

– CLASSIFICATION NEWS

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STATUTORY ALERT Revised MARPOL Annex VI – a reminder of potential retrospective NO_x certification requirements

APPLICABILITY Owners and operators of ships constructed between January 1, 1990 and December 31, 1999

INFORMATION Classification News 11/2008 detailed the changes to the nitrogen oxides (NO_x) controls to be introduced by the Revised MARPOL Annex VI, which enters into force on July 1, 2010. These include requirements under the new regulation 13.7 which will potentially affect certain engines installed on ships constructed (having their keel laid or equivalent) between January 1, 1990 and December 31, 1999. Previously, the engines on such ships were not covered by the NO_x certification requirements of the Annex unless they had been subject to 'major conversion'.

However, regulation 13.7 will require that marine diesel engines with a power output of more than 5000 kW and a per cylinder displacement at or above 90 litres per cylinder installed on ships constructed between January 1, 1990 and December 31, 1999 fit an 'approved method', where commercially available, within a set time period. The effect of the approved method is to restrict NO_x emissions to no more than the limit values given for Tier I engines:

- 17.0 g/kWh when n* is less than 130 rpm
 - $45 \times n^{-0.2}$ g/kWh when n* is 130 rpm or more but less than 2000 rpm
 - 9.8 g/kWh when n* is 2000 rpm or more
- * where n is the engine's rated speed

As an alternative to fitting an approved method an engine may be certified in accordance with the standard NO_x Technical Code procedures.

The following are some key elements of the approved method requirement:

- The various 'ship constructed' terms are defined in regulation 2 of Revised MARPOL Annex VI.
- Engines potentially subject to this requirement are those which meet both the power and cylinder displacement criteria; in the case of the latter this would tend to be medium speed engines with a bore of around 46 cms and above and all slow speed engines other than those of 26 cms bore.
- The certification of an approved method can be undertaken by the Administration of any party to MARPOL Annex VI and therefore will not necessarily be undertaken by the flag state of the ship onto which an engine is installed – as is the case with the standard NO_x Technical Code certification.
- In certifying an approved method the following constraints apply:
 - a. Certification to the applicable NO_x emission limit is to be in accordance with Chapter 7 of the NO_x Technical Code 2008.
 - b. The cost of the approved method is to be limited by a given cost effectiveness formula. Certain aspects of this formula are covered by MEPC.1/Circ.678.
 - c. The original engine designer is to verify that the approved method does not decrease engine rating by more than 1%, increase fuel consumption by more than 2% or adversely affect engine durability or reliability.

Consequently, it is expected that approved methods will not be developed for all engine models which potentially fall within the scope of this regulation. This may be due to: the possibility not being investigated; one or more of the above criteria not being met; or the lack of a sufficiently attractive commercial case to justify development.

Continued overleaf

- Due to the imposed constraints, it is expected that an approved method will be restricted to items such as redesigned fuel injection nozzles.
- The Administration certifying an approved method is to advise IMO of the approval. IMO will then publish a notification of that approved method's availability and the applicable date.
- An approved method is to be installed no later than the first IAPP Certificate Renewal Survey which occurs 12 months after the applicable date as published by IMO. If, however, the shipowner can demonstrate that the approved method was not commercially available within that time period, despite their best endeavours to obtain it, then it is to be installed no later than the first Annual Survey after it becomes available.
- There will be an Approved Method File; this is to be retained with any engine fitted with an approved method.

What should owners and operators do now?

Owners and operators of ships with engines potentially falling within the scope of the regulation should keep themselves updated on engine builders' proposals regarding the development of approved methods, monitor IMO's notifications on this matter and take the necessary actions to have an approved method duly installed within the given time period. In order to assist in this Lloyd's Register will be issuing further Classification News as and when the availability of any approved methods is officially announced.

Further information

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