

Subject

Application of "Approved Method" to existing diesel engines under the provisions of MARPOL ANNEX VI - Certification of an Approved Method for MAN B&W S70MC and S50MC engines -

# ClassNK

## Technical Information

No. TEC-0867  
Date 7 October 2011

To whom it may concern

As already advised in ClassNK Technical Information No.TEC-0771 dated 13 May 2009, marine diesel engines with a power output of more than 5,000kW and a per cylinder displacement at or above 90 liters installed onboard ships constructed on or after 1 January 1990 but prior to 1 January 2000 are to comply with Tier I emission limits using an Approved Method, provided that an Approved Method for that engine has been certified by an Administration (Reg. 13.7.1 of ANNEX VI). In the case of the diesel engines described below, the Administration of Denmark has recently certified methods for reducing the NOx emission levels of each respective diesel engine as Approved Methods.

Since the IMO has subsequently newly published relevant information on the Approved Methods for MAN B&W S70MC and S50MC engines in MEPC Circulars, as attached, this ClassNK Technical Information provides the relevant information on these methods and their confirmation during survey, as described below.

1. Notification about the Approved Method for MAN B&W S70MC type engines

(1) Notification of additional information (MEPC.1/Circ.738/Add.1)

On 10 August 2011, the IMO published additional information in MEPC.1/Circ.738/Add.1 (Attachment 1), regarding the Approved Method for MAN B&W S70MC engines shown in the table below, which was already advised in ClassNK Technical Information No.TEC-0836 dated 1 December 2010. This MEPC Circular contains additional information about the conditions to identify those diesel engines to which the Approved Method is to be applied (fuel nozzle type and shop test performance value) and a sample of the Approved Method File, etc.

IMO Circular	Engine Type	MCR per cylinder (kW/cyl)	Rated Speed (rpm)
MEPC.1/Circ.738 MEPC.1/Circ.738/Add.1	S70MC	2,530-2,810	81-91

(To be continued)

NOTES:

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## (2) Notification of new certification (MEPC.1/Circ.764)

On 11 August 2011, the Administration of Denmark notified the IMO that they had certified an Approved Method for an expanded MCR range for MAN B&W S70MC type engines compared with the range specified in the above (1). As a result, on 12 August 2011, the IMO published related information in MEPC.1/Circ.764 (Attachment 2). Therefore, diesel engines that correspond to the following table are required to apply an Approved Method provided that the fuel nozzle type and shop test performance values satisfy the conditions specified in the MEPC Circular.

IMO Circular	Engine Type	MCR per cylinder (kW/cyl)	Rated Speed (rpm)
MEPC.1/Circ.764	S70MC	2,250-2,810	81-91

## (3) Additional notification on the scope of the applicable diesel engines as specified in MEPC.1/Circ.764 (MEPC.1/Circ.764/Add.1)

The applicable MCR range indicated in MEPC.1/Circ.764 as mentioned in item (2) above partly overlaps with the MCR range that was already specified in MEPC.1/Circ.738/Add.1, as mentioned in item (1) above. Therefore, on 15 September 2011, the IMO published additional information to clarify the scope of the applicable diesel engines to which the Approved Method is to be applied in MEPC.1/Circ.764/Add.1 (Attachment 3). This Circular clarifies that the scope of the applicable diesel engines as specified in MEPC.1/Circ.764 is limited to only those engines with the expanded MCR range newly stipulated in this MEPC Circular.

## (4) Deadline for application of the Approved Methods

The Approved Methods are to be applied, in principle, by no later than the first renewal survey that occurs 12 months or more after it has been submitted to the IMO after having been certified by the Administration. Therefore, application of the Approved Methods to be applied to MAN B&W S70MC engines will become mandatory by no later than the time as shown below, in accordance with MEPC.1/Circ.738/Add.1, MEPC.1/Circ.764, and MEPC.1/Circ.764/Add.1.

- Diesel engines with an MCR per cylinder of 2,530 kW/cyl or more but not exceeding 2,810 kW/cyl (applicable diesel engines as noted in MEPC.1/Circ.738/Add.1): the first renewal survey for IAPP Certification that occurs on or after 6 October 2011
- Diesel engines with an MCR per cylinder of 2,250 kW/Cyl or more but less than 2,530kW/cyl (applicable diesel engines as noted in MEPC.1/Circ.764): the first renewal survey for IAPP Certification that occurs on or after 12 August 2012

(To be continued)

2. Notification about the Approved Method for MAN B&W S50MC type engines

(1) Notification of new certification (MEPC.1/Circ.765)

On 11 August 2011, the Administration of Denmark notified the IMO that they had certified an Approved Method for MAN B&W S50MC engines. As a result, on 12 August 2011, the IMO published the relevant information in MEPC.1/Circ.765 (Attachment 4). Therefore, diesel engines that correspond to the following table are required to apply the Approved Methods provided that the fuel nozzle type and shop test performance values satisfy the conditions specified in the Circular.

IMO Circular	Engine Type	MCR per cylinder (kW/cyl)	Rated Speed (rpm)
MEPC.1/Circ.765	S50MC	1,160-1,430	114-127

(2) Deadline for application of the Approved Method

The Approved Method is to be applied, in principle, by no later than the first renewal survey that occurs 12 months or more after the Approved Method has been submitted to the IMO once it has been certified by the Administration. Therefore, for the MAN B&W S50MC engines to which the Approved Method is to be applied, application of the Approved Method will become mandatory by no later than the first renewal survey for IAPP Certification that occurs on or after 12 August 2012.

3. Identification of the diesel engine to which the Approved Method is to be applied

In order to identify the diesel engines to which the Approved Method is to be applied, it is necessary to confirm fuel nozzle type and shop test performance values (Pmax and Pmax-Pcomp) as well as confirm that the MCR and rated speed are within the ranges specified in the MEPC Circulars. Also, in cases where some modification is made to the diesel engine, there is a possibility that the Approved Method cannot be applied to the modified diesel engine depending on the type of modification made. Therefore, in cases where the MCR and rated speed of the diesel engine installed onboard the ship are within the range specified in the MEPC Circulars, please contact the engine manufacturer or MAN Diesel & Turbo for confirmation of the applicability of the Approved Methods. In cases where the engine manufacturer or MAN Diesel & Turbo determine that the Approved Methods cannot be applied due to the nature of the modifications made to the diesel engine, the applicability of the Approved Method needs to be authorized by the Administration of Denmark. In this case, the shipowner is to obtain an authorization letter issued by the Administration of Denmark.

(To be continued)

#### 4. Information on relevant surveys

##### (1) Periodical Survey and Occasional Survey before application of the Approved Method

In cases where a diesel engine to which an applicable Approved Method exists is installed, the check box in 2.2.1, "Approved Method exists" of the Supplement to the IAPP Certificate needs to be ticked off. Therefore, in cases where ships onboard which MAN B&W S70MC or S50MC engines specified in the tables mentioned in sections 1. and 2. above are installed, and the Periodical Survey or Occasional Survey for MARPOL ANNEX VI (IAPP) certification is carried out before application of the Approved Method, the shipowners are to confirm the applicability of the Approved Method in the manner described in section 3 above. Prior to the survey, the shipowners are to prepare the following documents in order to show the appropriate applicability of the Approved Method at the time of the survey.

- View report on the applicability of the Approved Method issued by the engine manufacturer or MAN Diesel & Turbo.
- Record of the fuel nozzles type at the time of manufacture (If there is no available record, the relevant information may be included in the view report issued by the engine manufacturer or MAN Diesel & Turbo.)
- Shop test report, or similar documentation (including data on Pmax and Pmax-Pcomp)
- Authorization letter issued by the Administration of Denmark, if the Approved Methods cannot be applied due to modifications made to the diesel engine.

##### (2) Confirmation survey after application of the Approved Method

Once the Approved Method is applied, a confirmation survey of the Approved Method is to be carried out in accordance with the Approved Method File, which is to be distributed to each ship by the engine manufacturer or MAN Diesel & Turbo. The shipowner is to present the Approved Method File to the surveyor at the confirmation survey. During the Survey, a check will also be made to confirm that all designated components are installed in the subject diesel engine, and the operational data at 75% load is within the range specified by MAN Diesel & Turbo. For more details, please confirm the Approved Method File. Operational data that is mandatory for the confirmation survey is to be obtained prior to the confirmation survey after application of the Approved Method. For the confirmation survey, please prepare the operational data obtained by the responsible person, e.g. chief engineer, etc.\*

\* The confirmation survey cannot be completed unless the operational data has been obtained. Please give due attention to the timing of the Approved Method application, because the survey needs to be completed by the deadline upon obtaining the operational data onboard after application of the Approved Method.

(To be continued)

For any questions about the above, please contact:

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Attachment:

1. [MEPC.1/Circ.738/Add.1](#)  
(URL: <http://www.imo.org/ourwork/environment/pollutionprevention/airpollution/documents/approved%20methods/738-add-1.pdf>)
2. [MEPC.1/Circ.764](#)  
(URL: <http://www.imo.org/ourwork/environment/pollutionprevention/airpollution/documents/approved%20methods/764.pdf>)
3. [MEPC.1/Circ.764/Add.1](#)  
(URL: <http://www.imo.org/ourwork/environment/pollutionprevention/airpollution/documents/approved%20methods/764-add-1.pdf>)
4. [MEPC.1/Circ.765](#)  
(URL: <http://www.imo.org/ourwork/environment/pollutionprevention/airpollution/documents/approved%20methods/765.pdf>)