Speed	100%	100%	100%	100%
	Power	100%	75%	50%	25%
	Weighting factor	0.2	0.5	0.15	0.15

Table 3 – Test cycle for a marine diesel engine as given by .3 above

Test cycle D2	Speed	100%	100%	100%	100%	100%
	Power	100%	75%	50%	25%	10%
	Weighting factor	0.05	0.25	0.3	0.3	0.1

Table 4 – Test cycle for a marine diesel engine as given by .4 above

Test cycle C1	Speed	Rated				Intermediate			Idle
	Torque	100%	75%	50%	10%	100%	75%	50%	0%
	Weighting factor	0.15	0.15	0.15	0.1	0.1	0.1	0.1	0.15

In the case of marine diesel engine to be certified in accordance with paragraph 5.1.1 of regulation 13, the specific emission at each individual mode point shall not exceed the applicable NO_x emission limit value by more than 50% except as follows:

.1 The 10% mode point in the D2 test cycle.

.2 The 10% mode point in the C1 test cycle.

.3 The idle mode point in the C1 test cycle.

Appendix III

Criteria and procedures for the designation of emission control areas (regulations 13.6 and 14.3)

1 Objectives

1.1 The purpose of this appendix is to provide Parties with the criteria and procedures for formulating and submitting proposals for the designation of emission control areas and to set forth the factors to be considered in the assessment of such proposals by the Organization.

1.2 Emissions of NO_x, SO_x and particulate matter from ocean-going ships contribute to ambient concentrations of air pollution in cities and coastal areas around the world. Adverse public health and environmental effects associated with air pollution include premature mortality, cardiopulmonary disease, lung cancer, chronic respiratory ailments, acidification and eutrophication.

1.3 An emission control area should be considered for adoption by the Organization if supported by a demonstrated need to prevent, reduce and control emissions of NO_x or SO_x and particulate matter or all three types of emissions (hereinafter emissions) from ships.

2 Process for the designation of emission control areas

2.1 A proposal to the Organization for the designation of an emission control area for NO_x or SO_x and particulate matter or all three types of emissions may be submitted only by Parties. Where two or more Parties have a common interest in a particular area, they should formulate a coordinated proposal.

2.2 A proposal to designate a given area as an emission control area should be submitted to the Organization in accordance with the rules and procedures established by the Organization.

3 Criteria for designation of an emission control area

3.1 The proposal shall include:

.1 a clear delineation of the proposed area of application, along with a reference chart on which the area is marked;

.2 the type or types of emission(s) that is or are being proposed for control (i.e. NO_x or SO_x and particulate matter or all three types of emissions);

.3 a description of the human populations and environmental areas at risk from the impacts of ship emissions;

.4 an assessment that emissions from ships operating in the proposed area of application are contributing to ambient concentrations of air pollution or to adverse environmental impacts. Such assessment shall include a description of the impacts of the relevant emissions on human health and the environment, such as adverse impacts on terrestrial and aquatic ecosystems, areas of natural productivity, critical habitats, water quality, human health and areas of cultural and scientific significance, if applicable. The sources of relevant data including methodologies used shall be identified;

.5 relevant information, pertaining to the meteorological conditions in the proposed area of application, to the human populations and environmental areas at risk, in particular prevailing wind patterns, or to topographical, geological, oceanographic, morphological or other conditions that contribute to ambient concentrations of air pollution or adverse environmental impacts;

.6 the nature of the ship traffic in the proposed emission control area, including the patterns and density of such traffic;

.7 a description of the control measures taken by the proposing Party or Parties addressing land-based sources of NO_x, SO_x and particulate matter emissions affecting the human populations and environmental areas at risk that are in place and operating concurrently with the consideration of measures to be adopted in relation to provisions of regulations 13 and 14 of Annex VI; and

.8 the relative costs of reducing emissions from ships when compared with land-based controls, and the economic impacts on shipping engaged in international trade.

3.2 The geographical limits of an emission control area will be based on the relevant criteria outlined above, including emissions and deposition from ships navigating in the proposed area, traffic patterns and density, and wind conditions.

4 Procedures for the assessment and adoption of emission control areas by the Organization

4.1 The Organization shall consider each proposal submitted to it by a Party or Parties.

4.2 In assessing the proposal, the Organization shall take into account the criteria that are to be included in each proposal for adoption as set forth in section 3 above.

4.3 An emission control area shall be designated by means of an amendment to this Annex, considered, adopted and brought into force in accordance with article 16 of the present Convention.

5 Operation of emission control areas

5.1 Parties that have ships navigating in the area are encouraged to bring to the Organization any concerns regarding the operation of the area.

Appendix IV

Type approval and operating limits for shipboard incinerators (regulation 16)

1 Shipboard incinerators described in regulation 16.6.1 shall possess an IMO Type Approval Certificate for each incinerator. In order to obtain such certificate, the incinerator shall be designed and built to an approved standard as described in regulation 16.6.1. Each model shall be subject to a specified type approval test operation at the factory or an approved test facility, and under the responsibility of the Administration, using the following standard fuel/waste specification for the type approval test for determining whether the incinerator operates within the limits specified in paragraph 2 of this appendix:

Sludge oil consisting of:	75% sludge oil from heavy fuel oil (HFO); 5% waste lubricating oil; and 20% `emulsified water.
Solid waste consisting of:	50% food waste; 50% rubbish containing: approx. 30% paper, " 40% cardboard, " 10% rags, " 20% plastic. The mixture will have up to 50% moisture and 7% incombustible solids.

2 Incinerators described in regulation 16.6.1 shall operate within the following limits:

O_2 in combustion chamber:	6 -12%
CO in flue gas maximum average:	200 mg/MJ
Soot number maximum average:	Bacharach 3 or Ringelmann 1 (20% opacity) (a higher soot number is acceptable only during very short periods such as starting up)
Unburned components in ash residues:	Maximum 10% by weight
Combustion chamber flue gas outlet temperature range:	850 - 1,200°C

Appendix V

Information to be included in the bunker delivery note (regulation 18.5)

1 Name and IMO number of receiving ship

2 Port

3 Date of commencement of delivery

4 Name, address and telephone number of marine fuel oil supplier

5 Product name(s)

6 Quantity in metric tonnes

7 Density at 15°C (kg/m^3)[1]

8 Sulphur content (% m/m)[2]

9 The flashpoint (°C) specified in accordance with standards acceptable to the Organization[3], or a statement that the flashpoint has been measured at or above 70°C~~;~~

10 A declaration signed and certified by the fuel oil supplier's representative that the fuel oil supplied is in conformity with regulation 18.3 of MARPOL Annex VI and that the sulphur content of the fuel oil supplied does not exceed:

□ the limit value given by regulation 14.1 of MARPOL Annex VI;

□ the limit value given by regulation 14.4 of MARPOL Annex VI; or

□ the purchaser's specified limit value of _____ (% m/m), as completed by the fuel oil supplier's representative and on the basis of the purchaser's notification that the fuel oil:

.1 is intended to be used in combination with an equivalent means of compliance in accordance with regulation 4 of MARPOL Annex VI; or

.2 is subject to a relevant exemption for a ship to conduct trials for sulphur oxides emission reduction and control technology research in accordance with regulation 3.2 of MARPOL Annex VI.

The declaration shall be completed by the fuel oil supplier's representative by marking the applicable box(es) with a cross (x).

---

1 Fuel oil shall be tested in accordance with ISO 3675:1998 or ISO 12185:1996.

2 Fuel oil shall be tested in accordance with ISO 8754:2003.

3 ISO 2719:2016, Determination of flash point – Pensky-Martens closed cup method, Procedure A (for Distillate Fuels) or Procedure B (for Residual Fuels).

Appendix VI

Verification procedures for a MARPOL Annex VI fuel oil sample (regulation 18.8.2 or regulation 14.8)

The following relevant verification procedure shall be used to determine whether the fuel oil delivered to, in use or carried for use on board a ship has met the applicable sulphur limit of regulation 14 of MARPOL Annex VI.

This appendix refers to the following representative MARPOL Annex VI fuel oil samples:

Part 1 – sample of fuel oil delivered[1] in accordance with regulation 18.8.1, hereafter referred to as the "MARPOL delivered sample" as defined in regulation 2.1.22.

Part 2 – sample of fuel oil in use,[2] intended to be used or carried for use on board in accordance with regulation 14.8, hereafter referred to as the "in-use sample" as defined in regulation 2.1.16 and "onboard sample"[3] as defined in regulation 2.1.24.

Part 1 – MARPOL delivered sample

1 General requirements

1.1 The representative sample of the fuel oil, which is required by regulation 18.8.1 (the MARPOL delivered sample), shall be used to verify the sulphur content of the fuel oil delivered to a ship.

1.2 A Party, through its competent authority, shall manage the verification procedure.

1.3 A laboratory undertaking the sulphur testing procedure given in this appendix shall have valid accreditation[4] in respect of the test method to be used.

2 Verification procedure Part 1

2.1 The MARPOL delivered sample shall be conveyed by the competent authority to the laboratory.

2.2 The laboratory shall:

.1 record the details of the seal number and the sample label on the test record;

.2 record the condition of the seal of the sample as received on the test record; and

.3 reject any sample where the seal has been broken prior to receipt and record that rejection on the test record.

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1 Samples taken in accordance with the *Guidelines for the sampling of fuel oil for determination of compliance with MARPOL Annex VI and SOLAS chapter II-2* (circular MSC-MEPC.2/Circ.18).

2 Samples taken in accordance with the *2019 Guidelines for on board sampling for the verification of the sulphur content of the fuel oil used on board ships* (MEPC.1/Circ.864/Rev.1).

3 Refer to the *2020 Guidelines for on board sampling of fuel oil intended to be used or carried for use on board a ship* (MEPC.1/Circ.889).

4 The laboratory is to be accredited to ISO/IEC 17025:2017 or an equivalent standard for the performance of the given sulphur content test ISO 8754:2003.

2.3 If the seal of the sample as received has not been broken, the laboratory shall proceed with the verification procedure and shall:

.1 unseal the sample;

.2 ensure that the sample is thoroughly homogenized;

.3 draw two subsamples from the sample; and

.4 reseal the sample and record the new reseal details on the test record.

2.4 The two subsamples shall be tested in succession, in accordance with the specified test method referred to in regulation 2.1.30. For the purposes of this Part 1 verification procedure, the results of the test analysis shall be referred to as '1A' and '1B':

.1 results 1A and 1B shall be recorded on the test record in accordance with the requirements of the test method; and

.2 if the results of 1A and 1B are within the repeatability (r)[5] of the test method, the results shall be considered valid; or

.3 if the results 1A and 1B are not within the repeatability (r) of the test method, both results shall be rejected and two new subsamples shall be taken by the laboratory and tested. The sample bottle shall be resealed in accordance with paragraph 2.3.4 after the new subsamples have been taken;

.4 in the case of two failures to achieve repeatability between 1A and 1B, the cause of that failure shall be investigated by the laboratory and resolved before further testing of the sample is undertaken. On resolution of that repeatability issue, two new subsamples shall be taken in accordance with paragraph 2.3. The sample shall be resealed in accordance with paragraph 2.3.4 after the new subsamples have been taken.

2.5 If the test results of 1A and 1B are valid, an average of these two results shall be calculated. The average value shall be referred to as 'X' and shall be recorded on the test record:

.1 if the result X is equal to or less than the applicable limit required by regulation 14, the fuel oil shall be considered to have met the requirement; or

.2 if the result X is greater than the applicable limit required by regulation 14, the fuel oil shall be considered to have not met the requirement.

[5] Repeatability (r) calculation taking into account ISO 4259-2:2017-2 and as defined in the test method used.

Table 1: Summary of Part 1 MARPOL delivered sample procedure

On the basis of the test method referred to in regulation 2.1.30		
Applicable limit % m/m: V	Result 2.5.1: X ≤ V	Result 2.5.2: X > V
0.10	Met the requirement	Not met the requirement
0.50		
	Result X reported to 2 decimal places	

2.6 The final results obtained from this verification procedure shall be evaluated by the competent authority.

2.7 The laboratory shall provide a copy of the test record to the competent authority managing the verification procedure.

Part 2 – In-use and onboard samples

3 General requirements

3.1 The in-use or onboard sample, as appropriate, shall be used to verify the sulphur content of the fuel oil as represented by that sample of fuel oil at the point of sampling.

3.2 A Party, through its competent authority, shall manage the verification procedure.

3.3 A laboratory undertaking the sulphur testing procedure given in this appendix shall have valid accreditation[6] in respect of the test method to be used.

4 Verification procedure Part 2

4.1 The in-use or onboard sample shall be conveyed by the competent authority to the laboratory.

4.2 The laboratory shall:

.1 record the details of the seal number and the sample label on the test record;

.2 record the condition of the seal of the sample as received on the test record; and

.3 reject any sample where the seal has been broken prior to receipt and record that rejection on the test record.

4.3 If the seal of the sample as received has not been broken, the laboratory shall proceed with the verification procedure and shall:

.1 unseal the sample;

.2 ensure that the sample is thoroughly homogenized;

[6] The laboratory is to be accredited to ISO/IEC 17025:2017 or an equivalent standard for the performance of the given sulphur content test ISO 8754:2003.

.3 draw two subsamples from the sample; and

.4 reseal the sample and record the new reseal details on the test record.

4.4 The two subsamples shall be tested in succession, in accordance with the specified test method referred to in regulation 2.1.30. For the purposes of this Part 2 verification procedure, the results obtained shall be referred to as '2A' and '2B':

.1 results 2A and 2B shall be recorded on the test record in accordance with the requirements of the test method; and

.2 if the results of 2A and 2B are within the repeatability (r)[7] of the test method, the results shall be considered valid; or

.3 if the results of 2A and 2B are not within the repeatability (r) of the test method, both results shall be rejected and two new subsamples shall be taken by the laboratory and tested. The sample bottle shall be resealed in accordance with paragraph 4.3.4 after the new subsamples have been taken; and

.4 in the case of two failures to achieve repeatability between 2A and 2B, the cause of that failure shall be investigated by the laboratory and resolved before further testing of the sample is undertaken. On resolution of that repeatability issue, two new subsamples shall be taken in accordance with paragraph 4.3. The sample shall be resealed in accordance with paragraph 4.3.4 after the new subsamples have been taken.

4.5 If the test results of 2A and 2B are valid, an average of these two results shall be calculated. That average value shall be referred to as 'Z' and shall be recorded on the test record:

.1 if Z is equal to or less than the applicable limit required by regulation 14, the sulphur content of the fuel oil as represented by the tested sample shall be considered to have met the requirement;

.2 if Z is greater than the applicable limit required by regulation 14 but less than or equal to that applicable limit + 0.59R (where R is the reproducibility of the test method),[8] the sulphur content of the fuel oil as represented by the tested sample shall be considered to have met the requirement; or

.3 if Z is greater than the applicable limit required by regulation 14 + 0.59R, the sulphur content of the fuel oil as represented by the tested sample shall be considered to have not met the requirement.

[7] Repeatability (r) calculation taking into account ISO 4259-2:2017-2 and as defined in the test method used.

[8] Reproducibility (R) calculation taking into account ISO 4259-2:2017-2 and as defined in the test method used.

Table 2: Summary of in-use or onboard sample procedure[9]

On the basis of the test method referred to in regulation 2.1.30				
Applicable limit %m/m: V	Test margin value: W	Result 4.5.1: Z ≤ V	Result 4.5.2: V < Z ≤ W	Result 4.5.3: Z > W
0.10	0.11	Met the requirement	Met the requirement	Not met the requirement
0.50	0.53			
		Result Z reported to 2 decimal places		

4.6 The final results obtained from this verification procedure shall be evaluated by the competent authority.

4.7 The laboratory shall provide a copy of the test record to the competent authority managing the verification procedure.

[9] Results of testing undertaken by the company or other entities are outside the MARPOL process and hence should be considered within the approach given by ISO 4259:2017-2 regarding recipient drawn samples.

Appendix VII

Emission control areas (regulations 13.6 and 14.3)

1 The boundaries of emission control areas designated under regulations 13.6 and 14.3, other than the Baltic Sea, the North Sea, and the Norwegian Sea areas, are set forth in this appendix.

2 The North American area comprises:

.1 the sea area located off the Pacific coasts of the United States and Canada, enclosed by geodesic lines connecting the following coordinates:

Point	Latitude	Longitude
1	32°32′.10 N	117°06′.11 W
2	32°32′.04 N	117°07′.29 W
3	32°31′.39 N	117°14′.20 W
4	32°33′.13 N	117°15′.50 W
5	32°34′.21 N	117°22′.01 W
6	32°35′.23 N	117°27′.53 W
7	32°37′.38 N	117°49′.34 W
8	31°07′.59 N	118°36′.21 W
9	30°33′.25 N	121°47′.29 W
10	31°46′.11 N	123°17′.22 W
11	32°21′.58 N	123°50′.44 W
12	32°56′.39 N	124°11′.47 W
13	33°40′.12 N	124°27′.15 W
14	34°31′.28 N	125°16′.52 W
15	35°14′.38 N	125°43′.23 W
16	35°44′.00 N	126°18′.53 W
17	36°16′.25 N	126°45′.30 W
18	37°01′.35 N	127°07′.18 W
19	37°45′.39 N	127°38′.02 W
20	38°25′.08 N	127°53′.00 W
21	39°25′.05 N	128°31′.23 W
22	40°18′.47 N	128°45′.46 W
23	41°13′.39 N	128°40′.22 W
24	42°12′.49 N	129°00′.38 W
25	42°47′.34 N	129°05′.42 W
26	43°26′.22 N	129°01′.26 W
27	44°24′.43 N	128°41′.23 W
28	45°30′.43 N	128°40′.02 W
29	46°11′.01 N	128°49′.01 W
30	46°33′.55 N	129°04′.29 W
31	47°39′.55 N	131°15′.41 W
32	48°32′.32 N	132°41′.00 W

Point	Latitude	Longitude
33	48°57′.47 N	133°14′.47 W
34	49°22′.39 N	134°15′.51 W
35	50°01′.52 N	135°19′.01 W
36	51°03′.18 N	136°45′.45 W
37	51°54′.04 N	137°41′.54 W
38	52°45′.12 N	138°20′.14 W
39	53°29′.20 N	138°40′.36 W
40	53°40′.39 N	138°48′.53 W
41	54°13′.45 N	139°32′.38 W
42	54°39′.25 N	139°56′.19 W
43	55°20′.18 N	140°55′.45 W
44	56°07′.12 N	141°36′.18 W
45	56°28′.32 N	142°17′.19 W
46	56°37′.19 N	142°48′.57 W
47	58°51′.04 N	153°15′.03 W

.2 the sea areas located off the Atlantic coasts of the United States, Canada and France (Saint- Pierre-et-Miquelon), and the Gulf of Mexico coast of the United States enclosed by geodesic lines connecting the following coordinates:

Point	Latitude	Longitude
1	60°00′.00 N	64°09′.36 W
2	60°00′.00 N	56°43′.00 W
3	58°54′.01 N	55°38′.05 W
4	57°50′.52 N	55°03′.47 W
5	57°35′.13 N	54°00′.59 W
6	57°14′.20 N	53°07′.58 W
7	56°48′.09 N	52°23′.29 W
8	56°18′.13 N	51°49′.42 W
9	54°23′.21 N	50°17′.44 W
10	53°44′.54 N	50°07′.17 W
11	53°04′.59 N	50°10′.05 W
12	52°20′.06 N	49°57′.09 W
13	51°34′.20 N	48°52′.45 W
14	50°40′.15 N	48°16′.04 W
15	50°02′.28 N	48°07′.03 W
16	49°24′.03 N	48°09′.35 W
17	48°39′.22 N	47°55′.17 W
18	47°24′.25 N	47°46′.56 W
19	46°35′.12 N	48°00′.54 W
20	45°19′.45 N	48°43′.28 W

Point	Latitude	Longitude
21	44°43′.38 N	49°16′.50 W
22	44°16′.38 N	49°51′.23 W
23	43°53′.15 N	50°34′.01 W
24	43°36′.06 N	51°20′.41 W
25	43°23′.59 N	52°17′.22 W
26	43°19′.50 N	53°20′.13 W
27	43°21′.14 N	54°09′.20 W
28	43°29′.41 N	55°07′.41 W
29	42°40′.12 N	55°31′.44 W
30	41°58′.19 N	56°09′.34 W
31	41°20′.21 N	57°05′.13 W
32	40°55′.34 N	58°02′.55 W
33	40°41′.38 N	59°05′.18 W
34	40°38′.33 N	60°12′.20 W
35	40°45′.46 N	61°14′.03 W
36	41°04′.52 N	62°17′.49 W
37	40°36′.55 N	63°10′.49 W
38	40°17′.32 N	64°08′.37 W
39	40°07′.46 N	64°59′.31 W
40	40°05′.44 N	65°53′.07 W
41	39°58′.05 N	65°59′.51 W
42	39°28′.24 N	66°21′.14 W
43	39°01′.54 N	66°48′.33 W
44	38°39′.16 N	67°20′.59 W
45	38°19′.20 N	68°02′.01 W
46	38°05′.29 N	68°46′.55 W
47	37°58′.14 N	69°34′.07 W
48	37°57′.47 N	70°24′.09 W
49	37°52′.46 N	70°37′.50 W
50	37°18′.37 N	71°08′.33 W
51	36°32′.25 N	71°33′.59 W
52	35°34′.58 N	71°26′.02 W
53	34°33′.10 N	71°37′.04 W
54	33°54′.49 N	71°52′.35 W
55	33°19′.23 N	72°17′.12 W
56	32°45′.31 N	72°54′.05 W
57	31°55′.13 N	74°12′.02 W
58	31°27′.14 N	75°15′.20 W
59	31°03′.16 N	75°51′.18 W
60	30°45′.42 N	76°31′.38 W
61	30°12′.48 N	77°18′.29 W

Point	Latitude	Longitude
62	29°25′.17 N	76°56′.42 W
63	28°36′.59 N	76°48′.00 W
64	28°17′.13 N	76°40′.10 W
65	28°17′.12 N	79°11′.23 W
66	27°52′.56 N	79°28′.35 W
67	27°26′.01 N	79°31′.38 W
68	27°16′.13 N	79°34′.18 W
69	27°11′.54 N	79°34′.56 W
70	27°05′.59 N	79°35′.19 W
71	27°00′.28 N	79°35′.17 W
72	26°55′.16 N	79°34′.39 W
73	26°53′.58 N	79°34′.27 W
74	26°45′.46 N	79°32′.41 W
75	26°44′.30 N	79°32′.23 W
76	26°43′.40 N	79°32′.20 W
77	26°41′.12 N	79°32′.01 W
78	26°38′.13 N	79°31′.32 W
79	26°36′.30 N	79°31′.06 W
80	26°35′.21 N	79°30′.50 W
81	26°34′.51 N	79°30′.46 W
82	26°34′.11 N	79°30′.38 W
83	26°31′.12 N	79°30′.15 W
84	26°29′.05 N	79°29′.53 W
85	26°25′.31 N	79°29′.58 W
86	26°23′.29 N	79°29′.55 W
87	26°23′.21 N	79°29′.54 W
88	26°18′.57 N	79°31′.55 W
89	26°15′.26 N	79°33′.17 W
90	26°15′.13 N	79°33′.23 W
91	26°08′.09 N	79°35′.53 W
92	26°07′.47 N	79°36′.09 W
93	26°06′.59 N	79°36′.35 W
94	26°02′.52 N	79°38′.22 W
95	25°59′.30 N	79°40′.03 W
96	25°59′.16 N	79°40′.08 W
97	25°57′.48 N	79°40′.38 W
98	25°56′.18 N	79°41′.06 W
99	25°54′.04 N	79°41′.38 W
100	25°53′.24 N	79°41′.46 W
101	25°51′.54 N	79°41′.59 W
102	25°49′.33 N	79°42′.16 W

Point	Latitude	Longitude
103	25°48′.24 N	79°42′.23 W
104	25°48′.20 N	79°42′.24 W
105	25°46′.26 N	79°42′.44 W
106	25°46′.16 N	79°42′.45 W
107	25°43′.40 N	79°42′.59 W
108	25°42′.31 N	79°42′.48 W
109	25°40′.37 N	79°42′.27 W
110	25°37′.24 N	79°42′.27 W
111	25°37′.08 N	79°42′.27 W
112	25°31′.03 N	79°42′.12 W
113	25°27′.59 N	79°42′.11 W
114	25°24′.04 N	79°42′.12 W
115	25°22′.21 N	79°42′.20 W
116	25°21′.29 N	79°42′.08 W
117	25°16′.52 N	79°41′.24 W
118	25°15′.57 N	79°41′.31 W
119	25°10′.39 N	79°41′.31 W
120	25°09′.51 N	79°41′.36 W
121	25°09′.03 N	79°41′.45 W
122	25°03′.55 N	79°42′.29 W
123	25°03′.00 N	79°42′.56 W
124	25°00′.30 N	79°44′.05 W
125	24°59′.03 N	79°44′.48 W
126	24°55′.28 N	79°45′.57 W
127	24°44′.18 N	79°49′.24 W
128	24°43′.04 N	79°49′.38 W
129	24°42′.36 N	79°50′.50 W
130	24°41′.47 N	79°52′.57 W
131	24°38′.32 N	79°59′.58 W
132	24°36′.27 N	80°03′.51 W
133	24°33′.18 N	80°12′.43 W
134	24°33′.05 N	80°13′.21 W
135	24°32′.13 N	80°15′.16 W
136	24°31′.27 N	80°16′.55 W
137	24°30′.57 N	80°17′.47 W
138	24°30′.14 N	80°19′.21 W
139	24°30′.06 N	80°19′.44 W
140	24°29′.38 N	80°21′.05 W
141	24°28′.18 N	80°24′.35 W
142	24°28′.06 N	80°25′.10 W
143	24°27′.23 N	80°27′.20 W

Point	Latitude	Longitude
144	24°26′.30 N	80°29′.30 W
145	24°25′.07 N	80°32′.22 W
146	24°23′.30 N	80°36′.09 W
147	24°22′.33 N	80°38′.56 W
148	24°22′.07 N	80°39′.51 W
149	24°19′.31 N	80°45′.21 W
150	24°19′.16 N	80°45′.47 W
151	24°18′.38 N	80°46′.49 W
152	24°18′.35 N	80°46′.54 W
153	24°09′.51 N	80°59′.47 W
154	24°09′.48 N	80°59′.51 W
155	24°08′.58 N	81°01′.07 W
156	24°08′.30 N	81°01′.51 W
157	24°08′.26 N	81°01′.57 W
158	24°07′.28 N	81°03′.06 W
159	24°02′.20 N	81°09′.05 W
160	24°00′.00 N	81°11′.16 W
161	23°55′.32 N	81°12′.55 W
162	23°53′.52 N	81°19′.43 W
163	23°50′.52 N	81°29′.59 W
164	23°50′.02 N	81°39′.59 W
165	23°49′.05 N	81°49′.59 W
166	23°49′.05 N	82°00′.11 W
167	23°49′.42 N	82°09′.59 W
168	23°51′.14 N	82°24′.59 W
169	23°51′.14 N	82°39′.59 W
170	23°49′.42 N	82°48′.53 W
171	23°49′.32 N	82°51′.11 W
172	23°49′.24 N	82°59′.59 W
173	23°49′.52 N	83°14′.59 W
174	23°51′.22 N	83°25′.49 W
175	23°52′.27 N	83°33′.01 W
176	23°54′.04 N	83°41′.35 W
177	23°55′.47 N	83°48′.11 W
178	23°58′.38 N	83°59′.59 W
179	24°09′.37 N	84°29′.27 W
180	24°13′.20 N	84°38′.39 W
181	24°16′.41 N	84°46′.07 W
182	24°23′.30 N	84°59′.59 W
183	24°26′.37 N	85°06′.19 W
184	24°38′.57 N	85°31′.54 W

Point	Latitude	Longitude
185	24°44′.17 N	85°43′.11 W
186	24°53′.57 N	85°59′.59 W
187	25°10′.44 N	86°30′.07 W
188	25°43′.15 N	86°21′.14 W
189	26°13′.13 N	86°06′.45 W
190	26°27′.22 N	86°13′.15 W
191	26°33′.46 N	86°37′.07 W
192	26°01′.24 N	87°29′.35 W
193	25°42′.25 N	88°33′.00 W
194	25°46′.54 N	90°29′.41 W
195	25°44′.39 N	90°47′.05 W
196	25°51′.43 N	91°52′.50 W
197	26°17′.44 N	93°03′.59 W
198	25°59′.55 N	93°33′.52 W
199	26°00′.32 N	95°39′.27 W
200	26°00′.33 N	96°48′.30 W
201	25°58′.32 N	96°55′.28 W
202	25°58′.15 N	96°58′.41 W
203	25°57′.58 N	97°01′.54 W
204	25°57′.41 N	97°05′.08 W
205	25°57′.24 N	97°08′.21 W
206	25°57′.24 N	97°08′.47 W

.3 the sea area located off the coasts of the Hawaiian Islands of Hawai'i, Maui, Oahu, Moloka'i, Ni'ihau, Kaua'i, Lana'i and Kaho'olawe, enclosed by geodesic lines connecting the following coordinates:

Point	Latitude	Longitude
1	22°32′.54 N	153°00′.33 W
2	23°06′.05 N	153°28′.36 W
3	23°32′.11 N	154°02′.12 W
4	23°51′.47 N	154°36′.48 W
5	24°21′.49 N	155°51′.13 W
6	24°41′.47 N	156°27′.27 W
7	24°57′.33 N	157°22′.17 W
8	25°13′.41 N	157°54′.13 W
9	25°25′.31 N	158°30′.36 W
10	25°31′.19 N	159°09′.47 W
11	25°30′.31 N	159°54′.21 W
12	25°21′.53 N	160°39′.53 W
13	25°00′.06 N	161°38′.33 W
14	24°40′.49 N	162°13′.13 W
15	24°15′.53 N	162°43′.08 W

Point	Latitude	Longitude
16	23°40′.50 N	163°13′.00 W
17	23°03′.20 N	163°32′.58 W
18	22°20′.09 N	163°44′.41 W
19	21°36′.45 N	163°46′.03 W
20	20°55′.26 N	163°37′.44 W
21	20°13′.34 N	163°19′.13 W
22	19°39′.03 N	162°53′.48 W
23	19°09′.43 N	162°20′.35 W
24	18°39′.16 N	161°19′.14 W
25	18°30′.31 N	160°38′.30 W
26	18°29′.31 N	159°56′.17 W
27	18°10′.41 N	159°14′.08 W
28	17°31′.17 N	158°56′.55 W
29	16°54′.06 N	158°30′.29 W
30	16°25′.49 N	157°59′.25 W
31	15°59′.57 N	157°17′.35 W
32	15°40′.37 N	156°21′.06 W
33	15°37′.36 N	155°22′.16 W
34	15°43′.46 N	154°46′.37 W
35	15°55′.32 N	154°13′.05 W
36	16°46′.27 N	152°49′.11 W
37	17°33′.42 N	152°00′.32 W
38	18°30′.16 N	151°30′.24 W
39	19°02′.47 N	151°22′.17 W
40	19°34′.46 N	151°19′.47 W
41	20°07′.42 N	151°22′.58 W
42	20°38′.43 N	151°31′.36 W
43	21°29′.09 N	151°59′.50 W
44	22°06′.58 N	152°31′.25 W
45	22°32′.54 N	153°00′.33 W

3 The United States Caribbean Sea area includes:

.1 the sea area located off the Atlantic and Caribbean coasts of the Commonwealth of Puerto Rico and the United States Virgin Islands, enclosed by geodesic lines connecting the following coordinates:

Point	Latitude	Longitude
1	17°18′.37 N	67°32′.14 W
2	19°11′.14 N	67°26′.45 W
3	19°30′.28 N	65°16′.48 W
4	19°12′.25 N	65°06′.08 W
5	18°45′.13 N	65°00′.22 W
6	18°41′.14 N	64°59′.33 W

Point	Latitude	Longitude
7	18°29′.22 N	64°53′.51 W
8	18°27′.35 N	64°53′.22 W
9	18°25′.21 N	64°52′.39 W
10	18°24′.30 N	64°52′.19 W
11	18°23′.51 N	64°51′.50 W
12	18°23′.42 N	64°51′.23 W
13	18°23′.36 N	64°50′.17 W
14	18°23′.48 N	64°49′.41 W
15	18°24′.11 N	64°49′.00 W
16	18°24′.28 N	64°47′.57 W
17	18°24′.18 N	64°47′.01 W
18	18°23′.13 N	64°46′.37 W
19	18°22′.37 N	64°45′.20 W
20	18°22′.39 N	64°44′.42 W
21	18°22′.42 N	64°44′.36 W
22	18°22′.37 N	64°44′.24 W
23	18°22′.39 N	64°43′.42 W
24	18°22′.30 N	64°43′.36 W
25	18°22′.25 N	64°42′.58 W
26	18°22′.26 N	64°42′.28 W
27	18°22′.15 N	64°42′.03 W
28	18°22′.22 N	64°40′.60 W
29	18°21′.57 N	64°40′.15 W
30	18°21′.51 N	64°38′.23 W
31	18°21′.22 N	64°38′.16 W
32	18°20′.39 N	64°38′.33 W
33	18°19′.15 N	64°38′.14 W
34	18°19′.07 N	64°38′.16 W
35	18°17′.23 N	64°39′.38 W
36	18°16′.43 N	64°39′.41 W
37	18°11′.33 N	64°38′.58 W
38	18°03′.02 N	64°38′.03 W
39	18°02′.56 N	64°29′.35 W
40	18°02′.51 N	64°27′.02 W
41	18°02′.30 N	64°21′.08 W
42	18°02′.31 N	64°20′.08 W
43	18°02′.03 N	64°15′.57 W
44	18°00′.12 N	64°02′.29 W
45	17°59′.58 N	64°01′.04 W
46	17°58′.47 N	63°57′.01 W
47	17°57′.51 N	63°53′.54 W
48	17°56′.38 N	63°53′.21 W
49	17°39′.40 N	63°54′.53 W

Point	Latitude	Longitude
50	17°37′.08 N	63°55′.10 W
51	17°30′.21 N	63°55′.56 W
52	17°11′.36 N	63°57′.57 W
53	17°05′.00 N	63°58′.41 W
54	16°59′.49 N	63°59′.18 W
55	17°18′.37 N	67°32′.14 W

4 In respect of the application of regulation 14.4, the Mediterranean Sea Emission Control Area for Sulphur Oxides and Particulate Matter includes all waters bounded by the coasts of Europe, Africa and Asia, and is described by the following coordinates:

.1 the western entrance of the Straits of Gibraltar, defined as a line joining the extremities of Cape Trafalgar, Spain (36°11'.00 N, 6°02'.00 W) and Cape Spartel, Morocco (35°48'.00 N, 5°55'.00 W);

.2 the Strait of Canakkale, defined as a line joining Mehmetcik Burnu (40°03'.00 N, 26°11'.00 E) and Kumkale Burnu (40°01'.00 N, 26°12'.00 E); and

.3 the northern entrance to the Suez Canal excluding the area enclosed by geodesic lines connecting points 1-4 with the following coordinates:

Point	Latitude	Longitude
1	31˚29'.00 N	32°16'.00 E
2	31˚29'.00 N	32°28'.48 E
3	31˚14'.00 N	32°32'.62 E
4	31˚14'.00 N	32°16'.00 E

5 The Canadian Arctic area comprises two segments:

.1 starting at the Yukon mainland at 68°54'.00 N, 137°0'.00 W; following the coordinates listed below and ending at the north coast of Hans Island at 80°49'.91 N, 66°27'.40 W, connected by geodesic lines connecting the following coordinates in World Geodetic System 1984 (WGS84) datum:

Point	Latitude	Longitude
1	68°54'.00 N	137°00'.00 W
2	72°56'.58 N	137°00'.00 W
3	73°00'.42 N	136°21'.72 W
4	73°21'.72 N	136°20'.46 W
5	73°56'.34 N	136°57'.60 W
6	74°30'.18 N	137°13'.08 W
7	75°03'.42 N	137°07'.20 W
8	75°49'.26 N	136°32'.04 W
9	76°42'.18 N	136°57'.06 W
10	77°28'.26 N	136°34'.74 W
11	78°07'.26 N	135°28'.50 W
12	78°39'.72 N	133°44'.88 W

Point	Latitude	Longitude
13	79°29'.58 N	131°24'.96 W
14	79°53'.16 N	129°32'.22 W
15	80°31'.44 N	127°33'.48 W
16	81°54'.36 N	118°36'.24 W
17	82°16'.32 N	116°28'.98 W
18	82°52'.86 N	115°29'.46 W
19	83°54'.54 N	112°07'.20 W
20	85°46'.14 N	97°16'.86 W
21	86°09'.78 N	89°14'.46 W
22	86°22'.56 N	78°59'.58 W
23	86°19'.18 N	60°10'.17 W
24	85°38'.92 N	58°10'.58 W
25	85°22'.29 N	57°59'.22 W
26	85°12'.04 N	57°54'.68 W
27	84°49'.56 N	57°13'.28 W
28	84°22'.15 N	56°43'.09 W
29	84°17'.32 N	56°35'.78 W
30	84°11'.05 N	56°29'.53 W
31	83°10'.79 N	57°00'.21 W
32	83°04'.29 N	57°27'.78 W
33	83°00'.95 N	57°32'.72 W
34	82°44'.71 N	58°00'.38 W
35	82°42'.57 N	58°06'.78 W
36	82°40'.69 N	58°11'.74 W
37	82°34'.95 N	58°25'.30 W
38	82°31'.25 N	58°38'.56 W
39	82°27'.52 N	58°50'.12 W
40	82°22'.87 N	59°02'.00 W
41	82°20'.26 N	59°21'.38 W
42	82°18'.54 N	59°32'.25 W
43	82°17'.22 N	59°41'.31 W
44	82°14'.41 N	59°56'.06 W
45	82°12'.06 N	60°02'.23 W
46	81°51'.67 N	62°09'.60 W
47	81°17'.89 N	64°08'.73 W
48	80°50'.48 N	66°15'.33 W
49	80°50'.10 N	66°26'.97 W
50	80°49'.91 N	66°27'.40 W

.2 continuing from the south coast of Hans Island at 80°49'.29 N, 66°27'.04 W, following the coordinates listed below, and ending at the coast of Newfoundland and Labrador at 60°0'.00 N, 64°9'.60 W, connected by geodesic lines connecting the following coordinates in World Geodetic System 1984 (WGS84) datum:

Point	Latitude	Longitude
51	80°49'.29 N	66°27'.04 W
52	80°49'.19 N	66°26'.57 W
53	80°45'.43 N	67°03'.99 W
54	80°26'.16 N	68°14'.39 W
55	80°01'.79 N	68°46'.99 W
56	79°40'.38 N	69°04'.68 W
57	78°48'.09 N	72°52'.36 W
58	78°25'.05 N	73°45'.66 W
59	77°30'.83 N	74°38'.24 W
60	76°43'.47 N	74°56'.49 W
61	75°00'.00 N	73°16'.07 W
62	74°50'.67 N	73°02'.71 W
63	74°44'.20 N	72°52'.86 W
64	74°28'.67 N	71°45'.72 W
65	74°24'.02 N	71°25'.67 W
66	74°12'.42 N	70°33'.06 W
67	74°10'.03 N	70°23'.12 W
68	74°07'.50 N	70°12'.16 W
69	74°06'.15 N	70°06'.69 W
70	74°02'.53 N	69°51'.43 W
71	74°02'.25 N	69°50'.33 W
72	73°57'.54 N	69°31'.02 W
73	73°52'.27 N	69°10'.88 W
74	73°46'.73 N	68°51'.14 W
75	73°46'.17 N	68°48'.81 W
76	73°41'.77 N	68°29'.65 W
77	73°37'.91 N	68°12'.34 W
78	73°36'.51 N	68°05'.42 W
79	73°31'.14 N	67°15'.52 W
80	73°25'.90 N	66°24'.99 W
81	73°18'.48 N	66°07'.91 W
82	72°50'.89 N	65°07'.52 W
83	72°47'.70 N	65°00'.63 W
84	72°45'.76 N	64°58'.22 W
85	72°43'.78 N	64°54'.27 W
86	72°36'.40 N	64°38'.74 W
87	72°30'.58 N	64°26'.04 W
88	72°24'.89 N	64°13'.11 W
89	72°10'.96 N	63°40'.55 W
90	72°06'.33 N	63°30'.42 W
91	72°01'.65 N	63°20'.73 W
92	71°52'.98 N	63°03'.86 W
93	71°47'.21 N	62°52'.67 W
94	71°44'.71 N	62°49'.41 W
95	71°32'.90 N	62°33'.35 W

Point	Latitude	Longitude
96	71°31'.73 N	62°31'.66 W
97	71°29'.39 N	62°28'.99 W
98	71°25'.93 N	62°25'.37 W
99	71°18'.98 N	62°17'.45 W
100	71°12'.10 N	62°08'.98 W
101	70°51'.84 N	61°42'.53 W
102	70°48'.17 N	61°37'.62 W
103	70°35'.55 N	61°20'.28 W
104	70°33'.07 N	61°17'.10 W
105	70°13'.48 N	61°10'.49 W
106	70°08'.83 N	61°08'.67 W
107	70°07'.55 N	61°07'.92 W
108	70°01'.68 N	61°04'.08 W
109	69°55'.82 N	60°59'.85 W
110	69°55'.27 N	60°59'.41 W
111	69°49'.82 N	60°57'.99 W
112	69°29'.41 N	60°51'.36 W
113	69°12'.82 N	60°27'.40 W
114	69°10'.24 N	60°23'.47 W
115	69°06'.79 N	60°18'.33 W
116	69°00'.88 N	60°08'.99 W
117	68°56'.83 N	60°02'.21 W
118	68°38'.02 N	59°14'.43 W
119	68°37'.86 N	59°14'.01 W
120	68°34'.02 N	59°04'.46 W
121	68°32'.88 N	59°01'.49 W
122	68°25'.25 N	58°42'.06 W
123	68°21'.67 N	58°38'.64 W
124	68°16'.07 N	58°33'.75 W
125	68°07'.40 N	58°26'.93 W
126	68°06'.87 N	58°26'.58 W
127	68°04'.26 N	58°24'.69 W
128	68°01'.89 N	58°23'.15 W
129	67°56'.94 N	58°19'.62 W
130	67°44'.25 N	58°9'.79 W
131	67°39'.77 N	58°06'.05 W
132	67°35'.33 N	58°02'.07 W
133	67°30'.76 N	57°57'.66 W
134	67°29'.16 N	57°56'.00 W
135	67°28'.21 N	57°55'.01 W
136	67°27'.27 N	57°54'.57 W
137	67°21'.52 N	57°52'.35 W
138	66°49'.47 N	57°42'.84 W
139	66°41'.71 N	57°40'.35 W

Point	Latitude	Longitude
140	66°37'.88 N	57°39'.45 W
141	66°36'.02 N	57°38'.99 W
142	66°30'.27 N	57°38'.04 W
143	66°24'.50 N	57°37'.56 W
144	66°18'.68 N	57°37'.55 W
145	66°12'.84 N	57°38'.01 W
146	66°03'.50 N	57°39'.45 W
147	65°57'.62 N	57°39'.93 W
148	65°57'.50 N	57°39'.93 W
149	65°51'.75 N	57°40'.44 W
150	65°50'.81 N	57°40'.46 W
151	65°37'.59 N	57°41'.74 W
152	65°34'.74 N	57°42'.18 W
153	65°23'.33 N	57°44'.83 W
154	65°18'.08 N	57°45'.70 W
155	65°14'.52 N	57°44'.99 W
156	65°11'.49 N	57°44'.22 W
157	65°08'.79 N	57°43'.69 W
158	65°06'.04 N	57°43'.95 W
159	64°12'.06 N	57°48'.09 W
160	64°04'.20 N	57°49'.01 W
161	63°57'.36 N	57°53'.40 W
162	63°52'.57 N	57°56'.46 W
163	63°50'.05 N	57°57'.01 W
164	63°43'.99 N	57°58'.60 W
165	63°37'.16 N	58°01'.00 W
166	63°35'.02 N	58°01'.86 W
167	63°28'.62 N	57°59'.62 W
168	63°22'.86 N	57°57'.29 W
169	62°47'.14 N	57°40'.83 W
170	62°11'.35 N	57°25'.12 W
171	62°03'.47 N	57°22'.15 W
172	62°02'.23 N	57°21'.62 W
173	62°00'.39 N	57°20'.92 W
174	61°24'.74 N	57°16'.16 W
175	61°10'.14 N	57°38'.70 W
176	60°43'.56 N	57°17'.64 W
177	60°15'.36 N	57°04'.56 W
178	60°00'.00 N	56°43'.02 W
179	60°00'.00 N	64°09'.60 W

6 The North-East Atlantic Emission Control Area encompasses the exclusive economic zones and territorial seas, extending up to 200 nautical miles from the baselines of Greenland, Iceland, the Faroes, Ireland, the mainlands of the United Kingdom, France, Spain and Portugal. This designation excludes the seas bounded by the North Sea area, as defined in regulation 1.14.6 of Annex V of the present Convention.

7 The geographic outer boundaries of the North-East Atlantic Emission Control Area are delineated by a series of geodetic lines connecting specified coordinates of latitude and longitude. These coordinates are referenced to the World Geodetic System 1984 (WGS 1984) datum and are presented in a clockwise order, as outlined below:

.1 the northernmost outer boundary of the North-East Atlantic Emission Control Area begins at the point of intersection of the exclusive economic zones of Greenland and the Canadian Arctic area, as outlined in regulation 14.3 and appendix VII of MARPOL Annex VI, at the coordinate **86°19'.18 N, 60°10'.17 W**. From this point, the boundary extends eastward, following the outer boundaries of the exclusive economic zones of Iceland, the Faroes, and the eastern part of the mainland of the United Kingdom, until reaching the coordinate **62°00'.00 N, 01°22'.27 E**, where it intersects with the northern boundary of the North Sea area. The boundary of this section is defined by connecting the following coordinates in sequential order:

Point	Latitude	Longitude
1	86°19'.30 N	60°10'.28 W
2	86°57'.80 N	37°45'.68 W
3	86°39'.87 N	12°26'.95 W
4	85°37'.64 N	01°00'.60 E
5	83°42'.56 N	07°58'.17 E
6	82°20'.92 N	05°51'.60 E
7	79°52'.93 N	01°38'.37 W
8	78°19'.00 N	03°20'.63 W
9	76°59'.35 N	02°49'.70 W
10	76°03'.97 N	04°27'.87 W
11	75°18'.13 N	04°17'.90 W
12	74°30'.64 N	04°50'.57 W
13	72°49'.62 N	11°28'.77 W

Point	Latitude	Longitude
14	71°52'.99 N	12°46'.03 W
15	69°54'.98 N	13°37'.77 W
16	69°35'.00 N	13°16'.00 W
17	69°34'.77 N	12°24'.42 W
18	69°09'.46 N	09°42'.43 W
19	68°20'.93 N	07°34'.34 W
20	67°30'.09 N	06°32'.60 W
21	66°24'.66 N	05°45'.14 W
22	65°41'.60 N	05°34'.40 W
23	65°15'.62 N	02°38'.26 W
24	64°26'.05 N	00°29'.18 W
25	63°53'.25 N	00°29'.33 W
26	62°00'.00 N	01°22'.27 E

.2 continuing from the coordinate 62°00'.00 N, 01°22'.27 E, the boundary proceeds along the northwestern outer limits of the North Sea area, as defined in regulation 1.14.6 of Annex V of the present Convention. The boundary excludes the area south of latitude 62°00'.00 N and east of longitude 04°00'.00 W, connecting the following coordinates:

Point	Latitude	Longitude
26	62°00'.00 N	01°22'.27 E
27	62°00'.00 N	04°00'.00 W
28	58°33'.94 N	04°00'.00 W

.3 continuing southward, the boundary follows the southwestern outer limits of the North Sea area, as defined in regulation 1.14.6 of Annex V of the present Convention, excluding the English Channel and its approaches eastward of longitude 05°00'.00 W and northward of latitude 48°30'.00 N, until the boundary reaches its southernmost coordinate at 48°30'.00 N, 05°00'.00 W.

Point	Latitude	Longitude
29	48°30'.00 N	05°00'.00 W

.4 the following section of the North-East Atlantic Emission Control Area extends southward from the coordinate 48°30'.00 N, 05°00'.00 W, until it reaches the intersection of two boundaries: the line joining Cape Trafalgar, Spain (36°11'.00 N, 06°02'.00 W), and Cape Spartel, Morocco (35°48'.00 N, 05°55'.00 W), as outlined in regulation 14.3 and this appendix; and the eastern outer limit of Spain's mainland exclusive economic zone at the coordinate 35°57'.59 N, 05°58'.27 W. This section of the North-East Atlantic Emission Control Area encompasses the waters within the exclusive exonomic zones and territorial seas of the mainland territories of France, Portugal and Spain. The area is bounded to the east by the coasts of these countries and to the west by the outer limits of their respective exclusive economic zones. The coordinates defining the outer limits, extending from the southernmost points northward, are as follows:

Point	Latitude	Longitude
30	35°57'.59 N	05°58'.27 W
31	35°57'.88 N	06°02'.14 W
32	35°57'.94 N	06°03'.00 W
33	35°57'.98 N	06°03'.48 W
34	35°58'.09 N	06°04'.90 W
35	35°55'.91 N	06°16'.72 W
36	35°54'.85 N	06°22'.58 W
37	35°54'.63 N	06°23'.83 W
38	35°53'.50 N	06°30'.25 W
39	35°53'.34 N	06°31'.23 W
40	35°52'.13 N	06°38'.74 W
41	35°51'.94 N	06°39'.54 W
42	35°49'.70 N	06°48'.66 W
43	35°49'.60 N	06°49'.22 W
44	35°49'.18 N	06°51'.55 W
45	35°48'.61 N	06°59'.14 W
46	35°48'.51 N	06°59'.81 W
47	35°47'.62 N	07°06'.03 W
48	35°46'.01 N	07°31'.75 W
49	35°46'.00 N	07°32'.00 W
50	35°26'.00 N	08°05'.00 W

Point	Latitude	Longitude
51	35°19'.00 N	08°21'.00 W
52	35°11'.00 N	08°53'.00 W
53	35°07'.00 N	09°13'.00 W
54	35°01'.00 N	10°30'.00 W
55	34°55'.00 N	11°40'.00 W
56	34°57'.00 N	12°17'.00 W
57	37°00'.00 N	13°09'.00 W
58	38°10'.00 N	13°42'.00 W
59	38°43'.00 N	13°46'.00 W
60	41°09'.00 N	13°16'.00 W
61	41°23'.77 N	13°18'.00 W
62	41°24'.03 N	13°17'.61 W
63	41°24'.04 N	13°17'.61 W
64	41°28'.00 N	13°18'.00 W
65	41°29'.12 N	13°19'.54 W
66	41°30'.12 N	13°20'.50 W
67	41°30'.99 N	13°21'.34 W
68	41°35'.55 N	13°25'.32 W
69	41°44'.00 N	13°30'.10 W
70	41°54'.17 N	13°35'.21 W
71	42°04'.57 N	13°39'.38 W

Point	Latitude	Longitude
72	42°15'.70 N	13°43'.28 W
73	42°24'.69 N	13°45'.77 W
74	42°31'.79 N	13°47'.34 W
75	42°39'.44 N	13°48'.60 W
76	42°52'.53 N	13°50'.12 W
77	43°00'.67 N	13°50'.66 W
78	43°09'.85 N	13°50'.86 W
79	43°18'.03 N	13°50'.54 W
80	43°27'.44 N	13°49'.62 W
81	43°41'.45 N	13°47'.12 W
82	43°57'.73 N	13°42'.42 W
83	44°10'.36 N	13°37'.36 W
84	44°20'.93 N	13°32'.09 W
85	44°25'.70 N	13°29'.41 W
86	44°33'.99 N	13°24'.15 W
87	44°43'.13 N	13°17'.74 W
88	44°55'.81 N	13°08'.03 W
89	45°01'.23 N	13°03'.33 W
90	45°01'.37 N	13°03'.21 W
91	45°07'.52 N	12°57'.42 W

Point	Latitude	Longitude
92	45°14'.79 N	12°49'.94 W
93	45°22'.20 N	12°41'.48 W
94	45°29'.33 N	12°32'.60 W
95	45°35'.60 N	12°23'.73 W
96	45°43'.59 N	12°11'.30 W
97	45°50'.60 N	11°59'.37 W
98	46°02'.77 N	11°37'.11 W
99	46°08'.97 N	11°24'.71 W
100	46°15'.55 N	11°09'.69 W
101	46°21'.12 N	10°55'.44 W
102	46°25'.27 N	10°47'.40 W
103	46°29'.31 N	10°39'.08 W
104	46°32'.75 N	10°31'.66 W
105	46°37'.94 N	10°19'.19 W
106	46°42'.62 N	10°06'.98 W
107	46°45'.83 N	09°58'.26 W
108	46°48'.86 N	09°48'.96 W
109	46°52'.16 N	09°37'.92 W
110	46°52'.73 N	09°35'.99 W

.5 continuing from the coordinate 46°52'.73 N, 09°35'.99 W, the boundary proceeds in a northern direction, following the western outer limits of the exclusive economic zones of the mainland of the United Kingdom, Ireland, Iceland, the Faroes, and Greenland, until it reaches the southernmost intersection of the exclusive economic zone of Greenland and the Canadian Arctic Emission Control Area, at the coordinate 61°24'.74 N, 57°16'.16 W, as detailed in regulation 14.3 and this appendix. The coordinates for this section are as follows:

Point	Latitude	Longitude
111	48°10'.49 N	10°48'.56 W
112	48° 10.811' N	10° 48.562' W
113	48° 36.377' N	12° 36.484' W
114	49° 12.414' N	13° 56.755' W
115	49° 41.425' N	14° 39.118' W
116	50° 07.692' N	15° 08.259' W
117	50° 34.072' N	15° 29.322' W
118	51° 17.55' N	15° 54.73' W
119	51° 43.994' N	16° 02.877' W
120	52° 11.469' N	16° 05.45' W
121	52° 41.538' N	16° 01.852' W
122	53° 10.974' N	15° 50.662' W
123	54° 05.164' N	16° 00.588' W
124	54° 45.403' N	15° 55.823' W
125	55° 13.087' N	15° 43.866' W
126	55° 38.987' N	15° 25.217' W
127	56° 12.209' N	14° 50.963' W
128	56° 34.631' N	14° 19.862' W
129	56°57'.19 N	14°36'.16 W
130	57°25'.36 N	14°48'.11 W
131	57°46'.48 N	14°52'.42 W
132	58°10'.58 N	14°52'.18 W
133	58°37'.54 N	14°47'.13 W

Point	Latitude	Longitude
134	59°08'.50 N	14°29'.17 W
135	59°36'.59 N	14°03'.25 W
136	59°55'.59 N	13°37'.56 W
137	60°09'.13 N	13°16'.39 W
138	60°42'.23 N	14°00'.03 W
139	60°09'.28 N	17°03'.21 W
140	59°58'.44 N	20°22'.34 W
141	60°03'.00 N	22°08'.29 W
142	60°31'.10 N	25°30'.33 W
143	60°55'.19 N	27°17'.15 W
144	61°31'.52 N	28°48'.06 W
145	62°14'.11 N	29°52'.18 W
146	63°18'.12 N	30°52'.05 W
147	62°30'.13 N	33°39'.15 W
148	61°24'.86 N	35°02'.45 W
149	58°10'.71 N	37°39'.21 W
150	57°12'.46 N	39°29'.13 W
151	56°31'.75 N	42°11'.97 W
152	56°23'.72 N	44°27'.68 W
153	56°42'.83 N	47°08'.20 W
154	57°52'.48 N	51°48'.36 W
155	58°41'.66 N	53°40'.40 W
156	61°24'.74 N	57°16'.16 W

.6 Continuing along the common points between the EEZ of Greenland and the Canadian Arctic ECA until reaching the northernmost outer boundary of the NE Atlantic ECA at the intersection of the EEZ of Greenland and the Canadian Arctic ECA (Point 1), at the coordinates 86°19'.18 N, 60°10'.17 W. The coordinates for this section are as follows:

Point	Latitude	Longitude
157	63°35'.00 N	58°02'.00 W
158	66°37'.15 N	57°39'.10 W
159	67°27'.05 N	57°54'.15 W
160	68°25'.05 N	58°42'.07 W
161	69°29'.06 N	60°51'.10 W
162	70°33'.02 N	61°17'.06 W
163	72°06'.07 N	63°30'.15 W
164	73°25'.15 N	66°25'.05 W
165	74°44'.03 N	72°53'.00 W
166	76°41'.06 N	75°00'.00 W

Point	Latitude	Longitude
167	77°30'.00 N	74°46'.00 W
168	78°48'.08 N	73°00'.00 W
169	79°39'.00 N	69°20'.00 W
170	80°25'.00 N	68°20'.00 W
171	80°45'.00 N	67°07'.12 W
172	82°24'.83 N	58°59'.72 W
173	83°35'.80 N	56°51'.48 W
174	84°21'.79 N	56°28'.88 W
175	85°50'.08 N	57°57'.22 W

Appendix VIII

Form of International Energy Efficiency (IEE) Certificate (regulation 8.2)

INTERNATIONAL ENERGY EFFICIENCY CERTIFICATE

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

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

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

Particulars of ship[1]

Name of ship .....

Distinctive number or letters .....

Port of registry .....

Gross tonnage .....

IMO number[2] .....

THIS IS TO CERTIFY:

1 That the ship has been surveyed in accordance with regulation 5.4 of Annex VI to the Convention; and

2 That the survey shows that the ship complies with the applicable requirements in regulations 22, 23, 24, 25 and 26.

Completion date of survey on which this Certificate is based: ..... (dd/mm/yyyy)

Issued at .....
(place of issue of certificate)

(dd/mm/yyyy): ....
(date of issue) *(signature of duly authorized official issuing the certificate)*

(seal or stamp of the authority, as appropriate)

[1] Alternatively, the particulars of the ship may be placed horizontally in boxes.

[2] In accordance with the *IMO ship identification number scheme* (resolution A.1117(30)).

Supplement to the International Energy Efficiency Certificate (IEE Certificate)

RECORD OF CONSTRUCTION RELATING TO ENERGY EFFICIENCY

Notes:

1 This Record shall be permanently attached to the IEE Certificate. The IEE Certificate shall be available on board the ship at all times.

2 The Record shall be at least in English, French or Spanish. If an official language of the issuing Party is also used, this shall prevail in case of a dispute or discrepancy.

3 Entries in boxes shall be made by inserting either: a cross (x) for the answers "yes" and "applicable"; or a dash (-) for the answers "no" and "not applicable", as appropriate.

4 Unless otherwise stated, regulations mentioned in this Record refer to regulations in Annex VI of the Convention, and resolutions or circulars refer to those adopted by the International Maritime Organization.

1 Particulars of ship

1.1 Name of ship .....

1.2 IMO number .....

1.3 Date of building contract .....

1.4 Date of major conversion (if applicable).....

1.5 Gross tonnage .....

1.6 Deadweight .....

1.7 Type of ship[3] .....

2 Propulsion system

2.1 Diesel propulsion ..... □

2.2 Diesel-electric propulsion ..... □

2.3 Turbine propulsion ..... □

2.4 Hybrid propulsion ..... □

2.5 Propulsion system other than any of the above ..... □

[3] Insert ship type in accordance with definitions specified in regulation 2.2. Ships falling into more than one of the ship types defined in regulation 2.2 should be considered as being the ship type with the most stringent (the lowest) required EEDI. If the ship does not fall into the ship types defined in regulation 2.2, insert "Ship other than ship types defined in regulation 2.2".

3 Attained Energy Efficiency Design Index (EEDI)

3.1 The attained EEDI in accordance with regulation 22.1 is calculated based on the information contained in the EEDI technical file, which also shows the process of calculating the attained EEDI..... □

The attained EEDI is: ..... grams-CO_2/tonne-nautical mile

3.2 The attained EEDI is not calculated, as:

3.2.1 the ship is exempt under regulation 22.1 as it is not a new ship as defined in regulation 2.2.18 ..... □

3.2.2 the type of propulsion system is exempt in accordance with regulation 19.3 …..... □

3.2.3 the requirement of regulation 22 is waived by the ship's Administration in accordance with regulation 19.4..... □

3.2.4 the type of ship is exempt in accordance with regulation 22.1..... □

4 Required EEDI

4.1 Required EEDI is: ..... grams-CO_2/tonne-mile

4.2 The required EEDI is not applicable, as:

4.2.1 the ship is exempt under regulation 24.1 as it is not a new ship as defined in regulation 2.2.18..... □

4.2.2 the type of propulsion system is exempt in accordance with regulation 19.3...…..... □

4.2.3 the requirement of regulation 24 is waived by the ship's Administration in accordance with regulation 19.4 ..... □

4.2.4 the type of ship is exempt in accordance with regulation 24.1 …..... □

4.2.5 the ship's capacity is below the minimum capacity threshold in table 1 of regulation 24.2..... □

5 Attained Energy Efficiency Existing Ship Index (EEXI)

5.1 The attained EEXI in accordance with regulation 23.1 is calculated taking into account the guidelines[4] developed by the Organization…….. □

The attained EEXI is:……..grams-CO_2/tonne-mile

5.2 The attained EEXI is not calculated, as:

5.2.1 the type of propulsion system is exempt in accordance with regulation 19.3……. □

5.2.2 the type of ship is exempt in accordance with regulation 23.1…… □

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

6 Required EEXI

6.1 The required EEXI is:…….grams-CO_2/tonne-mile in accordance with regulation 25

6.2 The required EEXI is not applicable, as:

6.2.1 the type of propulsion system is exempt in accordance with regulation 19.3…….. □

6.2.2 the type of ship is exempt in accordance with regulation 25.1…… □

6.2.3 the ship's capacity is below the minimum capacity threshold in table 3 of regulation 25.1……. □

7 Ship Energy Efficiency Management Plan

7.1 The ship is provided with a Ship Energy Efficiency Management Plan (SEEMP) in compliance with regulation 26……..……..……. □

8 EEDI technical file

8.1 The IEE Certificate is accompanied by the EEDI technical file in compliance with regulation 22.1……..…….. □

8.1.1 The EEDI technical file identification/verification number……..……

8.1.2 The EEDI technical file verification date……..……....

9 EEXI technical file

9.1 The IEE Certificate is accompanied by the EEXI technical file in compliance with regulation 23.1…… □

9.1.1 The EEXI technical file identification/verification number..……

9.1.2 The EEXI technical file verification date...…….....

9.2 The IEE Certificate is not accompanied by the EEXI technical file as the attained EEDI is used as an alternative to the attained EEXI……..□

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at .....
(place of issue of the Record)

(dd/mm/yyyy): ....
(date of issue) *(signature of duly authorized official issuing the Record)*

(seal or stamp of the authority, as appropriate)

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……

For the purpose of regulation 27:

Start date (dd/mm/yyyy) ……

End date (dd/mm/yyyy)..…….

For the purpose of regulation 28:

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 MARPOL Annex VI or other (to be stated) ……..……..…….

Gross tonnage (GT)[1]
……..……

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) ……..

[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/m^3 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 recognized 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.

Attained EEDI[5] (if applicable)……..……

Attained EEX[6] (if applicable)……..……

Ice class[7] . …….

Fuel oil consumption data

Total fuel oil consumption by fuel oil type[8] in metric tonnes and methods used for collecting fuel oil consumption data:……

Total fuel oil consumption by fuel oil type[8] per consumer type in metric tonnes and methods used for collecting fuel oil consumption data…….

Main Engine(s) …….

Auxiliary Engine(s)/Generator(s) ……

Fired Boiler(s)……

Others (specify) ……

Fuel oil consumption while the ship is not under way by fuel oil type[8] per consumer type in metric tonnes and methods used for collecting fuel oil consumption data:

Main Engine(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……

Total amount of onshore power supplied (kWh)……

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”.

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

Total transport work …….

Applicable CII[8]: □AER □cgDIST

Required annual operational CII[9]……

Attained annual operational CII before any correction[10]……..

Attained annual operational CII[11] …….

Installation of innovative technology,[12] if applicable: □A □B-1 □B-2 □C-1 □C-2

Operational carbon intensity rating:[13] □A □B □C □D □E

CII for trial purpose (on voluntary basis):[14]

□ EEPI (gCO_2/t/nm): ……

□ cbDIST (gCO_2/berth/nm): ……

□ clDIST (gCO_2/m/nm): ……

□ EEOI (gCO_2/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 taking into account *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 taking into account 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).

Appendix X

Form of Statement of Compliance – Fuel Oil Consumption Reporting and Operational Carbon Intensity rating (regulation 8.3)

STATEMENT OF COMPLIANCE – FUEL OIL CONSUMPTION REPORTING AND OPERATIONAL CARBON INTENSITY RATING

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

……
(full designation of the country)

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

Particulars of ship[1]

Name of ship……

Distinctive number or letters……..……

IMO number[2]…….

Port of registry…….…….

Gross tonnage……..…….

Deadweight……..……

Type of ship……

THIS IS TO DECLARE THAT:

4 the ship has submitted to this Administration the data required by regulation 27 of Annex VI to the Convention, covering ship operations from (dd/mm/yyyy) to (dd/mm/yyyy);

5 the data was collected and reported in accordance with the methodology and processes set out in the ship's SEEMP that was in effect over the period from (dd/mm/yyyy) to (dd/mm/yyyy);

[1] Alternatively, the particulars of the ship may be placed horizontally in boxes.

[2] In accordance with the *IMO ship identification number scheme* (resolution A.1117(30)).

6 the attained annual operational CII of the ship from (dd/mm/yyyy) through (dd/mm/yyyy) was: …… pursuant to regulations 28.1 and 28.2 of Annex VI of the Convention, for ships to which regulation 28 applies;[3]

7 the annual operational carbon intensity of the ship in this period is rated as
□A □B □C □D □E

in accordance with regulation 28 of Annex VI to the Convention, for a ship to which regulation 28 applies;[4] and

5 a corrective action plan has been developed and included in the SEEMP (for a ship to which regulation 28 applies, rated as D for three consecutive years or rated as E)[4]

This Statement of Compliance is valid until (dd/mm/yyyy) .....

Issued at……...
(place of issue of the Statement)

(dd/mm/yyyy): ....
(date of issue) *(signature of duly authorized official issuing the Statement)*

(seal or stamp of the authority, as appropriate)

[3] In the event of any transfer of a ship addressed in regulations 27.4, 27.5 or 27.6, these sections should be completed consistent with regulation 28.3 of MARPOL Annex VI.

[4] 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".

Appendix XI

Form of Exemption Certificate for UNSP Barges (regulation 8.4)

INTERNATIONAL AIR POLLUTION PREVENTION EXEMPTION CERTIFICATE FOR UNMANNED NON-SELF-PROPELLED (UNSP) BARGES

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

……

(full designation of the country)

by ……

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

Particulars of ship[1]

Name of ship……

Distinctive number or letters……..……

IMO Number[2]…….

Port of registry…….…….

Gross tonnage……..…..

THIS IS TO CERTIFY THAT:

1 the UNSP barge has been surveyed in accordance with regulation 3.4 of Annex VI to the Convention;

2 the survey shows that the UNSP barge:

.1 is not propelled by mechanical means;

.2 has no system, equipment and/or machinery fitted that may generate emissions controlled by Annex VI to the Convention; and

.3 has neither persons nor living animals on board; and

3 the UNSP barge is exempted, under regulation 3.4 of Annex VI to the Convention from the certification and related survey requirements of regulations 5.1 and 6.1 of Annex VI to the Convention.

[1] Alternatively, the particulars of the ship may be placed horizontally in boxes.

[2] In accordance with the *IMO ship identification number scheme* (resolution A.1117(30)).

This Certificate is valid until (dd/mm/yyyy) …….

subject to the exemption conditions being maintained.

Completion date of the survey on which this Certificate is based (dd/mm/yyyy)

Issued at ……
(place of issue of certificate)

(dd/mm/yyyy): ....
(date of issue) *(signature of duly authorized official issuing the certificate)*

(seal or stamp of the authority, as appropriate)

Appendix XII

Information to be submitted on the annual GHG fuel intensity (regulation 33)

Identity of the ship

Name of the ship……...

IMO number……..

Port of registry……..

Company name……

Company contact details……

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 MARPOL Annex VI or other (to be stated) ……

Gross tonnage (GT)[1] ……..

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) ……..

[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/m^3 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 recognized 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.

Information related to the annual GHG fuel intensity

Fuel use, by fuel type *j,* as referred to in regulation 33 of Annex VI of the MARPOL Convention, in metric tonnes and methods used for collecting fuel consumption data:

Main Engine(s) …….

Auxiliary Engine(s)/Generator(s) ……...

Fired Boiler(s)……

Others (specify) ……

Power capacity of other energy conversion systems installed on board, expressed in MJ, and methods used for collecting data, if applicable:

☐ Fuel cell:…….

☐ Electric battery:……..

☐ Wind assisted propulsion system…….....

☐ Photovoltaic power generation system……..

☐ Other:……..

Total amount of onshore power supplied (kWh)……..

Reference of the Fuel Lifecycle Label (FLL) by fuel or energy source type used:……..

Attained annual GHG fuel intensity

EI_j, the GHG intensity, expressed on a well-to-wake basis of each fuel type used, expressed in gCO_2eq/MJ:……..

$Energy_j$, amount of energy used by fuel or energy source type, expressed in MJ……..

$Energy_{total}$, total amount of energy used by the ship, expressed in MJ……..

Attained annual greenhouse gas fuel intensity (attained annual GFI), expressed in gCO_2eq/MJ ……

Target annual GHG fuel intensity

Target annual GHG fuel intensity of the ship for the reporting period, expressed in in gCO_2eq/MJ:

Base target annual GFI:……...

Direct compliance target annual GFI:…….

GFI compliance balance

GFI compliance balance, expressed in tCO_2eq:……...

For ships in direct compliance, amount of surplus units the ship is eligible to receive, expressed in tCO_2eq:……

For ships with a compliance deficit, the compliance deficit expressed in tCO_2eq, as follows:

Tier 1 compliance deficit:…….

Tier 2 compliance deficit:…….

Amount of surplus units banked from previous reporting periods, expressed in tCO_2eq:……...

Information related to the uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources (ZNZs)

The different ZNZs used, and the total amount per ZNZ, in tCO_2eq:…….

Appendix XIII

Form of Statement of Compliance – Annual GHG Fuel Intensity (regulation 8.5)

STATEMENT OF COMPLIANCE – Annual GHG Fuel Intensity

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

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

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

Reporting period:

from (dd/mm/yyyy) to (dd/mm/yyyy)

Particulars of ship

Name of ship. . . . .
Distinctive number or letters . . . . . .
IMO number*. . . . . .
Port of registry. . . . . .
Gross tonnage. . . . . .

THIS IS TO DECLARE THAT:

1 the ship has submitted to this Administration the data required by regulation 37 of Annex VI to the Convention, covering ship operations from (dd/mm/yyy) to (dd/mm/yy);

2 the data was collected and reported to this Administration in accordance with the methodology and the processes set out in the ship's SEEMP that was in effect over the period from (dd/mm/yyy) to (dd/mm/yy);

3 the attained annual GHG fuel intensity of the ship for the reporting period was: . . . . . gCO$_2$eq/MJ, pursuant to chapter 5 of Annex VI of the Convention;

4 the GHG fuel intensity compliance balance of the ship for the reporting period was: . . . . . tCO$_2$eq, pursuant to chapter 5 of Annex VI of the Convention;

* In accordance with the *IMO Ship Identification Number Scheme* (resolution A.1117(30)).

5 the amount of surplus units banked in the ship's IMO GFI Registry account from previous reporting periods was: . . . . . tCO$_2$eq, pursuant to chapter 5 of Annex VI of the Convention;

6 for ships in direct compliance for the reporting period, pursuant to regulation 36 of Annex VI of the Convention:

.1 the amount of surplus units the ship was eligible to receive was: . . . . . tCO$_2$eq; and

.2 the following selected GHG fuel intensity compliance approach(es) was/were recorded by the IMO GFI Registry:

☐ transfer …….tCO$_2$eq surplus units to other ships;

☐ bank …….tCO$_2$eq surplus units for use in future reporting periods; and/or

☐ cancel……. tCO$_2$eq surplus units on a voluntary basis.

.3 the final amount of surplus units recorded in the ship's IMO GFI Registry account was: . . . . . tCO$_2$eq;

7 for ships with a compliance deficit for the reporting period, pursuant to regulation 36 of Annex VI of the Convention:

.1 the compliance deficit comprised:

☐ Tier 1 compliance deficit:……...tCO$_2$eq; and

☐ Tier 2 compliance deficit:……...tCO$_2$eq.

.2 the following selected GHG fuel intensity compliance approach(es) was/were recorded by the IMO GFI Registry to balance the compliance deficit, pursuant to chapter 5 of Annex VI of the Convention:

☐ use……. surplus units (in tCO$_2$eq) banked;

☐ obtain……. surplus units (in tCO$_2$eq) transferred from other ships; and/or

☐ acquire remedial units through making contribution to the IMO Net-Zero Fund:

☐ Tier 1 remedial units:…….. tCO$_2$eq; and

☐ Tier 2 remedial units:…….. tCO$_2$eq).

8 the annual administration fee was paid to the IMO GFI Registry, pursuant to regulation 38 of Annex VI of the Convention;

9 for a ship eligible to receive rewards from the IMO Net-Zero Fund, the total amount of GHGs reduced by the uptake of ZNZs ……. in tCO_2eq, pursuant to regulation 39 of Annex VI of the Convention, for ships to which chapter 5 applies; and

10 the ship is compliant with its target annual GFI, pursuant to regulation 36 of Annex VI of the Convention.

This Statement of Compliance is valid until (dd/mm/yyyy) . . . . . .

Issued at . . . . . .
(place of issue of the Statement)

(dd/mm/yyyy) . . . . . .

(date of issue) (signature of duly authorized official issuing the Statement)

(seal or stamp of the authority, as appropriate)

***

ANNEX 12

RESOLUTION MEPC.404(83)
(adopted on 11 April 2025)

2025 ACTION PLAN TO ADDRESS MARINE PLASTIC LITTER FROM SHIPS

THE MARINE ENVIRONMENT PROTECTION COMMITTEE

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

ACKNOWLEDGING that work to prevent pollution by garbage from ships has been undertaken by the Organization since the adoption of MARPOL Annex V,

ACKNOWLEDGING ALSO the relevance of the work on marine plastic litter undertaken by the Parties to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 and its 1996 Protocol, including the adoption in 2016 of a "Recommendation to Encourage Action to Combat Marine Litter",

ACKNOWLEDGING FURTHER the relevant work of other international organizations in relation to marine plastic litter, in particular FAO, the UN Environment Programme and the Intergovernmental Negotiating Committee to develop an international legally binding instrument on plastic pollution, including in the marine environment (INC), and the importance of existing cooperation mechanisms, including GESAMP, the Joint FAO/IMO Ad Hoc Working Group on IUU fishing and related matters, the IMO OceanLitter Programme and the Global Partnership on Plastic Pollution and Marine Litter,

RECALLING the United Nations 2030 Agenda for Sustainable Development, in particular Sustainable Development Goal (SDG) 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development,

RECALLING ALSO that the Assembly, at its thirtieth session, in December 2017, recognized the ongoing problem of marine plastic pollution, as addressed in MARPOL Annex V, which required further consideration as part of a global solution within the framework of ocean governance, in pursuance of the target of SDG 14 to prevent and significantly reduce marine pollution of all kinds by 2025,

RECALLING FURTHER that it, at its seventy-third session in October 2018, adopted, by resolution MEPC.310(73), the *Action Plan to Address Marine Plastic Litter from Ships*,

RECALLING that it, at its seventy-seventh session in November 2021, adopted, by resolution MEPC.341(77), the *Strategy to Address Marine Plastic Litter from Ships*,

RECALLING ALSO the obligation of Member States to provide adequate facilities at ports and terminals for the reception of garbage, as required by regulation 8 of MARPOL Annex V, and ensure this obligation is implemented effectively,

1 ADOPTS the 2025 Action Plan to Address Marine Plastic Litter from Ships (hereinafter the 2025 Action Plan) as set out in the annex to the present resolution;

2 NOTES the application of the 2025 Action Plan to all ships, including fishing vessels;

3 INVITES Member States, international organizations and other relevant bodies to undertake further studies to better understand discharges of marine plastic litter, in particular microplastics, from ships;

4 INVITES the Secretary-General of the Organization to make adequate provisions in the Integrated Technical Cooperation Programme to support relevant follow-up actions of the 2025 Action Plan;

5 AGREES to keep the 2025 Action Plan under review, with a view to assessing, in 2030, the effectiveness of the actions within the Action Plan against the intended outcomes;

6 ALSO AGREES that the 2025 Action Plan supersedes the Action Plan adopted by resolution MEPC.310(73).

ANNEX

2025 ACTION PLAN TO ADDRESS MARINE PLASTIC LITTER FROM SHIPS

1 Background

1.1 Marine plastic litter enters the marine environment as a result of a wide range of land- and sea-based activities. Both macroplastics (e.g. large plastic items such as plastic bags, water bottles and fishing gear) and microplastics (small plastic particles generally five millimetres or less in size) persist in the marine environment and result in harmful effects on marine life and biodiversity, as well as negative impacts on human health. In addition, marine plastic litter negatively impacts activities such as tourism, fisheries and shipping. This plastic material has the potential to be brought back into the economy by means of reuse or recycling. Studies demonstrate that despite the existing regulatory framework to prevent marine plastic litter from ships, discharges into the sea continue to occur.

1.2 IMO has recognized the importance of preventing pollution by garbage, including plastics, from ships since the adoption of MARPOL Annex V, as well as the dumping of various types of waste, including plastics, into the sea through the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (London Convention or LC) and its 1996 Protocol (London Protocol or LP). This commitment was reinforced by the IMO Assembly, at its thirtieth session, in December 2017, recognizing the ongoing problem of marine plastic pollution, as addressed in MARPOL Annex V, which required further consideration as part of a global solution within the framework of ocean governance, in pursuance of the target of Sustainable Development Goal 14 to prevent and significantly reduce marine pollution of all kinds by 2025.

1.3 IMO recognizes the importance of continued action to manage this global issue. In 2016, the thirty-eighth Consultative Meeting of Contracting Parties to the London Convention and the eleventh Meeting of Contracting Parties to the London Protocol adopted a "Recommendation to Encourage Action to Combat Marine Litter". In 2018, MEPC 73 adopted the *Action Plan to Address Marine Plastic Litter from Ships* by resolution MEPC.310(73).

1.4 IMO has committed to working closely with a number of partners to address the issue of marine plastic litter including, but not limited to:

.1 FAO through the Joint FAO/IMO Ad Hoc Working Group on IUU Fishing and Related Matters (JWG) and the IMO OceanLitter Programme;

.2 the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP);

.3 the UN Environment-managed Global Partnership on Plastic Pollution and Marine Litter (GP3ML);

.4 the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP);

.5 the United Nations Environment Assembly (UNEA); and

.6 the Intergovernmental Negotiating Committee to develop an international legally binding instrument on plastic pollution, including in the marine environment (INC).

2 Objective

The 2025 Action Plan to Address Marine Plastic Litter from Ships has been developed to contribute to the global solution for preventing marine plastic litter from entering the oceans through ship-based activities. This Action Plan provides IMO with a mechanism to identify specific outcomes, and actions to achieve these outcomes, in a way that is meaningful and measurable. The 2025 Action Plan builds on existing policy and regulatory frameworks, and identifies opportunities to enhance these frameworks and introduce new supporting measures to address the issue of marine plastic litter from ships. The 2025 Action Plan also recognizes the actions that have been completed since the adoption of the initial Action Plan in 2018, demonstrating the considerable work undertaken by IMO to address this important issue.

3 Time frames, review and evaluation

3.1 The measures within the 2025 Action Plan should be completed by 2030.

3.2 Specific time frames for individual measures have been captured in the table of actions below and reflected in the revised annex 1 to the *Strategy to Address Marine Plastic Litter from Ships* [PPR 12/16/Add.1, annex 8]. Paragraph 4.1 of the *Strategy to Address Marine Plastic Litter from Ships* (resolution MEPC.341(77)) provides the definitions for these time frames.

3.3 The 2025 Action Plan will be reviewed after five years with a view to updating the actions based on information submitted by Member States and international organizations on the implementation of the 2025 Action Plan.

4 Actions

	Outcome	Measures	Parent organ	Coordinating/ Associated organ	Time frame	Associated partners
1	**Reduction of marine plastic litter generated from, and retrieved by, fishing vessels**	Consider making the IMO Ship Identification Number Scheme mandatory for all fishing vessels over 24 metres in length through an amendment to the Cape Town Agreement once it enters into force	MSC / MEPC		Mid-term	
2		Encourage the ratification of the Cape Town Agreement	MSC / MEPC		Continuous	
3		Taking into account the FAO Voluntary Guidelines on the Marking of Fishing Gear and new and existing regional fisheries management organization requirements, develop mandatory goal-based measures under MARPOL Annex V for the marking of fishing gear that would avoid duplication with existing measures, instruments and frameworks	MEPC	PPR / III (JWG)	Mid-term	FAO
4		Consider the development of measures for a ship-specific management plan for the gear and equipment deployed in fishing activities, including the logging of fishing gear on board a fishing vessel	MEPC	PPR / III	Short-term	FAO
5		Develop a circular reminding IMO Member States to collect information from their registered fishing vessels regarding any discharge or accidental loss of fishing gear	MEPC	PPR	Short-term	

	Outcome	Measures	Parent organ	Coordinating/ Associated organ	Time frame	Associated partners
6		Consider the preparation of a circular reminding Member States to enforce MARPOL Annex V on fishing vessels through PSC measures, if appropriate Encourage port State control MoUs to develop PSC procedures that include fishing vessels, if appropriate	MEPC	PPR / III	Mid-term	
7	**Reduction of shipping's contribution to marine plastic litter**	Consider whether and how to address the responsibility, and if appropriate, liability for plastic consumer goods lost at sea from ships	LEG / MEPC	PPR	Long-term	
8		Consider enhancing the enforcement of MARPOL Annex V, including, where possible, through a risk-based approach	MEPC	PPR / III	Short-term	
9		Consider and develop mandatory measures to reduce the environmental risks of plastic pellets transported by sea in freight containers	MEPC / MSC	PPR / CCC	Short-term	
10	**Improvement of the effectiveness of port reception and facilities and treatment in reducing marine plastic litter**	Consider the requirement for port reception facilities to provide for separate garbage collection for plastic waste from ships, including fishing gear, if appropriate, to facilitate reuse or recycling	MEPC	PPR	Mid-term	
11		Consider mechanisms to enhance the enforcement of MARPOL Annex V requirements for the delivery of garbage to reception facilities	MEPC	PPR	Mid-term	

	Outcome	Measures	Parent organ	Coordinating/ Associated organ	Time frame	Associated partners
12		Consider facilitating the mandatory use of port waste management plans to ensure the provision of adequate waste reception facilities Identify information from the port waste management plans that can be shared via the Global Integrated Shipping Information System (GISIS) Encourage Member States to address the entire process of plastic garbage handling and ensure that landed garbage is managed in a sustainable manner ashore	MEPC	PPR / III	Mid-term	
13	**Enhanced public awareness, education and seafarer training**	Consider ways to publicly promote the work of IMO to address marine plastic litter generated from ships	MEPC	PPR	Continuous	
14		Consider how the model course "Marine Environmental Awareness 1.38" could be amended/revised to specifically address marine plastic litter Monitor the progress of the comprehensive review of the STCW (International Convention on Standards and Training, Certification and Watch keeping for Seafarers) and Code to ensure familiarization of all seafarers of the minimum requirements with regard to marine plastic litter	MEPC	HTW / PPR	Short-term	

	Outcome	Measures	Parent organ	Coordinating/ Associated organ	Time frame	Associated partners
15	**Improved understanding of the contribution of ships to marine plastic litter**	Consider extending the reporting requirement in regulation 10.6 of MARPOL Annex V to include reporting data on discharge or accidental loss of fishing gear by the flag State to IMO via GISIS or other means if appropriate	MEPC	PPR / III	Short-term	
16		Encourage Member States and international organizations that have conducted scientific research related to marine litter from ships to share the results of such research, including any information on microplastics from ships or the areas contaminated by marine litter from ships	MEPC	PPR	Continuous	
17		With regard to the IMO Study on marine plastic litter from ships, decide how to progress the work through proposals either identifying priority sub-projects or providing revised terms of reference, taking into account MEPC.1/Circ.894	MEPC LC/LP	PPR	Short-term	GESAMP, FAO, UN Environment, RFMOs, World Oceans Assessment, Regional Seas Conventions
18	**Strengthened international cooperation**	Make information available to the United Nations Environment Assembly (UNEA)	MEPC LC/LP	PPR	Continuous	
19		Continue work with other United Nations bodies and agencies, as well as with international forums, which are active in the matter of marine plastic litter from shipping, such as through the Global Partnership on Plastic Pollution and Marine Litter (GP3ML)	MEPC LC/LP	PPR	Continuous	

APPENDIX

COMPLETED ACTIONS AS OF THE 2025 REVIEW OF THE INITIAL ACTION PLAN TO ADDRESS MARINE PLASTIC LITTER FROM SHIPS (RESOLUTION MEPC.310(73))

Outcome	Measures
Reduction of marine plastic litter generated from, and retrieved by, fishing vessels	Consider the development of best management practice to facilitate incentives for fishing vessels to retrieve derelict fishing gear and deliver it to port reception facilities, in collaboration with FAO
	Consider the issue of waste that has been collected during fishing operations building on experience gathered from established projects
	Review the application of placards, garbage management plans and garbage record-keeping (regulation 10, MARPOL Annex V), for example making the Garbage Record Book mandatory for ships of 100 GT and above
Reduction of shipping's contribution to marine plastic litter	Review the application of placards, garbage management plans and garbage record-keeping (regulation 10, MARPOL Annex V), for example making the Garbage Record Book mandatory for ships of 100 GT and above
	Consider the establishment of a compulsory system of formatted declarations of the loss of containers and the means on board to easily identify the exact number of losses Also, consider establishing an obligation to report through a standardized procedure the loss of containers
	Consider ways to communicate the location of containers lost overboard based on additional information to be provided by interested parties
Improvement of the effectiveness of port reception and facilities and treatment in reducing marine plastic litter	Consider the development of tools to support the implementation of cost frameworks associated with port reception facilities, taking into account the need to not create disincentives for the use of port reception facilities, the potential benefits of cost incentives that provide no additional fees based on volume and identifying waste types that can be reduced, reused or recycled through schemes that identify waste revenue
	Further consider the impact on small island developing States and on remote locations such as polar regions when planning for the disposal of waste to land-based facilities

Outcome	Measures
Enhanced public awareness, education and seafarer training	Consider tasking the HTW Sub-Committee with reviewing chapter III of STCW-F (Basic safety training for all fishing vessel personnel) to ensure that all fishing vessel personnel, before being assigned any shipboard duties, receive basic training on marine environment awareness oriented on marine plastic litter including abandoned, lost or otherwise discarded fishing gear (ALDFG)
Improved understanding of the contribution of ships to marine plastic litter	Invite Member States and international organizations to undertake studies to better understand microplastics from ships
Improved understanding of the regulatory framework associated with marine plastic litter from ships	Consider the development of a regulatory framework matrix for the purpose of a gap analysis
Targeted technical cooperation and capacity-building	Address implementation issues related to the Action Plan to Address Marine Plastic Litter from Ships in the context of IMO technical cooperation and capacity-building activities
	Consider the establishment of externally funded major projects under the auspices of IMO in support of the Action Plan to Address Marine Plastic Litter from Ships

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ANNEX 13

RESOLUTION MEPC.405(83)
(adopted on 11 April 2025)

AMENDMENTS TO THE 2023 GUIDELINES FOR THE DEVELOPMENT OF THE INVENTORY OF HAZARDOUS MATERIALS (RESOLUTION MEPC.379(80))

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 the Safe and Environmentally Sound Recycling of Ships held in May 2009 adopted the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (the Hong Kong Convention) together with six Conference resolutions,

NOTING that regulations 5.1 and 5.2 of the annex to the Hong Kong Convention require that ships shall have on board an Inventory of Hazardous Materials which shall be prepared and verified taking into account guidelines, including any threshold values and exemptions contained in those guidelines, developed by the Organization,

RECALLING that, at its sixty-second session, it adopted, by resolution MEPC.197(62), the *Guidelines for the development of the Inventory of Hazardous Materials*,

RECALLING ALSO that, at its sixty-eighth session, it adopted, by resolution MEPC.269(68), the *2015 Guidelines for the development of the Inventory of Hazardous Materials*, which superseded the Guidelines adopted through resolution MEPC.197(62), to improve the guidance on threshold values and exemptions,

RECALLING FURTHER that, at its eightieth session, it adopted, by resolution MEPC.379(80), the *2023 Guidelines for the development of the Inventory of Hazardous Materials* (2023 Guidelines), which superseded the Guidelines adopted through resolution MEPC.269(68), as a consequence of the introduction of controls on cybutryne through the amendments to annex 1 to the *International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001* (AFS Convention) (resolution MEPC.331(76)), which entered into force on 1 January 2023,

RECOGNIZING the need for amendments to the 2023 Guidelines to clarify the relevant threshold values in respect of cybutryne when samples are directly taken from the hull or when samples are taken from wet paint containers,

HAVING CONSIDERED, at its eighty-third session, the recommendation made by the Sub-Committee on Pollution Prevention and Response at its twelfth session,

1 ADOPTS amendments to the *2023 Guidelines for the development of the Inventory of Hazardous Materials* as set out in the annex to this resolution;

2 INVITES Member Governments to apply the 2023 Guidelines, as amended, as soon as possible, and no later than 26 June 2025;

3 AGREES to keep the 2023 Guidelines, as amended, under review in the light of experience gained with their application.

ANNEX

AMENDMENTS TO THE 2023 GUIDELINES FOR THE DEVELOPMENT OF THE INVENTORY OF HAZARDOUS MATERIALS (RESOLUTION MEPC.379(80))

Appendix 1
Items to be listed in the Inventory of Hazardous Materials

1 Row A-4 of table A is replaced by the following:

"

A-4	Anti-fouling systems containing organotin compounds as a biocide	x			2,500 mg total tin/kg[7]
	Anti-fouling systems containing cybutryne	x			1,000 mg/kg[8] or 200 mg/kg[8]

7 This threshold value is based on the *2022 Guidelines for brief sampling of anti-fouling systems on ships* (resolution MEPC.356(78)).

8 These threshold values are based on appendix I of the *2022 Guidelines for survey and certification of anti-fouling systems on ships* (resolution MEPC.358(78))."

Appendix 6
Form of Material Declaration

2 The last row of table A is replaced by the following:

"

Table	Material name	Threshold value	Present above threshold value	If yes, material mass		If yes, information on where it is used
			Yes / No	Mass	Unit	
Table A (materials listed in appendix 1 of the Convention)	Anti-fouling systems containing cybutryne	200 mg/kg [20]				

20 This threshold value is based on appendix I of the *2022 Guidelines for survey and certification of anti-fouling systems on ships* (resolution MEPC.358(78)) for samples taken from wet paint containers."

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ANNEX 15

BIENNIAL AGENDA OF THE PPR SUB-COMMITTEE FOR THE 2026-2027 BIENNIUM

Reference to SD, if applicable[1]	Output number	Description	Parent organ(s)	Associated organ(s)	Coordinating organ	Target completion year
1	1.11	Measures to harmonize port State control (PSC) activities and procedures worldwide	MSC/MEPC	HTW/PPR/NCSR	III	Continuous
1	1.23	Evaluation and harmonization of rules and guidance on the discharge of discharge water from EGCS into the aquatic environment, including conditions and areas	MEPC	PPR		2026
1	1.26	Revision of MARPOL Annex IV and associated guidelines	MEPC	III/HTW	PPR	2027
2	2.3	Amendments to the IGF Code and development of guidelines for low-flashpoint fuels	MSC	HTW/PPR/ SDC/SSE	CCC	Continuous
2	2.13	Review of the IBTS Guidelines and amendments to the IOPP Certificate and Oil Record Book	MEPC	PPR		2026

[1] Strategic directions:
SD 1: Ensure implementation of IMO instruments supported by capacity development
SD 2: Integrate new, emerging and advancing technologies in the regulatory framework
SD 3: Respond to climate change and reduce greenhouse gas emissions from international shipping
SD 4: Continue to engage in ocean governance
SD 5: Enhance global facilitation, supply chain resilience and security of international trade
SD 6: Address the human element
SD 7: Ensure the regulatory effectiveness of international shipping
SD 8: Ensure organizational effectiveness
OW: Other work

Reference to SD, if applicable[1]	Output number	Description	Parent organ(s)	Associated organ(s)	Coordinating organ	Target completion year
2	2…[2]	Review and amendment of the NTC 2008 to provide a means for certification of engines that operate on non-carbon-containing fuel or mixtures of carbon-containing and non-carbon-containing fuels	MEPC	PPR		2027
3	3.3	Reduction of the impact on the Arctic of Black Carbon emissions from international shipping	MEPC	PPR		2027
4	4.3	Follow-up work emanating from the Action Plan to Address Marine Plastic Litter from Ships	MEPC	PPR/III/HTW		2027 (2030)
6	6.1	Role of the human element	MSC / MEPC	III/PPR/CCC/ SDC/SSE/NCSR	HTW	Continuous
6	6.2	Validated model training courses	MSC / MEPC	III/PPR/CCC/ SDC/SSE/NCSR	HTW	Continuous
7	7.1	Unified interpretation of provisions of IMO safety, security and environment-related conventions	MSC / MEPC	III/PPR/CCC/ SDC/SSE/NCSR		Continuous
7	7.3	Safety and pollution hazards of chemicals and preparation of consequential amendments to the IBC Code	MEPC	PPR		Continuous
7	7.38	Amendments to MARPOL Annex II in order to improve the effectiveness of cargo tank stripping, tank washing operations and prewash procedures for products with a high melting point and/or high viscosity	MEPC	PPR		2027

[2] The output was approved by MEPC 83 and has been included in the provisional agenda of PPR 13. An output number will be assigned by Council in due course.

Reference to SD, if applicable[1]	Output number	Description	Parent organ(s)	Associated organ(s)	Coordinating organ	Target completion year
7	7…[3]	Revision of the *Revised guidelines and specifications for pollution prevention equipment for machinery space bilges of ships* (resolution MEPC.107(49))	MEPC	PPR		2027
7	7…[3]	Review and development of NO_x emission requirements in MARPOL Annex VI and the NO_x Technical Code 2008	MEPC	PPR		2027
7	7…[4]	Development of a legally binding framework for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species	MEPC	PPR		2029

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[3] Moved to the biennial agenda of the Sub-Committee from the post-biennial agenda of MEPC. An output number will be assigned by Council in due course.

[4] The output was approved by MEPC 83 and has been included in the provisional agenda of PPR 13. An output number will be assigned by Council in due course.

ANNEX 16

PROVISIONAL AGENDA FOR PPR 13

Opening of the session

1 Adoption of the agenda

2 Decisions of other IMO bodies

3 Safety and pollution hazards of chemicals and preparation of consequential amendments to the IBC Code

4 Amendments to MARPOL Annex II in order to improve the effectiveness of cargo tank stripping, tank washing operations and prewash procedures for products with a high melting point and/or high viscosity

5 Development of a legally binding framework for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species

6 Reduction of the impact on the Arctic of Black Carbon emissions from international shipping

7 Evaluation and harmonization of rules and guidance on the discharge of discharge water from EGCS into the aquatic environment, including conditions and areas

8 Review and development of NO_X emission requirements in MARPOL Annex VI and the NO_x Technical Code 2008

9 Review and amendment of the NTC 2008 to provide a means for certification of engines that operate on non-carbon-containing fuel or mixtures of carbon-containing and non-carbon-containing fuels

10 Revision of MARPOL Annex IV and associated guidelines

11 Follow-up work emanating from the Action Plan to Address Marine Plastic Litter from Ships

12 Revision of the *Revised guidelines and specifications for pollution prevention equipment for machinery space bilges of ships* (resolution MEPC.107(49))

13 Review of the IBTS Guidelines and amendments to the IOPP Certificate and Oil Record Book

14 Unified interpretation of provisions of IMO environment-related conventions

15 Biennial agenda and provisional agenda for PPR 14

16 Election of Chair and Vice-Chair for 2027

17 Any other business

18 Report to the Marine Environment Protection Committee

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ANNEX 17

STATUS REPORT OF OUTPUTS OF MEPC FOR THE 2024-2025 BIENNIUM

MARINE ENVIRONMENT PROTECTION COMMITTEE (MEPC)

Reference to SD*	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1	1.2	Input on identifying emerging needs of developing countries, in particular SIDS and LDCs to be included in the ITCP	Continuous	TCC	MSC / MEPC / FAL / LEG		Ongoing	Ongoing	MEPC 81/16, section 12; MEPC 83/17, para. 16.3
1	1.4	Analysis of consolidated audit summary reports	Annual	Assembly	MSC / MEPC / LEG / TCC / III	Council	Completed	Completed	MEPC 81/16, paras. 2.20, 2.21 and 10.7; MEPC 83/17, para. 11.6
1	1.5	Non-exhaustive list of obligations under instruments relevant to the IMO Instruments Implementation Code (III Code)	Annual	MSC / MEPC	III		Completed	Completed	MEPC 81/16, para. 10.9; MEPC 83/17, para. 11.9

* Strategic directions:
SD 1: Ensure implementation of IMO instruments supported by capacity development
SD 2: Integrate new, emerging and advancing technologies in the regulatory framework
SD 3: Respond to climate change and reduce greenhouse gas emissions from international shipping
SD 4: Continue to engage in ocean governance
SD 5: Enhance global facilitation, supply chain resilience and security of international trade
SD 6: Address the human element
SD 7: Ensure the regulatory effectiveness of international shipping
SD 8: Ensure organizational effectiveness
OW: Other work

Reference to SD*	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1	1.7	Identify thematic priorities within the area of maritime safety and security, marine environmental protection, facilitation of maritime traffic and maritime legislation	Annual	TCC	MSC / MEPC / FAL / LEG		Completed	Completed	MEPC 81/16, section 12; MEPC 83/17, para. 16.3
1	1.9	Report on activities within the ITCP related to the OPRC Convention and the OPRC-HNS Protocol	Annual	TCC	MEPC		Completed	Completed	MEPC 81/16, section 12
1	1.11	Measures to harmonize port State control (PSC) activities and procedures worldwide	Continuous	MSC / MEPC	HTW / PPR / NCSR	III	Ongoing	Ongoing	MEPC 81/16, paras. 10.5, 10.6 and 10.9; MEPC 83/17, para. 11.9
1	1.14	Development of guidance in relation to Mandatory IMO Member State Audit Scheme (IMSAS) to assist in the implementation of the III Code by Member States	2024	MSC / MEPC	III		Completed		MEPC 81/16, para. 10.8; MSC 108/20, para. 13.12
Note:	MSC 108, having concurred with the decision of MEPC 81, approved MSC-MEPC.2/Circ.19 on *Guidance in relation to the IMO Member State Audit Scheme (IMSAS) to assist in the implementation of the III Code by Member States.*								
1	1.16	Experience-building phase (EBP) for the reduction of underwater radiated noise from shipping	2026	MEPC	SDC		In progress	In progress	MEPC 81/16 paras. 10.11 to 10.16; MEPC 82/17, section 9; MEPC 83/17, section 9
Note:	MEPC 82 approved the *Revised guidelines for the reduction of underwater radiated noise from shipping to address adverse impacts on marine life* (MEPC.1/Circ.906/Rev.1) and the *Action Plan for the reduction of underwater noise from commercial shipping* (MEPC 82/17, paras. 9.7 and 9.15). Furthermore, MEPC 82 agreed to change the title of output 1.16 from "Review of the 2014 Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life (MEPC.1/Circ.833) (2014 Guidelines) and identification of next steps" to "Experience-building phase (EBP) for the reduction of underwater radiated noise from shipping" and extended its target completion year from 2024 to 2026 (MEPC 82/17, para. 9.16).								

Reference to SD*	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1	1.18	Development of guidance on assessments and applications of remote surveys, ISM Code audits and ISPS Code verifications	~~2024~~ 2025	MSC/ MEPC	III		In progress		III 9/19, section 12; MEPC 81/16, para. 10.1; MSC 108/20, para. 13.13
Note: MEPC 83 concurred with the decision of MSC 109 to extend the target completion year for this output from 2024 to 2025. This will be further considered by III 11 in July 2025.									
1	1.21	Development of guidance on matters relating to in-water cleaning	2025	MEPC	PPR		In progress	Completed	PPR 11/18, section 5; MEPC 81/16, para.15.23; MEPC83/17, para.10.10
1	1.23	Evaluation and harmonization of rules and guidance on the discharge of discharge water from EGCS into the aquatic environment, including conditions and areas	~~2025~~ 2026	MEPC	PPR		In progress	Extended	MEPC 81/16, paras.5.3, 5.4, 5.20, 5.21, 9.2 and 9.3; MEPC 82/17, paras. 5.2 to 5.11; MEPC83/17, para.14.17
Note: MEPC 83 noted the biennial status report of the PPR Sub-Committee for the 2024-2025 biennium. Consequently, the target completion year for output 1.23 has been extended to 2026, as per the request by PPR 12.									
1	1.24	Review of the BWM Convention based on data gathered in the experience-building phase	~~2025~~ 2027	MEPC			In progress	In progress	MEPC 81/16, section 4; MEPC 82/17, section 4; MEPC83/17, para.4.18
Note: The target completion year has been adjusted by MEPC 83 in accordance with the BWM Convention Review Plan.									
1	1.25	Urgent measures emanating from issues identified during the experience-building phase of the BWM Convention	~~2025~~ 2027	MEPC			In progress	In progress	MEPC 81/16, section 4; MEPC 82/17, section 4; MEPC83/17, para. 4.18
Note: The target completion year has been adjusted by MEPC 83 in accordance with the BWM Convention Review Plan.									

Reference to SD*	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
1	1.26	Revision of MARPOL Annex IV and associated guidelines	~~2025~~ 2027	MEPC	III / HTW	PPR	In progress	Extended	MEPC 81/16, paras. 15.20 and 15.21; MEPC 82/17, para. 10.11; MEPC83/17, para.14.17
Note: MEPC 83 noted the biennial status report of the PPR Sub-Committee for the 2024-2025 biennium. Consequently, the target completion year for output 1.26 has been extended to 2027, as per the request by PPR 12.									
2	2.2	Approved ballast water management systems which make use of Active Substances, taking into account recommendations of the GESAMP-BWWG	Annual	MEPC			Completed	Completed	MEPC 81/16, paras. 4.8 to 4.12; MEPC 82/17, paras. 4.8 to 4.10; MEPC 83/17, paras. 4.9 to 4.13
2	2.7	Development of joint FALLEG-MEPC-MSC guidelines on electronic certificates	2026	FAL	MSC/MEPC		In progress	Completed	MEPC 82/17, paras. 14.8 and 14.9; FAL 49/22, para. 9.5
2	2.11	Development of a comprehensive strategy on maritime digitalization	2027	FAL	MSC/MEPC		In progress	In progress	MEPC 82/17, para. 14.10; FAL 49/22, section 8
2	2.13	Review of the IBTS Guidelines and amendments to the IOPP Certificate and Oil Record Book	~~2025~~ 2026	MEPC	PPR		In progress	Extended	PPR 11/18, section 11; MEPC 81/16, para. 9.1; MEPC 82/17, paras. 10.12 to 10.14; MEPC83/17, para.14.17
Note: MEPC 83 noted the biennial status report of the PPR Sub-Committee for the 2024-2025 biennium. Consequently, the target completion year for output 2.13 has been extended to 2026, as per the request by PPR 12.									

Reference to SD*	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
2	2.15	Development of amendments to MARPOL Annex VI and the NOx Technical Code on the use of multiple engine operational profiles for a marine diesel engine and on the clarification of test cycles	2025	MEPC	PPR		In progress	Completed	PPR 11/18, section 8; MEPC 81/16, para. 9.1; MEPC 82/17, paras. 5.23 and 5.24; MEPC83/17, paras. 3.13 and 3.14
3	3.1	Treatment of ozone-depleting substances used by ships	Annual	MEPC			Completed	Completed	MEPC 81/16, para. 5.14
3	3.2	Further development of mechanisms needed to achieve the reduction of GHG emissions from international shipping	Annual	MEPC			Completed	Completed	MEPC 81/16, sections 6 and 7; MEPC 82/17, sections 6 and 7; MEPC83/17, sections 6 and 7
3	3.3	Reduction of the impact on the Arctic of emissions of Black Carbon from international shipping	~~2025~~ 2027	MEPC	PPR		In progress	Extended	MEPC 81/16, paras. 5.12 and 5.13; MEPC 82/17, paras. 5.12 to 5.22; MEPC 83/17, paras. 5.14 to 5.25
Note: MEPC 83 noted the biennial status report of the PPR Sub-Committee for the 2024-2025 biennium. Consequently, the target completion year for output 3.3 has been extended to 2027, as per the request by PPR 12.									
3	3.4	Promotion of technical cooperation and transfer of technology relating to the reduction of GHG emissions from ships	~~2025~~ Continuous	MEPC			Ongoing	Ongoing	MEPC 81/16, section 7; MEPC 82/17, section 7; MEPC 83/17, section 7
3	3.5	Revision of guidelines concerning chapter 4 of MARPOL Annex VI	~~2025~~ 2027	MEPC			In progress	Extended	MEPC 81/16, section 6; MEPC 82/17, section 6; MEPC 83/17, section 6

Reference to SD*	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
3	3.6	EEDI reviews required under regulation 21.6 of MARPOL Annex VI	~~2025~~ 2027	MEPC			In progress	Extended	MEPC 81/16, section 6; MEPC 82/17, section 6; MEPC 83/17, section 6
3	3.7	Further technical and operational measures for enhancing the energy efficiency of international shipping	~~2025~~ 2027	MEPC			In progress	Extended	MEPC 81/16, section 6; MEPC 82/17, section 6; MEPC 83/17, section 6
3	3.8	Development of a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels	Continuous	MSC	MEPC / CCC / HTW / III / SSE / SDC		No work requested by MSC	No work requested by MSC	
4	4.1	Identification and protection of Special Areas, ECAs and PSSAs and associated protective measures	Continuous	MEPC	NCSR		Ongoing	Ongoing	MEPC 81/16, section 11; MEPC 82/17, section 12; MEPC 83/17, section 12
4	4.2	Input to the ITCP on emerging issues relating to sustainable development and achievement of the SDGs	Continuous	TCC	MSC / MEPC /FAL / LEG		Ongoing	Ongoing	MEPC 81/16, section 12; MEPC83/17, para.16.3
4	4.3	Follow-up work emanating from the Action Plan to Address Marine Plastic Litter from Ships	~~2025~~ 2027 (2030)	MEPC	PPR / III / HTW		In progress	Extended	MEPC 81/16, section 8; MEPC 82/17, section 8; MEPC 81/16, section 8; MEPC 83/17, section 8
Note: MEPC 83 approved the *2025 Action Plan to Address Marine Plastic Litter from Ships* (resolution MEPC.404(83)). Therefore, the target completion year has been changed to 2027, and the Committee will consider extending it at the end of every biennium until 2030, in line with the completion year of the 2025 Action Plan.									

Reference to SD*	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
6	6.1	Role of the human element	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	Ongoing	Ongoing	MSC 89/25, paragraphs 10.10, 10.16 and 22.39 and annex 21; MEPC 78/17, paras. 10.4 and 13
6	6.2	Validated model training courses	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW	Ongoing	Ongoing	MSC 107/20, paras. 13.3, 13.4 and 14.32
6	6.10	Development of an entrant training manual for PSC personnel	~~2025~~ 2027	MSC / MEPC	III		In progress	Extended	MEPC 81/16, para. 10.1; MEPC 83/17, para. 11.1
Note: The manual will be developed after the finalization of the IMO Model Course 3.09 on port State control, which is expected to be validated by III 11.									
7	7.1	Unified interpretation of provisions of IMO safety, security, environment, facilitation, liability and compensation-related conventions	Continuous	MSC / MEPC / FAL / LEG	III / PPR / CCC / SDC / SSE / NCSR		Ongoing	Ongoing	MEPC 81/16, paras. 3.17, 6.1, 6.7, 6.37 and 6.38 MEPC 82/17, paras. 13.5 and 13.6; MEPC 83/17, para. 13.5
7	7.3	Safety and pollution hazards of chemicals and preparation of consequential amendments to the IBC Code	Continuous	MEPC	PPR		Ongoing	Ongoing	PPR 11/18, section 3; MEPC 81/16, para. 9.1; MEPC 82/17, paras. 10.5 to 10.8; MEPC 83/17, paras. 10.6 to 10.8
7	7.4	Lessons learned and safety issues identified from the analysis of marine safety investigation reports	Annual	MSC / MEPC	III		Completed	Completed	MEPC 81/16, para. 10.4; MEPC 83/17, paras. 11.2 and 11.3

Reference to SD*	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7	7.5	Identified issues relating to the implementation of IMO instruments from the analysis of data	Annual	MSC / MEPC	III		Completed	Completed	MEPC 81/16, para. 6.3 to 6.12 and 10.3; MEPC 82/17, section 6; MEPC 83/17, para. 11.6
7	7.7	Consideration and analysis of reports on alleged inadequacy of port reception facilities	Annual	MEPC	III		Completed	Completed	III 9/19, section3; MEPC 81/16, para. 10.1; MEPC 83/17, para. 11.1
7	7.8	Monitoring the worldwide average sulphur content of fuel oils supplied for use on board ships	Annual	MEPC			Completed	Completed	MEPC 81/16, paras. 5.3 and 5.4; MEPC 82/17, paras. 5.2 to 5.11; MEPC 83/17, paras. 5.2 to 5.13
7	7.11	Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters	2024	MEPC	PPR		Completed		PPR 11/18, section 10; MEPC 81/16, para. 9.1; MEPC 82/17, para.10.10, 16.10 to 16.13
7	7.16	Development of a guide compiling best practices to develop local-level marine spill contingency plans to aid States, particularly local governments and key institutions, in implementing the OPRC Convention and OPRC-HNS Protocol	2025	MEPC	PPR		Completed		PPR 11/18, section 9; MEPC 81/16, para. 9.1; MEPC 82/17, para. 10.9
7	7.27	Updated Survey Guidelines under the Harmonized System of Survey and Certification (HSSC)	Annual	MSC / MEPC	III		Completed	Completed	MEPC 81/16, para. 10.9; MEPC 83/17, para. 11.9

Reference to SD*	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
7	7.28	Consideration of reports of incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas	Annual	MSC / MEPC	III	CCC	Completed	Completed	CCC 9/14, section 9; CCC 10/16, section 9
7	7.38	Amendments to MARPOL Annex II in order to improve the effectiveness of cargo tank stripping, tank washing operations and prewash procedures for products with a high melting point and/or high viscosity	~~2025~~ 2027	MEPC	PPR		In progress	Extended	PPR 11/18, section 4; MEPC 81/16, para. 9.1; MEPC 82/17, para. 10.4
Note: MEPC 83 noted the biennial status report of the PPR Sub-Committee for the 2024-2025 biennium. Consequently, the target completion year for output 7.38 has been extended to 2027, as per the request by PPR 12.									
7	7.43	Revision of regulation 13.2.2 of MARPOL Annex VI to clarify that a marine diesel engine replacing a boiler shall be considered a replacement engine.	2024	MEPC		PPR	Completed		MEPC 81/16, section 3
7	7.46	Amendments to the *2017 Guidelines addressing additional aspects of the NO_X Technical Code 2008 with regard to particular requirements related to marine diesel engines fitted with Selective Catalytic Reduction (SCR) systems* (resolution MEPC.291(71), as amended by resolution MEPC.313(74))	2025	MEPC		PPR	In progress	Completed	MEPC 82/17, paragraph 14.11; MEPC 83/17, paras. 5.16 and 5.17

Reference to SD*	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
8	8.1	Endorsed proposals for the development, maintenance and enhancement of information systems and related guidance (GISIS, websites, etc.)	Continuous	Council	MSC / MEPC / FAL / LEG / TCC		Ongoing	Ongoing	MEPC 81/16, paras. 6.3 to 6.7, 10.2, 10.4, 15.2 to 15.8; MEPC 82/17, sections 5 and 6; MEPC 83/17, paras. 6.28 and 11.4
8	8.3	Analysis and consideration of reports on partnership arrangements for, and implementation of, environmental programmes	Annual	TCC	MEPC		Completed	Completed	MEPC 81/16, section 12
8	8.9	Revised documents on organization and method of work, as appropriate	Annual	Council	MSC / FAL / LEG / TCC / MEPC		Completed	Completed	MEPC 81/16, section 13; MEPC 82/17, section 13; MEPC 83/17, section 13
8	8.12	Consideration for the enhancement and improvement of multilingualism and the language services at IMO	Continuous	Council	MSC / MEPC / FAL / LEG / TCC		Ongoing	Ongoing	MEPC 81/16, para. 15.25
OW	OW.3	Endorsed proposals for new outputs for the 2024-2025 biennium as accepted by the Committees	Annual	Council	MSC / MEPC / FAL / LEG / TCC		Completed	Completed	MEPC 81/16, section 14; MEPC 82/17, section 14; MEPC 83/17, section 14
OW	OW.8	Cooperate with the United Nations on matters of mutual interest, as well as provide relevant input/guidance	Continuous	Assembly	MSC / MEPC / FAL / LEG / TCC	Council	Ongoing	Ongoing	MEPC 81/16, paras. 7.1 to 7.3, 15.1 and 15.9 to 15.19; MEPC 82/17, paras. 7.1 to 7.3, 16.1 to 16.9 and 16.17; MEPC 83 paras. 7.24 , 7.25 and 16.5 to 16.10

Reference to SD*	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ	Status of output for Year 1	Status of output for Year 2	References
OW	OW.9	Cooperate with other international bodies on matters of mutual interest, as well as provide relevant input/guidance	Continuous	Assembly	MSC / MEPC / FAL / LEG / TCC	Council	Ongoing	Ongoing	MEPC 81/16, section 7; MEC 82/17, section 7; MEC 83/17, section 7

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ANNEX 18

PROPOSED OUTPUTS OF MEPC FOR THE 2026-2027 BIENNIUM[1]

Marine Environment Protection Committee (MEPC)

Reference to SD, if applicable[2]	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ
1	1.2	Input on identifying emerging needs of developing countries, in particular SIDS and LDCs to be included in the ITCP	Continuous	TCC	MSC / MEPC / FAL / LEG	
1	1.4	Analysis of consolidated audit summary reports	Continuous	Assembly	MSC / MEPC / LEG / TCC / III	Council
1	1.5	Non-exhaustive list of obligations under instruments relevant to the IMO Instruments Implementation Code (III Code)	Continuous	MSC / MEPC	III	
1	1.7	Identify thematic priorities within the area of maritime safety and security, marine environmental protection, facilitation of maritime traffic and maritime legislation	Continuous	TCC	MSC / MEPC / FAL / LEG	
1	1.9	Report on activities within the ITCP related to the OPRC Convention and the OPRC-HNS Protocol	Continuous	TCC	MEPC	

[1] In accordance with the revised Committees' Method of Work, which has been approved by MSC 109 and MEPC 83, the term "annual" used for the target completion year of outputs should be changed to "continuous".

[2] Strategic directions:
SD 1: Ensure implementation of IMO instruments supported by capacity development
SD 2: Integrate new, emerging and advancing technologies in the regulatory framework
SD 3: Respond to climate change and reduce greenhouse gas emissions from international shipping
SD 4: Continue to engage in ocean governance
SD 5: Enhance global facilitation, supply chain resilience and security of international trade
SD 6: Address the human element
SD 7: Ensure the regulatory effectiveness of international shipping
SD 8: Ensure organizational effectiveness
OW: Other work

Reference to SD, if applicable[2]	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ
1	1.11	Measures to harmonize port State control (PSC) activities and procedures worldwide	Continuous	MSC / MEPC	HTW / PPR / NCSR	III
1	1.16	Experience-building phase (EBP) for the reduction of underwater radiated noise from shipping	2026	MEPC	SDC	
1	1.18	Development of guidance on assessments and applications of remote surveys, ISM Code audits and ISPS Code verifications	[2025]	MSC/ MEPC	III	
Note: The target completion year will be updated as necessary based on the outcome of III 11 in July 2025.						
1	1.23	Evaluation and harmonization of rules and guidance on the discharge of discharge water from EGCS into the aquatic environment, including conditions and areas	2026	MEPC	PPR	
1	1.24	Review of the BWM Convention based on data gathered in the experience-building phase	2027	MEPC		
1	1.25	Urgent measures emanating from issues identified during the experience-building phase of the BWM Convention	2027	MEPC		
1	1.26	Revision of MARPOL Annex IV and associated guidelines	2026	MEPC	III / HTW	PPR
2	2.2	Approved ballast water management systems which make use of Active Substances, taking into account recommendations of the GESAMP-BWWG	Continuous	MEPC		
2	2.11	Development of a comprehensive strategy on maritime digitalization	2027	FAL	MSC/MEPC	
2	2.13	Review of the IBTS Guidelines and amendments to the IOPP Certificate and Oil Record Book	2026	MEPC	PPR	

Reference to SD, if applicable[2]	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ
	2…[3] (New)	Review and amendment of the NTC 2008 to provide a means for certification of engines that operate on non-carbon-containing fuel or mixtures of carbon-containing and non-carbon-containing fuels	2027	MEPC	PPR	
3	3.1	Treatment of ozone-depleting substances used by ships	Continuous	MEPC		
3	3.2	Further development of mechanisms needed to achieve the reduction of GHG emissions from international shipping	Continuous	MEPC		
3	3.3	Reduction of the impact on the Arctic of emissions of Black Carbon from international shipping	2027	MEPC	PPR	
3	3.4	Promotion of technical cooperation and transfer of technology relating to the reduction of GHG emissions from ships	Continuous	MEPC		
3	3.5	Revision of guidelines concerning chapter 4 of MARPOL Annex VI	2027	MEPC		
3	3.6	EEDI reviews required under regulation 21.6 of MARPOL Annex VI	2027	MEPC		
3	3.7	Further technical and operational measures for enhancing the energy efficiency of international shipping	2027	MEPC		
3	3.8	Development of a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels	Continuous	MSC	MEPC / CCC / HTW / III / SSE / SDC	
4	4.1	Identification and protection of Special Areas, ECAs and PSSAs and associated protective measures	Continuous	MEPC	NCSR	

[3] An output number will be assigned by Council in due course.

Reference to SD, if applicable[2]	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ
4	4.2	Input to the ITCP on emerging issues relating to sustainable development and achievement of the SDGs	Continuous	TCC	MSC / MEPC /FAL / LEG	
4	4.3	Follow-up work emanating from the Action Plan to Address Marine Plastic Litter from Ships	2027 (2030)	MEPC	PPR / III / HTW	
6	6.1	Role of the human element	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW
6	6.2	Validated model training courses	Continuous	MSC / MEPC	III / PPR / CCC / SDC / SSE / NCSR	HTW
6	6.10	Development of an entrant training manual for PSC personnel	2027	MSC / MEPC	III	
7	7.1	Unified interpretation of provisions of IMO safety, security, environment, facilitation, liability and compensation-related conventions	Continuous	MSC / MEPC / FAL / LEG	III / PPR / CCC / SDC / SSE / NCSR	
7	7.3	Safety and pollution hazards of chemicals and preparation of consequential amendments to the IBC Code	Continuous	MEPC	PPR	
7	7.4	Lessons learned and safety issues identified from the analysis of marine safety investigation reports	Continuous	MSC / MEPC	III	
7	7.5	Identified issues relating to the implementation of IMO instruments from the analysis of data	Continuous	MSC / MEPC	III	
7	7.7	Consideration and analysis of reports on alleged inadequacy of port reception facilities	Continuous	MEPC	III	

Reference to SD, if applicable[2]	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ
7	7.8	Monitoring the worldwide average sulphur content of fuel oils supplied for use on board ships	Continuous	MEPC		
7	7.27	Updated Survey Guidelines under the Harmonized System of Survey and Certification (HSSC)	Continuous	MSC / MEPC	III	
7	7.28	Consideration of reports of incidents involving dangerous goods or marine pollutants in packaged form on board ships or in-port areas	Continuous	MSC / MEPC	III	CCC
7	7.38	Amendments to MARPOL Annex II in order to improve the effectiveness of cargo tank stripping, tank washing operations and prewash procedures for products with a high melting point and/or high viscosity	2027	MEPC	PPR	
7	7…[4]	Revision of the *Revised guidelines and specifications for pollution prevention equipment for machinery space bilges of ships* (resolution MEPC.107(49))	2027	MEPC	PPR	
7	7…[4]	Review and development of NO_x emission requirements in MARPOL Annex VI and the NO_x Technical Code 2008	2027	MEPC	PPR	
	7…[5] (New)	Development of a legally binding framework for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species	2029	MEPC	PPR	
8	8.1	Endorsed proposals for the development, maintenance and enhancement of information systems and related guidance (GISIS, websites, etc.)	Continuous	Council	MSC / MEPC / FAL / LEG / TCC	

[4] Moved from the post-biennial agenda of the Committee to the 2026-2027 biennium. The output has been included in the provisional agenda of PPR 13. An output number will be assigned by Council in due course.

[5] The output was approved by MEPC 83 and has been included in the provisional agenda of PPR 13. An output number will be assigned by Council in due course.

Reference to SD, if applicable[2]	Output number	Description	Target completion year	Parent organ(s)	Associated organ(s)	Coordinating organ
8	8.3	Analysis and consideration of reports on partnership arrangements for, and implementation of, environmental programmes	Continuous	TCC	MEPC	
8	8.9	Revised documents on organization and method of work, as appropriate	Continuous	Council	MSC / FAL / LEG / TCC / MEPC	
8	8.12	Consideration for the enhancement and improvement of multilingualism and the language services at IMO	Continuous	Council	MSC / MEPC / FAL / LEG / TCC	
OW	OW.3	Endorsed proposals for new outputs for the 2026-2027 biennium as accepted by the Committees	2027	Council	MSC / MEPC / FAL / LEG / TCC	
OW	OW.8	Cooperate with the United Nations on matters of mutual interest, as well as provide relevant input/guidance	Continuous	Assembly	MSC / MEPC / FAL / LEG / TCC	Council
OW	OW.9	Cooperate with other international bodies on matters of mutual interest, as well as provide relevant input/guidance	Continuous	Assembly	MSC / MEPC / FAL / LEG / TCC	Council

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ANNEX 19

POST-BIENNIAL AGENDA OF MEPC

MARINE ENVIRONMENT PROTECTION COMMITTEE (MEPC)

ACCEPTED POST-BIENNIAL OUTPUTS				Parent organ(s)	Associated organ(s)	Coordinating organ	Timescale	Reference
No.	**Biennium** [1]	**Reference to strategic direction, if applicable** [2]	**Description**					
1	2016-2017	7	Development of amendments to regulation 19 of MARPOL Annex VI and development of an associated Exemption Certificate for the exemption of ships not normally engaged on international voyages	MEPC	III		2 sessions	MEPC 71/17, paragraph 14.15
2	2024-2025	7	Assessment of the implementation of the Hong Kong Convention through an experience-building phase and development of amendments and clarifications as appropriate	MEPC	PPR		4 sessions	MEPC 83/17, paragraph 14.15
2	2024-2025	2	Development of guidelines for managing ammonia effluent generated from ammonia-fuelled ships	MEPC	PPR		2 sessions	MEPC 83/17, paragraph 14.15

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[1] Biennium when the output was placed on the post-biennial agenda.

[2] Strategic directions:
SD 1: Ensure implementation of IMO instruments supported by capacity development
SD 2: Integrate new, emerging and advancing technologies in the regulatory framework
SD 3: Respond to climate change and reduce greenhouse gas emissions from international shipping
SD 4: Continue to engage in ocean governance
SD 5: Enhance global facilitation, supply chain resilience and security of international trade
SD 6: Address the human element
SD 7: Ensure the regulatory effectiveness of international shipping
SD 8: Ensure organizational effectiveness
OW: Other work

ANNEX 20

ITEMS TO BE INCLUDED IN THE AGENDAS OF MEPC/ES.2 and MEPC 84

Items to be included in the agenda of MEPC/ES.2
14 to 17 October 2025

Opening of the session

1 Adoption of the agenda

2 Consideration and adoption of amendments to mandatory instruments

3 Reduction of GHG emissions from ships*

4 Any other business

5 Consideration of the report of the Committee

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* Submissions related to the development of a work plan for the implementation of the IMO Net-Zero Framework only.

Items to be included in the agenda of MEPC 84

No.	Item
	Opening of the session
1	Adoption of the agenda
2	Decisions of other bodies
3	Consideration and adoption of amendments to mandatory instruments
4	Harmful aquatic organisms in ballast water
5	Air pollution prevention
6	Energy efficiency of ships
7	Reduction of GHG emissions from ships
8	Follow-up work emanating from the Action Plan to Address Marine Plastic Litter from Ships
9	Experience-building phase for the reduction of underwater radiated noise from shipping
10	Pollution prevention and response
11	Reports of other sub-committees
12	Identification and protection of Special Areas, ECAs and PSSAs
13	Application of the Committees' method of work
14	Work programme of the Committee and subsidiary bodies
15	Any other business
16	Consideration of the report of the Committee

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ANNEX 21

APPROVED THEMATIC PRIORITIES RELATING TO THE MARINE ENVIRONMENT FOR INCLUSION IN THE ITCP FOR THE 2026-2027 BIENNIUM

1 Assisting countries with the implementation of MARPOL Annexes I to V, also taking into consideration relevant IMSAS audit outcomes, the IMO Action Plan to Address Marine Plastic Litter from Ships, the environmental requirements of the Polar Code, as well as requirements for Special Areas and Particularly Sensitive Sea Areas (PSSAs).

2 Assisting countries with the implementation of the 2023 IMO Strategy on reduction of GHG emissions from ships, notably the short and mid-term GHG reduction measures and resolution MEPC.367(79) on National Action Plans (NAPs); and MARPOL Annex VI and related instruments, in particular the NO_x Technical Code, the consistent implementation of the global limit on the sulphur content of ships' fuel oil (IMO 2020) and Emission Control Areas (ECAs).

3 Strengthening national and regional capacity and fostering regional cooperation for effective and consistent implementation of the BWM Convention, taking into account the comprehensive review of the Convention under the experience-building phase, the recently amended AFS Convention and the revised Biofouling Guidelines. In addition, assisting countries to raise awareness, build capacity and support the implementation of the *Revised guidelines for the reduction of underwater radiated noise from shipping to address adverse impacts on marine life* (MEPC.1/Circ.906/Rev.1).

4 Enhancing countries' capacities and promoting national and regional cooperation for the ratification, effective implementation and enforcement of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, in particular during the experience-building phase.

5 Assisting countries with the implementation of the OPRC Convention and the OPRC-HNS Protocol and enhancing regional cooperation in the field of marine pollution preparedness, response and coordination, as well as addressing aspects of the implementation of the relevant international regimes on liability and compensation for marine spills of oil and hazardous and noxious substances (HNS) pollution.

6 Assisting countries in building capacity for the ratification and implementation of the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Protocol), as well as supporting countries in implementing measures aimed at conservation and sustainable governance of the ocean.

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ANNEX 22

STATEMENTS BY DELEGATIONS AND OBSERVERS*

Agenda item 6

Statement by the delegation of Fiji

"Fiji would like to make several points on the carbon intensity reduction factors as set by the working group yesterday. The first point is a point of process. Our delegation, as well as many others, did not have sufficient bandwidth to be in all relevant working groups taking place this week. Indeed, the sole delegate of Palau was not able to participate in ISWG APEE 1 one last week due to the parallel GHG Working Group talks yesterday, he did join the energy efficiency Working Group. We are representing submission APEE 1/2/12, which our delegation supports in full.

While we do not wish to slow down any process that can help reduce greenhouse gas emissions, we fear that settling for any progress, however low it is, does not help us give industry the clarity it wants. Second, we believe that the short and midterm measures should align to deliver on the strive targets of the 2023 GHG Strategy. It is the only target in the strategy that gives us a fighting chance of keeping global warming below 1.5 degrees. This issue is bigger than the Pacific Islands. Even at 1.5 degrees of warming, we face dangerous tipping points that create risk that are not gradual or linear, but sudden and irreversible. This means we have to do everything we possibly can to tackle the cause of climate change as quickly as possible. This brings me to my third point. We have supported the CI Z factors proposed by Palau in APEE/1/2/12 because they would speed up the transition.

More importantly, strengthening these measures, it would make the transition easier, increasing CI stringency, if done well, can be cost neutral or small cost. We do not say that lightly , like the past two of the IMO comprehensive Impact Assessment makes that point very clear, improving energy efficiency in the short term is cost neutral while reducing emissions. This leads to a lower impact on states there is no need for additional impact assessments. Chair, we had hoped that our reasoning backed by ample evidence would have been accepted, acceptable by our fellow member states and way forward. But as many others have noted, the working group reached a different compromise. We will now need higher ambition on the midterm measures to ensure we meet the strive targets of the 2023, GHG strategy, we would like our intervention to be better for the final report.
Thank you."

Statement by the delegation of Malaysia

"Thank you, Chair,
First of all, Malaysia would like to congratulate you as the newly elected MEPC chairperson, together with Mr. Hanqiang Tan (Singapore) from Singapore as the vice-chair. This delegation is in full support for your chairmanship throughout the meeting.

* Statements have been included in this annex as provided by delegations/observers, in the order in which they were given, sorted by agenda item, and in the language of submission (including translation into any other language if such translation was provided). Statements are accessible in all official languages on audio file at: http://docs.imo.org/Meetings/Media.aspx

We also wish to extend our heartfelt thanks to the delegations of Thailand, Bangladesh, Pakistan, Cyprus, Malta, Canada, Singapore, Nigeria, France, Saudi Arabia, and Norway for providing coffee and delicacy to ensure all delegates were well-nourished and able to participate fully in the proceedings with comfort and dignity.

We align ourselves with the views presented by Saudi Arabia, In relation to the discussions held by the APEE Working Group regarding the CII Z-factor reduction targets, we wish to convey our concern that the contributions made by the Saudi delegation, along with other delegations, have not been sufficiently reflected in the final draft reports. These contributions clearly stressed the necessity of establishing the Z-factor reduction targets based on a thorough assessment that considers the current and anticipated readiness of proven technologies, projected fleet composition and shipping demand.

Establishing Z-factor reduction targets without a comprehensive understanding of the global infrastructure and the technological maturity required to support such goals could result in unintended consequences. Specifically, operators might be led towards decarbonization pathways that are neither feasible nor sustainable, particularly in regions where energy security and uninterrupted trade hold strategic significance.

Moreover, we need to avoid any confusion between the CII and the current GFI measures, and not to prejudge the outcomes of the discussions. We therefore respectfully urge that these considerations be fully reflected and that future discussions remain inclusive, balanced, and firmly grounded in practical realities.

Request our intervention to be appended to the final report.
Thank you, Chair."

Statement by the delegation of Saudi Arabia

"With reference to the discussions under the APEE Working Group concerning the CII Z-factor reduction targets, we would like to express our concern that the interventions made by the Saudi delegation and other delegations have not been adequately reflected in the final draft report MEPC 83/WP.10. These interventions clearly emphasized the importance of determining the Z-factor reduction targets based on a comprehensive assessment that takes into account the current and anticipated readiness of proven technologies, projected fleet composition, and shipping demand.

In addition, the delegation of Saudi Arabia raised similar concerns in the plenary during the consideration of the Working Group related to the terms, procedures, and conduct of the discussions of that Group.

We want stress reserve our position as we do not accept the numbers presented in the table of CII reduction values. The Chair of the Working Group noted that many perspectives were shared during the discussions, yet only a single value was reflected in the table. This is entirely unacceptable, and we are deeply concerned that a significant number of countries expressed their figures, yet they have been discarded.

We also want to stress the importance of avoiding confusion between CII and the current GFI measures, especially as the CII targets are being pushed even more aggressively.

Setting Z-factor reduction targets without a clear understanding of the global infrastructure and the technological maturity required to support such ambitions may lead to unintended consequences. Specifically, operators may be driven towards decarbonization pathways that are neither feasible nor sustainable - especially in regions where energy security and uninterrupted trade are of strategic importance.

Premature deployment of higher Z-factor requirements, without the necessary enabling environment, may not only raise fuel production costs but also compel the adoption of immature or less refined technologies. Such a scenario could lead to significant operational inefficiencies and safety concerns, particularly when scaled across a global fleet.

Furthermore, without a robust and realistic baseline, there is a significant risk of setting targets that are not only unachievable but may also cause considerable disruption to global maritime operations. In the short term, the compliance costs associated with a higher Z-factor could place an undue burden on ship operators, particularly those involved in critical trade routes. This, in turn, may inflate shipping costs and ultimately increase the cost of global trade.

We must critically examine the rationale behind the proposed 2.625% annual increase in the Z-factor. This trajectory must be carefully evaluated against the current global fleet distribution and the availability of alternatives. Moreover, it is essential to consider the human element—about 1.9 million seafarers will need to be adequately trained to operate vessels equipped with these new technologies. The readiness of the workforce is as vital as the readiness of the technologies themselves.

We strongly believe that the primary focus, rather than increasing the Z-factor, should be to define and eventually accept an appropriate and fair CII calculation methodology. This methodology should include correction factors for waiting times, idle periods, dry-docking, and heavy weather, as proposed in Phase 2. Only after establishing a robust and equitable calculation method should the evaluation and alignment of the Z-factor be considered.

It is important to note that, according to the IMO's latest assessment, the global fleet has already achieved a 31% reduction in carbon intensity by 2023 compared to 2008 levels. Given that the 2030 target is set at a 40% reduction, we are already on a promising trajectory. However, until the CII framework is comprehensively reviewed and improved, it would be prudent to maintain the current Z-factor reduction level. Specifically, we support freezing the reduction target at 11% from 2008 levels for the period 2026–2028, as proposed in document by ICS, ISWG-APEE 1/2.

We urge that the Z-factor trajectory be aligned with the realities of technological maturity, global infrastructure readiness, and seafarer capability. This approach ensures that environmental objectives are met without compromising energy security, economic stability, or the safety of maritime operations.

It is in the spirit of upholding transparency and participatory decision-making that this delegation wishes to respectfully make known its intention to raise a point of order, as provided for in Rule 38 (Rule 30 as amended by MEPC 83) of the Rules of Procedure of this Committee, to request that the record reflect our expressly stated position on this issue, and that the positions of all delegations are fairly reflected.

Moreover, we understand what the Group on Air Pollution and Energy Efficiency agreed upon last week during ISWG-APEE 1. However, our point of view was not considered in the report, particularly regarding the proposed access to IMO DCS data. We would like to provide the following responses and justifications:

1. Access to Non-Anonymized Data

We do not agree to grant all Parties access to non-anonymized data of all ships. This data can include sensitive commercial, operational, or technical information, the disclosure of which may compromise the confidentiality and competitiveness of shipowners and operators. Granting unrestricted access increases the risk of misuse, data breaches, or inconsistent interpretations. We believe access should be restricted to the flag State and relevant recognized organizations directly responsible for compliance oversight.

2. *Access to Anonymized Data by the Public and Other Stakeholders*
While anonymized data is less sensitive, we still cannot agree to unrestricted public access, including Recognized Organizations and shipping companies. There is a risk of indirect identification through data correlation, as well as potential misinterpretation or misuse. We propose that access to anonymized data be limited to authorized entities under controlled conditions for regulatory or research purposes.

3. *Access by Recognized Organizations and Companies to Their Own Data*
We support allowing Recognized Organizations and companies to access anonymized data pertaining to their own ships. This is vital for internal analysis, performance monitoring, and ensuring compliance, with minimal risk to data security.

Additionally, we request that Saudi Arabia's intervention be included on the final page of the draft report to ensure an accurate and complete record."

Statement by the delegation of Venezuela (Bolivarian Republic of)

"Sr. Presidente, ante todo reciba nuestras felicitaciones, tanto para usted como para el Sr. VicePresidente por su reeleccion, deseandoles el mejor de los exitos en su proximo periodo como Presidente de este Comité.

La República Bolivariana de Venezuela desea manifestar tambien, la misma preocupacion expresada por la delegacion de Arabia Saudita acerca de los factores Z propuestos para el Indicador de Intensidad de Carbono (CII), debido a su carácter excesivamente ambicioso, lo que podría generar impactos económicos desproporcionados en países en desarrollo y limitar su capacidad para implementar las medidas necesarias. Estas propuestas no consideran adecuadamente las disparidades tecnológicas, económicas y operativas entre los Estados Miembros, ni las condiciones específicas de las flotas marítimas y rutas regionales.

Venezuela destaca la importancia de adoptar un enfoque más equilibrado y progresivo, que permita a los Estados avanzar hacia los objetivos climáticos globales sin comprometer su sostenibilidad económica. Asimismo, subraya que las metas deben ser realistas y complementarse con medidas ya existentes, como el EEXI, SEEMP y EEDI, que han demostrado ser efectivas para reducir la intensidad de carbono en el transporte marítimo.
Finalmente, se insta al Comité a priorizar un marco regulatorio inclusivo y flexible que considere las capacidades diferenciadas de los Estados Miembros y fomente una transición justa hacia un transporte marítimo más eficiente y sostenible.

Sr.Presidente, solicitamos que nuestra declaracion sea anexado en el imforme final, misma que sera enviada a la Div de Conferencias."

Agenda item 7

Statement by the Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC)

"Thank you, Mr. Chair.
I am glad to be here with you today. On behalf of the UNFCCC secretariat, I would like to share a summary of the relevant outcomes at COP 29 in Baku. In the interest of time, the full version of the statement will be forwarded to the secretariat for inclusion in the report.

Key relevant outcomes of SBSTA 61
I wish to start by reporting on the outcomes of negotiations on emissions from fuel used for international aviation and maritime transport at SBSTA 61 last November in Baku.

The UNFCCC secretariat expresses its gratitude to the IMO secretariat for its contribution to the UNFCCC process through its submission and statement at SBSTA 61, which informed UNFCCC Parties on recent progress in IMO efforts to address GHG emissions from the international shipping sector. The implementation of the 2023 IMO GHG strategy, including progress in developing the IMO net zero framework and an update on ship fuel oil consumption and annual carbon intensity, was particularly highlighted.

Under this agenda item, SBSTA organized a constructive dialogue between Parties and the ICAO and IMO secretariats. The dialogue fostered an exchange of views and questions on the submission from these secretariats, while topics related to marine transport addressed the findings and outcomes of the comprehensive impact assessment of the basket of candidate midterm measures.

Parties deepened their understanding of the significant progress and ways forward in emission reduction efforts in this crucial sector and agreed to further consider this matter at SBSTA 62.

Key relevant outcomes of COP 29
Distinguished delegates, as reported previously, in its decision on the outcome of the first global stocktake at COP 28, the CMA:

- Resolved to pursue further efforts to limit the temperature increase to 1.5 °C;
- Noted the availability of feasible, effective and low-cost mitigation options in all sectors to keep 1.5 °C within reach in this critical decade, with necessary cooperation and support;
- Called on Parties to contribute to global efforts, including:
    - Doubling the global average annual rate of energy efficiency improvements by 2030;
    - Transitioning away from fossil fuels in energy systems in a just, orderly and equitable manner, accelerating action in this critical decade so as to achieve net zero by 2050;
    - Accelerating efforts globally towards net zero emission energy systems, utilizing zero- and low-carbon fuels, well before or by around mid-century.

At COP 29, Parties adopted further decisions that advance global efforts towards achieving the Paris Agreement goals.

Most significantly, Parties agreed on the new collective quantified goal on climate finance. The decision calls on all actors to work together to enable the scaling up of financing for climate action in developing countries from all public and private sources to at least USD 1.3 trillion annually by 2035. It also sets a target for developed countries to take the lead in mobilizing at least USD 300 billion per year for developing countries by 2035. These outcomes underscore the importance of increasing financial support for climate action in developing countries over the coming years.

COP 29 also agreed on the final building blocks for operationalizing carbon markets under the Paris Agreement after almost a decade of hard work. The agreements outline how countries will authorize the trade of carbon credits and how registries tracking the trade of credits will operate. In addition, a centralized global carbon market mechanism was fully operationalized, registering its first transition project from the clean development mechanism, with more registrations expected in the coming days. These developments will help countries deliver their climate plans at a lower cost.

Regarding mitigation, COP 29 advanced technical solutions through the mitigation work programme, which focused on emission reductions in urban areas and fostered collaboration across governance levels. On adaptation, the global goal on adaptation was strengthened with the launch of the Baku Adaptation Road Map, which provides clearer pathways to enhance resilience and track progress through technical indicators.

Further, on the margins of negotiations, many events related to shipping decarbonization were organized, fostering interactions with other sectors such as energy and finance.

Looking ahead, SBSTA 62 is scheduled to take place from 16 to 26 June in Bonn and COP 30 from 10 to 21 November in Belém. We extend our sincere appreciation to the Government of Brazil for hosting COP 30 and warmly welcome your participation in the upcoming meetings.
Colleagues, we meet at a time when 2024 registered the warmest year on record, exceeding pre-industrial levels by 1.5 °C and when global warming is on course to reach between 2.1 and 2.8 °C. In 2023, IMO GHG strategy created a moment of hope. We look forward to the outcomes of your efforts to address climate change and stand ready to support the IMO and its Member States in this endeavour.
Thank you, Mr. Chair."

Statement by the delegation of Australia

"With the dissolution of the House of Representatives of the Australian Parliament on 28 March, and the announcement of a general election, the Australian Government is now in caretaker mode. Consequently, in accordance with Australia's long standing caretaker conventions, Australia is principally observing the proceedings of IMO's 83rd session of the Marine Protection Environment Committee. More information can be obtained from the Australian delegation."

Statement by the delegation of Argentina

"Sr. Presidente,
La República Argentina se abstiene de votar el proyecto de enmienda al anexo VI de Convenio MARPOL, referido a la medida de mediano plazo para la reducción de Gases de Efecto Invernadero procedentes de buques, propuesto por el Presidente del Grupo de trabajo sobre la reducción de emisiones de efecto invernadero procedentes de los buques, obrante en el anexo 1 del documento MEPC 83/WP.11, y considera que:

- Deberían definirse los aspectos con un enfoque responsable, evitando que resulte punitiva del comercio de países en desarrollo distantes de sus mercados, para los cuales el comercio exterior es una herramienta para sus legítimas aspiraciones de desarrollo económico, y evitando que afecte la seguridad alimentaria global;

- Los términos de referencia del Fondo que se establezca deberán ser muy claros, y su integración ajustarse a la representación geográfica equitativa;

- Los impactos negativos sobre los Estados, en particular sobre países en desarrollo, deben ser abordados en su totalidad, no limitándose a ninguno de ellos en particular; y

- Debería haber un enfoque realista en materia de combustibles alternativos, sin exclusiones injustificadas.

Muchas Gracias".

Statement by the delegation of Bahamas

"Thank you Chair, Secretary-General, Excellencies, Distinguish Delegates present and online, NGO's and IGO's, Observers, Greetings.

Chair as we begin the 83rd. Session of the Marine Environmental Protection Committee. The Bahamas extends best wishes to all members celebrating Eid and Happy Nowruz to all who are celebrating the Persian New Year.

We also extend our Sympathies to the people of Myanmar and Thailand over the loss of hundreds of lives and those suffering from injuries following the recent destructive earthquake. We also express solidarity with all Member States who have suffered loss from the deadly and devastating effect of Extreme Weather events. We also acknowledge and pray for the families of all seafarers who lost their lives at sea.

Chair, the Prime Minister of The Bahamas and the Bahamian People have made the amelioration and mitigation of Climate Change its number one goal; in fact, it is our Primary Foreign Affairs Priority in all International Forums including here at the IMO. In this regard I wish to draw your attention to the following:

That all Member States of the International Maritime Organization (IMO) at (MEPC 80), adopted the 2023 IMO Strategy on Reduction of GHG Emissions from Ships, with enhanced targets to tackle harmful emissions.

The revised IMO GHG Strategy included an enhanced common ambition to reach net-zero GHG emissions from international shipping by or around, or close to, 2050, a commitment to ensure an uptake of alternative zero and near-zero GHG fuels by 2030, as well as indicative checkpoints for 2030 and 2040.

It is of particular note that there was unanimous support from all Member States in the adoption of the re-vised GHG Strategy with special attention to support developing countries, in particular SIDS such as The Bahamas and LDCs, so that no one is left behind,"

We have now worked through, the Vision, the level of ambition including the Carbon Intensity Indicators, the Basket of candidate mid-term measures including a technical element (namely the fuel standard) along with an economic element around a pricing mechanism.

As we begin this pivotal session, I submit that we have before us two substantive proposals and a bridging plan to choose from to get shipping to net zero greenhouse gas emissions by or around 2050. They are:

1. A Global Fuel Standard plus a levy (GFS+ Levy) this to our mind offers the fairest and clearest incentive for shipping to go green, while raising enough offsets to reward (SIDS and LDCs).

2. Global Fuel Standard plus a Flexible/ Credit trading proposal or The International Maritime Sustainable Fuels & Fund (IMSF & F) this would use the GFS to raise funds. Ships over 5,000 gt would have to report an 'attained Greenhouse Gas Fuel Intensity GFI', or fuel emissions intensity against a set of pre-determined 'required GFI' values; and

3. The Bridging Proposal which takes the IMSF&F idea and adds another band, with differing stringency for the non-compliance penalty.

Chair we urge member states to be considered and deliberative in their analysis but decisive in their outcome. Our next steps have to be clear and unambiguous to all the parties including governments for their development of national requirements and guidelines and equally the shipowners and seafarers who are critical in the implementation of the shipboard measurements to ensure effective compliance.
I thank you."

Statement by the delegation of Belgium

"Belgium aligns itself with the statement made by Poland.
With the GHG Strategy in 2023, the IMO showed its commitment to address the urgency of climate change by decarbonizing the shipping sector. It is now time for the IMO to live up to these commitments by setting a clear and complete global regulatory framework, which is a pre-requisite to maintain the level playing field for the whole industry worldwide. We remain committed to find an agreement which contributes to a just and equitable transition, in line with the 2023 IMO GHG Strategy.
Belgium is ready to engage with all delegations to reach a consensus by the end of this week."

Statement by the delegation of Chile

"Muy buenos días, Señor Presidente, Secretario General, delegados y delegadas.
Quisiera partir agradeciendo el reporte del Sr. Oftedal, como Presidente del Grupo de Trabajo Intersesional, así como la labor de todas las delegaciones que han participado en dicha instancia.

Cuando adoptamos la Estrategia de reducción de emisiones de Gases de Efecto Invernadero el año 2023, acordamos también un cronograma para poder aprobar y adoptar las medidas de mediano plazo. Esta semana es crucial para cumplir con aquello a lo que nos comprometimos en julio del 2023.

No es novedad que Chile promueva acuerdos que busquen reducir las emisiones de gases efecto invernadero y los impactos que estas emisiones tienen en nuestros países. Chile está comprometido con la mitigación del cambio climático y sus efectos. Somos Estado Parte de la Convención Marco de Naciones Unidas sobre el Cambio Climático y del Acuerdo de Paris. Nuestro compromiso se ha traducido en medidas concretas, como es nuestra legislación nacional que establece una serie de acciones para que nuestro país alcance la carbono neutralidad al 2050.

En el contexto de la OMI también hemos sido muy activos en apoyar los esfuerzos oara mitigar el cambio climático y sus efectos perjudiciales. Es así como, nuestro país ha participado activamente en la discusión sobre el diseño e implementación de medidas de mediano plazo que permitan cumplir con el objetivo de la Estrategia para que el transporte marítimo internacional alcance la neutralidad en emisiones GEI al año 2050, o alrededor de ese año, teniendo presente también que estas medidas deben tener el menor impacto posible en los Estados.

El camino recorrido desde julio de 2023 hasta hoy ha requerido de mucho trabajo de todas las delegaciones presentes. Ha requerido de tiempo, análisis, discusiones técnicas, reuniones, diálogos, y la lista puede seguir.

Hemos llegado a la reunión en que el Comité debe adoptar las medidas. El reporte del Presidente del Grupo de Trabajo y la labor desarrollada por las delegaciones la semana recién pasada, nos alienta en esta etapa clave.

Chile estima que el texto presentado por el Presidente del Grupo de Trabajo constituye una buena base para seguir trabajando pero tenemos materias importantes no resueltas que debemos seguir analizando para encontrar soluciones, afinar entendimientos y lograr acuerdos.

El objetivo principal de la Estrategia es reducir las emisiones de GEI; en ese contexto, la generación de ingresos no es la meta principal, sino que un sub-producto de las medidas que se adopten. Entendemos que estos ingresos son necesarios para promover tanto el desarrollo y el uso de tecnologías o combustibles cero, o cercanos a cero, emisiones, como para promover una transición justa y equitativa en el contexto de la Estrategia. Por eso, la distribución que se haga de los ingresos que se recauden, es muy relevante, focalizando dichos fondos en el sector.

Queremos dar las señales claras para promover un cambio en la industria de modo que transite hacia el uso de combustibles limpios, pero también necesitamos evitar una penalización excesiva en los buques, particularmente respecto de aquellos que cubren rutas hacia lugares distantes como es el caso de Chile. Por ello, la determinación de los precios y la exigencia que tenga el estándar cumplen un rol clave para determinar el carácter equitativo de las medidas.

Sabemos que las medidas tendrán impactos, pero debemos evitar los impactos negativos desproporcionados; y aquellos que no se pueda evitar deben ser atendidos con el objeto de minimizarlos lo más que se pueda a fin de que los países en desarrollo no sean los más afectados. Por eso es relevante establecer un equilibrio entre la ambición y la gradualidad para reducir al máximo esos impactos negativos. Estos son algunos de los muchos y complejos puntos que debemos resolver esta semana; y aunque la tarea parece enorme, confiamos en que es posible llegar a un acuerdo.

Necesitamos encontrar el equilibrio necesario que nos permita a todas las delegaciones adoptar estas medidas por consenso, tal y como lo hicimos con la Estrategia hace casi dos años atrás, entregando un mensaje contundente y claro.

Nuestro país continuará buscando dicho equilibrio, junto a todos los miembros, de manera que nos permita adoptar las medidas de forma conjunta, traduciendo la Estrategia en acciones concretas y demostrando, como es habitual, que en esta Organización es posible alcanzar acuerdos y consensuar objetivos comunes.

Señor Presidente, estamos listos para seguir trabajando. Muchas gracias."

Statement by the delegation of Cook Islands

"Kia Orana Tatou Katoatoa,
As we consider a number of proposals still on the table this week, the Cook Islands must highlight our concern with the idea of a trade tax via a shipping levy—particularly as it would apply to the few ships servicing our remote island chain. Ships that we are totally dependent on for all essential goods and services and without which, and irrespective of the type of fuel used, our island life and culture would not be sustained.

Alternative fuels are not available on our routes and are unlikely to be for a decade or more. A mandatory levy on these vessels would result in significantly higher freight costs passed directly to the end user—our people. For the Cook Islands, an economy heavily reliant on tourism (70%), such a levy would have a disproportionately negative impact. We must seriously consider the ramifications on our tourism sector, which could make the Cook Islands a less attractive destination, leading to a collapse in GDP and accelerating depopulation, particularly among our youth, who may be forced to seek livelihoods abroad.

What comfort is there in saying "Let no one be left behind" if our people are driven to leave our islands—not by rising seas, but by the weight of unjust and unequitable decisions made in this very room?

We are, of course, aware that under a mandatory provision the ship is obliged to comply, and we have heard that measures we approve must apply to all ships on all routes. We recognize the need for a global measure and accept that it must apply universally—but to our minds, it is essential to add a caveat that is determined as on all routes where the alternative fuels are available. Penalizing vessels operating on isolated routes like ours—without access to alternative fuels—remains fundamentally unjust. We therefore support the F-VOY Factor or a similar mechanism to address these isolated, fuel-constrained routes.

Chair, there can be no denying that revenue generation—rather than emissions reduction—has taken centre stage of discussions since the adoption of the Revised Strategy. Passions have run high, fueled by the promise of billions in direct payments to governments to offset negative impacts. The lines have blurred, with some now willing to see the IMO drift from its core mandate: promoting safe, secure, environmentally sound, efficient and sustainable shipping and delving into the realm of climate finance.

Any economic measure adopted here must serve one purpose only: to support the shipping sector's transition to Net Zero by 2050. The responsibility for climate finance—for both mitigation and adaptation—rests squarely with developed country parties under the UNFCCC. The Paris Agreement is clear: those who have contributed most to the climate crisis must carry the greatest burden.

Again, climate finance this is not the role nor mandate of the IMO.

In the spirit of bridge building, we are all working hard to agree on the quantum of revenues and how funds will be used and disbursed. But crucially, we must also agree on clear eligibility criteria. We cannot accept a scenario where OECD graduation excludes us from access to funding or concessional finance, or where our role as a Flag State is used to penalise us for historical emissions. All three elements—quantum, disbursement, and importantly eligibility—must be resolved this week if these measures are to be approved by the Committee allowing us to move forward with the necessary amendments.

Chair, shipping does not operate in isolation. Prioritizing maritime decarbonization over high-emitting sectors, competing for the same limited supply of alternative fuels, could actually delay global progress on keeping 1.5°C alive, a goal strongly supported by the Pacific. As stated by the IPCC's 6th Assessment Report, for sectors like shipping, carbon dioxide removal technologies are unavoidable. Therefore, until alternative fuels are widely available, all safe options—including biofuels and carbon removal—must remain under consideration.

Let's acknowledge that the IMO GHG Mid-Term measures we aim to approve at this session will introduce a new Chapter to MARPOL Annex VI, with significant environmental and still unforeseen commercial impacts. It is crucial, therefore, that all core substantive issues are addressed within the Regulations. For the requirements to be legally binding, they must be incorporated into MARPOL amendments, adopted and accepted in line with Article 16 of the Convention. Time constraints and complexities must not push substantive issues to Guidelines, as this would create uncertainty and confusion, hindering successful implementation.

Of course, the Cook Islands remains supportive of the establishment of a Net Zero Fund to manage and disburse collected revenues in order to alleviate the impacts of measures taken. However, we remain of the view that such a Fund should not and cannot be within MARPOL's mandate and therefore should not be within MARPOL Annex VI.

The closest precedent for a centralized international tax in the maritime sector is the IOPC Fund—our only real example of a globally coordinated revenue collection scheme. While the idea of international taxes as a funding mechanism has surfaced repeatedly within the UN system, it has rarely materialized. Political resistance to surrendering control over national revenue streams remains a significant barrier.

As we know, the IOPC Fund was established through an IMO treaty. Following careful legal review, the IMO chose not to levy contributions itself, but to create a treaty-based organisation empowered to do so. Now that members have agreed an international maritime carbon levy falls within the IMO's mandate, it logically follows that a similar legal pathway—a new treaty—will be needed to establish and operate the Net Zero Fund intended to manage those revenues.

Chair, the Cook Islands remains committed to this process and to working constructively with all IMO member states. In closing, we have a long week ahead, but together, we can build this bridge—a bridge of fairness and justice, connecting all nations for a sustainable future and leaving no one behind

May God bless the Cook Islands and keep the sailors on the two ships serving our route safe from the ravages of our stormy oceans."

Statement by the Hon. Ro Filipe Tuisawau, Minister for Public Works, Meteorological Services, and Transport of Fiji

"Honourable Chair, distinguished delegates, ladies and gentlemen,
Fiji would like to submit this intervention in writing in the beginning of the Marine Environment Protection Committee (MEPC) 83rd Session, following advise that we are unable to deliver this orally.

Chair, this week marks a critical juncture for international shipping and our collective response to climate change. As a Small Island Developing State (SIDS) on the frontlines of climate impacts, Fiji remains committed to contributing constructively to the important discussions ahead. We recognise the vital role of the IMO in guiding the shipping sector towards a sustainable and resilient future.

The adoption of the IMO's greenhouse gas (GHG) reduction strategy earlier this year was a commendable milestone. We now have the responsibility to ensure that the measures implemented reflect the ambition required to meet the 1.5°C temperature goal. This calls for robust, scientifically grounded targets for emissions reductions, taking into account the specific needs and challenges faced by vulnerable regions, including SIDS and Least Developed Countries (LDCs).

Supporting a Fair and Effective Pricing Mechanism
As we have repeatedly echoed in previous intersessional and committee meetings, Fiji strongly supports the adoption of a universal levy on GHG emissions from shipping, recognising that pricing emissions in a consistent and fair manner is essential for achieving our shared climate goals. We advocate for a two-tier pricing system structured as follows:

.1 The first tier should price all emissions from the first tonne at $150 per tonne of GHG, generating predictable revenue to support climate adaptation and resilience efforts in vulnerable regions.

.2 The second tier should price emissions at a higher rate of $480 per tonne, encouraging the transition to low- and zero-carbon fuels.

.3 Importantly, no free emissions band should be included, as this would risk undermining the fairness and effectiveness of the system.

Promoting a Just and Equitable Transition
Chair, Fiji would like to reiterate that the transition to zero emissions must be inclusive and fair, leaving no one behind. The revenues generated through the levy should be directed towards:

.1 Supporting SIDS and LDCs to build climate resilience and adapt to the challenges posed by climate change.

.2 Facilitating the development and adoption of Zero or Near Zero (ZNZ) fuels, which are essential for sustainable shipping.

.3 Providing technical cooperation and capacity-building to developing states, enabling them to fulfil their climate obligations while fostering economic progress for a just and equitable transition.

Avoiding Inequities through Credit Trading
Fiji holds the view that systems allowing credit trading may inadvertently disadvantage less technologically advanced shipping companies, many of which service SIDS and LDCs. Such a system could also create uncertainties in revenue, which is critical for sustaining long-term climate action. We, therefore, encourage a straightforward, transparent approach that prioritises equity and consistency.

Commitment to Universal Emission Pricing
Fiji firmly believes that pricing 100% of emissions is the most equitable approach to sharing the responsibility of climate action. Establishing clear and ambitious targets, supported by stable and transparent pricing, will ensure that the maritime sector contributes effectively to global climate resilience.

Chair, we stand ready to engage constructively with all member states to reach decisions that reflect the urgency of the climate crisis while considering the diverse realities of our maritime communities. We look forward to a fruitful and collaborative dialogue during this session.
Thank you, Chair."

Statement by the delegation of France

"Les Etats membres, en s'accordant pour établir une Stratégie sur la réduction des émissions de gaz à effet de serre des navires, puis en révisant ce document de manière très ambitieuse en 2023, ont affirmé avec force que l'Organisation maritime internationale est à la pointe de l'action contre les causes du changement climatique.

Aujourd'hui, nous sommes face aux très grandes responsabilités qu'implique une ambition aussi forte pour l'environnement. Il revient à nous tous, membres de cette organisation, de faire la preuve encore une fois que le multilatéralisme peut permettre de réaliser de grandes choses, en adoptant les mesures universelles et contraignantes qui seront inscrites dans la convention MARPOL pour décarboner le transport maritime international.

La France, aux côtés des autres Etats membres de l'Union européenne, a participé depuis deux ans avec rigueur et enthousiasme aux travaux des Comités, groupes intersessions, groupes de travail et ateliers qui ont permis de construire des solutions crédibles et pouvant être acceptées de tous. Nous souhaitons souligner la qualité du travail collectif et remercier chaque acteur y ayant participé.

Notre conviction quant au bien-fondé d'une combinaison de mesures reposant sur une norme décroissante d'intensité carbone de l'énergie utilisée par les navires, le GFS, avec un mécanisme de tarification du carbone fondé sur une contribution universelle à la tonne émise, le levy, est intacte. Elle n'a pas bougé, car elle s'appuie sur une approche scientifique et éprouvée.

Pour autant, l'attachement de la France au multilatéralisme si souvent accusé d'être en panne est fort, comme est fort notre souhait de parvenir à une solution pouvant générer un consensus, tout en conservant son intégrité environnementale. C'est pourquoi en coordination avec les autres Etats membres de l'Union, nous avons choisi de faire preuve de pragmatisme et de flexibilité quant aux mesures effectivement adoptées, à condition que celles-ci remplissent quatre conditions :

- La capacité à atteindre les objectifs de décarbonation de la Stratégie révisée dans une approche en cycle de vie complet,

- La création de flux financiers stables pour récompenser l'utilisation de carburants, technologies et sources d'énergie zéro ou proche de zéro émissions en ligne avec l'objectif afférent de la Stratégie,

- La capacité à permettre le transfert de coût de la compagnie à l'opérateur économique,

- La garantie de ne pas exclure catégoriquement des pays de la redistribution de revenus, y compris pour une transition juste et équitable.

Pour préciser ces critères, la France rappelle sa position de longue date en faveur de réglementations neutres technologiquement, c'est-à-dire non prescriptives en termes de solutions à déployer, ce qui doit s'illustrer par exemple par la capacité à récompenser les sources d'énergie et technologies zéro émission, comme le sont le vent et les équipements d'assistance éolienne à la propulsion.

Par ailleurs, les mesures devront pouvoir être mises en œuvre sans accroc, y compris dans les aspects de contrôle, afin d'assurer une concurrence non faussée entre opérateurs.

C'est seulement à ce prix que notre mandat sera rempli et que les mesures que nous allons approuver à la fin de ce Comité permettront non seulement d'atteindre les objectifs de décarbonation du secteur – ouvrant la voie, espérons-le, à de nombreuses autres transitions aussi ambitieuses – mais aussi de déployer un processus juste et équitable qui ne laisse personne en arrière.

La France se tient prête à travailler au cours de cette semaine dans la transparence et avec bonne volonté pour parvenir à atteindre ce résultat."

Statement by the delegation of the Islamic Republic of Iran

"First of all we thanks you and secretariate and all those involved in negotiation.
We have one planet with over 8 billion people living on it, and 176 countries are represented in this organization on behalf of these individuals. The United Nations states in various parts of its sustainable development document.

We are determined to end poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment.

Also in Sustainable Development Goals mentioned that:

Goal 1. End poverty in all its forms everywhere,

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture,

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all.

The shipping industry is responsible for transporting over 80% of food, goods, energy, and all cargo worldwide. Despite this heavy responsibility and its unparalleled role on a global scale, it has the lowest carbon emissions (according to official statistics, 2.7%). Even with this minimal amount, we have gathered together based on the IMO 2023 strategy to demonstrate our goodwill toward the future of our planet and its people. We started making decisions together on a ship to contribute to reducing carbon emissions and addressing climate change In this context, considering the organization's policy aimed at reducing emissions and ultimately achieving zero greenhouse gas emissions from ships, we stated several time that with lots of uncertainty we just put penalty on shipping and put pressure on peoples without reducing GHG emission.

We have three more opportunities in the coming years:

Revision of the 2023 strategy, the fifth greenhouse gas study, and of course, negotiations for long-term actions .

By that and whatever we can see in the text (numbers, deleting fvoy, remaining some crucial sentence and pricing that not reflecting the dynamic of market) therefore in line with distinguish delegate of Saudi Arabia we oppose to the text and call for vote.

I would like to annex this intervention to be annex to the report."

Statement by the delegation of Malta

"Malta is willing to continue its engagement in order to achieve IMO global GHG measures with the aim of reaching consensus, provided they fulfil the following 4 criteria:
They must deliver on the emission reduction goals and objectives of the 2023 IMO GHG Strategy;

- They must generate a stable revenue stream to reward the use of ZNZ fuels, technologies and energy sources in line with the fuel uptake goal of the 2023 IMO GHG Strategy;

- They must allow companies to pass on costs to the commercial operator, reflecting the commercial practices in the shipping industry; and

- They must not categorically exclude any countries from revenue disbursement, including for a just and equitable transition.

Furthermore, Malta expresses concerns on the fvoy as proposed, insofar as it could the undermine the level playing between states. We highlight that negative impacts on states should be addressed, irrespective of the generic categorisation of states.

Measures agreed should be globally enforceable, workable, and minimizing unnecessary burdens for the industry, whilst the supply and affordability barriers of alternative clean fuels should be timely addressed.

Malta is willing to continue work in order to achieve a meaningful result which meets the timelines as well as targets envisaged by the Strategy."

Statement by the Hon. Hilton Kendall, Minister for Transportation, Communication & Information Technology of the Republic of the Marshall Islands

"Iakwe Secretary-General, Chair, Colleagues, and Distinguished delegates,

I bring you warm wishes of Iakwe from the Marshall Islands. Chair and colleagues, we are brought here at a critical juncture in IMO history and global history. We are here to finalize internationally binding legal regulations on the shipping sector to reduce its emissions. What we are doing here is charting a new course. No other sector has done what we are about to do. I believe this is a testament to the commitment that all Member States have demonstrated to get us here. Chair, I want to give you my government's full commitment that we want to reach a deal by the end of this week.

Chair, as you know, my delegation and many others still greatly prefer a levy. It is a science-backed measure that the IMO's own Comprehensive Impact Assessment showed is the least-cost option over the long-term. As a by-product, it can generate billions of dollars of revenue to offset negative impacts of the measures, reward first-movers, address the shipping industry's legacy of pollution, and ensure a just and equitable transition.

Despite the levy being the proposal in line with science, in line with our climate goals, cheapest in the long-term, and showing the greatest support from both IMO member states and the shipping industry, it hasn't been granted a fair wind in discussions here at the IMO. A so-called bridging proposal was tabled by the chair of the working group in an attempt to knock-out the levy as an option. The large group of Pacific, African, Caribbean, Central American and other states, representing the most vulnerable parts of the globe, have had to row hard against this tide, just to have our positions and concerns recognised.

We will not be silenced. Vulnerable countries will not be imposed upon. We are not here simply to fund the energy transition for major economies' shipping fleets, and bear the brunt of their ongoing pollution. We will continue to fight for an economic measure which protects the vulnerable, incentivises a global just and equitable transition at the least cost in the most efficient way and which most importantly can deliver on the ambition we agreed to strive for when we agreed the IMO Strategy two years ago.

We have come with optimism, we have come with anticipation and we have come with the understanding that what we have fought so hard for in keeping the 1.5 degree agenda as our pathway to reaching a decarbonised sector. We remain hopeful that this organisation will give us a fair chance that we deserve. Thank you Chair."

Statement by the delegation of Mexico

"Muchas Gracias Señor president.
México votamos a favor porque en el proyecto de enmiendas hay una cláusula de revisión para proteger la ambición de la medida en el futuro, y con la certidumbre que todos los países tendremos acceso a las nuevas tecnologías y combustibles. En México estamos convencidos de que, en este momento, está es la única opción posible para mitigar las afectaciones del Cambio climático a causa de las Emisiones de Gases de Efecto Invernadero (GEI), y porque consideramos que es necesario que la transición y revolución industrial verde inicien de manera inmediata.

En el proceso de revisión de esta medida queremos evidencia clara de que no perderemos la ambición de reducción de GEI, y que el sistema de créditos sea viable para que no excluya las flotas pequeñas y medianas, y sobre todo no distraiga la mayoría de los recursos que deben ir al fondo.

Algunos países podrán enfrentar mejor esta crisis que otros, por lo que es fundamental apoyar a los países insulares, el Caribe y Centroamérica, que son de los más vulnerables, y son los que merecen una transición justa y equitativa.

México cree en el multilateralismo, y está consciente que, no solo es necesario dar este paso, sino que, será necesario trabajar en todo momento de manera conjunta y coordinada para materializar los objetivos trazados en la Estrategia 2023 de reducción de GEI diseñada por esta Organización.

Muchas Gracias Señor presidente. Solicito se integre esta intervención en el informe del Comité."

Statement by the delegation of Peru

"Muchas gracias, señor Presidente,
El retorno del Perú al Consejo de la OMI, así como la presencia de países de todas las regiones del mundo, han contribuido al concepto de distribución geográfica de su membresía y ha permitido que los intereses de los países en desarrollo, especialmente a los países menos adelantados y los pequeños Estados insulares en desarrollo, puedan contar con mayor legitimidad y efectividad a los procedimientos y decisiones del Consejo, lo que es esencial para avanzar juntos hacia un transporte marítimo internacional más justo, menos contaminante, y que genuinamente no deje a ningún Estado atrás.

En ese ánimo, el Perú, con la convicción de que es necesario contribuir con acciones concretas, anuncia su aporte voluntario de periodicidad anual al Fondo fiduciario de donantes múltiples para facilitar la participación de los países en desarrollo, especialmente los Pequeños Estados Insulares en Desarrollo (PEID) y los Países Menos Adelantados (PMA), en las reuniones de la OMI, concretamente a las del Comité de Protección del Medio Marino (MEPC) y el Grupo de trabajo Interperiodos sobre la reducción de las emisiones de Gases de Efecto Invernadero procedentes de los buques (ISWG-GHG).

Agradeceré señor Presidente que nuestra declaración sea incluida en el informe final de este Comité.
Muchas gracias, señor Presidente."

Statement by the delegation of Poland

"Climate change is an existential threat to mankind. It must be addressed by concerted international efforts by us all – all governments and all sectors – as a matter of urgency.
Poland remains firmly convinced that the combination of a universal GHG levy or contribution and a GHG Fuel Standard with its flexibility compliance mechanism is clearly the simplest and most efficient way to achieve the GHG reduction goals, and all the other objectives of the 2023 IMO GHG Strategy.

All of us, 176 Member States of this Organization, agreed to that Strategy by consensus in July 2023. Now we need to deliver. We need to turn promises into binding legal text.

In that vein, we must try our utmost to reach a consensus agreement on a basket of measures this week, with draft amendments that contain all the relevant parameters and provisions. This agreement must provide certainty that all the goals and objectives of the Strategy will be reached.

This delegation would like to indicate its readiness to continue its engagement with other parties on a possible landing ground to try and make this consensus possible, provided such a solution fulfils the following 4 criteria:
They must fully deliver on the emission reduction goals and objectives of the 2023 IMO GHG Strategy;

- They must generate a stable revenue stream to reward the use of ZNZ fuels, technologies and energy sources in line with the fuel uptake goal of the 2023 IMO GHG Strategy;

- They must allow companies to pass on costs to the commercial operator, reflecting the commercial practices in the shipping industry; and

- They must not categorically exclude any countries from revenue disbursement, including for a just and equitable transition.

We would like to highlight that the acceptability for us of any alternative proposal depends on its architecture and parameters being assessed against those criteria.

We would like to insist that we cannot support any agreement at the end of this week unless the final package includes all the main parameters which are necessary to assess its effects. We are of the view that the mid-term measures should achieve the GHG reduction goals of the Strategy expressed in well-to-wake terms.

We also believe it is necessary to maintain a level playing field. In this context, we take this opportunity to express concerns about the fvoy correction factor, which might have a direct impact on the competitiveness of ports.

As I already stated, we stand ready to continue to engage constructively with all delegations, in an inclusive and transparent process, to reach our common goal: to agree on measures which fully deliver on the Strategy and contribute to a just and equitable transition, leaving no one behind."

Statement by the delegation of the Republic of Korea

"Thank you, Chair.
First of all, we would like to express our sincere appreciation to all Member States who actively participated in ISWG-GHG 18 and 19, as well as all the informal meetings. We also thank the Secretariat and the Chair of ISWG-GHG for their excellent work in summarizing the outcomes under tight time constraints, and Singapore for facilitating the informal discussions.

The Republic of Korea believes that the approval of the mid-term measures at MEPC 83 is of great importance, and that this timeline must not be delayed.

However, many critical issues remain unresolved, as reflected in the numerous brackets still present throughout the text.

We recall that, when the 2023 IMO GHG Strategy was adopted, Member States were able to reach a compromise through mutual concessions, even when their positions were widely divergent.

Building on that precedent, we trust that, by making mutual concessions once again, Member States will be able to approve the most appropriate mid-term measures—ones that not only advance the decarbonization of international shipping but also ensure a just and equitable transition.

In this context, we would like to highlight three essential considerations:

First, the scope of GHG emissions from international shipping should be based on a Well-to-Wake approach. Climate change is not a problem that can be solved by a single industry—it is a global challenge that requires global cooperation. Therefore, emission reductions from international shipping must take into account the full lifecycle of fuels.

Second, while the mid-term measures primarily focus on fuel transition, we acknowledge the practical challenges for all ships to adopt Zero or Near-Zero (ZNZ) fuels and energy technologies, given the current levels of technological maturity and availability. In this context, a trading-based flexible mechanism could serve as an effective tool to facilitate a smooth transition to decarbonized shipping.

Third, the price gap between fossil fuels and alternative fuels remains significant. Therefore, a compensation mechanism is indispensable. The fund collected under the mid-term measures should primarily be used to provide a reasonable level of reward to first movers using ZNZ fuels. In addition, we believe that the fund should also play a vital role in ensuring a just and equitable transition and in mitigating any potential negative impacts resulting from the mid-term measures.

Mr. Chair,
The Republic of Korea sincerely hopes that, through close cooperation among all Member States, this session will lead to the approval of mid-term measures that strike a balance between achieving the GHG reduction targets of international shipping and ensuring a just and equitable transition.

The Republic of Korea is committed to contributing to the approval of the mid-term measures at this session by demonstrating flexibility and moving closer to consensus, rather than rigidly adhering to past positions.
Thank you, Chair."

Statement by the delegation of Saudi Arabia

"The Kingdom of Saudi Arabia recalls and reaffirms its joint proposal submitted with the United Arab Emirates in relation to the Mid-Term GHG Reduction Measure.

We emphasize the need for the adverse impact of the application of the measure to be fully assessed, understood and addressed as part of the work on this matter. We firmly believe that the reduction targets we had set forward represent the only feasible, practical and effective options reflected thus far. While others have proposed other options, we understand that within the context of practical, engineering and technical constraints such other targets will not be achievable. This leaves us with a measure designed to penalize ships in the absence of any alternatives to the tune of USD billions. We do not support an approach that will result in the penalization of ships in the absence of any action they can take, and we do not subscribe to efforts to prioritize revenues in our common exercise. Furthermore, it is essential to steer the discussion back to the primary objective of the strategy, which is reducing GHG.

The Kingdom of Saudi Arabia expresses its concern with the lack of dedicated sessions to meaningfully discuss options for the pricing mechanism. We note that some proposals put forward do not account for feasibility, scientific facts and market conditions, which contribute to penalization of ships and negative economic impacts. We are also concerned that some have suggested that we must set initial prices arbitrarily and with no common methodology. We believe that the international community can and must do better in this regard. The Kingdom of Saudi Arabia does not support setting a price for a unit of carbon dioxide

equivalent and in line with the 2023 strategy, member states were meant to discuss options for a pricing mechanism. We recognize that this has not been done. It is important to highlight that only very aggressive penalizing pricing mechanisms have been proposed, which are proven to have a detrimental impact on developing countries.

We acknowledge that an impact assessment was conducted as was required by the 2023 strategy. However, the impact assessment did not cover the new model being discussed and proposed now was not accounted for in the impact assessment, leaving critical gaps in information rendering our exercise uninformed. Yet we are moving forward with proposals that haven't been adequately assessed. A full assessment should be conducted to comprehensively assess the impact of the proposals that will be adopted.

The Kingdom of Saudi Arabia remains committed to addressing emissions, ensuring energy access and affordability and achieving economic development for all member states especially developing countries as they are still in their development stage. This is why we stress the need for Zero and Near Zero Fuels, Technologies and/or Energy Sources to account for all pathways and solutions. All solutions will be needed in the path ahead, yet we regret that this is not the approach that has been demonstrated by some.

We recognize the need for this text to be drafted effectively and appropriately to fit the requirements of a legal document and an amendment to a Convention. The current draft is not drafted in that language and reflects ideas that are not legally defined nor multilaterally agreed, such as "level playing field."

The Kingdom is concerned with the ongoing process of negotiations, whereby proposals made by Parties and supported by other delegations are not addressed effectively. Nor are legitimate questions put forward by many delegations regarding technical, governance, legal and process related matters. In this regard, we emphasize the need to address all matters sufficiently and recall that nothing is agreed until everything is agreed. It is unacceptable for the measures to be approved while the guidelines governing these measures remain unfinalized.

Our delegation has come forward with many compromises, and we have constructively engaged in several bilateral and informal meetings, as have others, with the hope of reaching an outcome that is aligned with the 2023 strategy and consistent with principles and provisions of the UNFCCC and its Paris Agreement. We will continue to work with others and hope that our concerns can be sufficiently addressed."

"*Objection to the Proposed Measure*
Kingdom of Saudi Arabia, Kuwait, the State of Qatar, Malaysia, Thailand, Islamic Republic of Iran, Bolivarian Republic of Venezuela, Sultanate of Oman, United Arab Emirates, The Hashemite Kingdom of Jordan, The Arab Republic of Iraq, Kingdom of Bahrain, The Russian Federation, Islamic Republic of Pakistan, the Republic of Yemen and Lebanon

While we have engaged in good faith and presented several compromises including but not limited to withholding from a flexible model, overlooking the lack of a comprehensive impact assessment on the two tier model, accepting to discuss elements without clear accounting of impacts and finally others' insistence to forgo the principle of Common But Differentiated Responsibilities and Respective Capabilities in the Light of Different National Circumstances (CBDR-RC) – we object the contents in document Draft Amendments to MARPOL ANNEX VI on The IMO Net-Zero Framework (MEPC 83/J/9) which provides a Z-Factor of greater than 6% for direct compliance by 2030; we object to a baseline for 2008 less than 94.7 gCO2eq/MJ; and we object to the selection of any price per unit of carbon, in particular in the absence of a clear and acceptable methodology and finally a restriction of ZNZs utilizing a thresholds that

disadvantage necessary near-zero emission solutions. With regards to the pricing mechanism, we can only accept that further discussions be undertaken on the matter on the basis of market dynamics.

2030 is less than 5 years away and as a matter of scientific, engineering and technical reality it will not be possible to reduce emissions beyond 6% within that timeframe for all ships, leading to unnecessary penalization that will result in significant impacts on trade, food and energy security and our beloved sector.

We all committed to addressing GHG emissions to reach net-zero within our sector in the 2023 IMO GHG Strategy. We committed to assessing and addressing impacts, to align with the principle of CBDR-RC and to discuss and agree on a pricing mechanism. We did not do either of these elements on the road to this decision for the mechanism under discussion. We did not commit to reduction targets in the 2023 IMO GHG Strategy, but rather we identified indicative and non-binding checkpoints. We are now tasked with addressing the 2023 IMO GHG Strategy with a view to aligning with technical, legal, scientific, engineering and socioeconomic realities on the ground – we did not complete this task in our discussions.

To add to this, the current measures proposed are not only detrimental to the shipping sector and developing countries but are also very far away from what we have agreed upon in the strategy. These measures were designed with one purpose in mind: to raise as much revenue as possible. These measures overlook the needs of developing countries, especially the countries that are most vulnerable and their economies heavily dependent on the shipping sector. These measures will impact food security, especially in developing countries. These measures are designed by the most privileged and will be handed to the most vulnerable to bear the consequences. There is a clear and obvious disconnect from current reality in MEPC/83/J/9 that we will not accept. Therefore, we object to this proposal.

To be clear, there is no consensus on the proposal nor on the process and approach taken. As we have agreed to make this decision via consensus, there is no consensus on the matter. To add further clarity, since nothing is agreed until everything is agreed and noting we hold reservations on many elements in the text not mentioned in this document, to avoid all uncertainty, we object to the entire document.

At this juncture, if the aforementioned concerns are not duly and directly addressed, we would see no other way forward but to ask for a vote in accordance with the rules of procedure and practices of the IMO. Such a vote might be taken in respect of each substantial amendment or a set thereof.

We also request our reservation on the proposal to be inserted clearly in the text (MEPC 83/J/9) should the vote pass and the proposal passes. We also reserve our right for conducting a vote on the adoption of the proposed amendment.

We shall reserve our right for conducting a vote on the adoption of the proposed amendments. Unless, there is due, equal and in good faith consideration of all the proposals put forward and concerns expressed."

Statement by the Hon. Antony Derjacques, Minister for Transport of Seychelles

"Secretary-General of the International Maritime Organization (IMO), Mr. Arsenio Dominguez, Colleague Ministers, Distinguished Delegates, Ladies and Gentlemen,

I am honoured to address this esteemed assembly at this 83rd session of the Marine Environment Protection Committee. This assembly serves as a critical platform for us to come together and forge solutions that transcend national borders, for the good of our planet and its future. With that, I extend my sincere gratitude to the International Maritime Organization and its member States as well as other partners for their unwavering commitment and efforts.

As a Small Island Developing State, Seychelles is acutely aware of the profound impact that maritime activities have on our environment, economy, and way of life. The ocean is not only our lifeblood but also a shared heritage that demands our collective stewardship and proactive protection.

On 31st March 2025, Seychelles designated 410,000 square kilometres of our EEZ in the Indian Ocean as the Seychelles Maritime Spatial Area through the Nature Reserves and Conservancy Regulations. This area is split into three zones; Zone 1 is a fully protected conservation area. Zone 2 is earmarked for sustainable development, and Zone 3 will be more permissive to commercial and development activities. This designation is a significant milestone, not just for Seychelles, but for the global community, setting a precedent in marine spatial planning and conservation.

Ladies and Gentlemen,
The agenda before us is both ambitious and necessary. In particular, the discussions on the reduction of greenhouse gas emissions from ships are of paramount importance. The 2023 IMO GHG Strategy has set forth a vision for achieving net-zero emissions by around 2050, emphasizing a just and equitable transition. While we commend the progress made, we urge all member States to intensify their efforts and adopt concrete actions, ensuring that our commitments on paper translate into real, impactful changes in the industry.

Seychelles supports the development of mid-term measures, including the proposed goal-based marine fuel standard and the pricing mechanism for maritime GHG emissions. We believe that these initiatives will provide the economic incentives necessary to accelerate the adoption of cleaner technologies and cleaner fuels within the shipping industry.

Furthermore, the review of short-term measures to reduce GHG emissions is critical. The implementation of the Energy Efficiency Existing Ship Index (EEXI) and the Carbon Intensity Indicator (CII) are steps in the right direction. However, continuous assessment and refinement are essential to ensure their effectiveness and to address any unintended consequences, particularly for vulnerable economies.

On a related note, addressing marine plastic litter remains a pressing concern. The adoption of the 2025 Action Plan to address Marine Plastic Litter from ships is a testament to our collective resolve. In 2017, Seychelles banned the importation of plastic bags, single-use plastic straws, balloons and utensils. And over the following years, Seychelles has initiated several local programs aimed at reducing plastic pollution. We remain unwavering in our commitment and, we are eager to collaborate on international efforts to mitigate this pervasive issue.

In the spirit of cooperation, we also recognise the importance of designating Particularly Sensitive Sea Areas (PSSAs) and Emission Control Areas (ECAs). Protecting these regions is vital for preserving biodiversity and ensuring the sustainability of marine resources upon which many communities, including ours, depend.

As we engage in these discussions, let us remember that the solutions we seek must be inclusive, equitable, and with a shared responsibility. The challenges we face are global in nature and require unified action. Seychelles stands ready to contribute to and support initiatives that aim to protect our marine environment for present and future generations.
I thank you."

Statement by the Hon. Manasseh Maelanga, Minister of Infrastructure Development of Solomon Islands

"The ocean is our lifeblood in Solomon Islands. It sustains us, connects our communities, and facilitates our trade. Today, our ocean is changing due to forces beyond our control. Rising tides, stronger storms, and saltwater intrusion threaten our very existence. The shipping industry, crucial for our access to essential goods, contributes to the greenhouse gas that drive this crisis, disproportionately impacting vulnerable nations like ours in the Pacific Islands. Solomon Islands calls for a fair course on global shipping energy transition. We are calling for a strong and predictable economic measure, such as a universal mandatory levy on greenhouse gas emissions from ships. Such a fixed contribution can provide the essential certainty needed to incentivize the significant investments in zero and near-zero emission fuels and efficiency measures.

We are aligned with the large majority of more than 60 states that realise that a levy and a fuel standard in combination is the best way to achieve the goals of the strategy that we have all agreed upon. Our technical experts have developed some options last week, on the basis of a different architecture. This does not change our goal. Some of the alternatives offered will simply not achieve the transition, and will risk that some countries, including my own, may be left behind. If the most vulnerable are left behind, the agreed strategy will not be fulfilled, and greenhouse gas emissions will continue.

We recognize that finding a solution requires a collective vision, global cooperation and commitments at the IMO. While we stand firm on the need for effective measures to drive a transition to zero emissions, we understand that the path forward may involve careful consideration.

We believe it is crucial that revenues generated from a maritime GHG emissions pricing mechanism are used to support an effective just and equitable transition, including enabling our shipping energy transition and addressing disproportionate negative impacts."

Statement by the delegation of Suriname

"Thank you Chair and good morning/afternoon to all distinguished delegates.
As this is the first time our delegation has taken the floor, we hereby thank you Chair for your capable leadership in guiding us on the development of the basket of candidate midterm GHG reduction measures and in finalizing the "IMO Net-Zero Framework."

This is an enormous task. We know, but the generations after us will thank us for our continuous efforts in doing our part in saving the planet. Our planet!
We hereby also express our gratitude to the IMO Voluntary Multi-Donor Trust Fund for the assistance provided to developing countries, especially SIDS and LDCs, to attend the MEPC and ISWG-GHG meetings.

We thank all Member States and organizations for the documents submitted for our consideration and approval. Though we see the finish line, we recognize that all folds must be smoothed out for us to get a global solution that is acceptable for all.

Chair,
Suriname is a High Forest cover and Low Deforestation (HFLD) country that contributes significantly to reducing the effects of global climate change. Approximately 93% of Suriname is covered by rainforests.

We recently adopted our Green Development Strategy which includes measurable longterm goals, such as maintaining the nation's carbon negative status and enhancing Climate resilience, while promoting equitable socio-economic opportunities for all citizens.

Despite our carbon-negative status, Suriname is highly vulnerable to climate change, particularly due to our low-lying coastal areas.

Considering the above, we hereby reiterate our strong support for achieving the reduction targets set out in the 2023 IMO Strategy, effectively promoting a sustainable energy transition of shipping and a just and equitable transition in the context of the needs of developing countries, in particular least developed countries (LDCs) and small islands developing States (SIDS).
Thank you Chair."

Statement by the delegation of Thailand

"Thank you, Chair.
While Thailand joined other in adopting the 2023 IMO GHG Strategy and recognised the urgent needs for effective mid-term measures, we remain concerned about the proposed inclusion of GHG Fund mechanism under MARPOL Annex VI.

As we all know that MARPOL is originally designed as an international legal instrument for preventing marine pollution though technical measures, or we can simply call MARPOL a technical convention. By its nature, MARPOL Annex VI focuses on air pollution by regulating ships, not for administering complex economy measures and fund. This delegation and some others expressed our concern and are of the view that MARPOL is not a suitable instrument, but it was picked as the most convenient vehicle for employing economy measures with no regards to negative impacts on such rush without united clarity.

We believe there is clear precedent for establishing independent legal mechanisms for economic measures. The International Oil Pollution Compensation (IOPC) Funds demonstrate the effectiveness of separate, purpose-built frameworks for managing financial flows. A standalone convention for the GHG Fund would provide the necessary flexibility, legal clarity, and institutional capacity to ensure transparency, equitable disbursement, and long-term adaptability—particularly in response to evolving technology and market conditions.

While economic measures are necessary, from a government perception, we cannot support unclear proposals, for example, the number of Z factor proposals, without supportive reasons on the accountable academic sources of these numbers. As a policymaking approach, we insist that any economic measure must be phased in gradually to allow for proper testing before becoming legally binding.

However, should the meeting strive for this route, we also underscore the importance of aligning any proposed economic instruments— including the Z factor numbers with the current IMO's Life Cycle Assessment (LCA) Guidelines and the IMO GHG Strategy. There should be no acceleration of the 2nd tier Z factor more than the striving targets expressed in the IMO GHG Strategy.

In our strong opinion, sustainable biofuels must remain accessible as a viable decarbonisation pathway, particularly for developing nations which rooted in agriculture and utilise the waste of agricultural byproducts for biofuel. Restricting this available cleaner technology would be both counterproductive and unjust. We support the fair evaluation of all sustainable fuels through certification rather than exclusion through biased criteria.
We prefer designing a just and equitable transition with sensible and pragmatic step-by-step GHG reduction. Therefore, we oppose using 10 gCO2qe/MJ as the fuel criteria by 2039 in the Group of ACP Plus V Paper presented in ISWG-GHG 19.

Supporting the CBDR-RC principle under UNFCCC and the principle of just and equitable transition, we strongly urge the need to support fair and accessible ZNZ technology transfer considering that the Fund collected in international shipping community shall be used to support R&D for ZNZ technology. We wish to express opposition to the inclusion of restrictive intellectual patent clauses in legal frameworks governing ZNZ technologies. While intellectual property rights (IPR) play a role in incentivising innovation, overly rigid patent regimes risk creating monopolies, inflating costs, and delaying the global adoption of critical decarbonisation technologies—particularly in developing, which in contrast to our common goal of promoting the uptake of ZNZ technology and reduce GHG emission.

We therefore urge careful consideration of a dual-track approach: technical measures under MARPOL, and economic mechanisms under a separate, fit-for-purpose legal framework.
Thank you."

Statement by the delegation of Tuvalu

"Thank you Chair, I intend to make a statement on behalf of Fiji, Kiribati, Marshall Islands, Nauru, Palau, Tonga, Vanuatu, Seychelles, Solomon Islands and Tuvalu. I therefore seek your indulgence in relation to the 3 minutes cap for statements.

Thank you Chair,

Mr. Chair, distinguished delegates,

Thank you for the opportunity to address this esteemed gathering..
We appreciate the significant efforts made by all delegates during this session, and we acknowledge the critical work that has been undertaken toward advancing the objectives of the IMO. However, we feel it is important to express our concerns regarding the Chair's J9 document and its implications for the future of maritime decarbonization. We are committed to engaging in this process constructively and respectfully, and it is in that spirit that we offer our reflections.

Concerns regarding the J9 document and the 2023 IMO GHG Strategy
One of our primary concerns relates to the implementation of Article 4.5 of the 2023 IMO GHG Strategy, which calls for a balanced approach involving both technical and economic elements. The J9 document, unfortunately, does not fully address these essential components. Specifically, the strategy outlines the need for a goal-based marine fuel standard to reduce the GHG intensity of marine fuels, alongside an economic measure, such as a GHG emissions pricing mechanism, that would support a fair and just transition for all countries, including Small Island Developing States (SIDS) like We.

It is our view that the economic element, such as the proposed levy, is crucial in ensuring that all ships contribute equitably to reducing emissions, especially in the context of the significant disparities in capacity between countries. We feel that the current proposal lacks the necessary incentives for industry to make the necessary shifts toward cleaner technologies.

The absence of a robust pricing mechanism leaves us concerned that the ambition of the 2023 Strategy may not be fully realized.

We have consistently advocated for an economic measure that generates necessary funds while promoting a just and equitable transition (JET). We are committed to ensuring that the voices of Pacific nations, whose survival is tied to the health of the ocean and the stability of global shipping, are meaningfully included in this critical decision-making process.

Need for stronger industry incentives and clear signals. Further to this, We are concerned that the incentives for industry in the J9 document are not strong enough to encourage the type of innovation and transformation required. While we understand that flexibility in transition is necessary, we believe that clear, predictable signals need to be sent to industry to drive significant investment in decarbonization technologies. Without these signals, it will be difficult for the shipping industry to make the necessary changes that align with our global climate goals.

We urge that the IMO consider strengthening the incentives and regulatory frameworks to ensure that the ambitious goals of the 2023 GHG Strategy are achieved. We believe that a stronger economic signal, such as a global carbon levy, will not only help reduce emissions more effectively but will also provide the certainty that the industry needs to invest in the future of green shipping technologies.

The process and the exclusion of Pacific Island voices
We must also respectfully express our disappointment regarding the process that led to the development of the J9 document. As we have consistently stated, inclusivity and transparency are fundamental to the success of any international initiative. Unfortunately, Pacific Island nations and other SIDS were not adequately engaged in the formulation of this document. The exclusion of our voices in such a critical process is concerning, and it undermines the legitimacy of the proposed measures, particularly when the impacts of climate change and maritime emissions are disproportionately felt by our regions.

It is in this context that We, along with our Pacific partners, finds it necessary to abstain from voting on the J9 proposal. This decision is made in relation to the integrity of the process and our firm belief that all voices, especially those of vulnerable states, should be heard and considered. We remain fully committed to a process and are eager to work collaboratively to find a solution that reflects the needs and concerns of all member states.

Our commitment to a 1.5°c-aligned future and the importance of a levy
Let me reaffirm that We and the Pacific remain fully committed to the principles of the Paris Agreement, particularly its goal to limit global temperature rise to 1.5°C. As such, we believe that a global carbon levy remains the most effective, equitable, and cost-efficient mechanism to reduce emissions from the maritime sector. The Comprehensive Impact Assessment has confirmed that such a levy is the most cost-effective measure, and we urge that this approach be included as a critical element of the basket of measures.

We recognize the financial and technological challenges that many nations face in this transition. However, we strongly believe that the resources generated by a levy could help facilitate the development and transfer of technologies, and assist vulnerable countries, particularly SIDS and LDCs, in upgrading their port infrastructure and preparing for the energy transition.

Just and equitable transition (JET) and addressing disproportionate negative impacts (DNI)
We is deeply committed to the principles of Just and Equitable Transition (JET), which must be at the heart of any global decarbonization strategy. This transition should be fair, inclusive,

and respectful of the needs of those countries that are most vulnerable to the effects of climate change, such as SIDS. We must ensure that no one is left behind as we move toward a decarbonized global shipping industry. We also emphasize the need to address the Disproportionate Negative Impacts (DNI) that climate measures may have on these vulnerable states, especially when it comes to economic implications, food security, and energy access.

To make it blatantly clear, Chair, not only are we not receiving any of the much needed support in this package of measures, but part of these amendments will have us poor and most climate change vulnerable countries and maritime dependant countries paying for the decarbonisation of the most developed countries.

Conclusion: We call for a more transparent, inclusive, equitable, and ambitious outcome
In conclusion, We reaffirms its commitment to the IMO's long-term goals and the broader global efforts to tackle climate change. Our concerns with the J9 document are not based on opposition, but on a desire to see measures that are both ambitious and inclusive. We firmly believe that stronger incentives for the industry, the inclusion of a global carbon levy, and a respectful, inclusive process are the best ways to achieve the goals of the 2023 IMO GHG Strategy and ensure the future of maritime sustainability for all.

Our concerns also stem from what we perceive are issues of transparency, inclusivity and equitability of the process that has led to the adoption of this paper. We will be working with you chair, and with you Secretary General to remedy this.
Despite this, we remain fully committed to working collaboratively with all Member States, especially in the areas of capacity building, technology transfer, and fair financing, to ensure that the transition is both just and equitable.

On behalf of Fiji, Kiribati, Marshall Islands, Nauru, Palau, Tonga, Vanuatu, Seychelles, Solomon Islands , I sincerely thank you for your attention, and we look forward to working with you all in the future.

Chair we ask that this statement be appended to the final report of this committee.
Thank you so much and Fakafetai Lasi."

Statement by the delegation of the United Arab Emirates

"Mr. Chair,
This delegation wishes to express its sincere thanks and appreciation to Mr. Oftedal of Norway for his excellent leadership in guiding this important work. We also thank the Secretariat for their dedication and the tremendous support. We also thank Singapore, particularly, Mr. Hanqiang of Singapore the Vice Chair of this Committee for the persistent and unwavering efforts to assist in finding a common ground in a very inclusive manner.

Mr. Chair, UAE remains committed to working towards the global climate goal to limit the increase to 1.5° as well as supports the implementation of the IMO 2023 Strategy.

In this context, this delegation wishes to highlight three aspects, as follows:
Regarding the first point, the 2023 Strategy has a very clear vision. In order to achieve the vision, short, mid and long-term measures were needed as set out in section 4 of the 2023 Strategy. As clearly stated that:

.1 short-term measures are the measures finalized and agreed by the Committee between 2018 and 2023 which we are currently in the review process.

.2 the basket of mid-term measures should be finalized and agreed by the Committee by 2025; and

.3 we should not forget that possible long-term measures could be measures finalized and agreed by the Committee beyond 2030, to be developed as part of the 2028 review of the IMO GHG Strategy.

In the on-going discussions to finalize and agree on the basket of mid-term measures, it seems that the mid-term measures are also becoming long-term measures.

Please note the time frame of implementation of a midterm measure should be from 5 to 10 years from its adoption. Whereas the time frame of a possible long-term measures should be from 10 years and beyond. Noting also that impact on States would have to be conducted for long-term measure. Therefore, UAE suggests, when drafting a legal text including figures and percentages for midterm measures, it should be drafted for the period between 2025 – 2035. Whereas, in future, when the Committee develop and finalize possible long-term measures as part of the 2028 review of the IMO GHG Strategy. Those long-term measures should be drafted to be implemented from 2035 and beyond including figures and percentages for that period.

Regarding the second point, as we getting closer to finalize mid-term measures, it should be clearly stated that such measures, if adopted by IMO, being the global regulator of shipping, reflects the strong support of Member States for a global solution applying to CO_2 and GHG emissions from international shipping so as to avoid a possible patchwork of duplicative State or regional MBMs, thus ensuring that international shipping CO_2 and GHG emissions should be accounted for only once.

The Third is related to the collection and disbursement of a revenue generated. This delegation repeatedly mentioned that when it comes to an economic element, MARPOL provisions were not designed for the purpose of a levy. Therefore, a universal levy, which is not related to the technical measure, will entail the development of an independent convention, rather than making amendment to MARPOL. This approach was almost similar to the approach of addressing oil pollution under MARPOL Annex 1 and the development of IOPC Funds.

Finally, we would like to emphasize that any revenues from shipping should be distributed within the sector only, and we also emphasize the importance of the common but differentiated responsibilities and respective capabilities (CBDRC), as one of the guiding principle in IMO 2023 Strategy, so that the special circumstances and capabilities of developing countries, especially small island developing states and least developed countries, can be accommodated through simple exemptions from the application of such measures or the gradual implementation of their application, given their far distance from maritime trade routes."

Statement by Hon. Ralph Regenvanu (MP), Minister of Climate Change Adaptation, Environment, Energy, Meteorology, Geo-Hazards and Disaster Management of Vanuatu

"Thank you, Chair.
Secretary-General, honourable ministers, and distinguished delegates. Chair, warm greetings and good morning to you all from the beautiful archipelago of Vanuatu.

Vanuatu would like to echo the statement made by the distinguished delegation of Tuvalu. Like our brothers and sisters from the Pacific, Vanuatu is also facing the severe impacts of climate change and the heavy reliance on maritime transport for daily survival and disaster relief across the 80 scattered islands of our archipelago. So we are the recipients of a double penalty and as such we feel absolutely necessary to insist that a consensus must take into consideration the specific needs of the SIDS & LDCs as well as the most climate vulnerable as agreed in the revised strategy.

Chair, with the aim of achieving a consensus, my delegation has actively engaged with the IMO over the past years, including in the negotiations that resulted in the adoption of the revised IMO GHG strategy in 2023. Chair, the IMO 2023 GHG strategy is very ambitious and sets clear targets for the industry to achieve. If we are to establish measures, they must also be realistic to ensure that the IMO fulfils its global commitments to address GHG emissions in shipping.

For the economic measures, Vanuatu has always expressed its preference for a universal levy, and for an associated distribution of revenue that will promote a just and equitable transition, especially for developing and small economies like Vanuatu. As a small developing state, Vanuatu is uniquely positioned to benefit from a levy on international shipping, and revenue disbursement that rewards zero emissions uptake. When implemented and redistributed fairly, such a mechanism can support sustainable maritime development in my country and provide critical funding, ensuring that Vanuatu's transition is just and equitable.
Chair, a levy on GHG emissions compels shipping companies to incorporate climate costs into their operational decisions. This incentivizes cleaner shipping practices, such as utilizing lowor zero-emission fuels, investing in energy-efficient technologies, and optimizing logistics to minimize emissions. Our call for this guarantees global equity and a level playing field, closing loopholes and preventing carbon leakage if applied universally. We believe that it creates a strong market signal that encourages the private sector to invest in low-carbon solutions and compels shipowners to shift toward IMO-approved decarbonization pathways if we implement the measures correctly.

Chair Vanuatu has been advocating for climate action across various international fora, including the recent ICJ legal opinion on States' obligations in Climate change. Furthermore, Vanuatu is also vocal at the UN General Assembly in raising awareness of the need for states to consider the fossil fuel non-proliferation treaty and is gathering support for this initiative, which would complement the Paris Agreement by providing the global roadmap needed to halt the expansion of fossil fuels and manage their use at an equitable phase.
Today, we're pursuing the same objectives with this Organization. We hope that our voices are heard and taken seriously if this organization is committed to the principle of a just and equitable transition.
Thank you, Chair."

Statement by the delegation of Viet Nam

"Dear Mr. Chair,
We highly appreciate the tireless efforts and hard work of the Chair and the ISWG-GHG Working Group and individually Mr. Sveinung Oftedal – Chair of the ISWG-GHG Working Group.

We fully agree with the IMO's target of reducing greenhouse gas emissions, because climate change is a major challenge for all countries, including Vietnam. However, we also want to emphasize that this transition process needs to ensure just and equitable of interests between developed and developing countries, SIDs and LCDs as well as between large shipping corporations and small shipping enterprises.

Dear Mr. Chair,
There is no denying that climate change is having a profound impact on our world. And we, as maritime industry representatives, have a responsibility to take the lead in reducing greenhouse gas emissions for a more sustainable future.

Dear Mr. Chair,
Regarding the medium-term measures, the draft IMO Net-Zero Framework, which has been mentioned in the report of ISWG-GHG, we have some comments as follows:

The draft IMO Net-Zero Framework sets out stringent regulations for fuel, technology and ship operations. These regulations are necessary, but we cannot ignore the fact that developing countries, in particular SIDs and LDCs, will be disadvantaged the most.

Major economies have the capacity to invest heavily in green fuels, next-generation ships and green maritime infrastructure. Meanwhile, developing countries, including Vietnam, with nearly 1,500 ships using traditional fuels and limited resources, in addition, the seaport system and logistics chain have not been invested synchronously in green technology, high conversion costs, so we are facing a great challenge in converting to a green maritime model and meeting the strict requirements of Net-Zero.

Without a fair support mechanism, we, including developing and least developed countries, will witness an undesirable consequence: our goods will become less competitive due to high transportation costs, the risk of losing transportation market share and we will be pushed to the margins of the global maritime supply chain.

Dear Mr. Chair,
The Net-Zero MO Framework can be seen as a green trade protection tool, without a fair mechanism, developing countries, SIDs and LCDs will be put at a disadvantage. This goes against the principle of fairness that Net-Zero should aim for. Environmental protection cannot be used as an excuse to limit free and fair competition in international trade.

Not only are there inequalities between countries, but there are also large gaps within the maritime industry. Large shipping groups have enough finances to convert their fleets to green fuel. But small and medium-sized enterprises do not have enough resources to invest and risk being eliminated from the market if they do not meet Net-Zero standards. This will lead to the concentration of power in the hands of a few large companies, reducing competitiveness in the maritime industry.

For Vietnam, this risk is very clear. As a major exporter of seafood, textiles, footwear, electronics and other consumer goods, we may face tariff barriers when stricter regulations on green shipping are imposed. If these standards are not accompanied by appropriate support, Vietnamese enterprises will be seriously affected in terms of transportation costs, thereby reducing their competitiveness in the international market.

We cannot deny that Net-Zero is an urgent goal. But for it to become a fair roadmap, we believe that there needs to be a transparent and fair mechanism to ensure that: Net-Zero standards are not abused to create trade barriers. Small and medium-sized enterprises have equal opportunities to compete with large corporations. Net-Zero implementation must be flexibly adjusted for each group of countries, avoiding imposing a common model for all countries.

First, on the establishment of the IMO Net-Zero Fund, we would like to propose to add the purpose of establishing the IMO Net-Zero Fund is to support developing countries, SIDs and LCDs in which Vietnam and Southeast Asian countries will be given priority to access capital

from this Fund to upgrade their fleets, build infrastructure and access green technology. Developed countries and large shipping groups need to contribute financially to this fund, creating conditions for a fairer transition.

Second, the IMO's Net-Zero framework needs to add a regulation that is more flexible regarding the roadmap or a timeline that is suitable for the actual conditions of each country. Developed countries can apply Net-Zero earlier while developing countries, SIDs and LCDs may have more time to transition, to ensure adaptation and sustainable development.

Third, there needs to be a mechanism to support small and medium-sized enterprises in the maritime industry, including:

- Providing preferential loan packages for shipowners in developing and underdeveloped countries to upgrade vessels and develop technology.

- Having a policy of tax reduction or exemption of carbon tax for small shipping lines in the early stages of Net-Zero.

- Developing training and technology transfer programs to help shipowners quickly adapt to new requirements.

- Encourage public-private partnerships to accelerate the clean energy transition in the shipping industry.

Dear Mr. Chair,
Net-Zero is the future of shipping, but without appropriate support measures, the Net-Zero Framework could become more of a challenge than an opportunity for developing countries, least developed countries and small maritime businesses. But if we build a sensible roadmap, with fair sharing of responsibilities, we can turn Net-Zero into a driver for sustainable development.

For developing countries, SIDs and LCDs, including Vietnam, this is both an opportunity and a challenge. With the right international cooperation, we can both protect the environment and develop our economies sustainably.

To ensure that developing countries, SIDs and LCDs are not left behind in IMO's Net-Zero roadmap, let's work together to ensure that Net-Zero is not a privilege of wealthy countries and corporations, but a shared journey for the entire global maritime industry. We look forward to IMO to accompany the developing countries, SIDs and LCDs, ensuring a just and equitable support mechanism, enabling all countries to participate effectively in this transition.

Lastly, the Vietnam's delegation kindly request this speech to be included in the final report. We will send our speech to the secretariat.
Thank Mr. Chair."

Statement by the observer from ICS

"Chair,
Distinguished Delegates,
As I prepare to step down as Secretary General of ICS after seven years and this will be my last MEPC I reflect upon the amazing journey the industry has been on. The decisions which IMO makes this week will have momentous and once in a generation consequences for the future structure of the entire global shipping industry.

Chair,
ICS though its members has worked hard for over 10 years trying to identify the best way that industry considers will deliver a mechanism that is fare and can deliver on the ambition of the IMOs GHG Strategy, something that we support.

Our members have closely followed the intersessional working group meetings, and ICS does have some concerns about the complexity of the current text which many in the industry currently find difficult to fully digest. We therefore hope that the discussions in this meeting will lead to a final text will have greater simplicity so that it can work effectively.

Whatever is decided, it is of the utmost importance that the amendments to MARPOL approved this week will provide the certainty that the shipping industry urgently needs to help de-risk its multi-billion dollar investment decisions, so that we can successfully transition to ZNZ fuels and technologies. Importantly what is agreed here must also send a strong signal to the market beyond shipping so that investments in fuel production systems are made. And finally, that the new regulations, wherever possible, avoid any potential for unintended consequences.

ICS wishes the working group and the Committee every success.
Thank you Chair, we request that this statement be attached to the Committee's report."

Statement by the observer from ITF

"Thank you, Chair.
At this critical juncture in the work of the Committee, the ITF would like to highlight the importance of ensuring that the governance structure of the proposed Fund is inclusive and reflective of all key stakeholders who will be needed to deliver a just, equitable and effective transition.

ITF is very supportive of having a gender and geographically balanced composition, ensuring adequate representation of developing countries, in particular SIDS and LDCs, and the inclusion of industry is equally essential.

As an observer organization representing seafarers, the very people who will be at the forefront of implementing this transition, ITF strongly encourages the Committee to consider ways to ensure that seafarers' voices are formally represented in the governance of the Fund. Achieving zero emissions in the maritime sector requires a collaborative effort, and seafarers will be a central pillar in operationalizing this ambition. Without their involvement, we risk designing frameworks that are not grounded in the practical realities of life and work at sea.
Chair, this is not the first fund of this kind to be established internationally. As referenced in document MEPC 83/7 from Secretariat, there are useful precedents that integrated collaborative approaches, drawing on the strengths and expertise of well-established partners across the community. These models show the value of inclusive structures designed for dialogue, partnership, and transparency. Principles we believe should underpin the governance of this Fund as well.

Chair, in the spirit of partnership and with a view to ensuring the success of the Fund, we advise that industry partners, especially seafarers' representatives to be part of the Governing Body.

Chair we kindly ask you to attach our statement to the final report.
Thank you."

Statement by the observer from CSC

"To ensure our statement is as brief and constructive as possible, we'd like to share what we believe is a minimum outcome for this week for both the short term and mid-term GHG measures – while those files are treated separately —they are after all deeply interrelated.
When it comes to the BoM the framework must be based on clear well-to-wake (WtW) targets, with ambitious base factors that will force ships to decarbonize all the way to 2050. It must have high penalties in tier 2, which will actually force vessels to use cleaner fuels—rather than allowing them to simply pay their way to pollute. Anything below $600 per tonne of CO2e will simply not cut it and will fail to create a level playing field for alternative fuels.

It must contain direct compliance targets that account for 100% of emissions, with a RU price starting at $150 per tonne CO2e. This is necessary to generate sufficient funds for a just and equitable transition and to guarantee the uptake of ZNZ fuels and technologies.

It must also contain a flexibility mechanism that incentivises first movers to adopt clean fuels and technologies —but not at the expense of a financially sound framework.

But Sir, while a high price on all emissions is essential to kickstart early investment in ZNZ fuels and energy and efficiency, the above BoM will do little to cut emissions deeply before 2030 and in the 2030s. For that we need a properly targeted and enforced revised CII that captures all emissions and drives the maximum possible uptake of all available energy efficiency possibilities.

And Sir, there must be a clear understanding that the BoM and the CII together will take us to our destination. We need the combined ambition of these to deliver our goals. At the moment neither is fit for purpose.

We recognise the challenges ahead, and the diversity of this assembly But we believe all of these ingredients are necessary to reach the goals of the GHG Strategy – which was unanimously adopted by you all."

Statement by the observer from EDF

"Thank you Chair, distinguished delegates,
The world is watching this Committee. The decisions we make this week will shape the trajectory of global shipping for decades to come. We are here because the climate crisis is accelerating, and the window to limit warming is rapidly narrowing. The urgency is real, and our collective responsibility is great.

EDF believes that this basket of mid-term measures offers a once-in-a-generation opportunity: not only to drive shipping's transition through the uptake of zero and near-zero emission fuels and technologies, but also to do so in a way that supports the countries and communities most vulnerable to the impacts of climate change.

A stringent, enforceable global fuel standard—on a well-to-wake (WTW) basis—is essential. We must be clear about what constitutes sustainable fuels. The lifecycle emissions of fuels, from production through combustion, must be considered. Anything less risks locking the sector into non-scalable, non-sustainable pathways, creating stranded assets and undermining credibility. In this context, a robust definition of zero and near-zero emission fuels & technologies is foundational.

We also support a universal carbon pricing mechanism that covers 100% of emissions. Not only will this send a clear signal to markets, but it will also create a predictable stream of revenue that is essential for funding the transition.

A fair share of this revenue must be deployed equitably and effectively to deliver support to climate-vulnerable countries, especially SIDS and LDCs. This is not a question of climate finance—it is a question of justice. It is our responsibility to provide these countries with confidence that they will not be left behind.

Let us be clear: the shipping industry cannot make this transition alone. But a strong signal from this sector can ripple outward—catalyzing global investment, supporting innovation, and building the confidence needed for a broader, economy-wide shift.

This week, consensus is within reach. We urge all member states to act with ambition, clarity, and solidarity. Now is not the time to hesitate or delay. The opportunity before us is immense—and so is the responsibility.

EDF stands ready to support this Committee and all member states in building a framework that drives emissions reductions, spurs innovation, and delivers on the IMO's commitment to a Just and Equitable Transition.
Thank you."

Agenda item 10

Statement by the delegation of Ireland

"Thank you Chair, good morning to all,
Ireland wishes to align our-selves with the supporting statements made by Poland & others, and to also commend the IMO Secretary General and the Secretariat for their work in supporting the safety of shipping, seafarers' welfare, and protection of the maritime environment in the Black Sea and Sea of Azov.

Ireland fully supports the context and content of MEPC 83/10, and Ukraine's statement and would like to restate our support of IMO Assembly Resolution A33/1183 in its 33rd session.
The Russian Federations military action against Ukraine is illegal and immoral. The senseless and brutal attacks which have continued, for over three years, are calculated and cruel. The destruction caused throughout that Country, to its Ports, the surrounding infrastructure and the maritime environment is massive in scale and will have long reaching consequences for the entire region.

A full and comprehensive cessation of hostilities and the withdrawal of the Russian military from Ukrainian territory, including its territorial waters, is immediately required to ensure the safety and welfare of its civilians, and the protection of the Marine environment. Ireland is unwavering in our solidarity with the people of Ukraine, and in our support for Ukraine's sovereignty, territorial integrity, and the right of their citizens, and all people in the world, to live without persecution and fear, in safety and with peace.

We would request that Irelands statement is included in the report of this Committee.
Thank you, Sir."

Statement by the delegation of Poland

"Chair,
Poland, on behalf of the EU Member States and the European Commission, reaffirms the importance of adhering to international regulations to safeguard the marine environment. Compliance with the International Convention for the Prevention of Pollution from Ships (MARPOL), the United Nations Convention on the Law of the Sea (UNCLOS), and the International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) remains essential for preserving marine ecosystems.
We note the information presented under agenda item 10 and the accompanying documents submitted.

Russia's war of aggression against Ukraine has led to numerous incidents with severe environmental consequences, including pollution caused by military activities.

Incidents involving aging vessels further emphasize the need for States to fulfill their responsibilities under international law, including taking measures to prevent operations that endanger both human life and the environment. Transparent reporting and coordinated responses remain indispensable for mitigating harm and ensuring accountability.

As emphasized during the discussions at the PPR Subcommittee, the Russian Federation must respect international regulations and promptly inform Ukraine, the legitimate Coastal State, about pollution incidents. The actions of the Russian Federation undermine environmental protection, destabilize the region, and threaten the safety of navigation. Thus, they must cease immediately.

The EU stands in full solidarity with Ukraine and the Ukrainian people and supports all efforts to address the environmental impacts of the unlawful and unjustified war against its sovereignty and territorial integrity.

Chair, Let me finish by saying that we are deeply saddened by the news just shared by Ukraine, and we extend our heartfelt condolences to the families of the victims, including the children who tragically lost their lives in attacks on Kryvyi Rih.

Chair, we request that this statement be annexed to the Committee's report."

Statement by the delegation of Russian Federation

"Документ MEPC 83/10 — это еще одна неудачная попытка подорвать работу одного из главных комитетов Организации и заменить его важнейшую экологическую работу исключительно эгоистичной повесткой дня одного из государств-членов. Вы все слышали выступление украинской делегации и другие последовавшие, которые были чисто политическими. Мы могли бы ответить на каждое прозвучавшее обвинение, но не считаем, что наш Комитет должен быть вовлечен в эту дискуссию, а также в проходящие переговоры между странами, на которые ссылались некоторые выступившие делегации, поэтому остановимся исключительно на документе MEPC 83/10.

В вышеупомянутом документе, как и во множестве аналогичных документах, Комитету представлен, по сути, политический вопрос. Утверждения, которые приведены в этом документе, существуют исключительно в параллельной реальности Украины, воображающей, что она имеет юрисдикцию прибрежного государства в Керченском проливе и водах, прилегающих к Крымскому полуострову. На основе манипуляции фактами и под предлогом заботы об окружающей среде региона Комитет призывается принять политические действия, не имеющие подлинной связи с реальной защитой окружающей среды.

Документ MEPC 83/10 имеет тенденцию неверно толковать факты с очевидной целью ввести в заблуждение членов ИМО. Этот документ содержит необоснованные утверждения, которые выдвигаются по чисто политическим причинам и не способствуют достижению целей ИМО.
Кроме того украинская сторона вводит в заблуждение членов ИМО, пытаясь интерпретировать некоторые аспекты Конвенции ООН по морскому праву 1982 года, в частности Статью 198 («Уведомление о неминуемом или нанесенном ущербе»).

Наши разъяснения и аргументы по этому аспекту приведены в соответствующих пунктах комментирующего документа MEPC 83/10/2.

Российская Федерация решительно осуждает попытки любого государства использовать трагические морские катастрофы (в данном случае аварии двух танкеров «Волгонефть» в декабре прошлого года) в своих политических целях, отвергает все необоснованные обвинения, указывает, что в очередной раз многие из поднятых вопросов выходят за рамки компетенции Комитета и ИМО в целом, а также приветствует технические обсуждения по данному вопросу.

Относительно утверждений о «теневом флоте», следует отметить, что использование этой концепции в документе MEPC 83/10 показывает, как ее неправомерное применение служит политическим интересам некоторых государств и подрывает позицию ИМО по этому вопросу, втягивая Организацию в политические потрясения и подталкивая к принятию дискриминационных мер против отдельных государств, вместо того, чтобы помочь ей должным образом решить этот вопрос. Такая практика неприемлема. Более того, предлог использования аварий с танкерами «Волгонефть» для продвижения этого вопроса является недопустимым, поскольку ни одно из двух судов не может быть квалифицировано как принадлежащее к «теневому флоту».
Мы также планируем предоставить дополнительную информацию о проведенных работах по очистке окружающей среды, а также о расследовании указанных морских катастроф, как это предусмотрено статьей 12(1) МАРПОЛ."

"Document MEPC 83/10 is yet another unsuccessful attempt to undermine the work of one of the main committees of the Organization and to replace its vital environmental work with the purely selfish agenda of one of the Member States. You all heard the speech of the Ukrainian delegation and others that followed, which were purely political. We could respond to each accusation made, but we do not believe that this Committee should be involved in this discussion, as well as in the on-going negotiations between the countries, to which some delegations that spoke referred, so we will focus exclusively on document MEPC 83/10.
The aforementioned document, like many similar documents, presents the Committee with what is essentially a political issue. The claims made in this document exist solely in the parallel reality of Ukraine, which imagines that it has jurisdiction as a Coastal State in the Kerch Strait and the waters adjacent to the Crimean Peninsula. Based on the manipulation of facts and under the pretext of concern for the environment of the region, the Committee is called upon to take political action that has no genuine connection with real protection of the environment.

Document MEPC 83/10 tends to misrepresent the facts with the obvious aim of misleading IMO members. This document contains unsubstantiated allegations that are put forward for purely political reasons and do not contribute to the achievement of IMO objectives.

In addition, the Ukrainian side misleads IMO members by attempting to interpret certain aspects of the 1982 UN Convention on the Law of the Sea, in particular Article 198 ("Notification of imminent or actual damage"). Our explanations and arguments on this aspect are provided in the relevant paragraphs of the commenting document MEPC 83/10/2.

The Russian Federation strongly condemns attempts by any state to exploit tragic maritime disasters (in this case, the accidents of two "Volgoneft" tankers in December last year) for its own political purposes, rejects all unfounded accusations, points out that once again many of the issues raised go beyond the competence of the Committee and the IMO as a whole, and welcomes technical discussions on this issue.

As for the "dark fleet" allegations, it should be noted that the use of this concept in MEPC 83/10 shows how its misuse serves the political interests of some States and undermines the IMO's position on this issue by dragging the Organization into political turmoil and pushing it to adopt discriminatory measures against individual States, rather than helping it to properly address this issue. Such a practice is unacceptable. Moreover, the pretext of using the accidents with "Volgoneft" tankers to propel this issue is unacceptable, since neither of the two ships can be qualified as belonging to the "dark fleet".

We also plan to provide further information on the environmental clean-up efforts carried out and the investigations of the mentioned accidents, as required by Article 12(1) of MARPOL."

Statement by the delegation of Ukraine

"Chair,
Ukraine has submitted document MEPC 83/10 under agenda item 10 on Pollution Prevention and Response to ensure that the Committee can thoroughly examine the consequences of the accident involving two aging Russian-flagged tankers in the Kerch Strait.

This document highlights not only the environmental impact but also the inadequate response by the Russian Federation. Had the necessary actions been taken promptly and in accordance with international obligations, this catastrophe could have been prevented, or at least its consequences mitigated.

Two aging Soviet-era tankers, Volgoneft-212 and Volgoneft-239, suffered catastrophic structural failures in the Kerch Strait during severe weather, resulting in loss of life and the release of more then 4 000 tonnes of M-100 fuel oil into the Black Sea. This heavy fuel oil, which solidifies at +25°C and is denser than water, poses a severe environmental threat as it sinks to the seabed or remains suspended in the water column. The spill has far-reaching consequences, endangering marine biodiversity, coastal communities, and the broader Black Sea ecosystem.

Ukraine is gravely concerned by the environmental and maritime safety implications of this spill, particularly given that both vessels, which should have been decommissioned years ago, were operating despite their poor condition. This incident underscores the critical importance of strengthening international regulatory oversight on aging vessels, ensuring strict adherence to safety protocols, and preventing the operation of outdated and unsafe ships that pose risks to both human life and the environment. The lack of transparency and accountability in the response to this disaster further exacerbates the situation, highlighting the urgent need for coordinated international action to address oil spills and their long-term environmental impact.

Chair,
The environmental toll of Russia's aggression is growing. More than 744 water infrastructure facilities have been damaged or destroyed. War-related emissions surged by 30% in 2024, with total emissions from the invasion reaching 230 million metric tons of CO_2—equivalent to about a quarter of the annual emissions from shipping. The damage and losses resulting solely from the Volgoneft tanker incident are estimated at $14 billion, a sum on par with the devastation caused by the destruction of the Kakhovka Dam in June 2023.

Since the tanker incidents, Ukraine has received no official notification regarding the accidents or oil discharges, in direct violation of UNCLOS, MARPOL, and the 1990 OPRC Convention. These Conventions explicitly require the prompt notification of affected states in the event of oil pollution. Russia's failure to comply with these obligations undermines international efforts to mitigate environmental disasters.

Chair,
Ukraine remains committed to ensuring security and stability in the Black Sea region. We highly appreciate the United States' leadership in advancing crucial discussions and Saudi Arabia's role in facilitating recent negotiations on safe navigation and energy security. These efforts are vital in preventing further escalation and ensuring the implementation of agreed security measures.

At the same time, this process must be comprehensive. Unfortunately, however, the Russian side continues to show disregard for it — a fact underscored by the events of last week, when a single missile strike on Kryvyi Rih claimed the lives of 20 people, including 9 children. According to the UN High Commissioner for Human Rights, this was the deadliest attack on children since the beginning of the war.

Ukraine urges the Committee to take note of the situation described in document MEPC 83/10, including the proposals outlined in paragraph 25. Furthermore, we call on the Committee to reinforce strict compliance with international maritime conventions to prevent similar catastrophes in the future and uphold the integrity of global maritime governance.

I thank you, Mr. Chair, and request that this statement is reflected in the Committee's report and attached to its annex."

Statement by the delegation of the United Kingdom

"Thank you, Chair,
On 10 March 2025, the Portuguese flagged container vessel SOLONG allided with the United States flagged chemical tanker STENA IMMACULATE off East Yorkshire on the Northeast coast of the United Kingdom, triggering a major offshore emergency response. The SOLONG was on passage from Grangemouth, Scotland, to Rotterdam, Netherlands and STENA IMMACULATE was at anchor at the time of the incident.

There were 14 persons on board the SOLONG and 23 persons on board the STENA IMMACULATE. On impact, both vessels caught fire and, shortly thereafter, the crew of both vessels abandoned ship. 36 persons were rescued by His Majesty's Coastguard and crew transfer vessels from a nearby windfarm. Sadly, one crew member from the SOLONG remains unaccounted for, and our thoughts are with his family, friends and crew members.

The STENA IMMACULATE was carrying JET 1A aviation fuel. The allision impacted one cargo tank and a total of 2073Metric Tonnes has been lost, mostly consumed within the post allision fire, none has been observed on the sea surface. The SOLONG was carrying a mixed cargo including alcohol and plastics. None of the containers of plastic have been lost, however, the fire and subsequent firefighting activity has resulted in the loss of burnt debris, alcohol bottles, melted plastics and some loose plastic pellets overboard.

Fixed wing aircraft overflights have been conducted daily by His Majesty's Coastguard and, in the early stages of the incident, this was supported by the German Central Command for Maritime Emergencies, who provided valuable imagery to support firefighting and damage assessments and to identify pollution.

From 16 March, clumps of burnt residue and plastic pellets were observed at sea and began washing ashore on beaches on the east coast of the UK, in Norfolk and Lincolnshire.
His Majesty's Coastguard, counter pollution specialists, local authorities, environmental bodies, and other responders have been working together to gather plastic pellets and other debris from the sea, and to clean up beaches. Recovery is being supported with vacuum systems, and the IMO Guidelines on good practice relating to clean-up of plastic pellets from ship-source releases, approved by MEPC 82, were referred to during the planning stage of the clean-up operation.

The areas of coastline affected by plastic pellet pollution have multiple designations as Marine Protected Areas for both habitats and species but also host important fisheries. To date, the at-sea operations has recovered 37 cubic metre bags of debris. On the shoreline, over 10,000kg of material has been recovered thus far.

The SOLONG has now arrived safely in Aberdeen for damage assessment, and transfer of the STENA IMMACULATE'S cargo has been completed, prior to being taken to port. Local Authorities along the Norfolk and Lincolnshire coats are continuing to monitor the shoreline and respond to reports of further debris.

The UK Government is grateful for the many offers of assistance that were extended by member states both in search and rescue efforts and to assist with counter pollution activities. Our thanks are due to all those who have worked so tirelessly in the rescue, firefighting and counter pollution operations to prevent this incident escalating further.
Thank you, Chair."

"Thank you, Chair.
As my Ukrainian colleague has just highlighted, the environmental impacts of Russia's war of aggression have been serious, and far-reaching. In its use of ageing, unsafe vessels, it shows a clear disregard for the rules and regulations of this organisation which exist to protect the marine environment and keep our seas safe. The UK shares the grave concerns expressed by Ukraine regarding the marine pollution and emissions that have resulted from Russia's actions and the risk of future environmental harm.

This delegation reminds Russia of their responsibility to safeguard the marine environment and the safety and security of shipping and calls for Russia to comply fully with their obligations under MARPOL, the UN Convention on the Law of the Sea and the International Convention on Oil Pollution Preparedness, Response and Coordination.

We further remind Member States of the importance of fulfilling Assembly Resolution 1183(33) and the obligations on flag and port states to ensure that oil spill incidents do not pose environmental risks.

The UK thanks Ukraine for its submission and notes the information provided. The UK stands resolutely with Ukraine and supports its efforts to avoid further harm to the marine environment and to seek accountability for Russia's actions. Thank you, Chair."

Agenda item 12

Statement by the delegation of Denmark

"Thank you, chair.
Greenland, which in the IMO is represented by Denmark, and Denmark support the proposal to designate the North-East Atlantic Ocean as an Emission Control Area. Greenland is grateful to be part of this important process and looks forward to the continued cooperation.

Denmark is also a strong supporter of PSSAs as a vital tool for protecting vulnerable marine environments from the impacts of international shipping. We support Peru's proposals to designate the Nasca Ridge National Reserve and the Grau Tropical Sea National Reserve as PSSAs.

We would like to have our statement added to the report.
Thank you, chair."

Statement by the delegation of Iceland

"Thank you Chair and a good day to all.
Iceland is one of the sponsors of the proposal contained in document MEPC 83/12 to designate the North-East Atlantic Ocean as an Emission Control Area.

Iceland fully supports the proposal, which will improve air quality and provide benefits for human health and the environment in the North-East Atlantic, and we hope it can enter into force at the earliest possible date in 2027.

Iceland also supports that the proposal be forwarded to the technical group for further consideration.

We would ask that our support for the proposal in document MEPC 83/12 be noted in the report of the committee.
Thank you."

Statement by the delegation of Panama

"Muchas gracias, señor Presidente.
Buenos días a todos los distinguidos delegados presentes y buenas tardes o noches a quienes nos acompañan de manera virtual.

La República de Panamá agradece a los autores de este documento por presentar la propuesta de designación del Océano Atlántico Nororiental como Zona de Control de Emisiones de óxidos de azufre, materia particulada y óxidos de nitrógeno, conforme a lo establecido en el Anexo VI del Convenio MARPOL, en particular las enmiendas a las reglas 13.5, 13.6, 14.3 y al Apéndice VII.

Nuestra Administración apoya firmemente esta iniciativa, que busca enmendar el Anexo VI del Convenio MARPOL para incluir al Atlántico nororiental como una nueva ECA para NOx y SO_x. Reconocemos que la actual definición de "buque construido", basada únicamente en la fecha de colocación de la quilla, puede limitar la eficacia de las nuevas regulaciones, retrasando los beneficios esperados para la salud pública y el medio ambiente.

En ese sentido, coincidimos con los proponentes en recomendar la adopción del denominado "criterio de las tres fechas" —contrato de construcción, colocación de la quilla y entrega del buque— como un enfoque más justo y eficaz para la aplicación de los requisitos de Nivel III de NOx en esta nueva zona.

Consideramos, además, que los costos estimados de implementación son razonables y comparables con los de otras zonas de control ya designadas. Es importante destacar que, dado que la mayoría de los buques que transitarán por esta nueva ECA ya operan en otras zonas con requisitos similares, se anticipa una menor carga para los sectores involucrados.
Finalmente, deseamos subrayar que los beneficios ambientales y de salud pública de esta propuesta son significativos, y superan ampliamente los desafíos asociados a la adaptación

tecnológica y a los costos de cumplimiento para la industria marítima y coincidimos con el Documento MEPC 83/12/3 de FOEI, WWF, Pacific Environment y CSC con los comentarios de apoyo a esta propuesta y con lo que le solicita a este comité en que entre en vigor a la mayor brevedad posible en 2027.

Muchas gracias, Señor Presidente."

Statement by the delegation of Portugal

"Thank you Mr Chair,
Secretary-General, Your Excellencies, Distinguished delegates,
As Portugal Secretary of State for Maritime Affairs, I have the honour to join this session of the Marine Environment Protection Committee, where so many important issues in relation to the protection of the marine environment will be addressed. One of the key issues on this session agenda is precisely the proposal on the creation of a new Emission Control Area (ECA) in the North-East Atlantic, reflected in document 83/12, which we cosponsor, together with a wide group of coastal States, and fully support.

This initiative has been developed under Portugal's coordination with a deep sense of responsibility to address air pollution caused by maritime transport and its adverse effects on marine ecosystems, coastal communities, and human health.

The urgency of this challenge cannot be overstated.

Air pollution from ships is a major contributor to environmental degradation, intensifying climate change, affecting public health and the well-being of millions. The situation is particularly pressing in the Northeast Atlantic, where maritime traffic is highly intense, and coastal populations are heavily exposed to emissions of sulphur oxides (SO_x), particulate matter and nitrogen oxides (NOx).

Portugal, as a coastal State directly impacted by this pollution, recognizes the need of immediate, collective and coordinated action. The designation of an ECA in the North-East Atlantic represents a decisive step in mitigating these negative impacts, reducing levels of emissions from ships, and improving air quality. This ECA will help to protect over 1,500 marine protected areas, 17 key marine mammal habitats, and 148 UNESCO sites, by mitigating environmental damage from pollution deposition and ocean acidification.

If this numbers were not enough, it will also prevent 118 to 176 premature deaths until 2030, with a cumulative reduction of 2,900 to 4,300 premature deaths from 2030 to 2050. Furthermore, this measure will create a coherent network, by linking existing ECAs in the Baltic Sea, the North Sea, the English Channel, and the Mediterranean Sea, reinforcing our collective commitment to a cleaner and healthier marine environment.

Coherence in collective effort is our main driver to reduce pollution caused by maritime traffic in the Atlantic Ocean. We firmly believe that this initiative is not only a significant contribution to reducing emissions, but also a crucial step towards the broader decarbonization of maritime transport.

It aligns with our international commitments under the Paris Agreement and the IMO's Strategy to cut greenhouse gas emissions from shipping. By adopting ambitious and coordinated policies, we reaffirm our commitment to sustainable maritime development, while ensuring the competitiveness of the sector, through innovative and green solutions.
Mr. Chair,

Finally, before I close, allow me to take this opportunity to thank all delegations for their support and engagement with the said proposal. This delegation also supports that the submission be forwarded to the technical group, if established, for further consideration.
A positive common decision to the proposed North-East Atlantic ECA by this Committee will turn this important milestone into reality very soon. I wish you all very productive discussions and I kindly request that this statement be included in the Committee's report.
I thank you."

Statement by the delegation of Spain

"España como estado ribereño incluido en la zona de control de emisiones propuesta en el documento MEPC 83/12 ha trabajado, en estrecha colaboración con otros estados miembros y bajo la coordinación de Portugal, para proponer que se designe el océano Atlántico nororiental como zona de control de las emisiones de óxidos de azufre, materia particulada y óxidos de nitrógeno, de conformidad con lo dispuesto en el Anexo VI del Convenio MARPOL. Por ello, apoyamos totalmente que se apruebe en este periodo de sesiones las propuestas de enmiendas a las reglas 13.5, 13.6, 14.3 y al apéndice VII del Anexo VI del Convenio MARPOL sobre la designación del océano Atlántico nororiental como zona de control de las emisiones."

Statement by the delegation of The Faroes

"Thank you Chair,
On behalf of the Faroe Islands, I would like to express our gratitude to Portugal for taking the lead and coordinating the process for the proposal of a North-East Atlantic Emission Control Area.

The Faroe Islands fully supports the proposal contained in document MEPC 83/12 to designate the Northeast Atlantic Ocean as an Emission Control Area and we also support that the proposal be forwarded to the technical group for further consideration.

We request that this statement of support for the proposal is included in the report of the committee.
Thank you."

Agenda item 14

Statement by the delegation of Belgium

"Merci Mr. le Président, et nous nous excusons en avance pour une intervention plus longue que d'habitude.

La Belgique remercie la République de la Corée pour le document MEPC 83/14/3. En général, nous nous alignons avec l'intervention de la distinguée déléguée de la Pologne.

Tout d'abord, il est important pour la BE que le nouveau travail législatif ne ralentisse l'adoption des amendements au Code IGC, ni la finalisation des « Lignes directrices intérimaires pour l'utilisation de l'ammoniac comme carburant à bord des navires IGC » en 2025.

La chronologie référencée dans les paragraphes 26 et 27 du document MEPC 83/14/3 nous semble ambitieuse et ajoute une charge de travail difficile à déterminer aux agendas de deux sous-comités déjà surchargés – le PPR et le CCC.

La Belgique reconnait que le développement de lignes directrices pourrait partiellement répondre aux défis liés aux effluents venant de navires utilisant l'ammonique comme carburant, mais il nous semble que des amendements à la convention MARPOL pourraient s'avérer être une meilleure solution à long terme.

Il est, en notre opinion, crucial que nous mettions tout en œuvre pour que les effluents d'ammoniac restent à un niveau minimal, comme illustré dans les paragraphes 10 à 13 de la soumission présente. Les effets que pourraient avoir des effluents sur l'environnement ne peuvent pas être sous-estimés. C'est pourquoi penchons plutôt vers une tolérance zéro. Par conséquent, nous considérerions une option dans laquelle les effluents d'ammoniaque devront être déchargés au sein d'infrastructures adaptées, et la décharge en mer est restreinte. Une telle décision nécessiterait des amendements à la convention MARPOL dans les annexes concernées, ce qui inclurait les installations de réception portuaires adéquates. Il s'agirait ici d'une approche durable qui fournirait aux armateurs un cadre législatif claire et qui permet aux administrations maritimes d'en contrôler l'application.

Dans nos efforts de réduire les effets néfastes environnementaux du secteur maritime, on ne peut absolument pas se permettre de créer de nouvelles sources de pollution.

Compte tenu de ces raisons, la Belgique soutient la proposition de la République de la Corée du Sud en ce qui concerne la création d'un nouvel output, mais il est important que la voie à emprunter soit bien réfléchie et que le nouvel output nous permette d'avoir une discussion approfondie sur le sujet lors de la prochaine session du sous-comité PPR, y compris sur de possibles lignes directrices ou d'autres actions potentielles.
Merci."

Statement by the delegation of Denmark

"Thank you, Chair.
Denmark would like to express its support for the proposal contained in document MEPC 83/14/3, submitted by the Republic of Korea, to establish a new output aimed at developing guidelines on ammonia effluent from ammonia-fuelled ships.

We recognize the increasing interest in ammonia as an alternative marine fuel, and we welcome the proactive approach, ensuring that its use does not lead to unintended harm to the marine environment. As such, we believe it is both timely and necessary to begin work on guidelines addressing ammonia effluent management.

In addition to addressing effluent discharge, Denmark sees value in taking a holistic approach by also considering emissions to air – particularly ammonia slip and other stack gas emissions – when developing these guidelines. We believe that a holistic perspective will better equip us to identify and mitigate any potential negative environmental impacts associated with ammonia, and will contribute to the development of a robust and forward-looking guidance.
We look forward to engaging constructively with parties and stakeholders as this work progresses, and to contribute to the development of the guidelines.
Thank you, Chair."

Agenda item 16

Statement by the observer from ACOPS

"We would like to thank Pacific Environment and CSC for their paper and proposal. A number of us are turning around the same overall scientific findings and associated concerns linked to ever growing pressure from human activities including shipping and further degradations of the marine environment that scientific research keeps highlighting.

ACOPS' submission 83/16/5 submit that this body needs to start work on developing an assessment of cumulative effects from all activities in the development of its new regulations towards ecosystem integrity and resilience.

In this paper we highlight recent publications including the IOC 2024 State of the Marine Environment Report and peer-reviewed publications that all call to urgently address and alleviate the ever increasing pressures on the marine environment, further amplified by the climate change processes and ocean acidification and their ongoing under estimation.

These pressures do not only decrease the ecosystem services that humanity can derive from them. They also decrease the ability of the marine environment to be the climate regulator and buffer we need in the face of climate change processes including ocean acidification.

The assessment of cumulative effects have long been a scientific challenge. However, these analyses have progressed and are now progressively being taken on in the work of a number of intergovernmental bodies. Conversely, the BBNJ Agreement clarified the notional inclusion of cumulative effects in the assessment of effects from activities regulated under UNCLOS, which include shipping.

The IMO Strategic Plan 2024-2030 recalls that "IMO is fully committed to achieving the 2030 Agenda for Sustainable Development and the SDGs" and that "sustainable shipping is integral to ocean governance and that IMO will continue to take action. In this context, we propose that it is time for the IMO to also engage in an overall assessment of the combined effect of different sources of pollution from shipping when considering thresholds for each.

Such an approach can start within different ongoing work streams such as scrubbers, Underwater noise, pollution from marine biofouling and as we just heard regulation on biofouling management or threshold for release of ammonia effluents, if any. Of course, a transversal task force or ad hoc WG focused on the intersection of climate, biodiversity and pollution could be useful to develop consistent guidelines that may be followed by the organisation.

We hope that this body will rise to the challenge and engage in this conversation with a view to continue decreasing overall effects of increasing shipping traffic on the marine environment, taking into account pressures from the many other sea-based activities that are also increasing."

Statement by the observer from CSC

"Thank you Chair,
Distinguished delegates and colleagues,
We have all, in some way, felt the impacts of the climate crisis. Whether through rising seas, devastating storms, diseases, or the gradual disappearance of once-familiar seasons—the impacts of the climate, biodiversity, and pollution crisis are no longer a distant threat. According to Nature, 85% of the world's population has already experienced the effects of climate change alone.

The places we cherish—some we call home, others we dream of visiting—are slipping away. The Arctic, once a fortress of ice and life, is rapidly vanishing. Its sea ice is melting at unprecedented rates, threatening the livelihoods of Indigenous Peoples and accelerating the crisis by transforming this vital carbon sink into a carbon source.
Our ocean, the very lungs of our planet, is gasping for air. Today, 90% of the world's marine species are at risk, and global extinctions are projected to rise sharply. Imagine a world where the sea holds no life—a vast, empty space.

And this crisis strikes at the most vulnerable. In 2021, heat-related deaths among people over 65 surged by 167%. Children, too, are suffering. Air pollution has become the second leading cause of death for children under five, following only malnutrition.

These are not just statistics. They are lives—our lives. The lives of our children, our elders, and the generations to come. We cannot afford to stand still
But there is hope—and a way forward.
Last year, at MEPC 82, the shipping nexus concept was introduced, situating shipping within the triple planetary crisis of climate, biodiversity, and pollution. It highlighted the power of solutions with co-benefits—where reversing biodiversity loss and reducing pollution can simultaneously drive meaningful climate action.

The recommendation in MEPC 83/16/4 for an ad hoc working group to study and report back on the shipping nexus concept offers a timely and necessary path forward. By examining the intersection of shipping and the triple planetary crisis, this group can:

- Harness science and knowledge to develop a comprehensive co-benefits resource list of policies and measures that address multiple goals.

- Connect global processes—such as the UNFCCC, COP 30, CBD COP 17, the UN Ocean Conference, and Our Ocean Conference—with IMO's goals, prioritizing solutions with co-benefits.

- Advance a just and equitable transition by embedding this principle into IMO's work, ensuring that policies reflect fairness and shared benefits.

The co-sponsors urge this Committee to call for submissions to MEPC 84 to define the group's mandate, scope, timeline, and goals. This is the decisive moment to establish the ad hoc working group and enable it to begin its work with urgency. We would also thank ACOPS for their submission MEPC 83/16/5 which is a good companion proposal outlining the cumulative impacts of shipping and the need to account for these impacts in the committee's work. The study and integration of cumulative effects decision making would be an ideal aspect to include in the proposed shipping nexus ad hoc working group.

We cannot afford to delay. The decisions we make here will shape the future of entire ecosystems and the people who depend on them. Let us act with the courage and urgency this moment demands.

We'd like to request this statement to be attached to the report.
Thank you."