RULES FOR MARINE POLLUTION PREVENTION SYSTEMS

2017 AMENDMENT NO.1

Rule No.30 1st June 2017
Resolved by Technical Committee on 30th January 2017
Approved by Board of Directors on 20th February 2017

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

Rule No.30 1st June 2017 AMENDMENT TO THE RULES FOR MARINE POLLUTION PREVENTION SYSTEMS

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

Amendment 1-1

Part 1 GENERAL

Chapter 2 TERMINOLOGY AND ABBREVIATIONS

2.1 General

2.1.2 Abbreviations

Sub-paragraph (5) has been amended as follows.

- For the purpose of the Rules, the following abbreviations apply.
- (1) *MARPOL* 73/78: The International Convention for the Prevention of Pollution from Ships, 1973, as modified by Protocol of 1978 relating thereto
- (2) Annex I: The annex I of MARPOL 73/78
- (3) Annex II: The annex II of MARPOL 73/78
- (4) Annex IV: The annex IV of MARPOL 73/78
- (5) Annex VI: The annex VI of MARPOL 73/78Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto
- ((6) to (16) are omitted.)

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) to (c) are omitted.)
 - (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 <u>6.4 and Appendix</u> VIII of the *NOx Technical Code IMO resolution MEPC.103(49)))*
 - ((e) to (h) are omitted.)

Chapter 2 REGISTRATION SURVEYS

2.1 Registration Surveys during Construction

2.1.3 Inspections of Construction and Equipment*

Sub-paragraph -5(3) has been amended as follows.

- 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 (3) excluding (d)iii) are to be carried out irrespective of tonnage of the ship.
- ((1) and (2) are omitted.)
- (3) Nitrogen Oxides (NOx)

The Following emission verification, component confirmation, emission testing, examination and survey, etc. are to be carried out in accordance with the NOx Technical Code items are to be tested, confirmed and examined for every individual diesel engine to which the requirements of 2.1, Part 8 are applied. However, for the diesel engines whose already obtained an EIAPP certificate has been already issued in accordance with the NOx Technical Code or equivalent and a whose technical felle which are deemed appropriate by the Society has been approved in accordance with the NOx Technical Code or diesel engines which are deemed to be the equivalent thereto, the test verification, confirmation, testing, and examination and survey, etc. required in this (3), excluding iii) and iv) of (d)iii) below, may be omitted.

- (a) Shop test Emission verification
 - i) It is to be ensured verified that the NOx emissions is are within the limits specified in 2.1.2-1, Part 8 in accordance with the procedures for NOx emission measurements on a test bed referred to in 2.1.2-2(2)(a), Part 8 (referred to as "the measurement procedures for emission verification on a test bed" hereinafter in this (3)). In case the exhaust gas cleaning system to reduce NOx emissions approved by the Society is installed, it may be ensured in accordance with (d)i).
 - ii) For the a mMember eEngine of an eEngine fFamily or eEngine gGroup, the compliance with the requirements in i) may be confirmed by the examination of the test report for the parent engine the testing specified in i) above may be omitted provided that it has been verified by the testing that the NOx emissions from the Parent Engine representing the Engine Family or Engine Group is within the limits specified in 2.1.2-1, Part 8.
 - iii) Only for one engine or the parent engine of an engine group, but not for the parent engine of an engine family, Notwithstanding i) above, the following 1) and 2) may be applied.
 - <u>when the test required in i)</u> In cases where verification cannot be carried out <u>in</u> accordance with the measurement procedures for emission verification on a test <u>bed due to their size</u>, construction and delivery schedule, upon request by the diesel engine manufacturer, etc., shipowner or ship builder, it may be ensured in accordance with the following (d)ii) <u>may be applied upon request by the diesel engine manufacturer, etc., shipowner or shipbuilder.</u>
 - 2) The provisions of 1) above may be applied to an individual diesel engine or an Engine Group represented by the Parent Engine, but are not to be applied to an

Engine Family.

- iv) In the case of diesel engines fitted with a NOx-reducing device, the following 1) or 2) is to be applied.
 - 1) The NOx-reducing device is recognized as a component of the diesel engine, and the testing is to be carried out with the NOx-reducing device fitted unless, due to technical and practical reasons, the testing with the device fitted is not appropriate and the procedures specified in iii)1) above cannot be applied, subject to approval by the Society.
 - 2) In cases where a NOx-reducing device has been fitted to diesel engines due to failure to meet the required emission limits in accordance with the measurement procedures for emission verification on a test bed, re-testing is to be carried out with the device fitted. In such cases, the re-testing may be carried out in accordance with the following (d)ii) provided that the effectiveness of the NOx-reducing device was demonstrated.
- (b) Confirmation of the components of a diesel engine at the shop test emission verification. It is to be ensured verified using the same method to be as the parameter check method referred to in 2.1.3-21(4), Part 8 that the diesel engines which passed the shop test emission verification required in (a) above and itstheir components are in compliance with the Technical File. In cases where the engine is not a Parent Engine but a member Engine of an Engine Family or Engine Group, it verification may be ensured made by checking the records of the any equivalent confirmation carried out by the diesel engine manufacturer, etc.
- (c) Examination of the ₹Technical \$File
 - i) For the <u>diesel</u> engines <u>other than those</u> to which the first sentence of (a)i) or (a)ii) is (a)iii)1) or (a)iv)2) above is applied, the diesel engine manufacturer, etc. is to submit the <u>*Technical *File</u> to the Society for approval prior to the <u>inspection test</u> required in the following (d).
 - ii) For the <u>diesel</u> engines to which the second sentence of (a)i) or (a)iii) is (a)iii)1) or (a)iv)2) above is applied, the diesel engine manufacturer, etc. is to submit the <u>*Technical *File</u> to the Society for approval after the <u>inspection</u> test required in the following (d).
- (d) Test after installation on board
 - ii) For the diesel engines to which (a)iii)1) above is applied, it is to be ensured verified on board that the NOx emissions is are within the limits specified in 2.1.2-1, Part 8 using the same method to as the procedures for NOx emission measurements procedures for emission verification on a test bed referred to in 2.1.2-2(2)(a), Part 8.
 - ii) For the <u>diesel</u> engines to which the second sentence of (a)iv)2) above is applied, it is to be ensured verified on board that the NOx emissions is are within the limits specified in 2.1.2-1, Part 8 in accordance with the on-board simplified measurement method referred to in 2.1.2-2(2)(b), Part 8.
 - iii) For <u>diesel</u> engines other than those <u>diesel engines</u> listed in i) or ii), it is to be <u>ensured</u> verified on board that the NOx emissions is are within the limits specified in 2.1.2-1, Part 8 in accordance with the on-board NOx verification procedures contained in the approved <u>₹</u>Technical <u>₹</u>File. In this case, the method is The procedures are to be the on-board simplified measurement method referred to in 2.1.2-2(2)(b), Part 8 or the parameter check method referred to in 2.1.3-21(4), Part 8. A part of the tests may be omitted where deemed appropriate by the Society and there are two or more <u>diesel</u> engines in an <u>₹</u>Engine <u>₹</u>Enmily or <u>₹</u>Engine <u>₹</u>Group or two or more cylinders or spare parts of the same particulars on board the ship. However, the tests are to be

- completed for at least one of those <u>diesel</u> engines, <u>and/or one of those</u> cylinders or spare parts. As an alternative to the examination of fitted components, the Society may accept conducting that part of the survey on spare parts carried on board provided they are representative of the components fitted to the diesel engine.
- iv) For diesel engines whose NOx emissions have been verified without a NOx-reducing device in accordance with the measurement procedures for emission verification on a test bed when (a)i) above is applied, an onboard survey is to be carried out in accordance with a standard deemed appropriate by the Society.

((4) and (5) are omitted.)

Chapter 3 REGISTRATION MAINTENANCE SURVEYS

3.1 Annual Surveys

3.1.2 Inspections of Construction and Equipment*

Sub-paragraph -4(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.
- ((1) to (3) are omitted.)
- (4) Nitrogen Oxides (NOx)
 - (a) For every diesel engine to which the requirements of **2.1**, **Part 8** are applied, it is to be ensured verified that the exhaust gas cleaning system to reduce NOx emissions has been installed or the method to reduce NOx emissions has been carried out in accordance with the approved drawings and/or documents.
 - (b) For every diesel engine to which the requirements of 2.1, Part 8 are applied, it is to be ensured verified that the NOx emissions is are within the limits specified in 2.1.2-1, Part 8 in accordance with the on-board NOx verification procedures contained in the approved technical field. In this case, the method is The procedures followed are to be the same as either the on-board simplified measurement method referred to in 2.1.2-2(2)(b), Part 8, the on-board direct measurement and monitoring method referred to in 2.1.2-2(2)(c), Part 8 or the parameter check method referred to in 2.1.3-21(4), Part 8. A part of the tests may be omitted where deemed appropriate by the Society and there are two or more engines in an engine family or engine group or two or more cylinders or spare parts of the same particulars on board the ship. However, the tests are to be completed for at least one of those engines, cylinders or spare parts.

((5) and (6) are omitted.)

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) "NOx Technical Code" means the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines adopted by the International Conference of Parties to MARPOL 73/78 in 1997 as resolution 2, as may be amended by the IMO, provided that such amendments are adopted and brought into force in accordance with the provisions of article 16 of the present Convention concerning amendment procedures applicable to an appendix to an Annex.

((2) is omitted.)

- (3) "Marine pollutant" means those substances <u>subject to Annex III of MARPOL 73/78</u> which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code), adopted by IMO by resolution A.716(17), as it has been or may be amended by the Maritime Safety Committee of IMO.
- (4) "Diesel engine manufacturer, etc." means the diesel engine manufacturer or other responsible party who applies for the emission verification, component confirmation, emission testing, document examination and survey, etc. inspections listed in 2.1.3-5(3) (excluding (d)iii)), Part 2.
- (5) "Engine <u>Family</u>" means the concept applicable to a series of diesel engines to which the guidance specified in 4.3.8 of the *NOx Technical Code* applies. which These diesel engines are series produced, proven to have similar NOx emission characteristics through their design in accordance with the guidelines listed in 4.3.8 of *NOx Technical Code*, are used as produced, and, during installation on board, and require no adjustments or modifications which could adversely affect the NOx emissions.
- (6) "Engine <u>gGroup</u>" means the concept applicable to a series of diesel engines to which the guidance specified in 4.4.6 of the *NOx Technical Code* applies. which These diesel engines form a smaller series, produced for similar engine application, are proven to have similar NOx emission characteristics through their design in accordance with the guidelines listed in 4.4.6 of NOx Technical Code and may require minor adjustments and modifications during installation or in service on board.
- (7) "Parent <u>eEngine</u>" means <u>thea</u> <u>diesel</u> engine selected <u>by the diesel engine manufacturer</u>, <u>etc.</u> and <u>concluded by the Society</u> as the one which has the highest NOx emission level <u>in among</u> all <u>member</u> of the <u>diesel</u> engines <u>of an in an eEngine <u>fF</u>amily <u>in accordance with the provisions specified in 4.3.9 of the <u>NOx Technical Code</u> of and that chosen for the <u>eEngine</u> <u>gGroup in accordance with the provisions specified in 4.4.8 of the <u>NOx Technical Code</u>.</u></u></u>
- (8) "Components" of a diesel engine means those interchangeable parts which influence the NOx emissions performance, identified by their design/parts number.

- (9) "Operating values" of a diesel engine" means engine data, like cylinder peak pressure, exhaust gas temperature, etc., from the engine log which are related to the NOx emission performance. These data are load-dependent.
- (10) "Technical <u>≰File</u>" means a record containing all details of parameters, including components and settings of a diesel engine, which may influence the NOx emission of the engine.
- (11) "Setting" of a diesel engine means adjustment of an adjustable feature influencing the NOx emissions performance of a diesel engine.
- (1 ± 2) "Substantial modification" of a diesel engine means as follows.
 - (a) For diesel engines installed on ships which had been at beginning stage of construction on or after 1 January 2000 (19 May 2005 for ships not engaged in international voyages), substantial modification means any modification to an engine that could potentially cause the NOx emission from the engine to exceed the limits specified in 2.1.2-1. Routine replacement of components of a diesel engine by parts specified in the ₹Technical ₹File that do not alter NOx emission characteristics is not be considered a "substantial modification".
 - (b) For diesel engines installed on ships which had been at beginning stage of construction before 1 January 2000 (19 May 2005 for ships not engaged in international voyages), substantial modification means any modification made to an engine which increases its existing NOx emission characteristics in excess of the limits established by the on-board simplified measurement method referred to in 2.1.2-2(2)(b). 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).
- (1<u>23</u>) "Major conversion" of a diesel engine" means a modification of a diesel engine on or after 1 January 2000 (19 May 2005 for ships not engaged in international voyages) which corresponds to any of the following (a) throughto (c).
 - (a) The engine is replaced or supplemented with a non-identical marine diesel engine manufactured.
 - (b) Any substantial modification of a diesel engine is made to the engine.
 - (c) The maximum continuous output (referred to in **2.1.23**, **Part A of the Rules for the Survey and Construction of Steel ships**, hereinafter the same) of the engine is increased to more than 10%.
- (134) "Emission Control Areas" means an area where the adoption of special mandatory measures for emissions from ships is required to prevent, reduce and control air pollution from NOx or SOx 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 the following (145) and (156).
- (14<u>5</u>) "NOx Emission Control Areas" means the following areas: ((a) to (c) are omitted.)
- (1<u>56</u>) "SOx Emission Control Areas" means areas listed in the following (a) throughto (c): ((a) to (d) are omitted.)
- (1€7) "Tanker" means an oil tanker as defined in *Regulation* 1 of *Annex* I or a chemical tanker as defined in *Regulation* 1 of *Annex* II, and includes any of the following (a) throughto (c). ((a) to (c) are omitted.)

Chapter 2 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

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

Paragraph 2.1.1 has been amended as follows.

2.1.1 Application*

- 1 The requirements specified in this **2.1** apply to each diesel engine operating on liquid or dual fuel and each gas fuelled engine on board ships with a power output of more than 130kW in the case of any of the following (1) to (4):
- (1) Engines, excluding gas fuelled engines, which are installed on ships which had been at beginning stage of construction on or after 1 January 2000;
- (2) Engines, excluding gas fuelled engines, which undergo a major conversion on or after 1 January 2000;
- (3) Gas fuelled engines which are installed on ships which had been at beginning stage of construction on or after 1 March 2016; or
- (4) Gas fuelled additional or non-identical replacement engines which are installed on or after 1 March 2016.
- 2 Notwithstanding -1, the requirements specified in this 2.1 do need not necessarily apply to diesel engines listed below.
- ((1) to (3) are omitted.)
- Notwithstanding the requirements of **-1(1)** above, a diesel engine with a power output of more than 5,000kW and a per cylinder displacement at or above 90 litres installed on a ship eonstructed at beginning stage of construction on or after 1 January 1990 but prior to 1 January 2000 is to comply with the maximum allowable NOx emission limits specified in **Table 8-1(a)**, provided that the Approved Method for such engine has been submitted to the *IMO* by the certifying Administration.

Paragraph 2.1.2 has been amended as follows.

2.1.2 Requirements for Installation*

- 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) through 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) Marine dDiesel engines which are installed on ships constructed on or after 1 January 2000
 - (a) Tier I

For ships eonstructed at beginning stage of construction on or after 1 January 2000 and prior to 1 January 2011 which installed with diesel engines are installed with marine diesel engines

Table 8-1(a) Maximum Allowable NOx Emission Limits (Tier I)

Number of maximum continuous revolutions N_0 (rpm)	Maximum allowable NOx emission limits (g/kWh)			
$N_0 < 130$	17.0			
$130 \le N_0 < 2000$	$45.0 \times N_0^{(-0.2)}$			
$2000 \leq N_0$	9.8			

(b) Tier II

For ships eonstructed at beginning stage of construction on or after 1 January 2011 installed with diesel engines which are installed with marine diesel engines

Table 8-1(b) Maximum Allowable NOx Emission Limits (Tier II)

Number of maximum continuous revolutions N_0 (rpm)	Maximum allowable NOx emission limits (g/kWh)
$N_0 < 130$	14.4
$130 \le N_0 < 2000$	$44.0 \times N_0^{(-0.23)}$
$2000 \leq N_0$	7.7

(c) Tier III

For either of the following ships which are installed with marine diesel engines and which are operated 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(145)(a) and (b) and which are constructed on or after 1 January 2016; or
- ii) Ships which operate in NOx emission control areas other than those specified in (a) and (b) of 1.1.2(145)(a) and (b) and which are constructed at beginning stage of construction on or after the date of the establishment of the applicable 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* 13.5.1.2 of *Annex VI*, whichever is later.

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
$130 \le N_0 < 2000$	$9.0 \times N_0^{(-0.2)}$
$2000 \leq N_0$	2.0

- (d) The requirements specified in (c) above do not apply to the following ships:
 - Ships with a length of less than 24 m which are installed with marine diesel engines that are less than 24m in length and that have been specifically designed, and are used solely for recreational purposes; or
 - ii) Ships installed with marine diesel engines with a combined nameplate diesel engine propulsion power of less than 750_kW which can if it can be demonstrated, to the satisfaction of the Administration, that the ship cannot comply with the standards specified in **Table 8-1(c)** because of design or construction limitations; or
 - iii) Ships of less than 500 gross tonnage with a length of 24 m or over at beginning stage

of construction on or after 1 January 2021 specifically designed, and used solely, for recreational purposes and constructed prior to 1 January 2021 which are less than 500 gross tonnage and 24m or longer in length and which are installed with marine diesel engines.

- (2) Major conversions of marine diesel engines performed on or after 1 January 2000 When replacing a marine diesel engine with a non-identical marine diesel engine or when installing an additional marine diesel engine, the standards in force at the time of the replacement or addition of the diesel engine are to be applied. However, for engine replacements, if the Administration deems it impossible for the such a replacement diesel engine to meet the standards set forth in Table 8-1(c), then said that replacement diesel engine is to meet the standards set forth in Table 8-1(b). The criteria for determining when it is not possible for a replacement engine to meet the standards in Table 8-1(c) are to be in accordance with relevant guidelines established by the IMO.
- 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) through to (d). The emission values are not to be calculated by the data obtained from another test.

((a) to (d) are omitted.)

Table 8-2 Test Cycle Type E2

			7.1		
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

		-JPC ==0		
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*(34)			Idle	
Torque*(23)	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) Those specified in 5.12.6 of the NOx Technical Code.
- *(2) There are exceptional cases, including large bore diesel engines intended for E2 applications, in which, due to their oscillating masses and construction, diesel engines cannot be run at low load at nominal speed without the risk of damaging essential components. In such cases, the diesel engine manufacturer is to make application to the Administration that the test cycle as given in Table 8-2 may be modified for the 25% power mode with regard to the diesel engine speed. The adjusted diesel engine speed at 25% power, however, is to be as close as possible to the rated diesel engine speed, as recommended by the diesel engine manufacturer and approved by the Administration. The applicable weighting factors for the test cycle are to remain unchanged.
- *(23) The ratio of the required torque to the maximum possible torque at the given number of

revolutions.

- *(<u>34</u>) To be declared by the diesel engine manufacturer, etc., taking into account the following requirements:
 - (a) For <u>diesel</u> engines which are designed to operate over a speed range on a full load torque curve<u>;</u>
 - i) If the maximum torque is obtained at the number of revolutions less than 60% of the number of maximum continuous revolutions, it is to be 60% of the number of maximum continuous revolutions.
 - ii) If the maximum torque is obtained at the number of revolutions between 60% and 75% of the number of maximum continuous revolutions, it is to be that number of revolutions.
 - iii) If the maximum torque is obtained at the number of revolutions greater than 75% of the number of maximum continuous revolutions, it is to be 75% of the number of maximum continuous revolutions.
 - (b) For <u>diesel</u> engines other than those referred to in (a) <u>above</u>, it is typically to be between 60% and 70% of the number of maximum continuous revolutions.
- (2) NOx emission is to be verified using one of the followings in accordance with the procedures specified otherwise by the Society.
 - (a) procedures for NOx emission mMeasurements procedures for emission verification on a test bed
 - (b) On-board simplified measurement method
 - (c) <u>On-board direct measurement and monitoring method</u>
- (3) The measurement is to be carried out using the fuel oil specified otherwise by the Society.
- (4) NOx emission value and the limit are to be given and compared to a precision of one decimal place.
- **3** Where an additional substance is introduced, such as ammonia, urea, steam, water, fuel additives, etc., a means of monitoring the consumption of such substance is to be provided.
- When a new test cycle is applied to an diesel engine already verified using a different test cycle listed in -12(1)(a) through to (d), 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 2.1.3 has been amended as follows.

2.1.3 Technical File and Record Book of Engine Parameters*

1 Technical File

Every diesel engine is to be accompanied with an approved $\underbrace{\mathbf{F}}$ ichnical $\underbrace{\mathbf{F}}$ ile prepared by the diesel engine manufacturer, etc. and containing the following information $\underbrace{\mathbf{F}}$.

- (1) Identification of those components, including detailed information to enable to find out whether they are modified or not, settings and operating values of the diesel engine which influence its NOx emissions including any NOx-reducing device or system.
- (2) Identification of the full range of allowable adjustments or alternatives for the components of the diesel engine.
- (3) Full record of the relevant <u>diesel</u> engine's performance, including the number of maximum continuous revolutions and maximum continuous output of the <u>diesel</u> engine consistent with those specified on the nameplate.
- (4) At least one of the methods to verify NOx emissions, which is listed in **2.1.2-2(2)** and applicable at the inspection specified in **3.2.2-4(2)**, **Part 2**, or the on-board <u>diesel</u> engine parameter check method otherwise specified by the Society. When on-board direct measurement and monitoring method is applied, procedures for calibration and operation of

the measuring equipment specified by the diesel engine manufacturer, etc. are to be contained. In addition, when exhaust gas cleaning system to reduce NOx emissions is installed, on-board NOx verification procedures for the system to ensure it is operating correctly are also to be contained.

- (5) A copy of the test report on the testing required in 2.1.3-5(3)(a), Part 2. (In the case where the on-board test stipulated method in 2.1.3-5(3)(d)ii), Part 2 applied in accordance with 2.1.3-5(3)(a)iv)2), Part 2 was conducted for emission verification after the shop test stipulated in 2.1.3-5(3)(a)i), Part 2, both the test reports are to be included.) For a mMember engine of an engine framily or engine group, it may be substituted for that for the practice of the property of the prope
- (6) If applicable, the designation and restrictions for an diesel engine which is a member of an eEngine feamily or eEngine gGroup in consistent with the requirement specified in Chapter 4 of the NOx Technical Code.
- (7) Specifications of those spare parts/components of the diesel engine which, when used in the <u>diesel</u> engine, according to those specifications, will result in continued compliance of the NOx emission with the limits specified in **2.1.2-1**.
- (8) *EIAPP Certificate*, where it has been issued.
- (9) In case the exhaust gas cleaning system to reduce NOx emissions is installed, record of the presence of the system as an essential component of the diesel engine.
- (10) Where an additional substance is introduced, such as ammonia, urea, steam, water, fuel additives, etc., sufficient information to allow a ready means of demonstrating that the consumption of such additional substances is consistent with achieving compliance with the applicable NOx limit.
- 2 Record Book of Engine Parameters

Each diesel engine is to be accompanied with a record book of engine parameters in which a full record of adjustments, modifications and all parameter changes, including components and settings of the diesel engine which may influence NOx emission made after the examination required in 2.1.3-5(3)(c), Part 2, are contained.

Chapter 3 ENERGY EFFICIENCY FOR SHIPS

3.1 General

Paragraph 3.1.1 has been amended as follows.

3.1.1 Application (*Regulation* 19 of *Annex* VI)*

- 1 The requirements in this Chapter apply to all ships of 400 gross tonnage and above which are engaged in the international voyages other than those 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, they do not apply to ships not propelled by mechanical means, and platforms including FPSOs, FSUs and drilling rigs, regardless of their propulsion.
- 2 Notwithstanding -1, 3.2 and 3.3 is not to apply to the following ships:
- (1) Ships which have non-conventional propulsion. (However, this does not include cruise passenger ships having non-conventional propulsion and LNG carriers having conventional or non-conventional propulsion, delivered on or after 1 September 2019); and,
- (2) Cargo ships having ice-breaking capability.
- Notwithstanding -1, the Administration may exempt 3.2 and 3.3 need not be applied to ships of 400 gross tonnage and above which are exempted by the Administration from complying with 3.2 and 3.3 the requirements except in the following cases:
- (1) Ships whose building contract is placed on or after 1 January 2017
- (2) Ships, in the absence of a building contract, whose keel is laid or which are at a similar stage of construction on or after 1 July 2017
- (3) Ship whose delivery is on or after 1 July 2019
- (4) New ships or existing ships in which a major conversion is carried out on or after 1 January 2017.
- 4 Notwithstanding -1 to -3, the requirements in this Chapter need not be applied in cases where deemed appropriate by the Society.

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 1 June 2017.

Amendment 1-2

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) to (e) are omitted.)
 - (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 and Log book (when the requirements of **2.2-2**, **Part 8** are applied)
 - (<u>sh</u>) Operation manual for the vapour collection system and VOC Management Plan (when the requirements of **2.3**, **Part 8** are applied)
 - (hi) Operating manual for the incinerator (when the requirements of 2.4-2, Part 8 are applied)

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)

Paragraph 2.1.4 has been added 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 a NOx emission control area specified in **1.1.2(15)**;
- (2) at exit from a NOx emission control area specified in 1.1.2(15); or
- (3) when the on/off status changes within a NOx emission control area specified in 1.1.2(15).

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 1 September 2017.

GUIDANCE FOR MARINE POLLUTION PREVENTION SYSTEMS

2017 AMENDMENT NO.1

Notice No.28 1st June 2017

Resolved by Technical Committee on 30th January 2017

Notice No.28 1st June 2017 AMENDMENT TO THE GUIDANCE FOR MARINE POLLUTION PREVENTION SYSTEMS

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

Amendment 1-1

Part 2 SURVEYS

Chapter 2 REGISTRATION SURVEYS

2.1 Registration Surveys during Construction

Paragraph 2.1.3 has been amended as follows.

2.1.3 Inspections of Construction and Equipment

(-1 to -4 are omitted.)

- 5 In applying 2.1.3-5(3), Part 2 of the Rules, the definitions of terms which appear in said paragraph are as specified in 1.1.2, Part 8 of the Rules.
- 6 In applying **2.1.3-5(3)(a)i), Part 2 of the Rules**, refers to *IMO* resolution *MEPC*.198(62) as amended or others deemed appropriate by the Administration taking into account this resolution. In applying the resolution and *NOx Technical Code* referred to in the resolution, the IACS MPC series unified interpretations related thereto are also to be applied.
- 57 The wording "where deemed appropriate by the Society" in 2.1.3-5(3)(d)iii), Part 2 of the Rules means where it is considered by the Surveyor <u>upon physical verification</u> that all the other engines, <u>and</u> cylinders and spare parts perform in the same manner as those tested. In addition, when tests of components of a diesel engine are carried out on the spare parts using on-board engine parameter check method, the procedures are to be those specified The verification on a spare may be carried out only where the component represented by the spare part is one which is suitably defined in the approved €Technical €File on-board NOx verification procedures.
- 8 The wording "standard deemed appropriate by the Society" in 2.1.3-5(3)(d)iv), Part 2 of the Rules means Section 7 of the resolution specified in -6 above or others deemed appropriate by the Administration taking into account this resolution.

69 (Omitted)

710 (Omitted)

§11 (Omitted)

Chapter 3 REGISTRATION MAINTENANCE SURVEYS

3.1 Annual Surveys

3.1.2 Inspections of Construction and Equipment

Sub-paragraph -3 has been deleted.

3 The wording "where deemed appropriate by the Society" in 3.1.2-4(4)(b), Part 2 of the Rules means where all engines other than those fully tested have been issued EIAPP Certificates and it is considered by the Surveyor that all the other engines, cylinders and spare parts perform in the same manner as those tested. In addition, when tests of components of a diesel engine are carried out on the spare parts using on-board engine parameter check method, the procedures are to be those specified in the approved technical file.

Chapter 4 OCCASIONAL SURVEYS

4.1 General

Paragraph 4.1.2 has been amended as follows.

4.1.2 Inspection

- 1 At <u>Occasional <u>sSurveys</u> carried out due to a major conversion of a diesel engine specified in 1.2.2(12), Part 8 of the Rules, it is to be <u>ensured verified</u> that the NOx emission is within the limits specified in 2.1.2-1, Part 8 of the Rules by one of the following:</u>
- (1) On-board simplified measurement method specified in the approved

 ‡Technical

 ‡File
- (2) Where the engine is a member of an $\frac{1}{2}$ Engine $\frac{1}{2}$ Group, reference to the test bed testing for the relevant $\frac{1}{2}$ Engine $\frac{1}{2}$ Group approval
- 2 At Occasional Surveys carried out due to adjustment or modification to a diesel engine outside the approved limits documented in the Technical File specified in 1.1.2(10), Part 8 of the Rules, it is to be verified that the NOx emission is within the limits specified in 2.1.2-1, Part 8 of the Rules by (1) or (2) above or the on-board direct measurement and monitoring method.
- <u>₹3</u> At occasional surveys carried out in order to verify **2.1.1-3**, **Part 8 of the Rules**, it is to be verified that NOx emissions are within any of the limits specified in **Tables 8-1(a)** to (c) **Part 8 of the Rules** by the following (1) or (2):
- (1) It is to be verified that the Approved Method is appropriately installed in accordance with the procedures specified in the Approved Method Technical File.
- (2) Verification is conducted according to **2.1.3-5(3)**, **Part 2 of the Rules**.
- 34 The occasional surveys of ships undergoing a major conversion specified in 3.1.2(3), Part 8 of the Rules are as follows:
- ((1) to (4) are omitted.)

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*)
- <u>1</u> In applying the "*NOx Technical Code*" referred to in **1.1.2(1), Part 8 of the Rules**, the IACS MPC series unified interpretations related thereto are also to be applied.
- 2 In applying 1.1.2(12)(b), Part 8 of the Rules, the following (1) or (2) is not regarded as "substantial modification" of diesel engines.
- (1) Installation of the Approved Method certified in accordance with 2.1.1-3, Part 8 of the Rules
- (2) Certification to verify the compliance with the requirements of (a) to (c) of 2.1.2(1), Part 8 of the Rules, as applicable
- 13 The word "identical" in 1.1.2(123)(a), Part 8 of the Rules means that for both the replacement diesel engine and the diesel engine being replaced the following items are the same:
- (1) Design and model;
- (2) Rated power;
- (3) Rated speed;
- (4) Use;
- (5) Number of cylinders;
- (6) Fuel system type (including injection control software, if applicable);
- (7) For <u>diesel</u> engines not certified to the standards set forth in **2.1.2-1**, **Part 8 of the Rules**, the NOx critical components and settings (fuel pump model and injection timing, injection nozzle model, configuration, turbocharger model and auxiliary blower specification, cooling medium (seawater / freshwater), etc.); and
- (8) For <u>diesel</u> engines certified to the standards set forth in **2.1.2-1**, **Part 8 of the Rules**, the <u>⊕Engine gGroup or <u>⊕Engine fFamily</u> to which these <u>diesel</u> engines belong.</u>
- **24** For the requirements <u>specified</u> in **1.1.2(123)(c)**, **Part 8 of the Rules**, the increase in output of diesel engines installed on ships which had been at beginning stage of construction before 1 January 2000 is to be based on the maximum continuous output prior to 1 January 2000.

Chapter 2 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

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

Paragraph 2.1.1 has been amended as follows.

2.1.1 Application

- In applying 2.1.1-1, Part 8 of the Rules to 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.
- <u>The wording "Eengines intended for emergency services"</u> referred to in 2.1.1-2(1), Part 8 of the Rules does not include engines used also for non-emergency purpose such as engines to drive emergency generators used as described in H3.3.1-1(5), Part H of the Guidance for the Survey and Construction of Steel Ships.
- **<u>23</u>** The wording "waters deemed appropriate by the Society" in **2.1.1-2(2)**, **Part 8 of the Rules** means waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly.

Paragraph 2.1.2 has been amended as follows.

2.1.2 Requirements for Installation

- 1 Major conversion of a marine diesel engine is to be accordance with following:
- (1) In 2.1.2-1(2), Part 8 of the Rules, tThe wording "time of the replacement or addition of the diesel engine" specified in 2.1.2-1(2), Part 8 of the Rules mentioned above refers to means any of the following (a) to (c):
 - (a) The contractual delivery date of the engine to the ship. However, the engine is to be fitted on board and tested before 1 July 2016.
 - (b) In the absence of a contractual delivery date, the actual delivery date of the engine to the ship, provided that the date is confirmed by a delivery receipt. However, the engine is to be fitted on board and tested before 1 July 2016.
 - (c) In the event the engine is fitted on board and tested for its intended purpose on or after 1 July 2016, the actual date that the engine is tested on board.
- (2) The wording "Eguidelines established by the *IMO*" specified in **2.1.2-1(2)**, **Part 8 of the Rules** refers to means the "2013 Guidelines as Required by Regulation 13.2.2 of MARPOL ANNEX VI in Respect of Non-Identical Replacement Engines **Nnot Required to Meet the Tier III Limit (IMO Res.MEPC.230(65), as amended)".
- (3) Any substantial modification <u>of a diesel engine</u> 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 <u>diesel</u> engine is to be made in accordance with following <u>(a)</u> to <u>(d)</u>:
 - (a) For ships eonstructed 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 is to be applied.
 - (b) For ships eonstructed 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 is to be applied.

- (c) For ships eonstructed 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 is to be applied.
- (d) For ships at beginning stage of construction on or after the date specified in 2.1.2-1(1)(c)ii), Part 8 of the Rules which operate in NOx emission control areas other than those 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.
- In applying 2.1.2-2(1), Part 8 of the Rules For to diesel engines used both as the main propulsion machinery and to drive generators, (a) or (b) of 2.1.2-2(1)(a) or (b), 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)(a) and (b), Part 8 of the Rules are to be applied.
- 3 The wording "procedures specified otherwise by the Society" in 2.1.2-2(2), Part 8 of the Rules means those listed bellow.
- (1) Procedures for NOx emission mMeasurements procedures for emission verification on a test bed
 - In addition to Chapter 5, procedures for diesel engines fitted with selective catalytic reduction systems are to be in accordance with *IMO* resolution *MEPC*.198(62) as amended. In applying the resolution and the *NOx Technical Code* referred to in the resolution, any relevant IACS MPC series Unified Linterpretations MPC related thereto are also to be applied.
- (2) On-board simplified measurement method
 - The method is to be in accordance with 6.3 of the NOx Technical Code. However, when on-board simplified measurement method the verification as required by 2.1.3-5(3)(a)iv)2), Part 2 of the Rules is carried out according to the second sentence of 2.1.3-5(3)(a)i), Part 2 of the Rules in accordance with the on-board simplified measurement method, the allowances as given under 6.3.11 of the NOx Technical Code are not be granted. In addition, when the procedures specified in Chapter 5 of the NOx Technical Code are carried out, it is to be in accordance with (1).
- (3) On-board direct measurement and monitoring method

 - (a) The NOx monitoring and recording device is to comply with the *IMO* resolution *MEPC*.103(49) and to have a copy of type approval certificate issued by the Society, the Administration or a competent organization.
 - (ba) Data is are to be taken within the last 30 days as a form of and in accordance with either one of the followings i) or ii):
 - i) Spot checks logged with other <u>diesel</u> engine operating data on a regular basis and over the full range of engine operation; or
 - ii) Results from continuous monitoring and data storage
 - (\underline{eb}) These monitoring records are to be kept on board for 3 months.
 - (\(\frac{1}{4}\)c) Data \(\frac{1}{15}\)are to be corrected for ambient conditions and fuel specification.
 - (ed) Measuring equipment is to be checked for correct calibration and operation, in accordance with the procedures specified in the engine's $\underbrace{\mathsf{F}}$ in the measurement equipment manufacturer.
 - ($\underline{\underline{e}}$) Where exhaust gas after-treatment devices are fitted which influence the NOx emissions, the measuring point(s) are to be located downstream of such devices.

- (<u>ef</u>) Sufficient data is to be collected to calculate the weighted average NOx emissions.
- (hg) In case an exhaust gas cleaning system to reduce NOx emissions is installed on the diesel engine, other relevant parameters may be monitored where approved by the Society.
- The wording "fuel oil specified otherwise by the Society" in 2.1.2-2(3), Part 8 of the Rules means 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, 1996:2005, with properties suitable for the engine type or a gas fuel selected in accordance with the NOx Technical Code. However, when a suitable reference fuel is not available, the fuel approved otherwise by the Society may be used.

Paragraph 2.1.3 has been amended as follows.

2.1.3 Technical File and Record Book of Engine Parameters

- The wording "on-board engine parameter check method otherwise specified by the Society" in **2.1.3-1(4)**, **Part 8 of the Rules** means the method in accordance with 6.2 of the *NOx Technical Code*.
- 2 The requirements of Chapter 4 of the *NOx Technical Code* in **2.1.3-1(6)**, **Part 8 of the Rules** is to be in accordance with any relevant IACS Unified Interpretations MPC.
- 32 The wording "specifications of those spare parts/components of the diesel engine" in 2.1.3-1(7), Part 8 of the Rules means identification marking, such as a part number, tied to a particular drawing or other data, under the control of the diesel engine manufacturer, etc., defining the features of that component with regard to its influence on NOx emission.

Chapter 3 ENERGY EFFICIENCY FOR SHIPS

3.1 General

Paragraph 3.1.1 has been added as follows.

3.1.1 Application

The wording "where deemed appropriate by the Society" in **3.1.1-4**, **Part 8 of the Rules** means those cases where the ship which is not normally engaged on international voyages but which, in exceptional circumstances, is required to undertake a single international voyage is exempted by the Administration from any of the requirements in chapter 4 of *Annex IV*.

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 1 June 2017.

Amendment 1-2

Part 3 CONSTRUCTION AND EQUIPMENT FOR THE PREVENTION OF POLLUTION BY OIL

Chapter 3 CONSTRUCTION AND EQUIPMENT FOR THE PREVENTION OF POLLUTION BY OIL CARRIED IN BULK

3.2 Hull Construction

3.2.1 Arrangements of Bulkheads in Spaces Carrying Cargo Oil

Sub-paragraph -1 has been amended as follows.

The pressure p If an inert gas system is fitted, the normal overpressure specified in 3.2.1-1(7)(c)ii) in Part 3 of the Rules is to be taken as the maximum static inert gas pressure that is obtained at the discharge side of the non-return device fitted forward of the deck water seal or $5 \, kPa$, whichever is greater. However, p need not be taken more than the maximum tank pressure corresponding to the pressure vacuum valve set point $5 \, kPa$.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

- 1. The effective date of the amendments is 1 July 2017.
- 2. Notwithstanding the amendments to the Guidance, the current requirements apply to ships for which the date of contract for construction* is before the effective date.
 - * "contract for construction" is defined in the latest version of IACS Procedural Requirement (PR) No.29.

IACS PR No.29 (Rev.0, July 2009)

- 1. The date of "contract for construction" of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.
- 2. The date of "contract for construction" of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.

 For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a "series of vessels" if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:
 - (1) such alterations do not affect matters related to classification, or
 - (2) If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.

The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.

- 3. If a contract for construction is later amended to include additional vessels or additional options, the date of "contract for construction" for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a "new contract" to which 1. and 2. above apply.
- 4. If a contract for construction is amended to change the ship type, the date of "contract for construction" of this modified vessel, or vessels, is the date on which revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder.

Note:

This Procedural Requirement applies from 1 July 2009.

Amendment 1-3

Part 2 SURVEYS

Chapter 1 GENERAL

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 The "Records of oil filtering system" specified in 1.3.2-1(1)(i), Part 2 of the Rules are is to be retained onboard for at least for 18 months.
- 2 The "Records of oil discharge monitoring and control system" specified in 1.3.2-1(1)(j), Part 2 of the Rules are is to be retained on board for at least for 3 years.
- 3 The "Oil Record Book" specified in 1.3.2-1(1)(k), Part 2 of the Rules is to be provided retained on board for at least 3 years.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 1 September 2017.