



Maritec Tanker Management Pvt Ltd
Lotus Corporate Park, G wing – 501, 5th Floor,
Graham Firth Compound,
Goregaon (E) Mumbai – 400063.
Email: ghse@maritectankers.com

MAINTENANCE BULLETIN

10th Feb 2019

TO: Fleet

Subject: Machinery Operation Guidelines Using Low Sulphur MDO / MGO

Further to General Circular No 12/003 (Emission Control Areas) and General Circular No 12/002 (Change Over Instructions – When Changing Over to LS Bunkers), this GC provides the guidelines on the operational effects of using LS on the related machinery and the measures that must be taken towards addressing them.

The Machinery in which has been approved to run on 0.1% Sulphur Oil is the:

- Main Engine
- Aux Engines
- Boilers

Attached along with this GC is also the Service Letters from the 'original equipment manufacturers' for -

- Main Engine Ref. Service Letter SL09-515/CXR from MAN Diesel
- Auxiliary Engine Ref. Yanmar Service News No. 06-2-G-07-009-S-Rev.4 from Yanmar Co. Ltd
- Boilers Ref. Burner Plants supplied by Aalborg Industries – Operation on Marine Gas Oil (DMA) -Consideration and Improvements -Safety & Operation.

Technical Information:

- The lowest viscosity suitable for the MAN 2 stroke diesel engines is 2cst at engine inlet.
- The minimum viscosity for the Yanmar 4 –stroke engine is 1.5cst at 40 deg. C.
- The Aalborg Oil Pumps are designed to operate at 1 to 1.1cst.

Effect on related Machinery of using LS MDO / MGO:

If due consideration is not given to the viscosity of the oil, then its major influence is on:

- Abnormal wear of pumps
- Abnormal wear of injectors
- Vapour lock in the oil system

Procedural guidelines for using LS MDO / MGO:

- The changeover of consumption from FO to either LS MDO / MGO must be made well prior to entering the Emission Control Area so as to ensure that the machinery is operating at or below the restricted sulphur levels.
 - a) To enable this, changeover should take place at least 24hrs prior to entering the Emission Control Area.
 - b) As the vessel has only one Diesel Oil Settling and Service Tank, the setting tank should be drained empty – refilled with 2 cu. mtrs of LS MDO / MGO – again drained and thereafter filled up with the LS MDO / MGO.

c) The Service Tank level should be allowed to drop to 3 cu. mtrs before commencing to fill with LS MDO / MGO from the settling tank.

d) The time / date and position of the vessel must be recorded at the time of changeover.

- The change over should be followed in manner ensuring that there is no contamination of the LS oil system from the HS oil from either the changeover valves or the return / recirculation line.
- All heating including tracing heating must be immediately shut off at the time of change over.
- The oil Temperature and Pressures must be frequently monitored and recorded in the Engine Log Book. The oil kinematic viscosity in relation to the temperature must be consulted.
- Once the changeover is complete the Main Engine must be test started in the Ahead / Astern directions to complete satisfaction.
- The Boilers must be kept on auto firing mode and on continuous flame by the automatic load control and by the use of dumping excess steam / heat.
- As there is likely to be a marginal increase in wear down of some of the above components with the use of LS MDO / MGO over a period of time the following recommendations must be followed:
 - a) Sufficient spare parts for the Main Engine / Auxiliary Engine Fuel Injectors and Fuel Pumps must be maintained in the on board inventory.
 - b) Sufficient spare parts must be maintained on board for the supply / booster oil pumps.

As far as is practical the 'same' equipment must be operated when using LS MDO / MGO. i.e. supply / booster oil pumps / boiler firing equipment etc.

Maritec Tanker Management Pvt Ltd.