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UNIFIED INTERPRETATIONS OF THE NO_X TECHNICAL CODE 2008 RELATED TO THE APPROVAL OF SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEMS

1 The Marine Environment Protection Committee, at its seventieth session (24 to 28 October 2016), approved unified interpretations to the NO_X Technical Code 2008 related to the approval of Selective Catalytic Reduction (SCR) systems, prepared by the Sub-Committee on Pollution Prevention and Response, at its third session, as set out in the annex.

2 Member Governments are invited to use the annexed unified interpretations as guidance when applying relevant provisions of the NO_X Technical Code 2008 and to bring them to the attention of all parties concerned.

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ANNEX

UNIFIED INTERPRETATIONS OF THE NO_X TECHNICAL CODE 2008 RELATED TO THE APPROVAL OF SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEMS

Chapter 4 – Approval for serially manufactured engines: engine family and engine group concept

1 Paragraph 4.4.6.1 of the NO_X Technical Code reads as follows:

"4.4.6.1 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:

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"

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 Paragraph 4.4.6.2 of the NO_X Technical Code reads as follows:

"4.4.6.2 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 affect NO_X emission;

.5 design features of the fuel injection system, plunger and injection cam that may profile basic characteristics that affect 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:

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.

Whilst 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.

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

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