



MARINE ENVIRONMENT PROTECTION  
COMMITTEE  
58th session  
Agenda item 5

MEPC 58/5/9  
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## CONSIDERATION AND ADOPTION OF AMENDMENTS TO MANATORY INSTRUMENTS

### Regulation 13(7) Existing Engines

#### Submitted by the United States

#### SUMMARY

<b><i>Executive summary:</i></b>	The United States expresses support for the provisions for existing engines contained in Regulation 13(7) to the draft amendments to Annex VI, provides information with respect to the practical application of this programme, and recommends a technical correction to regulation 13(7)(a).
<b><i>Strategic direction:</i></b>	7.3
<b><i>High-level action:</i></b>	7.3.1
<b><i>Planned output:</i></b>	7.3.1.1
<b><i>Action to be taken:</i></b>	Paragraph 5
<b><i>Related documents:</i></b>	MEPC 57/4/23, MEPC 57/21/Add.1, MEPC 57/WP.7; BLG 12/6/4, BLG 12/6/24, BLG 12/WP.6/Add.1, BLG 11/5/15 and BLG 11/16

#### Introduction

1 The United States fully supports the adoption of the amendments to MARPOL Annex VI, including the provisions applicable to the control of NO<sub>x</sub> emissions from existing engines. In support of these provisions, the United States would like to provide information with respect to the practical application of the existing engine programme and the requirements for substantial modifications of engines. This information is provided in paragraph 2 below. The United States is also recommending a technical correction to paragraph 13(7)(a) to ensure that the text of that regulation is consistent with the intent of a kit-based approach for existing engines. This recommendation is presented in paragraphs 3 and 4.

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## Substantial Modification

2 The existing engine programme is described in paragraph 7 of regulation 13. The practical application of this programme may be affected by the provisions that apply to engines that undergo a substantial modification as specified in paragraphs 1(a)(ii) and 2(a)(ii) of regulation 13. Specifically, the “substantial modification” of an engine installed on a ship constructed before 1 January 2000 is defined in paragraph 1.3.2.2 of the NO<sub>x</sub> Technical Code as being any changes in an engine’s operating parameters, including changing camshafts, fuel injection systems, air systems, combustion chamber configuration, or timing calibration. When an engine is substantially modified, it is subject to emissions testing to make sure its emissions have not increased compared to the original configuration. This testing should not be necessary for an Approved Method since such a method will be certified to achieve at least the Tier I NO<sub>x</sub> limits prior to its installation, as specified in paragraph 7(a) of regulation 13. To clarify that the installation of an Approved Method does not trigger the substantial modification testing requirements, the NO<sub>x</sub> Technical Code may be modified by revising paragraph 1.3.2.2 as follows:

1.3.2 *Substantial modification* of a marine diesel engine means:

- .1 ...
- .2 For engines installed on ships constructed before 1 January 2000, *substantial modification* means any modification made to an engine which increases its existing emission characteristics established by the Simplified Measurement method as described in 6.3 in excess of the allowances set out in 6.3.11. 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). **The installation of a certified Approved Method pursuant to regulation 13(7)(a), or use of an alternative method that has been certified on-board as provided for in that paragraph, is not considered to be a *substantial modification* for the purpose of the application of regulation 13(2) of the Annex.**

## Technical Correction to Regulation 13(7)(a)

3 In carefully reviewing the amendments, the United States notes that there is a technical correction that should be made to paragraph 7(a) of regulation 13. Consistent with the “kit-based” or Approved Method approach that was agreed to at BLG 11 and MEPC 57, paragraph 7(a) correctly recognizes that an Administration must certify an Approved Method for an engine and provide notification of the existence of such certification to the Organization before any such engine installed on vessels constructed on or after 1 January 1990 but prior to 1 January 2000 would be required to meet the Tier I standards. The intent of the programme is that, once an Approved Method is certified by an Administration, compliance with the requirements would be demonstrated by installation of the Approved Method, a survey to ensure that it is correctly installed, and the appropriate notation on the ship’s International Air Pollution Prevention Certificate (IAPP). Compliance would not require additional emission testing or engine-specific certification. At the same time, it was also recognized that a shipowner should have the option of taking some other action to comply with the standards; in such a case the engine would need to be certified on board as either meeting at least the Tier I NO<sub>x</sub> limits although the Tier II or Tier III limits could also be met. Unfortunately, the current draft of regulation 13(7)(a) does not distinguish between these two cases because it requires certification

of the engine on board in both cases. A simple technical fix to paragraph 7(a) of regulation 13 should be made to clarify the intent of the programme and how it would be applied.

4 To achieve this goal, the language of paragraph 7(a) should read as follows:

(7)(a) Notwithstanding subparagraph (a)(i) of paragraph (1) of this regulation, a marine 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 shall comply with the emission limits set forth in subparagraph (d) of this paragraph, provided that an Approved Method for that engine has been certified by an Administration of a Party and notification of such certification has been submitted to the Organization by the certifying Administration. **Compliance with this paragraph shall be demonstrated through one of the following:**

- (i) **installation of the certified Approved Method, as confirmed by a survey using the on-board verification procedure specified in the Approved Method File, including appropriate notation on the ship's IAPP of the presence of the Approved Method; or**
- (ii) **certification of the engine, based on emission testing performed in accordance with chapter 5 of the NO<sub>x</sub> Technical Code confirming that the engine operates within the limits set forth in paragraphs (3), (4) or (5)(a)(i) of this regulation, and notation of the engine certification on the ship's IAPP.**

#### **Action requested of the Committee**

5 The Committee is invited to consider the information noted above and take action as appropriate.

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