

RULES FOR MARINE POLLUTION PREVENTION SYSTEMS

GUIDANCE FOR MARINE POLLUTION PREVENTION SYSTEMS

Rules for Marine Pollution Prevention Systems

2018 AMENDMENT NO.3

Guidance for Marine Pollution Prevention Systems

2018 AMENDMENT NO.2

Rule No.135/ Notice No.104 25 December 2018

Resolved by Technical Committee on 1 August 2018

ClassNK
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An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

RULES FOR MARINE POLLUTION PREVENTION SYSTEMS

RULES

2018 AMENDMENT NO.3

Rule No.135 25 December 2018

Resolved by Technical Committee on 1 August 2018

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

“Rules for marine pollution prevention systems” has been partly amended as follows:

Amendment 3-1

Part 1 GENERAL

Chapter 1 GENERAL

1.1 General

1.1.4 Class Notations

Sub-paragraphs -3 and -4 have been renumbered to Sub-paragraphs -4 and -5, and Sub-paragraph -3 has been added as follows.

3 With regard to the permission/prohibition of operation of diesel engines in the NO_x emission control areas referred to in 1.1.2(15), Pat 8 of the Rules, excluding those case where exemption from compliance with the standards specified in Regulation 13.5.1 of Annex VI is granted, the following (1) and (2) are to be entered into the Classification Register as descriptive notes for the ship.

- (1) In the case where diesel engine installations are provided on ships at beginning stage of construction on or after 1 January 2016 (excluding those which fall under the following (2)) in accordance with the requirements of Annex VI, a note thereof (e.g., NO_x-III(2016)) is to be added.
- (2) In the case where diesel engine installations are provided on ships at beginning stage of construction on or after 1 January 2021 in accordance with the requirements of Annex VI, a note thereof (e.g., NO_x-III(2021)) is to be added.

EFFECTIVE DATE AND APPLICATION (Amendment 3-1)

1. The effective date of the amendments is 25 December 2018.
2. Notwithstanding the amendments to the Rules, the current requirements apply to ships other than ships which are delivered or undergo a Special Survey on or after the effective date.
3. Notwithstanding the provision of preceding 2., the amendments to the Rules may apply to ships other than ships which are delivered on or after the effective date upon request of the owner.

Part 2 SURVEYS

Chapter 1 GENERAL

1.3 Verification Survey of Certificates, etc.

1.3.2 Certificates and Documents other than those Specified in 1.3.1*

Sub-paragraph -1(3) has been amended as follows.

1 At surveys, the following certificates and other documents are to be presented to the Surveyor to verify that these certificates and documents are placed on board the ship (excluding unmanned towed ships), and are appropriate. However, at Occasional Surveys, the presentation of certificates and documents to the Surveyor may be limited to the concerned ones.

((1) and (2) are omitted.)

- (3) Relating to the equipment for the prevention of air pollution from ships
- (a) Bunker delivery note
 - (b) Technical file (when the requirements of **2.1, Part 8** are applied)
 - (c) Record book of engine parameters (when the requirements of **2.1, Part 8** are applied)
 - (d) On-board monitoring manual for on-board direct measurement and monitoring method (when the method referred to in **2.1.2-1(2)(c), Part 8** is used (refer to 6.4 and Appendix VIII of the *NOx Technical Code*))
 - (e) List of equipment containing ozone depleting substances and Ozone Depleting Substances Record Book (when the requirements of **1.2.1, Part 8** are applied)
 - (f) Log-book (when the requirements of **2.1.4** or **2.2-2, Part 8** are applied)
 - (g) Procedure manual of fuel oil change-over (when the requirements of **2.2-2, Part 8** are applied)
 - (h) Operation manual for the vapour collection system and VOC Management Plan (when the requirements of **2.3, Part 8** are applied)
 - (i) Operating manual for the incinerator (when the requirements of **2.4-2, Part 8** are applied)
 - (j) Statements of Compliance related to fuel oil consumption reporting (when the requirements of **3.5.1, Part 8** are applied)
 - (k) Documents, etc. regarding the exhaust gas cleaning system or other technological methods specified in the following i) or ii) (for ships where the exhaust gas cleaning systems or other technological methods to which **1.1.3, Part 8** applies are installed or adopted).
 - i) For ships where exhaust gas cleaning systems are installed, manuals such as operation manuals and the EGC Record Book specified in **2.1.2-1(6)(c)**, records of parameters and a SOx Emissions Compliance Certificate (if any); or other documents prescribed by the Administration
 - ii) For ships where other technological methods are adopted, approved documentation in respect of the technological methods of achieving compliance with *Regulation 14 of Annex VI*

Chapter 2 REGISTRATION SURVEYS

2.1 Registration Surveys during Construction

2.1.2 Submission of Plans and Documents for Approval*

Sub-paragraph -1(6) has been amended as follows.

1 For any ship intending to undergo Registration Surveys, the following plans and documents are to be submitted to the Society for approval:

((1) to (5) are omitted.)

(6) Equipment for the prevention of air pollution from ships

(a) Ozone depleting substances

(Omitted)

(b) Nitrogen Oxides (NO_x)

(Omitted)

(c) Sulphur Oxides (SO_x) and Particulate Matter

For ships where exhaust gas cleaning systems or other technological methods to which **1.1.3, Part 8** applies are installed or adopted, the plans and documents, etc. specified in the following i) or ii):

i) For ships where exhaust gas cleaning systems are installed, the plans and arrangements for the system as well as manuals such as operation manuals and the EGC Record Book of the system; or other documents prescribed by the Administration

ii) For ships where other technological methods are adopted, the plans and arrangements for said means

~~(ed)~~ Vapour collection system

(Omitted)

~~(de)~~ Incinerator

(Omitted)

~~(ef)~~ Other plans and documents as deemed necessary by the Society

((7) is omitted.)

2.1.3 Inspections of Construction and Equipment*

Sub-paragraph -5 has been amended as follows.

5 Inspections are to be carried out on the following items for the equipment for the prevention of air pollution from every ship of 400 *tons* gross tonnage or above, every mobile offshore drilling unit and other platforms. However, the inspections required in (2)(b) and (3) excluding (a) are to be carried out irrespective of tonnage of the ship.

((1) is omitted.)

(2) Sulphur Oxides (SO_x) and Particulate Matter

(a) It is to be ensured that the system for fuel-changeover operation is in good working order.

(b) For ships where exhaust gas cleaning systems or other technological methods to which **1.1.3, Part 8** applies are installed or adopted, the following surveys of said systems or

methods are to be carried out.

i) Examinations of work, such as installation, etc.

ii) Performance tests

((3) to (5) are omitted.)

Chapter 3 REGISTRATION MAINTENANCE SURVEYS

3.1 Annual Surveys

3.1.2 Inspections of Construction and Equipment*

Sub-paragraph -4 has been amended as follows.

4 Inspections are to be carried out on the following items for the equipment for the prevention of air pollution from every ship of 400 *gross tonnage* and above, every mobile offshore drilling unit and other platforms. The survey referred to in (3)(b) is, however, to be carried out on all ships.

((1) and (2) are omitted.)

(3) Sulphur Oxides (SO_x) and Particulate Matter

(a) It is to be ensured that the system for fuel-changeover operation is in good working order.

(b) For ships where exhaust gas cleaning systems or other technological methods to which **1.1.3, Part 8** applies are installed or adopted, surveys of the said systems or methods are to be carried out.

((4) to (6) are omitted.)

3.2 Intermediate Surveys

3.2.2 Inspections of Construction and Equipment*

Sub-paragraph -4 has been amended as follows.

4 Inspections specified in **3.1.2-4** are to be carried out on the equipment for the prevention of air pollution from every ship of 400 *gross tonnage* and above, every mobile offshore drilling unit and other platforms except where all ships are to be subjected to the survey referred to in **3.1.2-4(3)(b)**.

3.3 Special Surveys

3.3.2 Inspections of Construction and Equipment*

Sub-paragraph -5 has been amended as follows.

5 Inspections specified in **3.2.2-4** are to be carried out on the equipment for the prevention of air pollution from every ship of 400 *gross tonnage* and above, every mobile offshore drilling unit and other platforms except where all ships are to be subjected to the survey referred to in **3.1.2-4(3)(b)**.

Part 7 EQUIPMENT FOR THE PREVENTION OF POLLUTION BY SEWAGE

Chapter 1 GENERAL

1.1 General

Paragraph 1.1.2 has been amended as follows.

1.1.2 Terminology (*Regulation 1 of Annex IV*)

For the purpose of the requirements in this part, the following definitions apply:

((1) to (5) are omitted.)

(6) “Special area” means the following areas:

(a) The Baltic Sea Area

The Baltic Sea proper with the Gulf of Bothnia, the Gulf of Finland and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerrak at 57°44.8 N.

(b) Any other sea area than (a) above, designated by the *IMO* in accordance with criteria and procedures for designation of special areas with respect to prevention of pollution by sewage from ships.

(7) “Person” means member of the crew and passengers.

(8) “Passenger ship” means a ship which carries more than 12 passengers where a passenger is every person other than the following (a) and (b):

(a) the master and the members of the crew or other persons employed or engaged in any capacity on board a ship on the business of that ship ; and

(b) a child under one year of age.

(9) “New passenger ship” is a passenger ship:

(a) for which the building contract is placed, or in the absence of a building contract, the keel of which is laid, or which is in similar stage of construction, on or after 1 June 2019. For this purpose, the wording “a similar stage of construction” means the stage which falls under (a) and (b) of 2.1.1(25), Part 1; or

(b) the delivery of which is on or after 1 June 2021.

(10) “Existing passenger ship” is a passenger ship which is not a new passenger ship.

Chapter 2 EQUIPMENT FOR THE PREVENTION OF POLLUTION BY SEWAGE FROM SHIPS

2.1 General

2.1.1 Application (*Regulation 2 of Annex IV*)

Sub-paragraph -2 has been amended as follows.

~~2 Existing ships, according to **1(3)** and **(4)** above, the keels of which are laid or which are of a similar stage of construction at beginning stage of construction before 2 October 1983 according to **(3)** and **(4)** of **-1** above~~ are to be equipped, as far as practicable, to discharge sewage in accordance with the requirements of **2.2.1**.

2.2 Requirements for Installation of Equipment

Paragraph 2.2.1 has been amended as follows.

2.2.1 Equipment for the Prevention of Pollution by Sewage (*Regulation 9, Regulation 10 and Regulation 11 of Annex IV*)*

For ships specified in **2.1.1-1**, the ~~following~~ equipment listed in the following **(1)** to **(3)** is to be installed for the prevention of pollution by sewage ~~is to be installed~~.

- (1) ~~one of the following sewage systems~~ Sewage systems:
 - (a) One of the following **i)** to **iii)**:
 - ~~(i)~~ a sewage treatment plant as deemed appropriate by the Society;
 - ~~(ii)~~ a sewage comminuting and disinfecting system as deemed appropriate by the Society, accompanied with facilities to the satisfaction to the Society for the temporary storage of sewage when the ship is less than 3 nautical miles from the nearest land; or
 - ~~(iii)~~ a holding tank of the capacity to the satisfaction of the Society for the retention of all sewage, having regard to the operation of the ship, the number of persons on board and other relevant factors. The holding tank is to be constructed to the satisfaction of the Society and to have a means to indicate visually the amount of its contents.
 - (b) Notwithstanding **(a)** above, the following **i)** or **ii)** in the case of passenger ships operating within a special area on or after a date determined by the *IMO*; however, this date is to in no event be prior to 1 June 2019 for new passenger ships and prior to 1 June 2021 for existing passenger ships.
 - i) a sewage treatment plant as deemed appropriate by the Society; or
 - ii) a holding tank as specified in **(a)iii)** above.
- (2) ~~A~~ pipeline to discharge sewage to a reception facility.
- (3) ~~A~~ standard discharge connection fitted for the pipeline specified in **(2)** in accordance with **Table 7-1**. For ships in dedicated trades, i.e. passenger ferries, alternatively the ship's discharge pipeline may be fitted with a discharge connection which can be accepted by the Administration, such as quick-connection couplings.

EFFECTIVE DATE AND APPLICATION (Amendment 3-2)

1. The effective date of the amendments is 25 December 2018.

Part 8 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

Chapter 1 GENERAL

1.1 General

Paragraph 1.1.2 has been amended as follows.

1.1.2 Terminology (Regulation 2, 13, 14 and 16 of Annex VI and 1.3, 4.1, 4.3.9 and 4.4.8 of NOx Technical Code)*

For the purpose of the requirements in this Part, the following definitions apply unless specified otherwise in Chapters 2 or 3:

((1) to (14) are omitted.)

(15) “NOx Emission Control Areas” means the following areas:

- (a) The North American Area
 - i) The sea area located off the Pacific coasts of the United States and Canada, enclosed by geodesic lines connecting the coordinates specified in Appendix VII.1 to Annex VI.
 - ii) 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 coordinates specified in Appendix VII.2 to Annex VI.
 - iii) The sea area located off the coasts of the Hawaiian Islands of Hawaii, Maui, Oahu, Molokai, Niihau, Kauai, Lanai, and Kahoolawe, enclosed by geodesic lines connecting the coordinates specified in Appendix VII.3 to Annex VI.
- (b) The United States Caribbean Sea Area
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 coordinates specified in Appendix VII.3 to Annex VI.
- (c) The Baltic Sea Area
The Baltic Sea proper with the Gulf of Bothnia, the Gulf of Finland and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerrak at 57° 44.8' N.
- (d) The North Sea Area
The North Sea proper including seas therein with the boundary between:
 - i) the North Sea southwards of latitude 62° N and eastwards of longitude 4° W;
 - ii) the Skagerrak, the southern limit of which is determined east of the Skaw by latitude 57° 44.8' N; and
 - iii) the English Channel and its approaches eastwards of longitude 5° W and northwards of latitude 48° 30' N.
- ~~(ee) Any other A~~ sea area, including port areas, designated by the *IMO* in accordance with criteria and procedures set forth in Appendix III to Annex VI other than those specified in (a) to (d) above.

(16) “SOx Emission Control Areas” means areas listed in the following (a) to (c):

(a) The North American Area

The area specified in (a) of (15) above.

(b) The United States Caribbean Sea Area

The area specified in (b) of (15) above.

~~(c) The Baltic Sea Area~~

~~The Baltic Sea proper with the Gulf of Bothnia, the Gulf of Finland and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerrak at 57° 44.8' N. The area specified in (c) of (15) above.~~

~~(d) The North Sea Area~~

~~The area specified in (d) of (15) above. The North Sea proper including seas therein with the boundary between:~~

~~i) the North Sea southwards of latitude 62° N and eastwards of longitude 4° W;~~

~~ii) the Skagerrak, the southern limit of which is determined east of the Skaw by latitude 57° 44.8' N; and~~

~~iii) the English Channel and its approaches eastwards of longitude 5° W and northwards of latitude 48° 30' N.~~

~~(e) The area specified in 1.1.2(14)(a) and (b)~~

~~(e) Any other A sea area, including port areas, designated by the IMO in accordance with criteria and procedures set forth in Appendix III to Annex VI other than those specified in (a) to (d) above.~~

((17) to (20) are omitted.)

(21) “Diesel engine” means any reciprocating internal combustion engine operating on liquid or dual fuel, or that which is gas fuelled subject to 2.1, including booster/compound systems.

Chapter 2 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

2.1 Nitrogen Oxides (NOx) (*Regulation 13 of Annex VI*)

2.1.2 Requirements for Installation*

Sub-paragraph -1(1) has been amended as follows.

1 On each diesel engine, the exhaust gas cleaning system to reduce NOx emissions specified in the approved Technical File is to be installed, otherwise the equivalent method to reduce NOx emissions deemed appropriate by the Society is to be carried out in order to keep the NOx emission measured and calculated in accordance with the following **-2** within the limits specified in **Tables 8-1(a) to (c)** at the number of maximum continuous revolutions (referred to in **2.1.24, Part A of the Rules for the Survey and Construction of Steel ships**, hereinafter the same) of the diesel engine.

- (1) Diesel engines which are installed on ships ~~constructed~~ at beginning stage of construction on or after 1 January 2000
 ((a) and (b) are omitted.)
 (c) Tier III

For either of the following ships which operate in applicable NOx emission control areas installed with diesel engines:

- i) Ships at beginning stage of construction on or after 1 January 2016 which operate in the NOx emission control areas specified in **(a) and (b) of 1.1.2(15)**; ~~or~~
- ii) Ships at beginning stage of construction on or after 1 January 2021 which operate in the NOx emission control areas specified in (c) and (d) of 1.1.2(15); or
- iii) ~~Ships which operate in NOx emission control areas other than those specified in (a) and (b) of 1.1.2(15)~~ at beginning stage of construction on or after the date of the adoption of such a NOx emission control area by the IMO or a later date as may be specified by the IMO in accordance with Regulation 13.5.1.23 of Annex VI, whichever is later which operate in NOx emission control areas other than those specified in (a) to (d) of 1.1.2(15).

Table 8-1(c) Maximum Allowable NOx Emission Limits (Tier III)

Number of maximum continuous revolutions N_0 (rpm)	Maximum allowable NOx emission limits (g/kWh)
$N_0 < 130$	3.4
$130 \leq N_0 < 2000$	$9.0 \times N_0^{(-0.2)}$
$2000 \leq N_0$	2.0

((d) is omitted.)

((2) is omitted.)

Sub-paragraph -2(1) has been amended as follows.

2 Measurement and calculation is to be in accordance with the following:

- (1) NOx emissions are to be measured and calculated applying a test cycle in accordance with the

following (a) to ~~(de)~~. The emission values are not to be calculated by the data obtained from another test.

- (a) For constant-speed diesel engines for ship main propulsion, including ~~those used as main propulsion machinery for electric propulsion ships, and~~ diesel-electric drive, test cycle E2 specified in **Table 8-2** is to be applied.
- ~~(b)~~ For engines to drive For controllable-pitch propellers sets, test cycle E2 specified in **Table 8-2** is to be applied.
- ~~(bc)~~ For ~~diesel engines to drive fixed pitch propellers~~ propeller-law-operated main and propeller-law-operated auxiliary diesel engines, test cycle E3 specified in **Table 8-3** is to be applied.
- ~~(ed)~~ For constant-speed auxiliary diesel engines, the test cycle D2 specified in **Table 8-4** is to be applied.
- ~~(de)~~ For variable-speed, variable-load auxiliary diesel engines, not included in (a) through to ~~(ed)~~ above, the test cycle C1 specified in **Table 8-5** is to be applied.

Table 8-2 Test Cycle Type E2

Number of revolutions	100%	100%	100%	100% ^{*(2)}
Output	100%	75%	50%	25%
Weighting factor ^{*(1)}	0.2	0.5	0.15	0.15

Table 8-3 Test Cycle Type E3

Number of revolutions	100%	91%	80%	63%
Output	100%	75%	50%	25%
Weighting factor ^{*(1)}	0.2	0.5	0.15	0.15

Table 8-4 Test Cycle Type D2

Number of revolutions	100%	100%	100%	100%	100%
Output	100%	75%	50%	25%	10%
Weighting factor ^{*(1)}	0.05	0.25	0.3	0.3	0.1

Table 8-5 Test Cycle Type C1

Number of revolutions	Number of maximum continuous revolutions				Intermediate ^{*(4)}			Idle
	100%	75%	50%	10%	100%	75%	50%	
Torque ^{*(3)}	100%	75%	50%	10%	100%	75%	50%	0%
Weighting factor ^{*(1)}	0.15	0.15	0.15	0.1	0.1	0.1	0.1	0.15

Notes:

(*(1) to *(4) are omitted.)

((2) to (4) are omitted.)

Sub-paragraph -4 has been amended as follows.

4 When a new test cycle is applied to a diesel engine already verified using a different test cycle listed in ~~-2(1)(a) to (de)~~ of ~~-2(1)~~ above, the verification may be carried out by recalculation, by applying the measurement results from the specific modes of the first verification to the calculation of the total weighted emissions for the new test cycle application, using the corresponding weighting factors from the new test cycle.

Paragraph 2.1.4 has been amended as follows.

2.1.4 Recording of Information related to NOx Emission Control

The tier (Tier II or Tier III) and on/off status of diesel engines installed on board a ship to which **2.1.2-1(1)(c)** applies which are certified to both Tier II and Tier III or which are certified to Tier II only is to be recorded in such log-book as prescribed by the Administration together with the date, time and position of the ship on the following occasions:

- (1) at entry into an applicable NOx emission control area ~~specified in **1.1.2(15)**~~;
- (2) at exit from an applicable NOx emission control area ~~specified in **1.1.2(15)**~~; or
- (3) when the on/off status changes within an applicable NOx emission control area ~~specified in **1.1.2(15)**~~.

2.2 Sulphur Oxides (SOx) and Particulate Matter (*Regulation 14 of Annex VI*)

Sub-paragraph -1 has been amended as follows.

1 Fuel oil used for every ship engaged in a voyage in a SOx Emission Control Area is to be certified by the bunker delivery note specified in **1.2.2-2** that its sulphur content does not exceed the following specified limits. However, this regulation is not to apply, prior to 1 January 2020, to ships operating in the areas specified in **(a)** and **(b)** of ~~**1.1.2(15)**~~ **(16)(e)** which were built on or before 1 August 2011 and which are powered by propulsion boilers that were not originally designed for continuous operation on marine distillate fuel or natural gas.

- (1) 1.5% *m/m* prior to 1 July 2010
- (2) 1.0% *m/m* on and after 1 July 2010
- (3) 0.1% *m/m* on and after 1 January 2015

EFFECTIVE DATE AND APPLICATION (Amendment 3-3)

- 1.** The effective date of the amendments is 1 January 2019.

GUIDANCE FOR MARINE POLLUTION PREVENTION SYSTEMS

GUIDANCE

2018 AMENDMENT NO.2

Notice No.104 25 December 2018

Resolved by Technical Committee on 1 August 2018

“Guidance for marine pollution prevention systems” has been partly amended as follows:

Amendment 2-1

Part 2 SURVEYS

Chapter 1 GENERAL

1.1 General

1.1.3 Intervals of Surveys

Sub-paragraph -6 has been added as follows.

6 Equipment for the Prevention of Pollution by Sewage

For existing passenger ships subject to **Part 7 of the Rules** which operate in the special areas referred to **1.1.2, Part 7 of the Rules** on or after the date specified in **2.2.1(1)(b), Part 7 of the Rules**, a survey is to be carried out to verify compliance with the requirements of **2.2.1(1)(b), Part 7 of the Rules** before such operations.

1.3 Verification Survey of Certificates, etc.

Paragraph 1.3.2 has been amended as follows.

1.3.2 Certificates and Documents other than Those Specified in 1.3.1

1 With respect to ~~the~~ “Records of oil filtering system” specified in **1.3.2-1(1)(i), Part 2 of the Rules**, it is to be confirmed that the records are retained on board for at least 18 months.

2 With respect to ~~the~~ “Records of oil discharge monitoring and control system” specified in **1.3.2-1(1)(j), Part 2 of the Rules**, it is to be confirmed that the records are retained on board for at least 3 years.

3 With respect to ~~the~~ “Oil Record Book” specified in **1.3.2-1(1)(k), Part 2 of the Rules**, it is to be confirmed that the records are retained on board for at least 3 years.

4 With respect to the “EGC Record Book” specified in **1.3.2-1(3)(k)i, Part 2 of the Rules** for exhaust gas cleaning systems recording with the an Electronic Logging System, records of the logging system are to be checked.

5 With respect to the “records of parameters” specified in **1.3.2-1(3)(k)i, Part 2 of the Rules**, all relevant parameters as set out in the SOx Emissions Compliance Plan, EGC system Technical Manual and Onboard Monitoring Manual are recorded and presented in the form or a report.

Chapter 2 REGISTRATION SURVEYS

2.1 Registration Surveys during Construction

2.1.2 Submission of Plans and Documents for Approval

Sub-paragraphs -2 and -3 have been renumbered to Sub-paragraphs -3 and -4, and Sub-paragraph -2 has been added as follows.

2 The “manuals such as operation manuals” and “EGC Record Book” referred to in **2.1.2-1(6)(c)i, Part 2 of the Rules** mean the following **(1)** and **(2)**:

- (1)** The EGC system Technical Manual specified in 4.2.2 or 5.6 of *IMO* resolution *MEPC.259(68)*, the Onboard Monitoring Manual specified in section 8 of the said resolution, and the SO_x Emissions Compliance Plan specified in section 9.1 of the said resolution; and
- (2)** The EGC Record Book specified in *IMO* resolution *MEPC.259(68)*.

2.1.3 Inspections of Construction and Equipment

Sub-paragraphs -5 to -10 have been renumbered to Sub-paragraphs -7 and -12, and Sub-paragraphs -5 and -6 have been added as follows.

5 The “examinations of work, such as installation, etc.” referred to in **2.1.3-5(2)(b)i, Part 2 of the Rules** are to be in accordance with the following **(1)** or **(2)**:

- (1)** For ships where exhaust gas cleaning systems are installed, satisfactory installation of the exhaust gas cleaning systems is to be examined in accordance with the requirements of *IMO* resolution *MEPC.259(68)* (excluding 4.2.2 and 5.6, sections 8 and 9.1 of the resolution), unless the instructions by the Administration are to be followed.
- (2)** For ships where other technological methods are adopted, satisfactory installation of the methods is to be examined.

6 The “performance tests” referred to in **2.1.3-5(2)(b)ii, Part 2 of the Rules** are to be in accordance with the following **(1)** or **(2)**:

- (1)** For ships where exhaust gas cleaning systems are installed, satisfactory operation of the exhaust gas cleaning systems is to be examined in accordance with the requirements of *IMO* resolution *MEPC.259(68)*, unless the instructions by the Administration are to be followed.
- (2)** For ships where other technological methods are adopted, satisfactory operation of the methods is to be examined.

Chapter 3 REGISTRATION MAINTENANCE SURVEYS

3.1 Annual Surveys

3.1.2 Inspections of Construction and Equipment

Sub-paragraph -3 has been added as follows.

3 The survey referred to in 3.1.2-4(3)(b), Part 2 of the Rules is to be in accordance with the following (1) or (2):

- (1) For ships where exhaust gas cleaning systems are installed, satisfactory installation and operation of the exhaust gas cleaning system in accordance with the requirements of *IMO* resolution *MEPC.259(68)* are to be confirmed according to approved documentation, including sensors monitoring operational or emission parameters as set out in the Onboard Monitoring Manual, unless the instructions by the Administration are to be followed.
- (2) For ships where other technological methods are adopted, the methods are to be examined.

Chapter 4 OCCASIONAL SURVEYS

4.1 General

4.1.2 Inspection

Sub-paragraph -4 has been renumbered to Sub-paragraph -5, and Sub-paragraph -4 has been added as follows.

4 At an occasional survey in the event where the exhaust gas cleaning system to which **1.2.2-1, Part 8** and/or **2.2-1, Part 8** applies is newly installed on board the ship, a survey is to be carried out in accordance with **2.1.2-1(6)(c)** and **2.1.3-5(2)(b), Part 2 of the Rules.**

Part 7 EQUIPMENT FOR THE PREVENTION OF POLLUTION BY SEWAGE

Chapter 2 EQUIPMENT FOR THE PREVENTION OF POLLUTION BY SEWAGE FROM SHIPS

2.2 Requirements for Installation of Equipment

Paragraph 2.2.1 has been amended as follows.

2.2.1 Equipment for the Prevention of Pollution by Sewage

1 The wording “sewage treatment plant as deemed appropriate by the Society” referred to in **2.2.1(1)(a)i), Part 7 of the Rules** means ~~to one that satisfies~~ the followings:

(1) ~~to~~ It complies with *IMO Res. MEPC.227(64)* excluding 4.2 of Annex of said resolution one of the following (a) to (c) and in addition to comply either being approved by the Society in accordance with Chapter 8, Part 2 of the Guidance for Approval and Type Approval of Materials and Equipment for Marine Use or to having passed the an inspection by an organization authorized by the Administration or deemed appropriate by the Society.

~~(2a) The wording “Sewage Treatment Plants installed on or after 1 January 2016” in The requirements of *IMO Res. MEPC.227(64)* (excluding 4.2 of the Annex), as amended by *IMO Res. MEPC.284(70)*, excluding 4.2 of Annex for those which fall under the following i) or ii): of said resolution means, in case the Sewage Treatment Plants is installed on board a ship which had been~~

i) installations on board ships at beginning stage of construction on or after 1 January 2016; or

ii) installations on ships at beginning stage of construction before 1 January 2016; ~~the Sewage Treatment Plants with the~~ a contractual delivery date to the ship on or after 1 January 2016 or, in the absence of a contractual delivery date, the actual delivery date of the equipment to the ship on or after 1 January 2016.

(b) The requirements of *IMO Res. MEPC.159(55)* for those which do not fall under i) or ii) of (a) above but fall under the following i) or ii):

i) installations on board ships at beginning stage of construction on or after 1 January 2010; or

ii) installations on ships at beginning stage of construction before 1 January 2010; with a contractual delivery date to the ship on or after 1 January 2010 or, in the absence of a contractual delivery date, the actual delivery date of the equipment to the ship on or after 1 January 2010.

(c) The requirements of *IMO Res. MEPC.2(VI)* for those which neither fall under i) or ii) of (a) above nor i) or ii) of (b) above.

~~(2) to~~ It has a sufficient capacity to treat that calculated by A and N_p in -4 as a standard.

2 The wording “sewage comminuting and disinfecting system as deemed appropriate by the Society” referred to in **2.2.1(1)(b)ii), Part 7 of the Rules** means ~~to one that satisfies~~ the followings:

(1) ~~to comply with *IMO Res. MEPC.227(64)* and~~ It is to comply approved by the Society in accordance with Chapter 8, Part 2 of the Guidance for Approval and Type Approval of Materials and Equipment for Marine Use or to have passed the an inspection by an

organization authorized by the Administration or deemed appropriate by the Society.

(2) It is to have a sufficient capacity to comminute and disinfect that calculated by A and N_p in the following -4 as a standard.

3 The capacity of the “temporary storage of sewage” referred to in **2.2.1(1)(ba)ii), Part 7 of the Rules** ~~are~~ is to be in accordance with the requirements specified in -4. In this case, D_a may be taken as the maximum number of days operating in areas within 3 nautical miles from the territorial base line of any one state.

4 For the “capacity to the satisfaction of the Society” ~~specified~~ referred to in **2.2.1(1)(ea)iii), Part 57 of the Rules**, the holding tank is to comply with the following formula:

$$C_T \geq AN_p D_a + R$$

Where

C_T : capacity of the holding tank (m^3)

A : 0.060 ($m^3/person/Day$)

the Society may approve to reduce the value of A by considering the flushing system etc.±

N_p : the total number of persons on board

D_a : the maximum number of days operating in an ~~area~~ where the discharge of sewage which is not comminuted or disinfected into the sea is prohibited and, for passenger ships to which **2.2.1(1)(b), Part 7 of the Rules** applies, the special area (minimum 1 day)

R : initial flush water capacity necessary according to washing method, etc.

5 The “date determined by the *IMO*” referred to in **2.2.1(1)(b), Part 7 of the Rules** means, as long as *IMO Res. MEPC.275(69)* is valid, the following (1) to (3):

(1) 1 June 2019 for new passenger ships;

(2) 1 June 2021 for existing passenger ships other than those specified in (3) below; and

(3) 1 June 2023 for existing passenger ships en route directly to or from a port located outside the special area and to or from a port located east of longitude 28°10' E within the special area that do not make any other port calls within the special area.

6 The “sewage treatment plant as deemed appropriate by the Society” referred to in **2.2.1(1)(b)i), Part 7 of the Rules** means one that satisfies the following:

(1) It complies with the requirements of *IMO Res. MEPC.227(64)* (including 4.2 of the Annex), as amended by *IMO Res. MEPC.284(70)*, in addition to either being approved by the Society in accordance with **Chapter 8, Part 2 of the Guidance for Approval and Type Approval of Materials and Equipment for Marine Use** or having passed an inspection by an organization authorized by the Administration or deemed appropriate by the Society.

(2) It has sufficient capacity to treat that calculated by A and N_p in -4 above as a standard.

Part 8 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

Chapter 1 GENERAL

1.2 General Requirement

Paragraph 1.2.2 has been amended as follows.

1.2.2 Fuel Oil (*Regulation 3, 14 and 18 of Annex VI*)

1 In applying **1.1.3, Part 8 of the Rules** and **1.2.2-1(1), Part 8 of the Rules**, in cases where an exhaust gas cleaning system is used as an “alternative” to the use of fuel oil whose sulphur content is equal to or below specified limits, such an exhaust gas cleaning system is to comply with the requirements of *IMO* resolution *MEPC.259(68)* or others deemed appropriate by the Administration taking into account said resolution.

2 The wording “obtained in a way deemed appropriate by the Society” and “retained on board the ship in a way deemed appropriate by the Society” in **1.2.2-3, Part 8 of the Rules** mean that to be obtained in accordance with *IMO* resolution *MEPC.182(59)* and to be retained on board the ship in accordance with the resolution accompanied with the label of the sample, written in English, French or Spanish, required in the resolution respectively.

Chapter 2 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

Section 2.2 has been added as follows.

2.2 Sulphur Oxides (SOx) and Particulate Matter (Regulation 14 of Annex VI)

In applying 1.1.3, Part 8 of the Rules and 2.2-1, Part 8 of the Rules, in cases where an exhaust gas cleaning system is used as an “alternative” to the use of fuel oil whose sulphur content is equal to or below specified limits, such an exhaust gas cleaning system is to comply with the requirements of *IMO* resolution *MEPC.259(68)* or others deemed appropriate by the Administration taking into account said resolution.

EFFECTIVE DATE AND APPLICATION (Amendment 2-1)

- 1.** The effective date of the amendments is 25 December 2018.

Part 8 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

Chapter 2 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

2.1 Nitrogen Oxides (NOx) (Regulation 13 of Annex VI)

2.1.1 General

Sub-paragraph -1 has been amended as follows.

1 In applying **2.1.1-1, Part 8 of the Rules**, the following **(1)** and **(2)** apply.

(1) ~~to~~ In the case of engines intended to be operated normally in the gas mode, “the limits specified in **Tables 8-1(a) to (c)**” specified in ~~2.1.2-1, Part 8 of the Rules~~ are to be met only for the gas fuel operation mode. Operation on pure liquid fuel resulting from restricted gas supply in cases of failures may be allowed for the voyage to the next appropriate port for the repair of the failure.

(2) The temporary exemption to emissions of nitrogen oxides exceeding the limits specified in **Table 8-1(c), Part 8 of the Rules** in a NOx emission control area applies in accordance with the following **(a)** and **(b)**:

(a) With regard to the limits specified in **Table 8-1(c), Part 8 of the Rules** applied to emissions of nitrogen oxides from a diesel engine subject to **2.1.2-1(1)(c), Part 8 of the Rules**, a temporary exemption is granted for the time immediately following building and sea trials of a newly constructed ship, or before and following maintenance or repair of a diesel engine referred to in **2.1.2-1(1)(b), Part 8 of the Rules** 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 an applicable NOx emission control area provided that the following **i)** and **ii)** are met.

i) The engine meets the standards in **2.1.2-1(1)(b), Part 8 of the Rules**; and

ii) The following **1)** to **3)** are complied with.

1) The ship sails directly to or from the shipyard or other repair facility.

2) The ship does not load or unload cargo during the duration of the exemption.

3) The ship follows any additional specific routing requirements indicated by the port State in which the shipyard or other repair facility is located, if applicable.

(b) The temporary exemption specified in **(a)** above is granted only for the period specified in the following **i)** to **iii)**:

i) 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 NOx emission control area(s) or, with regard to a ship fitted with a dual fuel diesel engine, the ship directly exits the NOx emission control area(s) or proceeds directly to the nearest gas fuel bunkering facility appropriate to the ship located in the NOx emission control

- area(s).
- ii) For a ship with a diesel engine complying with the standards in **2.1.2-1(1)(b), Part 8 of the Rules** undergoing conversion, maintenance or repair
The period beginning at the time the ship enters the NOx 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 NOx emission control area(s) after performing sea trials, if applicable.
 - iii) For a ship with a dual fuel diesel 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 NOx emission control area(s) or when it is degassed in the NOx 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 NOx emission control area(s) or proceeds directly to the nearest gas fuel bunkering facility appropriate to the ship located in the NOx emission control area(s).

Paragraph 2.1.2 has been amended as follows.

2.1.2 Requirements for Installation

1 Major conversion of a diesel engine is to be accordance with following:

((1) and (2) are omitted.)

(3) Any substantial modification of a diesel engine or increasing of the maximum continuous rating of the engine by more than 10% compared to the maximum continuous rating of the original certification of the diesel engine is to be made in accordance with following (a) to ~~(de)~~:

(a) For ships at beginning stage of construction prior to 1 January 2011~~;~~

~~€~~The diesel engine is to comply with the standard in **2.1.2-1(1)(a), Part 8 of the Rules.**

(b) For ships at beginning stage of construction on or after 1 January 2011~~;~~

~~€~~The diesel engine is to comply with the standard in **2.1.2-1(1)(b), Part 8 of the Rules.**

(c) For ships at beginning stage of construction on or after 1 January 2016 which operate in NOx emission control areas specified in (a) and (b) of **1.1.2(15), Part 8 of the Rules**;

~~€~~The diesel engine is to comply with the standard in **2.1.2-1(1)(c), Part 8 of the Rules.**

(d) For ships at beginning stage of construction on or after 1 January 2021 which operate in NOx emission control areas specified in (c) and (d) of **1.1.2(15), Part 8 of the Rules**

The diesel engine is to comply with the standard in **2.1.2-1(1)(c), Part 8 of the Rules.**

~~(de)~~ For ships at beginning stage of construction on or after the date specified in **2.1.2-1(1)(c)iii), Part 8 of the Rules** which operate in NOx emission control areas other than those specified in (a) ~~and (b)~~ to (d) of **1.1.2(15), Part 8 of the Rules**;

~~€~~The diesel engine is to comply with the standard in **2.1.2-1(1)(c), Part 8 of the Rules.**

~~**2** In applying **2.1.2-2(1), Part 8 of the Rules** to diesel engines used both as the main propulsion machinery and to drive generators, (a) or (b) of **2.1.2-2(1), Part 8 of the Rules**, as appropriate, is to be applied. Where a constant speed engine as installed can be used either solely for main propulsion or to drive generators, (a) and (c) of **2.1.2-2(1), Part 8 of the Rules** are to be applied.~~

~~**3**~~ **32** The wording “procedures specified otherwise by the Society” in **2.1.2-2(2), Part 8 of the Rules** means those listed below.

((1) to (3) are omitted.)

~~**4**~~ **43** The wording “fuel specified otherwise by the Society” in **2.1.2-2(3), Part 8 of the Rules** refers to a DM-grade marine fuel oil or RM-grade fuel oil (for the measurement procedures for emission verification on a test bed only in cases where a DM-grade fuel oil is not available)

specified in *ISO 8217:2005*, or a gas fuel selected in accordance with the *NOx Technical Code*.

Chapter 3 ENERGY EFFICIENCY FOR SHIPS

3.4 Ship Energy Efficiency Management Plan (SEEMP) (*Regulation 22 of Annex VI*)

Sub-paragraph -2 has been amended as follows.

2 In applying **3.4-2, Part 8 of the Rules**, confirmation of compliance (refer to *MEPC.1/Circ.876*) is to be provided to and retained on board the ship.

3.5 Statements of Compliance related to Fuel Oil Consumption Reporting and Others (*Regulation 22A of Annex VI*)

3.5.2 Data Collection and Reporting, etc. (*Regulations 22A.1 to 22A.7 of Annex VI*)

Sub-paragraph -3 has been added as follows.

1 With respect to the reporting required in (a) and (b) of **3.5.2(2), Part 8 of the Rules**, the information specified in *Appendix IX of Annex VI* is to be included.

2 The “standardized format deemed appropriate by the Society” specified in **3.5.2(2)(a), Part 8 of the Rules** refers to the “*2016 Guidelines for the Development of a Ship Energy Efficiency Management Plan (SEEMP) (IMO Res. MEPC.282(70))*”, as amended.

3 The “guidelines to be developed by the IMO” referred to in **3.5.2(3), Part 8 of the Rules** means the “*2017 Guidelines for Administration of Ship Fuel Oil Consumption Data (IMO Res. MEPC.292(71))*”, as amended.

EFFECTIVE DATE AND APPLICATION (Amendment 2-2)

1. The effective date of the amendments is 1 January 2019.