

# **RULES FOR MARINE ENGINE EMISSION VERIFICATION**

GUIDANCE FOR MARINE ENGINE EMISSION VERIFICATION

**Rules for Marine Engine Emission Verification**

**2018 AMENDMENT NO.1**

**Guidance for Marine Engine Emission Verification**

**2018 AMENDMENT NO.1**

Rule No.140 / Notice No.109      25 December 2018

Resolved by Technical Committee on 1 August 2018

**ClassNK**  
NIPPON KAIJI KYOKAI

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

---

# **RULES FOR MARINE ENGINE EMISSION VERIFICATION**

**RULES**

## **2018 AMENDMENT NO.1**

Rule No.140      25 December 2018

Resolved by Technical Committee on 1 August 2018

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

“Rules for marine engine emission verification” has been partly amended as follows:

## Chapter 1 GENERAL RULES

### 1.2 Definition

Paragraph 1.2.1 has been amended as follows.

#### 1.2.1 Terms\*

((1) to (17) are omitted.)

(18) “NO<sub>x</sub> Emission Control Areas” means the following areas:

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

((19) is omitted.)

(20) “Annex VI” means the annex VI of Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto.

## Chapter 2 EMISSION VERIFICATION, ETC.

### 2.2 Emission Verification and Approval of Technical File of the Engine

#### 2.2.2 Maximum Allowable NOx Emission Limits\*

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

**1** On each 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 1.1(a) to (c)** at the number of maximum continuous revolutions (referred to in **2.1.24, Part A of the Rules for the Survey and Construction of Steel ships**, hereinafter the same) of the engine.

(1) Engines which are installed on ships ~~constructed~~ at beginning stage of construction on or after 1 January 2000

((a) and (b) are omitted.)

(c) Tier III

For either of the following ships which operate in applicable NOx emission control areas installed with 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 **1.2.1(18)**; ~~or~~

ii) Ships at beginning stage of construction on or after 1 January 2021 which operate in the NOx emission control areas specified in (c) and (d) of 1.1.2(18); or

iii) ~~Ships which operate in NOx emission control areas other than those specified in (a) and (b) of 1.2.1(18)~~ at beginning stage of construction on or after the date of the adoption of such a NOx emission control area by the IMO or a later date as may be specified by the IMO in accordance with Regulation 13.5.1.3 of Annex VI, whichever is later which operate in NOx emission control areas other than those specified in (a) to (d) of 1.2.1(18).

Table 1.1(c) Maximum Allowable NOx Emission Limits (Tier III)

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

((2) is are omitted.)

### EFFECTIVE DATE AND APPLICATION

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

---

# **GUIDANCE FOR MARINE ENGINE EMISSION VERIFICATION**

**GUIDANCE**

**2018 AMENDMENT NO.1**

Notice No.109      25 December 2018

Resolved by Technical Committee on 1 August 2018

“Guidance for marine engine emission verification” has been partly amended as follows:

## **Chapter 2 EMISSION VERIFICATION, ETC.**

### **2.2 Emission Verification and Approval of Technical File of the Engine**

#### **2.2.2 Maximum Allowable NO<sub>x</sub> Emission Limits**

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

**1** Major conversion of an engine is to be accordance with following:

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

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

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

€The engine is to comply with the standard in **2.2.2-1(1)(a) of the Rules.**

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

€The engine is to comply with the standard in **2.2.2-1(1)(b) of the Rules.**

(c) For ships at beginning stage of construction on or after 1 January 2016 which operate in NO<sub>x</sub> emission control areas specified in (a) and (b) of **1.2.1(18) of the Rules**;

€The engine is to comply with the standard in **2.2.2-1(1)(c) of the Rules.**

(d) For ships at beginning stage of construction on or after 1 January 2021 which operate in NO<sub>x</sub> emission control areas specified in (c) and (d) of **1.2.1(18) of the Rules**

The engine is to comply with the standard in **2.2.2-1(1)(c) of the Rules.**

~~(de)~~ For ships at beginning stage of construction on or after the date specified in **2.2.2-1(1)(c)iii) of the Rules** which operate in NO<sub>x</sub> emission control areas other than those specified in (a) ~~and (b)~~ to (d) of **1.2.1(18) of the Rules**;

€The engine is to comply with the standard in **2.2.2-1(1)(c) of the Rules.**

### **EFFECTIVE DATE AND APPLICATION**

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