

**ANNEX 8**

**MEPC RESOLUTION MEPC.230(65)**

**Adopted on 17 May 2013**

**2013 GUIDELINES AS REQUIRED BY REGULATION 13.2.2 OF  
MARPOL ANNEX VI IN RESPECT OF NON-IDENTICAL  
REPLACEMENT ENGINES NOT REQUIRED  
TO MEET THE TIER III LIMIT**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution,

RECALLING ALSO that, at its fifty-eighth session, the Committee adopted, by resolution MEPC.176(58), a revised MARPOL Annex VI (hereinafter referred to as "MARPOL Annex VI") which significantly strengthens the emission limits for nitrogen oxides (NO<sub>x</sub>) in light of technological improvements and implementation experience,

NOTING that regulation 13.2.2 of MARPOL Annex VI specifies which NO<sub>x</sub> emission standard shall be applied when a marine diesel engine is replaced with a non-identical marine diesel engine,

RECOGNIZING the need to develop guidelines to set forth the criteria of when it is not possible for a replacement engine to meet the standards in regulation 13.5.1.1 (Tier III),

HAVING CONSIDERED, at its sixty-fifth session, the guidelines as required by regulation 13.2.2 in respect of non-identical replacement engines not required to meet the Tier III limit, proposed by the Sub-Committee on Bulk Liquids and Gases at its seventeenth session,

1. ADOPTS the Guidelines as required by regulation 13.2.2 in respect of non-identical replacement engines not required to meet the Tier III limit, as set out at annex to the present resolution;
2. INVITES Administrations to take the annexed Guidelines into account when certifying a marine diesel engine which is replaced with a non-identical marine diesel engine;
3. REQUESTS the *Parties* to MARPOL Annex VI and other Member Governments to bring the annexed Guidelines to the attention of shipowners, ship operators, shipbuilders, marine diesel engine manufacturers, and any other interested groups; and
4. AGREES to keep these Guidelines under review in light of the experience gained.

**GUIDELINES AS REQUIRED BY REGULATION 13.2.2 IN RESPECT OF  
NON-IDENTICAL REPLACEMENT ENGINES NOT REQUIRED  
TO MEET THE TIER III LIMIT**

1 When it becomes necessary to replace an engine to which regulation 13 of MARPOL Annex VI applies in principle (power output of more than 130 kW) the non-identical replacement engine shall comply with the standards set forth in paragraph 5.1.1 of the respective regulation (Tier III) when operating in an area designated under regulation 13.6 of MARPOL Annex VI if the replacement takes place on or after 1 January 2016 unless:

- .1 a replacement engine of similar rating complying with Tier III is not commercially available; or
- .2 the replacement engine, in order to be brought into Tier III compliance, needs to be equipped with a NO<sub>x</sub> reducing device which due to:
  - .1 size cannot be installed in the limited space available on board; or
  - .2 extensive heat release could have adverse impact on the ships structure, sheeting, and/or equipment whilst additional ventilation and/or insulation of the engine-room/compartment will not be possible.

2 In making the determination that a Tier III engine is not a feasible replacement engine for a ship, it should be necessary to evaluate not just engine dimensions and weight but may also include other pertinent ship characteristics. These pertinent characteristics could include:

- .1 downstream ship components such as drive shafts, reduction gears, cooling systems, exhaust and ventilation systems, and propeller shafts;
- .2 electrical systems for diesel generators (indirect drive engines); and
- .3 such other ancillary systems and ship equipment that would affect the choice of an engine.

3 Restrictions should also be considered concerning engine adjustment/matching needed to meet boundary conditions and performance data necessary for SCR operation at all relevant mode points.

4 If the replacement engine is part of a multi-engine (twin-engine) arrangement and it is replacing an engine that is not a Tier III compliant engine due to it having been installed prior to the Tier III implementation date, a need to match a replacement engine within a multi-engine arrangement should be part of the criteria to be considered. In such cases, if it were decided to exempt a replacement engine in multi-engine arrangements it must be clear that is where engines are installed as matched pairs (or more) as propulsion engines and that matching is necessary to ensure comparable manoeuvring/drive response rather than where multiple engines are installed such as in the case of generators.

5 A replacement engine that meets the Tier III limit should be installed provided it does not incur an increase in the ship's electrical demand beyond the installed capacity.

6 In no case should modification to the ship's structure be allowed which weakens its structural stability below the acceptable level.

7 The Administration should consider how far the shipowner's specification of the device will determine whether a non-identical replacement engine is not required to meet the Tier III limit (for example, by requiring an excessive urea storage capacity – relative to bunker capacity – or that the SCR device is not to increase engine weight/volume by more than an unjustifiably low percentage).

8 There may be differences between a Tier III and a Tier II engine that should **not** affect the determination of whether a non-identical replacement engine should not be required to meet the Tier III limit, such as:

- .1 warranty period or life expectancy;
- .2 cost; or
- .3 production lead time.

9 The shipowner should provide evidence to the Administration that a Tier III engine cannot be installed and should report specifically what prevents a Tier III compliant engine from being installed, taking into account the provisions of these guidelines. The shipowner should document the search for compliant Tier III engines and explain why the closest available engine with respect to size or performance is not appropriate for the ship. The search should include engines produced by manufacturers other than the original engine's manufacturer. This documentation, duly endorsed by the Administration, should be kept with the replacement engine's EIAPP Certificate.

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