

RULES FOR MARINE ENGINE EMISSION VERIFICATION

GUIDANCE FOR MARINE ENGINE EMISSION VERIFICATION

Rules for Marine Engine Emission Verification

2020 AMENDMENT NO.1

Guidance for Marine Engine Emission Verification

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Rule No.66 / Notice No.37 30 June 2020

Resolved by Technical Committee on 22 January 2020

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

2020 AMENDMENT NO.1

Rule No.66 30 June 2020

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

AMENDMENT TO THE RULES FOR MARINE ENGINE EMISSION VERIFICATION

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

Amendment 1-1

Chapter 1 GENERAL RULES

1.2 Definition

1.2.1 Terms*

Sub-paragraph (15) has been amended as follows.

Terms used in the Rules are defined as follows:

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

(15) “Substantial modification” of an engine means as follows.

((a) is omitted.)

(b) For engines installed on ships 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 NO_x emission characteristics in excess of the limits established by the on-board simplified measurement method. 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). However, the installation of a certified approved method pursuant to Regulation 13.7.1.1 of Annex VI or certification pursuant to Regulation 13.7.1.2 of Annex VI is not considered to be a substantial modification for the purpose of the application of (16) and 2.2.2-1(2).

((16) to (20) are omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 1 July 2020.

Chapter 2 EMISSION VERIFICATION, ETC.

2.2 Emission Verification and Approval of Technical File of the Engine

2.2.1 Emission Verification and Approval of Technical File of the Engine*

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

The Society will conduct emission verification, components verification and approval of the Technical File of an engine in accordance with the *NOx Technical Code* for the following **(1)** to **(3)** items.

((1) is omitted.)

(2) Emission verification

(a) Emission verification

i) It is to be verified that NOx emissions are within the limits specified in **2.2.2-1** in accordance with the measurement procedures for emission verification on a test bed.

(ii) is omitted.)

iii) Notwithstanding **i)** above, the following **1)** and **2)** may be applied.

1) In cases where verification cannot be carried out in accordance with the measurement procedures for emission verification on a test bed due to their size, construction and delivery schedule, the following **(d)i)** may be applied upon request by the engine manufacturer, etc., shipowner or shipbuilder.

2) The provisions of **1)** above may be applied to an individual engine or an Engine Group represented by the Parent Engine, but are not to be applied to an Engine Family.

iv) In the case of engines fitted with a NOx-reducing device, the following **1)** or **2)** is to be applied.

1) The NOx-reducing device is to be recognized as a component of the engine, and the testing is to be carried out ~~with the NOx-reducing device fitted unless, due to technical and practical reasons, the testing with the device fitted is not appropriate and the procedures specified in **iii)1)** above cannot be applied, subject to approval by the Society as separately specified by the Society. However, the pre-certification in accordance with the procedure not involving the testing for the combined engine/NOx-reducing device on a test bed is subject to the limitations specified in **iii)2)** above.~~

(2) is omitted.)

((b) to (d) are omitted.)

((3) is omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 1 October 2020.

GUIDANCE FOR MARINE ENGINE EMISSION VERIFICATION

GUIDANCE

2020 AMENDMENT NO.1

Notice No.37 30 June 2020

Resolved by Technical Committee on 22 January 2020

AMENDMENT TO THE GUIDANCE FOR MARINE ENGINE EMISSION VERIFICATION

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

Amendment 1-1

Chapter 2 EMISSION VERIFICATION, ETC.

2.2 Emission Verification and Approval of Technical File of the Engine

2.2.2 Maximum Allowable NO_x Emission Limits

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

- 1** Major conversion of an engine is to be accordance with following:
- (1) The wording “time of the replacement or addition” of the engine² specified in **2.2.2-1(2) of the Rules** means any of the following (a) to (c):
- (a) The contractual delivery date of the engine to the ship. However, the engine is to be fitted on board and tested within 6 months after the date specified in **2.2.2-1(1)(c)i) to iii) of the Rules**, as appropriate. ~~before 1 July 2016.~~
 - (b) In the absence of a contractual delivery date, the actual delivery date of the engine to the ship, provided that the date is confirmed by a delivery receipt. However, the engine is to be fitted on board and tested within 6 months after the date specified in **2.2.2-1(1)(c)i) to iii) of the Rules**, as appropriate ~~before 1 July 2016.~~
 - (c) In the event the engine is fitted on board and tested for its intended purpose on or after 6 months from the date specified in **2.2.2-1(1)(c)i) to iii) of the Rules**, as appropriate ~~± July 2016~~, the actual date that the engine is tested on board.
- Entry of the date in (a) to (c) above, provided the conditions associated with those dates apply, is to be made in item 8.a “Major conversion – According to regulations 13.2.1.1 and 13.2.2” of the Supplement of International Air Pollution Prevention Certificate. However, if the diesel engine is not tested within 6 months after the date specified in **2.2.2-1(1)(c)i) to iii) of the Rules**, as appropriate due to unforeseen circumstances beyond the control of the shipowner, then the provisions of “unforeseen delay in delivery” may be considered by the Administration in a manner similar to the unified interpretation of MARPOL Annex I.
- ((2) and (3) are omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

- 1.** The effective date of the amendments is 30 June 2020.

Chapter 1 GENERAL RULES

1.2 Definition

Paragraph 1.2.1 has been amended as follows.

1.2.1 Terms

1 In applying **1.2.1(3) of the Rules**, the procedures for engines fitted with selective catalytic reduction systems are also to be in accordance with *IMO* resolution *MEPC.291(71)*, as amended. In applying the resolution and the *NOx Technical Code* referred to in the resolution, IACS MPC series unified interpretations (MPC30(Rev.1), MPC58(Rev.1), MPC59(Rev.1), MPC74(Rev.1), MPC77(Rev.1), MPC106, MPC112(Rev.1), MPC115(Rev.1), MPC116(Rev.1) and MPC125)) related thereto are also to be applied.

2 For the “Engine Family” and “Engine Group” referred to in **1.2.1(8) and (9) of the Rules**, IACS Unified Interpretation MPC53(Rev.1) is also to be applied.

3 For the increase in “emission characteristics” and for the “substantial modification” referred to in **1.1.2(15)(b) of the Rules**, IACS Unified Interpretation MPC32(Rev.1) is also to be applied.

Chapter 2 EMISSION VERIFICATION, ETC.

2.1 Application for Emission Verification, etc.

2.1.1 Application for Emission Verification, etc.

Sub-paragraph -4 has been amended as follows.

~~4 The wording For the “specifications of those spare parts/components of the engine” referred to in 2.1.1-6(7) of the Rules, IACS Unified Interpretation MPC45(Rev.1) is also to be applied. means identification marking, such as a part number, tied to a particular drawing or other data, under the control of the engine manufacturer, etc., defining the features of that component with regard to its influence on NOx emission.~~

2.2 Emission Verification and Approval of Technical File of the Engine

2.2.1 Emission Verification and Approval of Technical File of the Engine

Sub-paragraph -1 has been amended as follows.

1 In applying **2.2.1(2)(a)i) of the Rules**, refers to *IMO* resolution *MEPC.291(71)*, as amended, or others deemed appropriate by the Administration taking into account this resolution. ~~In applying the resolution and *NOx Technical Code* referred to in the resolution, the IACS MPC series unified interpretations related thereto are also to be applied.~~

Sub-paragraph -3 has been added as follows.

3 Engines undergoing the onboard certification test specified in **2.2.1(2)(d)i) of the Rules** are to have a preliminary approved Technical File, pending the results of the emission test. Where the result of the emission test does not comply with the applicable NOx regulation, the engines are to be re-adjusted to the compliance condition originally approved, if any, or the applicant is to apply to the Administration for acceptance of further testing.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 1 July 2020.

Chapter 2 EMISSION VERIFICATION, ETC.

2.2 Emission Verification and Approval of Technical File of the Engine

2.2.1 Emission Verification and Approval of Technical File of the Engine

Sub-paragraph -2 has been amended as follows.

2 ~~In~~ The “separately specified by the Society” referred to in **2.2.1(2)(a)iv)1) of the Rules**, for engines fitted with selective catalytic reduction systems ~~are also to be in accordance with~~ means the following **(1)** and **(2)**:

- (1) At the emission verification by means of measurement procedures for emission verification on a test bed, engines fitted with a NO_x-reducing device are ~~also to be in accordance with Chapter 6~~ subject to Section 5 of the Annex of *IMO* resolution *MEPC.291(71)*, as amended.
- (2) At the emission verification by means of measurement procedures for emission verification on a test bed, engines ~~which are approved by the Society as the testing of the engine with the device fitted is not appropriate, due to technical and practical reasons,~~ tested in a condition other than that specified in **(1)** above are also refers to to be Chapter 6 subject to Section 6 of the Annex of *IMO* resolution *MEPC.291(71)*, as amended. ~~In~~ For such engines, it is necessary to ensure that the additional on board confirmation tests specified in Chapter 7 Section 7 of the Annex of *IMO* resolution *MEPC.291(71)*, as amended, are required performed.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 1 October 2020.