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MEPC.1/Circ.895/Rev.1
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UNIFIED INTERPRETATIONS TO THE NO_x TECHNICAL CODE 2008, AS AMENDED

1 The Marine Environment Protection Committee, at its seventy-eighth session (6 to 10 June 2022), approved the revised unified interpretations to the NO_x Technical Code 2008, as amended.

2 The updated consolidated text of all existing unified interpretations to the NO_x Technical Code 2008, as amended, including those set out in circular MEPC.1/Circ.895, are set out in the annex.

3 Member Governments are invited to apply the annexed unified interpretations to the NO_x Technical Code 2008, as amended, as appropriate, and bring them to the attention of all parties concerned.

4 This circular revokes MEPC.1/Circ.895.

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ANNEX

UNIFIED INTERPRETATIONS TO THE NO_x TECHNICAL CODE 2008, AS AMENDED

1 Paragraph 2.2.4.1

Paragraph 2.2.4.1 reads as follows:

> "There are engines which, due to their size, construction and delivery schedule, cannot be pre-certified on a test-bed. In such cases, the engine manufacturer, shipowner or shipbuilder shall make application to the Administration requesting an onboard test (see 2.1.2.2). The applicant must demonstrate to the Administration that the onboard test fully meets all of the requirements of a test-bed procedure as specified in chapter 5 of this Code. In no case shall an allowance be granted for possible deviations of measurements if an initial survey is carried out on board a ship without any valid pre-certification test. For engines undergoing an onboard certification test, in order to be issued with an Engine International Air Pollution Prevention (EIAPP) Certificate, the same procedures apply as if the engine had been pre-certified on a test-bed, subject to the limitations given in paragraph 2.2.4.2."

Interpretation:

1.1 Engines undergoing an onboard certification test should have a preliminary approved Technical File, pending the results of the emission test.

1.2 If the result of the emission test does not comply with the applicable NO_x regulation, the engines should be re-adjusted to the compliance condition originally approved, if any, or the applicant should apply to the flag Administration for acceptance of further testing.

2 Paragraph 4.4.6.1

Paragraph 4.4.6.1 reads as follows:

> "The Engine Group may be defined by basic characteristics and specifications in addition to the parameters defined in 4.3.8 for an Engine Family."

Interpretation:

2.1 Paragraph 4.4.6.1 cross references paragraph 4.3.8 which provides guidance for selection of an engine family. For engines fitted with an SCR system to reduce NO_x emissions, it is recognized that some of the parameters provided may not be common to all engines within a group, in particular paragraphs 4.3.8.2.3 and 4.3.8.2.4 state that:

> ".3 individual cylinder displacement:
> - to be within a total spread of 15%
>
> .4 number of cylinders and cylinder configuration:
> - applicable in certain cases only, e.g. in combination with exhaust gas cleaning devices"

2.2 For engines fitted with an SCR system to reduce NO_x emissions, the number and arrangement of cylinders may not be common to all members of the Engine Group. These parameters may be replaced with new parameters derived from the SCR chamber and catalyst blocks, such as the SCR space velocity (SV), catalyst block geometry and catalyst material.

2.3 This interpretation may be applied to the Engine Family where the applicant has provided clear evidence that an Engine Family concept, allowing for different numbers and arrangements of cylinders, will result in same or lower NO_x emissions of the engines with different cylinder numbers compared to the NO_x emissions of the related parent engine.

3 Paragraph 4.4.6.2

Paragraph 4.4.6.2 reads as follows:

"The following parameters and specifications shall be common to engines within an Engine Group

.1 bore and stroke dimensions;

.2 method and design features of pressure charging and exhaust gas system:

- constant pressure;

- pulsating system;

.3 method of charge air cooling system:

- with/without charge air cooler;

.4 design features of the combustion chamber that effect NO_x emission;

.5 design features of the fuel injection system, plunger and injection cam or gas valve which may profile basic characteristics that effect NO_x emission; and

.6 rated power at rated speed. The permitted ranges of engine power (kW/cylinder) and/or rated speed are to be declared by the manufacturer and approved by the Administration."

Interpretation:

3.1 For engines fitted with an SCR system to reduce NO_x emissions, it is recognized that some of the parameters provided may not be common to all engines within a group and that new parameters derived from the SCR chamber and catalyst blocks may be used instead, such as the SCR space velocity (SV), catalyst block geometry and catalyst material.

3.2 While the provisions of paragraph 4.4.6.2.1 should remain common to all engines within the group, the remaining parameters listed in paragraph 4.4.6.2 may be replaced by alternative SCR parameters, provided that the applicant is able to demonstrate that these alternative parameters are suitable for defining the Engine Group.

3.3 The applicant remains responsible for selecting the parent engine and demonstrating the basis of this selection to the satisfaction of the Administration.

4 Paragraph 5.10.1

Paragraph 5.10.1 reads as follows:

> "For every Individual Engine or Parent Engine tested to establish an Engine Family or Engine Group, the engine manufacturer shall prepare a test report which shall contain the necessary data to fully define the engine performance and enable calculation of the gaseous emissions including the data as set out in section 1 of appendix 5 of this Code. The original of the test report shall be maintained on file with the engine manufacturer and a certified true copy shall be maintained on file by the Administration."

Interpretation:

4.1 The "necessary data to fully define the engine performance and enable calculation of the gaseous emissions" should be incorporated, in accordance with 5.12, from the raw data units to the cycle weighted NO_x emission value in g/kWh. The data set given under appendix 5 should not be considered definitive and any other test data (i.e. engine performance or setting data, description of control devices) relevant to the approval of a specific engine design and/or onboard NO_x verification procedures should also be given. For the engine fitted with SCR, under scheme A, the parameters listed in sub-paragraphs of paragraph 5.2.2 of IMO resolution MEPC. 291(71) as amended by resolution MEPC.313(74) should be measured and recorded in the engine test report. Under scheme B, the exhaust gas temperature at the intended inlet of the SCR chamber should be determined and recorded in the test report. For dual fuel engines, the ratio of liquid-to-gas, gas fuel temperature and its measurement point position should be recorded during the testing.

4.2 With reference to appendix 5 to the Code, it should be further interpreted that:

.1 the term "Deviation" as given under "Sheet 3/5, Measurement equipment, Calibration" refers to the deviation of the analyser calibration and not the deviation of the span gas concentration; and

.2 the "Fuel properties", as given under "Sheet 3/5, Fuel Characteristics, Fuel properties", should include sufficient data to justify the ISO 8217:2017 grade (i.e. DMA, DMB, etc.) as given on EIAPP Certificate Supplement 1.9.4 by considering other additional analysis results for the fuel oil characteristics, i.e. Cetane index (ISO 4264:2018), carbon residue (ISO 10370:2014).