# RULES FOR MARINE POLLUTION PREVENTION SYSTEMS

RULES

**2010 AMENDMENT NO.1**

Rule No.25 15th April 2010

Resolved by Technical Committee on 5th February 2010

Approved by Board of Directors on 23rd February 2010

Rule No.25 15th April 2010
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 2 SURVEYS

## Chapter 1 GENERAL

### 1.1 General

#### 1.1.6 Modification of the Requirements

Sub-paragraph -1 has been amended as follows.

**1** ~~At~~With respect to ~~the~~ Periodical Surveys~~,~~ in cases where considered appropriate by the Society, the Surveyor may modify the requirements ~~having regard to~~based on the size, service engaged, construction, age, service performance, results of previous surveys and actual condition of the ship.

Paragraph 1.1.7 has been amended as follows.

#### 1.1.7 Laid-up Ships

**1** Laid-up ships are not subject to Periodical Surveys specified in **1.1.2**. However, Occasional Surveys may be carried out at the request of owners.

**2** When laid-up ships are about to be put into service, following surveys and surveys for specific matters which have been postponed due to being laid-up, if any, are to be carried out.

(1) When any Periodical Survey ~~or Planned Machinery Surveys~~ designated before lay-up has not been due, ~~the coming nearest periodical survey or Planned Machinery Surveys which was designated before lay-up~~ an equivalent to the Annual Surveys specified in **3.1** is to be carried out.

(2) When Periodical Surveys ~~or Planned Machinery Surveys~~ designated before lay-up has already become due, these Periodical Surveys ~~or Planned Machinery Surveys~~ are, in principle, to be carried out. However in case where two or more kinds of the Periodical Surveys ~~or Planned Machinery Surveys~~ have already become due, the superlative one is to be carried out.

~~**3** If the survey to be carried out under the requirements of **-2** above is a Special Survey, the Special Survey is to be the one corresponding to the age of the ship.~~

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

**1.** The effective date of the amendments is 15 April 2010.

**2.** Notwithstanding the amendments to the Rules, the current requirements may apply to the surveys for which the application is submitted to the Society before the effective date.

Amendment 1-2

# Part 1 GENERAL

## Chapter 1 GENERAL

### 1.1 General

Title of Paragraph 1.1.2 has been amended as follows.

**1.1.2 Equivalents** (*Regulation* 5.1 of *Annex* I, *Regulation* 5.1 and 5.3 of *Annex* II ~~and *Regulation* 4(1) of *Annex* VI~~)

# Chapter 2 TERMINOLOGY AND ABBREVIATIONS

## 2.1 General

Paragraph 2.1.1 has been amended as follows.

**2.1.1 Terminology** (*Regulation* 1 of *Annex* I and *Regulation* 1 of *Annex* II)

For the purpose of the Rules, the following definitions apply unless otherwise stated in each Part:

(1) "Oil" means petroleum including crude oil, heavy fuel oil, lubricating oil, light oil, kerosene, gas oil, and others prescribed by the relevant laws and regulations.

(Omitted)

(25) "A ship at beginning stage of construction" is a ship whose keel is laid or a ship at a similar stage of construction. For this purpose, the term "a similar stage of construction" means the stage at which:

(a) construction identifiable with a specific ship begins; and

(b) assembly of that ship has commenced comprising at least 50 *tonnes* or 1% of the estimated mass of all structural material, whichever is less.

(26) "Oil residue (sludge)" means the residual waste oil products generated during the normal operation of a ship such as those resulting from the purification of fuel or lubricating oil for main or auxiliary machinery, separated waste oil from oil filtering equipment, waste oil collected in drip trays, and waste hydraulic and lubricating oils.

(27) "Oil residue (sludge) tank" means a tank which holds oil residue (sludge) from which sludge may be disposed directly through the standard discharge connection or any other approved means of disposal.

(28) "Oily bilge water" means water which may be contaminated by oil resulting from things such as leakage or maintenance work in machinery spaces. Any liquid entering the bilge system including bilge wells, bilge piping, tank top or bilge holding tanks is considered oily bilge water.

(29) "Oily bilge water holding tank" means a tank collecting oily bilge water prior to its discharge, transfer or disposal.

# 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 (3) has been amended as follows.

(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 *IMO* resolution *MEPC*.103(49)))
- ~~(e) SOx Emission Control Area compliance certificate, on-board monitoring manual for exhaust gas cleaning system to reduce SOx emissions, as applicable, and SOx Emission Control Area compliance plan (when the system referred to in **2.2-1(1), Part 8** is installed (refer to *IMO* resolution *MEPC*.130(53)))~~
- (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) Procedure manual of fuel oil change-over and Log book (when the requirements of **2.2-2, Part 8** are applied)
- (g) Operation manual for the vapour collection system and VOC Management Plan (when the requirements of **2.3, Part 8** are applied)
- (h) Operating manual for the incinerator (when the requirements of **2.4-2, Part 8** are applied)

# Chapter 2 REGISTRATION SURVEYS

## 2.1.2 Submission of Plans and Documents for Approval

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

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

(a) Ozone depleting substances

Plans and documents indicating the location on board and the details of systems, equipment, including portable fire extinguishers, insulation, or other material containing ozone depleting substances, if any, as exceptionally allowed by the requirement of **1.2.1, Part 8**.

~~(b) Sulphur Oxides (SOx)~~

~~Plans and documents relevant to the exhaust gas cleaning system or documents relevant to the technological method to reduce SOx emissions, if any.~~

(~~e~~b) Nitrogen Oxides (NOx)

Plans and documents relevant to the exhaust gas cleaning system or documents relevant to the method to reduce NOx emissions, if any.

(~~d~~c) Vapour collection system

i) Plans and documents (including the operation manual) relevant to the vapour collection system, if any.

ii) VOC management plan for crude oil tankers

(~~e~~d) Incinerator

Plans and documents relevant to the incinerator (excluding those submitted in accordance with the requirements of **Part D of the Rules for the Survey and Construction of Steel Ships**), if any.

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

## 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 **(3)** excluding **(d)iii)** are to be carried out irrespective of tonnage of the ship.

(1) Ozone depleting substances

(a) It is to be confirmed which systems or equipment, including portable fire extinguishers, on board the ship contain hydro-chlorofluorocarbons (HCFCs).

(b) It is to be ensured that the systems and equipment referred to in **(a)** are in good working order and there are no emissions of hydro-chlorofluorocarbons (HCFCs).

(2) Sulphur Oxides (SOx) and Particulate Matter

~~(a) It is to be ensured that the exhaust gas cleaning system to reduce SOx emissions is installed and operated or the technological method to reduce SOx emissions is carried out in accordance with the approved drawings and/or documents.~~

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

(3) Nitrogen Oxides (NOx)

Following items are to be tested, confirmed and examined for every diesel engine to which the requirements of 2.1, Part 8 are applied. However, for the engine already obtaibed an EIAPP certificate or equivalent and a technical file which are deemed appropriate by the Society, the test, confirmation and examination required in this (3) excluding (d)iii) may be omitted.

(a) Shop test

i) It is to be ensured that the NOx emission is 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-~~1~~2(2)(a), Part 8**. 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 member engine of an engine family or engine group, the compliance with the requirements in **i)** may be confirmed by the examination of the test report for the parent engine.

iii) Only for one engine or the parent engine of an engine group, but not for the parent engine of an engine family, when the test required in **i)** cannot be carried out, upon request by the diesel engine manufacturer, etc., shipowner or ship builder, it may be ensured in accordance with **(d)ii)**.

(b) Confirmation of the components of a diesel engine at the shop test

It is to be ensured using the same method to the parameter check method referred to in **2.1.3-2(4), Part 8** that the diesel engine passed the test required in **(a)** and its components are in compliance with the technical file. In case the engine is not a parent but a member of an engine family or engine group, it may be ensured by checking the record of the equivalent confirmation carried out by the diesel engine manufacturer, etc.

(c) Examination of the technical file

i) For the engine to which the first sentence of **(a)i)** or **(a)ii)** is applied, the diesel engine manufacturer, etc. is to submit the technical file to the Society for approval prior to the inspection required in **(d)**.

ii) For the engine to which the second sentence of **(a)i)** or **(a)iii)** is applied, the diesel engine manufacturer, etc. is to submit the technical file to the Society for approval after the inspection required in **(d)**.

(d) Test after installation on board

i) For the engine to which the second sentence of **(a)i)** is applied, it is to be ensured on board that the NOx emission is 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-~~1~~2 (2)(b), Part 8**.

ii) For the engine to which **(a)iii)** is applied, it is to be ensured on board that the NOx emission is within the limits specified in **2.1.2-1, Part 8** using the same method to the procedures for NOx emission measurements on a test bed referred to in **2.1.2-~~1~~2 (2)(a), Part 8**.

iii) For engines other than those listed in **i)** or **ii)**, it is to be ensured on board that the NOx emission is 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 file. In this case, the method is to be the on-board simplified measurement method referred to in **2.1.2-~~1~~2 (2)(b), Part 8** or the parameter check method referred to in **2.1.3-2(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.

(4) Vapour collection system

(a) It is to be ensured that the vapour collection system is installed in accordance with the approved drawings and documents.

(b) It is to be ensured that the vapour collection system, including the liquid level gauging devices, high liquid level alarms and alarms provided with the pressure gauges, is in good working order.

(5) Incinerator

(a) It is to be ensured at the manufacturing plant, etc. by the tests otherwise specified by the Society that all parts of the incinerator, including controls and safety devices, are in good working order.

(b) It is to be ensured that the incinerator is installed in accordance with the approved drawings and documents.

(c) It is to be ensured on board by the tests otherwise specified by the Society that all parts of the incinerator, including controls and safety devices, are in good working order.

# 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.

(1) Ozone depleting substances
It is to be confirmed which systems or equipment, including portable fire extinguishers, on board the ship contain ozone depleting substances, in addition, they are to be visually inspected.

(2) Fuel oil
It is to be ensured that bunker delivery notes accompanied by representative samples of the fuel oil delivered are retained appropriately.

(3) Sulphur Oxides (SOx) and Particulate Matter
~~(a) It is to be ensured that the exhaust gas cleaning system to reduce SOx emissions has been installed and operated or the technological method to reduce SOx emissions has been carried out in accordance with the approved drawings and/or documents.~~
~~(b)~~ It is to be ensured that the system for fuel-changeover operation is in good working order.

(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 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 that the NOx emission is 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 file. In this case, the method is to be the on-board simplified measurement method referred to in **2.1.2-~~1~~2 (2)(b), Part 8**, the on-board direct measurement and monitoring method referred to in **2.1.2-~~1~~2 (2)(c), Part 8** or the parameter check method referred to in **2.1.3-2(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) Vapour collection system
(a) It is to be ensured that the vapour collection system has been installed in accordance with the approved drawings and documents and is in good order.
(b) It is to be ensured that the vapour collection system, including the liquid level gauging devices, high liquid level alarms and alarms provided with the pressure gauges, is in good working order.

(6) Incinerator

(a) It is to be ensured that the incinerator has been installed in accordance with the approved drawings and documents and is in good order.

(b) Performance tests are to be carried out.

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

## Chapter 1 GENERAL

### 1.2 General Rules

Paragraph 1.2.2 has been amended as follows.

**1.2.2 Oil Record Book** (*Regulations* 17 and 36 of *Annex* I)

Every oil tanker of 150 gross tonnage and above and every ship of 400 gross tonnage and above other than an oil tanker are to be provided with an oil record book to record relevant issues including any of the following operations.

(1) Machinery space operations
- (a) Ballasting or cleaning of oil fuel tanks
- (b) Discharging of dirty ballast or cleaning water from oil fuel tanks
- (c) Collection and disposal of oil residues (sludge ~~and other oil residues~~)
- (d) Discharge overboard or disposal otherwise of oily bilge water which has accumulated in machinery spaces
- (e) Bunkering of fuel or bulk lubricating oil

(2) Cargo/ballast operations for oil tankers
- (a) Loading of oil cargo
- (b) Internal oil transfer of oil cargo during voyage
- (c) Unloading oil cargo
- (d) Ballasting of cargo tanks and dedicated clean ballast tanks
- (e) Cleaning of cargo tanks including crude oil washing
- (f) Discharge of ballast except from segregated ballast tanks
- (g) Discharge of water from slop tanks
- (h) Closing of all applicable valves or similar devices after slop tank discharge operations
- (i) Closing of valve necessary for isolation of dedicated clean ballast tanks from cargo and stripping lines after slop tank discharge operations
- (j) Disposal of oil residues (sludge)

# Chapter 2 EQUIPMENT FOR THE PREVENTION OF POLLUTION BY OIL FROM MACHINERY SPACES

## 2.2 Storage and Discharge of Oily Residues (Sludge) (*Regulations* 12 and 13 of *Annex* I)

Paragraph 2.1.1 has been amended as follows.

### 2.2.1 Capacity of Sludge Tanks

**1** Every ship of 400 *gross tonnage* and above is to be provided with a tank or tanks of adequate capacity to receive the oil residue (sludge) ~~produced by the purification of fuel oil and lubricating oil, and leaked oil in the machinery space~~. The capacity of such a tank or tanks is to be greater ~~than the sum of~~ the minimum ~~capacities~~ capacity ~~of individual tanks~~ specified in the following **(1)** ~~and~~or **(2)**. However, the volume of tanks for ships whose building contract is placed before 1 July 2010 are to comply with provisions specified elsewhere.

~~(1) The minimum capacity of a tank to receive the sludge produced by the purification of fuel oil and lubricating oil is to be $V_1$ or $V_2$ specified in the following **(a)** to **(c)**:~~

~~(a) The minimum capacity $V_1$ of the tank in ships not carrying ballast water in fuel oil tanks, which were at beginning stage of construction before 31 December 1990:~~

~~$V_1=K_1CD$ ($m^3$)~~

~~where~~

~~$K_1$=0.01 : heavy fuel oil which is purified before being used by main engine~~

~~$K_1$=0.005 : marine diesel oil or heavy fuel oil but not requiring purification~~

~~*C*: fuel oil consumption (*t/day*)~~

~~*D*: maximum number of days between ports where oil sludge can be discharged ashore (when no detailed data is available, this is to be made greater than 30 *days*)~~

~~However, the following values may be used where homogenizer, sludge incinerators or sludge disposal equipment approved by the Society are provided:~~

~~$V_1$=1 ($m^3$): ships of 400 *gross tonnage* and above not exceeding 4,000 *gross tonnage*~~

~~$V_1$=2 ($m^3$): ships of 4,000 *gross tonnage* and above~~

~~(b) The minimum capacity $V_1$ of the tank in ships not carrying ballast water in fuel oil tanks, which were at beginning stage of construction on or after 31 December 1990:~~

~~$V_1=K_1CD$ ($m^3$)~~

~~where~~

~~$K_1$=0.015 : heavy fuel oil which is purified before being used by main engine~~

~~$K_1$=0.005 : marine diesel oil or heavy fuel oil but not requiring purification~~

~~*C*: fuel oil consumption ($m^3$/*day*)~~

~~*D*: maximum number of days between ports where oil sludge can be discharged ashore (when no detailed data is available, this is to be made greater than 30 *days*)~~

~~However, the following values may be used where homogenizer, sludge incinerators or sludge disposal equipment approved by the Society are provided:~~

~~$V_1$=0.5$K_1CD$ ($m^3$)~~

~~or~~

~~$V_1$=1 ($m^3$): ships of 400 *gross tonnage* and above but not exceeding 4,000 *gross tonnage*~~

~~$V_1$=2 ($m^3$): ships of 4,000 *gross tonnage* and above~~

~~whichever is the greater~~

~~(c) The minimum capacity $V_2$ of the tank in ships where ballast water is carried in fuel oil tanks:~~

~~$V_2 = V_1 + K_2 B$ ($m^3$)~~

~~where~~

~~$V_1$: tank capacity determined either by **(a)** or by **(b)** above~~

~~$K_2$=0.01 : where ballast water is carried in heavy fuel oil tanks~~

~~$K_2$=0.005 : where ballast water is carried in marine diesel oil tanks~~

~~$B$ = capacity (*tons*) of fuel oil tanks connected to the ballast pipelines~~

(1) The minimum capacity $V_1$ of the tank in ships not carrying ballast water in fuel oil tanks:

$V_1 = K_1 CD$ ($m^3$)

where

$K_1$= 0.015: heavy fuel oil which is purified before being used by the main engine

$K_1$= 0.005: marine diesel oil or heavy fuel oil but not requiring purification

$C$: fuel oil consumption (*t/day*)

$D$: maximum number of days between ports where oil sludge can be discharged ashore (when no detailed data is available, this is to be made greater than 30 *days*)

~~(2) The minimum capacity of the tank to receive the oil residues produced by leaked oil in the machinery space is to be $V_3$ as specified below. However, ships which were at beginning stage of construction until 31 December 1991 may be exempted from this requirement.~~

~~$V_3 = V_E + V_L$~~

~~where~~

~~$V_E$: tank capacity for waste oil ($m^3$)~~

~~$V_L$: tank capacity for leaked oil ($m^3$)~~

~~$V_E$, $V_L$ are to be determined by the following calculation:~~

~~(a) $V_E = 1.5 n_1$ ($m^3$)~~

~~where~~

~~$n_1$ is the value obtained by the following:~~

~~$n_1$ = 1, when the sum of the maximum continuous output of the main engine and auxiliary engines is 1,000$kW$ and below,~~

~~$n_1$ = a value added by 1 for every increment of 1,000$kW$ or fraction thereof for the sum of the maximum continuous output of the main engine and auxiliary engines, when the sum of the maximum continuous output of the main engine and auxiliary engines is over 1,000$kW$.~~

~~However, $V_E$ = 0 may be accepted where lubricating oil purifiers are provided and no replacement of lubricating oil is required while the ship is at sea.~~

~~(b) $V_L = D \times 20 \times P / 10^6$ ($m^3$)~~

~~: $P \leq 10{,}000kW$~~

~~$V_L = D \times (0.2 + 7 \times (P - 10{,}000)/10^6)$ ($m^3$)~~

~~: $P > 10{,}000kW$~~

~~where~~

~~$P$: maximum continuous output of main engine ($kW$)~~

~~$D$: maximum number of days between ports where sludge can be discharged ashore (When no detailed data is available, it is to be 30 *days* or more)~~

(2) Minimum tank capacity ($V_2$) in ships where ballast water is carried in fuel oil tanks:

$V_2 = V_1 + K_2 B$ ($m^3$)

where

$V_1$: tank capacity determined either by **(1)** above

$K_2$= 0.01: where ballast water is carried in heavy fuel oil tanks

$K_2$= 0.005: where ballast water is carried in marine diesel oil tanks

$B$ = capacity (*tons*) of fuel oil tanks connected to ballast pipelines

**2** Notwithstanding the requirements in the preceding **-1**, in ships listed below where all oily bilge water is exclusively discharged to reception facilities, oil residue (sludge) tanks may be replaced with oily bilge water storage arrangements.

(1) Ships engaged exclusively in voyages in special areas

(2) Ships exclusively engaged in voyages in sea areas within 12 *nautical miles* from the territorial base line of any one state.

(3) Ships not provided with a propulsion engine, which are approved to be appropriate by the Society.

Title of Paragraph 2.2.2 has been amended as follows.

### 2.2.2 Construction of Oil Residue (Sludge) Tanks and Piping Arrangements

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

(2) Pumps meeting the following requirements are to be provided for discharging oil residues from the tank:

(a) Not to serve in common with the oily bilge pump.

(b) The pump is to be of the suitable type for discharging oil residues (sludge) ashore.

~~(c) The total head is to be 40*m* or more.~~

(~~d~~c) The pumping rate is to be the following ~~$Q_1$ or $Q_2$ whichever is the~~ $Q$ or greater. However, ships which were at beginning stage of construction until ~~31 December 1991 may be exempted from this requirement.~~ However, ships whose building contract is placed before 1 July 2010 are to comply with provisions specified elsewhere. Notwithstanding this requirement, in ships not engaged in international voyages, the pumping rate may be 0.5 ($m^3/h$)

$Q_1 = V/t$ ($m^3/h$)

where

$V$ : $V_1$ or $V_2$ specified in **2.2.1-1~~(1)~~** ~~of the Rules~~

$t$ : ~~4~~ 8*hours*

~~$Q_2$=2.0 ($m^3/h$)~~

~~(e) The geodetic suction head of the pump is to meet the following requirements:~~

~~3.0 *m*: $P \leq$ 15,000*kW*~~

~~3.5 *m*: $P >$15,000*kW*~~

~~where~~

~~$P$: maximum continuous output of main engine (*kW*)~~

Title of Section 2.3 has been amended as follows.

**2.3 Oily-water Separating Equipment, Oil Filtering System, Oil Discharge Monitoring and Control System for Oily Bilge Water, and Oily Bilge Water Holding Tanks** (*Regulation* 14 of *Annex* I)

Title of Paragraph 2.3.3 has been amended as follows.

**2.3.3 Oil Discharge Monitoring and Control System for Oily Bilge Water**

Sub-paragraph 2.3.4 has been amended as follows.

**2.3.4 Oily Bilge Water Holding Tanks**

Oily Bilge water holding tanks fitted onto ships complying with the requirements given in **2.2.1-2** or **2.4.2-2** are to satisfy the following requirements:

(1) Capacity of the oily bilge water holding tank ($C$ ($m^3$)) is to be the value obtained by the following formula or more. However, ships ~~which were at beginning stage of construction until 31 December 1991~~ whose building contract is placed before 1 July 2010, ships of less than 400 *gross tonnage* and oil tankers of less than 150 *gross tonnage* may be exempted from these requirements. In addition, for ships adopting a system where special consideration is given regarding the handling of oily bilge water, the capacity of oily bilge water holding tanks may be reduced.

~~(a) Ships whose maximum continuous output of main engine is less than 1,000*kW*~~

~~$C$=1.5 ($m^3$)~~

~~(b) Ships whose maximum continuous output of main engine is 1,000*kW* or more but less than 20,000*kW*~~

~~$C$=1.5+($P$-1,000)/1,500 ($m^3$)~~

~~where~~

~~$P$: maximum continuous output of main engine (*kW*)~~

~~(c) Ships whose maximum continuous output of main engine is 20,000*kW* or more~~

~~$C$=14.2+0.2($P$-20,000)/1,500 ($m^3$)~~

~~where~~

~~$P$: maximum continuous output of main engine (*kW*)~~

(a) Ships whose maximum continuous output of main engine is less than 1,000*kW*

$C$=4.0 ($m^3$)

(b) Ships whose maximum continuous output of main engine is 1,000*kW* or more but less than 20,000*kW*

$C$= $P$ /250 ($m^3$)

where

$P$ : maximum continuous output of main engine (*kW*)

(c) Ships whose maximum continuous output of main engine is 20,000*kW* or more

$C$ = 40 + $P$ /250 ($m^3$)

where

$P$ : maximum continuous output of main engine (*kW*)

(2) Oily ~~B~~bilge water holding tanks are to be provided with a device capable of measuring the quantity of oily bilge water.
(3) It is to be ensured that no leakage of oily bilge water occurs even when the ship pitches through 10 *degrees* and rolls by 22.5 *degrees* either side.
(4) The arrangement is to be such that it is capable of transferring bilge to both the oily bilge water holding tank and shore reception facilities. In this case, it is to be provided with a standard discharge connection specified in **Table 3-1** in **2.2.3**.

## 2.4 Requirements for Installation (*Regulation* 14 of *Annex* I)

Paragraph 2.4.1 has been amended as follows.

### 2.4.1 General

**1** For all oil tankers and ships of 100 *gross tonnage* and above other than oil tankers, oil filtering systems are to be provided for discharging oily bilge water ~~from the machinery space~~ or other oil in accordance with **Table 3-4**.

**2** For ships other than oil tankers, of less than 100 *gross tonnage*, where any oily bilge water ~~mixture~~ is to be discharged into the sea, oil filtering systems specified in **2.3.2-1(1)** are to be provided.

### 2.4.2 Modifications

Sub-paragraph -2 has been amended as follows.

**2** Notwithstanding the requirements in the preceding **2.4.1**, for ships listed below where all of the oily bilge water is intended to be discharged exclusively to reception facilities, oil filtering systems may be substituted for by oily bilge water holding tanks.
(1) Ships exclusively engaged in voyages in special areas.
(2) Ships of less than 400 *gross tonnage* and exclusively engaged in voyage within 12 *nautical miles* from the territorial base line of any one state.
(3) Ships subject to the **Rules for High Speed Craft** engaged on a scheduled service with a turn-around time not exceeding 24 *hours* and covering also non-passenger/cargo-carrying relocation voyages for these ships.
(4) Ships, such as hotel ships, storage vessels, etc., which are stationary except for non-cargo-carrying relocation voyages.
(5) Ships not provided with a propulsion engine, and considered to be appropriate by the Society.

# Part 8 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

## Chapter 1 GENERAL

### 1.1 General

Title of paragraph 1.1.1 has been amended as follows.

**1.1.1 Application** (*Regulation* 1 and ~~19~~3 of *Annex* VI)

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.~~7~~8 of *NOx Technical Code*)

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

(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 *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.

(Omitted)

(6) "Engine group" means the concept applicable to engines which are proven to have similar NOx emission characteristics through their design in accordance with the guidelines listed in 4.4.~~5~~6 of *NOx Technical Code* and may require minor adjustments and modifications during installation or in service on board.

(Omitted)

(11) "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-~~1~~2(2)(b)** ~~in excess of the 110 % of the limits specified in **2.1.2-1**~~. 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).

(12) "Major conversion of a diesel engine" means a modification on or after 1 January 2000 (19

May 2005 for ships not engaged in international voyages) of a marine diesel engine that has not already been certified to the standards specified in 2.1.2-1 which and corresponds to any of the following (a) through (c).

(a) The engine is replaced or supplemented with a ~~new~~ non-identical marine diesel engine manufactured on or after 1 January 2000 (19 May 2005 for ships not engaged in international voyages).

(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 ~~1~~10%.

(13) "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 **(14)** and **(15)**.

(14) "NOx Emission Control Areas" shall be any sea area, including any port area, designated by the *IMO* in accordance with the criteria and procedures set forth in Appendix III to *Annex* VI.

(1~~3~~5)"SOx Emission Control Areas" means areas are to include the following **(a)** through **(~~b~~c)**: ~~where the adoption of special mandatory measures for SOx emissions from ships is required to prevent, reduce and control air pollution from SOx and its attendant adverse impacts on land and sea areas~~.

(a) The Baltic Sea ~~a~~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) The North Sea ~~a~~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.

(c) Any other sea area, including port areas, designated by the *IMO* in accordance with criteria and procedures ~~for designation of SOx Emission Control Areas with respect to the prevention of air pollution from ships contained~~ set forth in ~~a~~Appendix III to *Annex* VI.

(1~~4~~6)"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, ~~one of those listed in~~ and includes any of the following **(a)** through **(c)**.

(a) Oil tanker

A ship constructed to carry liquid cargoes in bulk in their cargo spaces (excluding those with cargo spaces which are adapted to exclusively carry cargo other than oil in bulk).

(b) Ship carrying noxious liquid substance in bulk

A Ship carrying noxious liquid substance in bulk specified in **2.1.1(7), Part 1**.

(c) Combination carrier

A Combination carrier specified in **2.1.1(8), Part 1**.

Paragraph 1.1.3 has added as follows.

**1.1.3 Equivalents** (*Regulation* 4 of *Annex* VI)

The Society may allow any fitting, material, appliance or apparatus to be installed on board as well as any other procedures, alternative fuel oils, or compliance methods to be used as an alternative to those required by the requirements of the Rules, in cases where such are at least as effective in terms of emission reduction as those required by the Rules.

## 1.2 General Requirement

Title of paragraph 1.2.2 has been amended as follows.

**1.2.2 Fuel Oil** (*Regulation* 3, 14, and 18 ~~and 19~~ of *Annex* VI)

Sub-paragraph -1 has been amended as follows.

**1** Fuel oil for combustion purposes delivered to and used on board ships is to meet the following requirements:

(1) The sulphur content of the fuel oil is not to exceed ~~4.5 % by mass~~ the following limits.
   (a) 4.5% *m/m* prior to 1 January 2012
   (b) 3.5% *m/m* on and after 1 January 2012
   (c) 0.5% *m/m* on and after 1 January 2020

(2) The fuel oil is to be free from inorganic acid.

(3) The fuel oil is not to include any added substance or chemical waste corresponding to one of the following **(a)** through **(c)**.
   (a) It jeopardizes the safety of ships or adversely affects the performance of the machinery.
   (b) It is harmful to personnel.
   (c) It contributes overall to additional air pollution.

(4) The fuel oil derived from petroleum refining is to be blends of hydrocarbons. However, small amounts of additives intended to improve some aspects of performance may be incorporated.

(5) The fuel oil derived by methods other than petroleum refining is not to cause the NOx emission from a diesel engine to exceed the limits specified in **2.1.2-1**.

Paragraph 1.2.3 has been amended as follows.

**1.2.3 Substances Prohibited to <u>be</u> Incinerate<u>d</u> ~~o~~<u>O</u>n Board** (*Regulation* 16 of *Annex* VI)

Substances prohibited to <u>be</u> incinerate<u>d</u> on board ships are those listed below.

(1) Residue of the cargoes listed in the following **(a)** through **(c)** and related contaminated packing materials.
   (a) Oil
   (b) Noxious liquid substance
   (c) Marine pollutant

(2) Polychlorinated biphenyls (PCBs).

(3) Garbage containing heavy metals. (The term "garbage" means all kinds of victual, domestic and operational waste excluding fresh fish and parts thereof, generated during the normal operation of the ship and liable to be disposed of continuously or periodically.)

(4) Refined petroleum products containing halogen compounds.

(5) Polyvinyl chlorides (PVCs) (except when incinerated in an incinerator complying with the requirements in **2.4-1(2)** or the equivalent).

<u>(6) Sewage sludge and sludge oil which are not generated by the ship.</u>

<u>(7) Exhaust gas cleaning system residues.</u>

# Chapter 2 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

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

### 2.1.1 Application

Sub-paragraph -3 has been added as follows.

**3** Notwithstanding the requirements of -1.(1) above, a diesel engine with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres installed on a ship constructed on or after 1 January 1990 but prior to 1 January 2000 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.

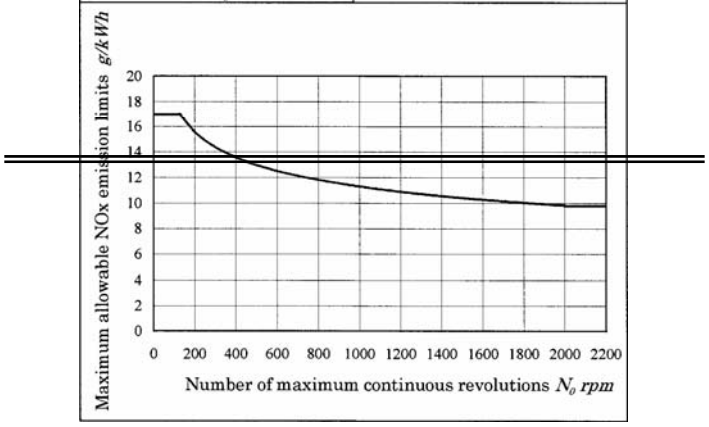
Paragraph 2.1.2 has been amended as follows.

### 2.1.2 Requirements for Installation

**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~~s~~ **-2** within the limits specified in **Table 8-1(a)** through **(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 engine. ~~However, in case it is ensured that the NOx emission from the engine is within the limits specified in **Table 8-1**, the system and the method are not required.~~

~~Table 8-1 Maximum allowable NOx emission limits~~

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



(a) Tier I

For ships constructed on or after 1 January 2000 and prior to 1 January 2011 which 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 |
| $130 \leqq N_0 < 2000$ | $45.0 \times N_0^{(-0.2)}$ |
| $2000 \leqq N_0$ | 9.8 |

(b) Tier II

For ships constructed on or after 1 January 2011 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 |
| $130 \leqq N_0 < 2000$ | $44.0 \times N_0^{(-0.23)}$ |
| $2000 \leqq N_0$ | 7.7 |

(c) Tier III

For ships constructed on or after 1 January 2016 which are installed with marine diesel engines and are operated in NOx Emission Control Areas. However, the following types of ships are exempted: ships which are installed with marine diesel engines that are less than 24*m* in length and that have been specifically designed for recreational purposes; and ships which are installed with marine diesel engines that have a combined nameplate diesel engine propulsion power of less than 750 kW which can demonstrate, to the satisfaction of the Administration, the inability, that the ship cannot to comply with the standards specified in **Table 8-1(c)** because of design or construction limitations.

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

**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 **(d)**. The emission values are not to be calculated by the data obtained from another test.

(a) For constant speed diesel engines, including those used as main propulsion machinery for electric propulsion ships, and for engines to drive controllable pitch propellers, test cycle E2 specified in **Table 8-2** is to be applied.
(b) For diesel engines to drive fixed pitch propellers, test cycle E3 specified in **Table 8-3** is to be applied.
(c) For constant speed auxiliary engines, test cycle D2 specified in **Table 8-4** is to be applied.
(d) For variable speed, variable load auxiliary engines, not included in **(a)** through **(c)**, 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% |
|---|---|---|---|---|
| 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*(3) | | | Idle |
|---|---|---|---|---|---|---|---|---|
| Torque*(2) | 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 |

(Note)
*(1) Those specified in 5.12.~~5~~6 of the *NOx Technical Code*.
*(2) The ratio of the required torque to the maximum possible torque at the given number of revolutions.
*(3) To be declared by the diesel engine manufacturer, etc., taking into account the following requirements:
(a) For engines which are designed to operate over a speed range on a full load torque curve;
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 engines other than those referred to in **(a)**, 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 measurements on a test bed
(b) on-board simplified measurement method
(c) on-board direct measurement and monitoring method

(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.

~~2~~**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.

~~3~~**4** When a new test cycle is applied to an engine already verified using a different test cycle listed in **-1(1)(a)** through **(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.

### 2.1.3 Technical File and Record Book of Engine Parameters

Sub-paragraph -1(4) has been amended as follows.

(4) At least one of the methods to verify NOx emissions, which is listed in **2.1.2-~~1~~2(2)** and applicable at the inspection specified in **3.2.2-4(2), Part 2**, or the on-board 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.

Section 2.2 has been amended as follows.

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

**1** ~~The exhaust gas cleaning system or technological method to reduce SOx emissions complying with the requirement specified in **(1)** is to be installed or carried out in~~ 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, in case the fuel oil complying with **(2)** is used in the area, the system or the method is not required.~~

~~(1) A system or a method deemed appropriate by the Society to reduce the total emission of SOx from ships, including both auxiliary and main propulsion engines, to 6.0 *g/kWh* or less calculated as the total weight of sulphur dioxide emission.~~

~~(2) Fuel oil certified by the bunker delivery note specified in **1.2.2-2** that its sulphur content does not exceed 1.5% by mass.~~

(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

**2** ~~For every~~ All ships which use fuel oils complying with **-1~~(2)~~** in SOx Emission Control Areas and other fuels in other areas are to carry a written procedure showing how the fuel oil change-over

is to be done, allowing sufficient time for the fuel oil service system to be fully flushed of all fuel oils exceeding the applicable sulphur content specified in **-1** prior to entry into a SOx Emission Control Area. ~~,a log book as prescribed by the Administration are to be kept on board. In the log book, t~~The date, time, position of the ship and the volume of the fuel oils complying with **-1~~(2)~~** in each tank on occasions listed in **(1)** and **(2)** are to be recorded in such a log-book as prescribed by the Administration.

(1) When fuel-changeover operation prior to entry into a SOx Emission Control Area, to flush all fuels used out of the area and to start using fuel oils complying with **-1~~(2)~~**, is completed.

(2) When fuel-changeover operation after exiting a SOx Emission Control Area, to start using fuels to be used out of the area, is commencing.

**3** During the first 12 *months* immediately following the designation of a specific SOx Emission Control Area, the requirements in this **2.2** do not apply to the fuel oils used in such an area.

### 2.3 Vapour Collection System (*Regulation*15 of *Annex* VI)

Sub-paragraph -3 has been added as follows.

**3** Tankers carrying crude oil are to have on board and implement a VOC Management Plan approved by the Administration. The plan is to be specific to each ship and to comply with the following:

(1) To provide written procedures for minimizing VOC emissions during the loading, sea passage, and discharge of cargo

(2) To give consideration to any additional VOC generated by crude oil washing

(3) To identify a person responsible for implementing the plan

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

### 2.4 Incinerator (*Regulation* 16 of *Annex* VI)

Sub-paragraph -1 has been amended as follows.

**1** For each ship on which wastes or other matter generated during the normal operation of the ship are incinerated, an incinerator complying with the following requirements is to be installed on board. However, incineration of sewage sludge or sludge oil (sludge from the fuel or lubricating oil purifiers, waste lubricating oil from main or auxiliary machinery, or waste oil from oily-water separating equipment, oil filtering system or drip trays) may take place in diesel engines or boilers outside ports, harbours and estuaries.

(1) Incinerators are to be designed for the primary purpose of incineration of the wastes, etc.

(2) Each incinerator installed on board a ship on or after 1 January 2000 is to comply with the following requirements. However, incinerators installed on board a ship before 19 May 2005 are exempted from the requirements in this **(2)** provided that the ship is solely engaged in voyages within waters deemed appropriate by the Society.

(a) It is to have a construction deemed appropriate by the Society and, when the standard fuel/waste specified in **Table 8-6** is used, to be operated within the limits specified in **Table 8-7**.

(b) It is to be capable of monitoring of combustion flue gas outlet temperature at all times.

(c) In case waste is fed into the combustion chamber without human assistance while the incinerator is in normal operating conditions, waste ~~feeding is to be stopped~~ is not to be fed into the unit when the combustion ~~flue~~ chamber gas outlet temperature is below 850°C~~C~~.

(d) For batch-loaded incinerators, the unit is to be designed so that the ~~temperature in the~~ combustion chamber gas outlet temperature is to reach 600°C~~C~~ within 5 *minutes* after start-up and is to thereafter stabilize at a temperature not less than 850°C.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

**1.** The effective date of the amendments is 1 July 2010.

Amendment 1-3

# 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)(a) has been amended as follows.

(a) Certificates of oily-water separating equipment, oil filtering system, processing equipment, oil content meter, ~~and~~ oil/water interface detector, oil discharge monitoring and control system, incinerator, flexible hoses used for crude oil washing system and crude oil washing machine, etc. as deemed appropriate by the Society

# Chapter 2 REGISTRATION SURVEYS

## 2.1 Registration Surveys during Construction

### 2.1.3 Inspections of Construction and Equipment

Sub-paragraph -6 has been added as follows.

**6** For the tests specified in **-1** and **-2**, the applicant is to prepare test plans for review by the Society prior to testing. In addition, test records and/or measurement records are to be submitted to the Society as required.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

**1.** The effective date of the amendments is 1 July 2010.

**2.** Notwithstanding the amendments to the Rules, the current requirements may 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.

# GUIDANCE FOR MARINE POLLUTION PREVENTION SYSTEMS

GUIDANCE

**2010 AMENDMENT NO.1**

Notice No.43 15th April 2010

Resolved by Technical Committee on 5th February 2010

Notice No.43 15th April 2010
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 1 GENERAL

### 1.1 General

Paragraph 1.1.6 has added as follows.

**1.1.6 Modification of the Requirements**

"In cases where considered appropriate" specified in **1.1.6-1, in Part 2 of the Rules** means those cases where examinations are carried out in accordance with measures specially approved by the Society. However, this regulation is not to be applied to surveys required by international regulations or the requirements of flag states.

EFFECTIVE DATE AND APPLICATION(Amendment 1-1)

**1.** The effective date of the amendments is 15 April 2010.
**2.** Notwithstanding the amendments to the Guidance, the current requirements may apply to the surveys for which the application is submitted to the Society before the effective date.

Amendment 1-2

# Part 2 SURVEYS

## Chapter 1 GENERAL

Section 1.1 has been deleted.

~~**1.1 General**~~

~~**1.1.3 Intervals of Surveys**~~

~~Occasional surveys specified in **1.1.3-5(3), Part 2 of the Rules** are to be in accordance with the followings:~~

~~(1) Equipment for the prevention of pollution by sewage~~

~~For existing ships of 400 *gross tonnage* and above or a maximum embarking capacity of which is more than 15 *persons* and which are engaged in the international voyage specified in **1.1.2(2), Part 7 of the Rules**, a survey is to be carried out for verification of the compliance with the requirements specified in **Chapter 2, Part 7 of the Rules** on the equipment for the prevention of pollution by sewage by 27 September 2008.~~

~~(2) Equipment for the prevention of air pollution from ships~~

~~For every ship of 400 *gross tonnage* and above, every mobile offshore drilling unit and other platforms, which had been at beginning stage of construction before 19 May 2005, a survey is to be carried out for verification of the compliance with the requirements specified in **Part 8 of the Rules** no later than the first scheduled drydocking after 19 May 2005, but in no case later than 19 May 2008.~~

# Chapter 2 REGISTRATION SURVEYS

## 2.1 Registration Surveys during Construction

### 2.1.2 Submission of Plans and Documents for Approval

Sub-paragraph -2 has been amended as follows.

**2** The wording "separately specified by the Society" in **2.1.2-3 in Part 2 of the Rules** means as follows:

(1) When building a sister ship, the following requirements are to be met:

(a) When providing the Marine Pollution Prevention Installations by using previously approved drawings, an application for using the approved drawings, and applicable items of the following drawings are to be submitted:

i) Plans showing the arrangement of the equipment for the prevention of pollution by oil, the equipment for the prevention of discharge of noxious liquid substances, the equipment for the prevention of pollution by sewage or the equipment for the prevention of air pollution from ships

ii) Information and data relating to cargo loading and damage stability

iii) Operation manual for oil discharge monitoring and control equipment

iv) Procedures and arrangements manual for crude oil washing system

v) Procedures and arrangements for the discharge of noxious liquid substances

vi) List of noxious liquid substances planned to be carried in bulk on board the ship

~~vii) Exhaust gas cleaning system to reduce SOx emissions technical manual, on board monitoring manual for exhaust gas cleaning system to reduce SOx emissions, exhaust gas cleaning system to reduce SOx emissions record book or equivalent thereto and SOx Emission Control Area compliance plan~~

viii) Operating manual for the incinerator

(b) For the equipment for the prevention of pollution by oil (oily-water separating equipment, oil filtering system, processing equipment, oil content meters, oil/water interface detectors, oil discharge monitoring and control equipment), the equipment for the prevention of discharge of noxious liquid substances (tank washing machines and ventilation systems), the equipment for the prevention of pollution by sewage (sewage treatment plant, sewage comminuting and disinfecting system) or the equipment for the prevention of air pollution from ships (~~exhaust gas cleaning system or method to reduce SOx emissions~~, vapour collection system and incinerator) manufactured by using the approved drawings, a document showing that it has been already approved is to be submitted in addition to **(a)i)** above.

(2) When the same model of the following Marine Pollution Prevention Installations is to be manufactured, or the equivalent method to the Installations is to be carried out, a document showing that it has been already approved is to be submitted:

(a) Oily-water separating equipment
(b) Oil filtering system
(c) Oil discharge monitoring and control equipment
(d) Oil/water interface detectors
(e) Tank washing machines
(f) Ventilating fans

(g) sewage treatment plant
(h) sewage comminuting and disinfecting system
~~(i) Exhaust gas cleaning system or technological method to reduce SOx emissions~~
(~~j~~i) Incinerator

(3) When plans and documents required under the requirements of the Rules for the Survey and Construction of Steel Ships and the Rules are duplicated, submission of the plans and documents required by the Rules may be omitted, provided that it is demonstrated by the applicant that all of the items required by the Rules for the Survey and Construction of Steel Ships are incorporated.

(4) When a project based on approved plans and documents is to be changed, or changes are caused between the time they were first approved and now, plans and documents showing the specific changes are to be submitted to the Society for approval before the work is started.

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

## Chapter 1 GENERAL

### 1.1 Application and Terminology

#### 1.1.1 Application

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

(3) Equipment to be provided for non-powered oil tankers and non-powered ships other than oil tanker of 100*tons* gross tonnage or above (excluding ships exclusively engaged in voyages in special areas) in connection with the requirements of **2.4 in Part 3 of the Rules** may be in accordance with **2.3.2(1) in Part 3 of the Rules**.
However, the requirements of **2.3** and **2.4 in Part 3 of the Rules** do not apply to non-powered ships that structurally do not generate oily bilge water, etc.

## Chapter 2 EQUIPMENT FOR THE PREVENTION OF POLLUTION BY OIL FROM MACHINERY SPACES

### 2.2 Storage and Discharge of Oil~~y~~ Residues (Sludge) (*Regulations* 12 and 13 of *Annex* I)

Title of Paragraph 2.2.1 has been amended as follows.

#### 2.2.1 Capacity of Oil residue (Sludge) Tanks

Sub-paragraph -2 has been amended as follows.

~~**2** Volume $V_s$ of tanks of "ships which were at beginning stage of construction until 31 December 1991" referred to in **2.2.1-1(2) in Part 3 of the Rules** may be dealt with in the manner below:~~

~~(1) For ships which were at beginning stage of construction until 31 December 1991, or ships at a similar stage of construction~~

~~$V_s = 0$ ($m^3$)~~

~~(2) For ships which were at beginning stage of construction after 31 December 1991, or ships at a similar stage of construction, the following value may be used for $V_L$ in the preceding formula~~

~~$V_s = V_E + V_L$~~

~~$V_L = l \times D$ ($m^3$)~~

~~$l = 0.02 n_2$: $P \leq 10{,}000$ *kW*~~

~~$l = 0.01(n_2 - 10) + 0.2$: $P > 10{,}000$ *kW*~~

~~where~~

~~$P$: maximum continuous rating of main engine (*kW*)~~

~~$n_2$: values as specified below~~

~~$n_2 = 1$ when $P \leq 1{,}000$ *kW*~~

~~when $P$ exceeds 1,000 *kW*, add one per every fraction thereof~~

~~$D$: the maximum number of days between ports where discharges to shore reception facilities are possible (where no detailed data is available, $D$ is to be 30 or more)~~

**2** Volume of tanks of "ships whose building contract is placed before 1 July 2010" referred to in **2.2.1-1 in Part 3 of the Rules** may be dealt with in the following manner. In such cases, the capacity of such a tank or tanks is to be greater than the sum of the minimum capacities of the individual tanks specified in the following **(1)** and **(2)**:

(1) The minimum capacity of a tank to receive sludge produced by the purification of fuel oil and lubricating oil is to be $V_1$ or $V_2$ specified in the following **(a)** to **(c)**:

(a) The minimum capacity $V_1$ of the tank in ships not carrying ballast water in fuel oil tanks, which were at beginning stage of construction before 31 December 1990:

$V_1 = K_1 C D$ ($m^3$)

where

$K_1 = 0.01$: heavy fuel oil which is purified before being used by main engine

$K_1 = 0.005$: marine diesel oil or heavy fuel oil but not requiring purification

$C$: fuel oil consumption (*t/day*)

$D$: maximum number of days between ports where oil sludge can be discharged ashore (when no detailed data is available, this is to be made greater than 30 *days*)

However, the following values may be used where homogenizer, sludge incinerators or sludge disposal equipment approved by the Society are provided:

$V_1$= 1 ($m^3$): ships of 400 *gross tonnage* and above not exceeding 4,000 *gross tonnage*

$V_1$= 2 ($m^3$): ships of 4,000 *gross tonnage* and above

(b) The minimum capacity $V_1$ of the tank in ships not carrying ballast water in fuel oil tanks, which were at beginning stage of construction on or after 31 December 1990:

$V_1=K_1CD$ ($m^3$)

where

$K_1$= 0.015: heavy fuel oil which is purified before being used by main engine

$K_1$= 0.005: marine diesel oil or heavy fuel oil but not requiring purification

$C$: fuel oil consumption ($m^3/day$)

$D$: maximum number of days between ports where oil sludge can be discharged ashore (when no detailed data is available, this is to be made greater than 30 *days*)

However, the following values may be used where homogenizer, sludge incinerators or sludge disposal equipment approved by the Society are provided:

$V_1$= 0.5$K_1CD$ ($m^3$)

or

$V_1$= 1 ($m^3$): ships of 400 *gross tonnage* and above but not exceeding 4,000 *gross tonnage*

$V_1$= 2 ($m^3$): ships of 4,000 *gross tonnage* and above

whichever is greater

(c) The minimum capacity $V_2$ of the tank in ships where ballast water is carried in fuel oil tanks:

$V_2 = V_1+K_2B$ ($m^3$)

where

$V_1$: tank capacity determined either by **(a)** or by **(b)** above

$K_2$= 0.01: where ballast water is carried in heavy fuel oil tanks

$K_2$= 0.005: where ballast water is carried in marine diesel oil tanks

$B$ = capacity (*tons*) of fuel oil tanks connected to ballast pipelines

(2) The minimum capacity of the tank to receive the oil residues produced by leaked oil in the machinery space is to be $V_3$ as specified below.

$V_3 = V_E + V_L$

where

$V_E$: tank capacity for waste oil ($m^3$)

$V_L$: tank capacity for leaked oil ($m^3$)

$V_E$, $V_L$ are to be determined by the following calculation:

(a) $V_E = 1.5\, n_1$ ($m^3$)

where

$n_1$ is the value obtained by the following:

$n_1$ = 1, when the sum of the maximum continuous output of the main engine and auxiliary engines is 1,000*kW* and below,

$n_1$ = a value added by 1 for every increment of 1,000*kW* or fraction thereof for the sum of the maximum continuous output of the main engine and auxiliary engines, when the sum of the maximum continuous output of the main engine and auxiliary engines is over 1,000*kW*.

However, $V_E$ = 0 may be accepted where lubricating oil purifiers are provided and no replacement of lubricating oil is required while the ship is at sea.

(b) $V_L = D \times 20 \times P / 10^6$ ($m^3$)

: $P \leq 10{,}000kW$

$V_L = D \times (0.2 + 7 \times (P - 10{,}000) / 10^6)$ ($m^3$)

: $P > 10{,}000kW$

where

$P$: maximum continuous output of main engine ($kW$)

$D$: maximum number of days between ports where sludge can be discharged ashore (When no detailed data is available, it is to be 30 *days* or more)

(c) For ships which were at beginning stage of construction before 31 December 1991, or ships at a similar stage of construction

$V_3 = 0$ ($m^3$)

(d) For ships which were at beginning stage of construction on or after 31 December 1991, or ships at a similar stage of construction, the following value may be used for $V_L$ in the preceding formula $V_3 = V_E + V_L$

$V_L = l \times D$ ($m^3$)

$l = 0.02n_2$ : $P \leq 10{,}000$ *kW*

$l = 0.01(n_2 - 10) + 0.2$ : $P > 10{,}000$ *kW*

where

$P$: maximum continuous rating of main engine ($kW$)

$n_2$: values as specified below

$n_2 = 1$ when $P \leq 1{,}000$ *kW*

when $P$ exceeds 1,000 *kW*, add one per every fraction thereof

$D$: the maximum number of days between ports where discharges to shore reception facilities are possible (where no detailed data is available, $D$ is to be 30 or more)

Paragraph 2.2.2 has been amended as follows.

### 2.2.2 Construction of Sludge Tanks and Piping Arrangements

~~The discharge capacity of pumps of "ships which were at beginning stage of construction until 31 December 1991" referred to in **2.2.2-2(2)(d),Part 3 of the Rules** may be determined by substituting the following values with t and $Q_2$ of the calculation formula:~~

~~$t$ = 6 *hours*~~

~~Ships with a gross tonnage exceeding 1,000 *tons*~~

~~$Q_2$ = 5.0 ($m^3/h$)~~

~~Ships with a gross tonnage of 1,000 *tons* or less~~

~~$Q_2$ = 2.5 ($m^3/h$)~~

The discharge capacity of pumps of "ships whose building contract is placed before 1 July 2010" referred to in **2.2.2-2.(2)(c)**, **Part 3 of the Rules** may be dealt with in the following manner:

(1) The pumping rate of "ships which were at beginning stage of construction before 31 December 1991" is to be the following $Q_1$ or $Q_2$, whichever is greater.

$Q_1 = V/t$ ($m^3/h$)

where

$V$ : $V_1$ or $V_2$ specified in **2.2.1-2(1)** of the Rules

$t$ : 6 *hours*

Ships with a gross tonnage exceeding 1,000 *tons*
$Q_2$ = 5.0 ($m^3/h$)
Ships with a gross tonnage of 1,000 *tons* or less
$Q_2$ = 2.5 ($m^3/h$)

(2) The pumping rate of "ships which were at beginning stage of construction on or after 31 December 1991" is to be the following $Q_1$ or $Q_2$, whichever is the greater.
$Q_1=V/t$ ($m^3/h$)
where
$V$ : $V_1$ or $V_2$ specified in **2.2.1-2(1)** of the Rules
$t$ : 4 *hours*
$Q_2$ = 2.0 ($m^3/h$)

Title of Section 2.3 has been amended as follows.

**2.3 Oily-water Separating Equipment, Oil Filtering System, Oil Discharge Monitoring and Control System for Oily Bilge Water, and Oily Bilge Water Holding Tanks**

**2.3.2 Oil Filtering System**

Sub-paragraph -3(7) has been amended as follows.

(7) The automatic stopping device specified in **2.3.2-1(3), in Part 3 of the Rules** is to consist of a valve arrangement installed in the effluent outlet line of the 15 *ppm* bilge separator which automatically diverts the effluent mixture from being discharged overboard back to ~~the ship's bilges or~~ oily bilge water holding tanks when the oil content of the effluent exceeds 15 *ppm*.

Title of Paragraph 2.3.3 has been amended as follows.

**2.3.3 Oil Discharge Monitoring and Control System for Oily Bilge Water**

Paragraph 2.3.4 has been amended as follows.

**2.3.4 Oily Bilge Water Holding Tanks**

The capacity of oily bilge water holding tanks ($C(m^3)$) in "ships ~~which were at beginning stage of construction until 31 December 1991~~ whose building contract is placed before 1 July 2010, ships with a gross tonnage of less than 400 *tons*, and oil tankers with a gross tonnage of less than 150 *tons*" referred to in **2.3.4(1), Part 3 of the Rules** may be greater than the values determined by the following formula. ~~In this case, the maximum value of *L/V* in the calculation formula may be taken as 16. The minimum value is to be 4.8.~~

(1) Ships which were at beginning stage of construction before 31 December 1991, ships with a gross tonnage of less than 400 *tons*, and oil tankers with a gross tonnage of less than 150 *tons*

$C = (\sout{L/V})\ Q$

where

*C*: capacity of Oily bilge water holding tank ($m^3$)

*L*: distance of one round trip for the longest trade route in which the ship serves (*nautical mile*)

*V*: maximum speed of the ship at sea trials (*knot*)

*Q*: the value given in **Table 3.2.3-2** depending on the size of the ship

The maximum value of *L/V* in the formula may be taken as 16. The minimum value is to be 4.8.

**Table 3.2.3-2 Values of *Q***

| Gross tonnage (*tons*) | *Q* ($m^3/h$) |
|---|---|
| Less than 1,000 | 0.00022 × gross tonnage |
| 1,000 and over but less than 40,000 | 0.2+0.00002 × gross tonnage |
| 40,000 and over | 1 |

(2) Ships which were at beginning stage of construction on or after 31 December 1991

(a) Ships whose maximum continuous output of main engine is less than 1,000*kW*

$C = 1.5\ (m^3)$

(b) Ships whose maximum continuous output of main engine is 1,000*kW* or more but less than 20,000*kW*

$C = 1.5+(P-1{,}000)/1{,}500\ (m^3)$

where

*P*: maximum continuous output of main engine (*kW*)

(c) Ships whose maximum continuous output of main engine is 20,000*kW* or more

$C = 14.2+0.2(P-20{,}000)/1{,}500\ (m^3)$

where

*P*: maximum continuous output of main engine (*kW*)

# Part 8 EQUIPMENT FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

## Chapter 1 GENERAL

### 1.1 General

Title of 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.~~7~~8 of *NOx Technical Code*)

Paragraph 1.1.3 has been added as follows.

**1.1.3 Equivalents** (*Regulation* 4 of *Annex* VI)

The "alternative" specified in **1.1.3, Part 8 of the Rules** is to be obtained in accordance with any relevant guidelines developed by the *IMO* pertaining to the equivalent and to be approved by the Administration.

### 1.2 General Requirement

Paragraph 1.2.1 has been amended as follows.

**1.2.1 Ozone depleting substances** (*Regulation*12 of *Annex* VI)

**1** The wording "where deemed appropriate by the Society" in **1.2.1, Part 8 of the Rules** means one of those listed bellow. Even in those cases, the requirement specified in **10.4.1-3, Part R of the Rules for the Survey and Construction of Steel Ships** is to be complied with.

(1) In case system, etc. containing ozone depleting substances of which the contractual delivery date to the shipyard or, in the absence of the contractual delivery date, the actual delivery date to the shipyard is before 19 May 2005 is installed on a ship which had been at beginning stage of construction before 19 May 2005.

(2) In case system, etc. containing hydro-chlorofluorocarbons (HCFCs) of which the contractual delivery date to the shipyard or, in the absence of the contractual delivery date, the actual delivery date to the shipyard is before 1 January 2020 is installed on a ship which had been at beginning stage of construction before 1 January 2020.

(3) In case repair or recharge is carried out to the system, etc. or installed on a ship in accordance with **(1)** or **(2)**.

(4) In cases where systems, etc. containing ozone depleting substances that are installed on ships

are permanently sealed equipment where there are no refrigerant charging connections or potentially removable components containing ozone depleting substances.

**2** Each ship, in accordance with **-1.(1)** or **-1.(2)**, is to maintain a list of equipment containing ozone depleting substances.

**3** Each ship, in accordance with **-1.(1)** or **-1.(2),** which has rechargeable systems that contain ozone depleting substances is to maintain an Ozone Depleting Substances Record Book of which entries are to be recorded in terms of substance mass and to be completed without delay on each occasion, in respect of the following **(1)** through **(5)**. This Record Book may form part of an existing log-book or electronic recording system as approved by the Administration.

(1) Recharge, full or partial, of equipment containing ozone depleting substances
(2) Repair or maintenance of equipment containing ozone depleting substances
(3) Deliberate and non-deliberate discharge of ozone depleting substances into the atmosphere
(4) Discharge of ozone depleting substances to land-based reception facilities
(5) Supply of ozone depleting substances to the ship

Paragraph 1.2.2 has been amended as follows.

**1.2.2 Fuel Oil** (*Regulation*14, and 18 ~~and 19~~ of *Annex* VI)

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*.~~96(47)~~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

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

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) For the replacement of a marine diesel engine with a non-identical marine diesel engine or the installation of an additional marine diesel engine, the standards specified in **2.1.2-1, Part 8 of the Rules** in force at the time of the replacement or addition of the engine are to be applied. On or after 1 January 2016, in the case of replacement engines only, if it is not possible for such a replacement engine to meet the standards set forth in **2.1.2-1.(c), Part 8 of the Rules**, then that replacement engine is to meet the standards set forth in **2.1.2-1.(b), Part 8 of the Rules**. Guidelines are to be developed by the *IMO* to set forth the criteria of when it is not possible for a replacement engine to meet the standards in **2.1.2-1, Part 8 of the Rules**.

(2) Any substantial modification 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 engine is to be made in accordance with following:

(a) For ships constructed prior to 1 January 2011, the standard in **2.1.2-1.(a), Part 8 of the Rules** is to be applied.

(b) For ships constructed on or after 1 January 2011, the standard in **2.1.2-1.(b), Part 8 of the Rules** is to be applied.

(c) For ships constructed on or after 1 January 2016, the standard in **2.1.2-1.(c), Part 8 of the Rules** is to be applied.

~~1~~**2** ~~To~~For diesel engines used both as the main propulsion machinery and to drive generators, **2.1.2-~~1~~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, **2.1.2-~~1~~2(1)(a)** and **(b), Part 8 of the Rules** are to be applied.

~~2~~**3** The wording "procedures specified otherwise by the Society" in **2.1.2-~~1~~2(2), Part 8 of the Rules** means those listed bellow.

(1) Procedures for NOx emission measurements on a test bed
It is to be in accordance with Chapter 5 of the *NOx Technical Code*~~. In this case, the following~~ and any relevant IACS Unified Interpretations MPC ~~are to apply~~.
~~MPC30, MPC34, MPC60, MPC61, MPC62, MPC63, MPC64, MPC65, MPC66, MPC67, MPC68, MPC69, MPC70, MPC71, MPC72, MPC73, MPC74, MPC75, MPC76, MPC80, MPC81~~

(2) Onboard simplified measurement method
It is to be in accordance with 6.3 of *NOx Technical Code*. However, when on-board simplified measurement method is carried out according to the second sentence of **2.1.3-5(3)(a)i), Part 2 of the Rules**, the allowances as given under 6.3.11 of the Code are not be granted. In addition, when the procedures specified in Chapter 5 of *NOx Technical Code* are carried out, it is to be in accordance with **(1)**.

(3) Onboard direct measurement and monitoring method
It is to be in accordance with *IMO* resolution *MEPC*.103(49). Moreover, the following **(a)** through **(h)** are to be complied with.

(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.
(b) Data is to be taken within the last 30 *days* as a form of either one of the followings:
  i) Spot checks logged with other engine operating data on a regular basis and over the full range of engine operation
  ii) Result from continuous monitoring and data storage
(c) These monitoring records are to be kept on board for 3 *months*.
(d) Data is to be corrected for ambient conditions and fuel specification.
(e) Measuring equipment is to be checked for correct calibration and operation, in accordance with the procedures specified in the engine's technical file by the measurement equipment manufacturer.
(f) 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.
(g) Sufficient data is to be collected to calculate the weighted average NOx emissions.
(h) 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.

~~3~~**4** The wording "fuel oil specified otherwise by the Society" in **2.1.2-~~1~~2 (3), Part 8 of the Rules** means a DM-grade marine fuel specified in *ISO* 8217, 1996, with properties suitable for the engine type. However, when a suitable reference fuel is not available, the fuel approved otherwise by the Society may be used.

### 2.1.3 Technical File and Record Book of Engine Parameters

Sub-paragraph -2 has been amended as follows.

**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 ~~the following~~ any relevant IACS Unified Interpretations MPC.
~~MPC53, MPC54, MPC55, MPC56, MPC57, MPC58, MPC59~~

Section 2.2 has been deleted.

~~**2.2 Sulphur Oxides (SOx)** (*Regulation*14 of *Annex* VI)~~

~~The wording "a system deemed appropriate by the Society" in **2.2-1(1), Part 8 of the Rules** means a system complying with *IMO* resolution MEPC.130(53) and the following **(1)** and **(2).**~~
~~(1) It is to be approved by the Society, the Administration or a competent organization.~~
~~(2) It is to be provided with those listed below.~~
~~(a) Those listed below and approved by the Society, the Administration or a competent organization.~~
~~i) Exhaust gas cleaning system to reduce SOx emissions technical manual~~
~~ii) On-board monitoring manual for exhaust gas cleaning system to reduce SOx emissions, as applicable~~
~~iii) Exhaust gas cleaning system to reduce SOx emissions record book or equivalent thereto~~
~~(b) SOx Emission Control Area compliance certificate issued by the Society, the Administration or a competent organization~~
~~(c) SOx Emission Control Area compliance plan approved by the Society~~

Section 2.3 has been amended as follows.

**2.3 Vapour Collection System** (*Regulation*15 of *Annex* VI)

**1** The wording "vapour collection system otherwise specified by the Society" in **2.3-1, Part 8 of the Rules** means a system which consists of those listed below, complies with the *MSC*/*Circ*.585 and approved by the Society.

(1) Vapour collection piping
(2) Liquid level gauging device
(3) High liquid level alarm
(4) Venting system
(5) Pressure gauges

**2** The wording "VOC Management Plan approved by the Administration" in **2.3-3, Part 8 of the Rules** means to comply with *IMO* resolution *MEPC*.185(59) and to be approved by the Society or the Administration.

EFFECTIVE DATE AND APPLICATION(Amendment 1-2)

**1.** The effective date of the amendments is 1 July 2010.

Amendment 1-3

# Part 2 SURVEYS

## Chapter 2 REGISTRATION SURVEYS

### 2.1 Registration Surveys during Construction

Paragraph 2.1.4 has been added as follows.

**2.1.4 Documents to be maintained on Board**

The certificates specified in **2.1.4, Part 2 of the Rules** are those such as the ones issued for each piece of equipment, device, etc., type approval certificates valid at the time of the Registration Survey, or others applicable. In addition, unless equipment or devices on board are renewed after the ship has entered service, these certificates need not be updated.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

**1.** The effective date of the amendments is 1 July 2010.

**2.** Notwithstanding the amendments to the Guidance, the current requirements may 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.