

Mobilgard™ 540 X cylinder oil helps reduce oil consumption while maintaining protection of MOL's WinGD dual-fuel engines



MOL LNG Transport (Europe) Ltd | WinGD X72DF

Mobilgard™ 540 X cylinder oil, in partnership with Mobil ServSM Cylinder Condition Monitoring, helped ensure that MOL LNG Transport maintained the reliable operation of the WinGD X72DF engines in its fleet of LNG carriers.

Situation

MOL LNG Transport (Europe) Ltd., a wholly owned subsidiary of Mitsui O.S.K. Lines, operates a fleet of Liquefied Natural Gas (LNG) carriers. They take pride in optimising their fleet running costs through practices such as condition monitoring and regular maintenance. Some of its newer vessels are fitted with 2x low pressure WinGD X72DF dual-fuel engines. Their switch from liquid fuel to LNG, one of the first operators to do so for this engine, created a range of operating conditions that could potentially result in specific lubricant-related challenges.



"The use of Mobilgard™ 540 X delivered the peace of mind we needed when transitioning from liquid fuel to LNG,"
said LNG Dubhe Vessel Manager – Mike Robinson
and LNG Megrez Vessel Manager – Karime Sofia Uribe

Mobilgard™ 540 X successfully helped vessels operate at feed rates of 0.7 g/kWh

Recommendation

ExxonMobil recommended Mobilgard™ 540 X, a high-performance cylinder oil that provides superior protection for two-stroke marine diesel engines using 0.10%, 0.50% sulphur fuels and LNG. The lubricant is also DF-validated by WinGD, making it an ideal choice for MOL LNG Transport's LNG carriers.

The oil was implemented in partnership with Mobil ServSM Cylinder Condition Monitoring, ExxonMobil's next-generation onboard scrape down oil analysis service. Prescheduled visual inspections via scavenge ports were also carried out to map historic wear patterns, deposit levels and assess the overall condition.

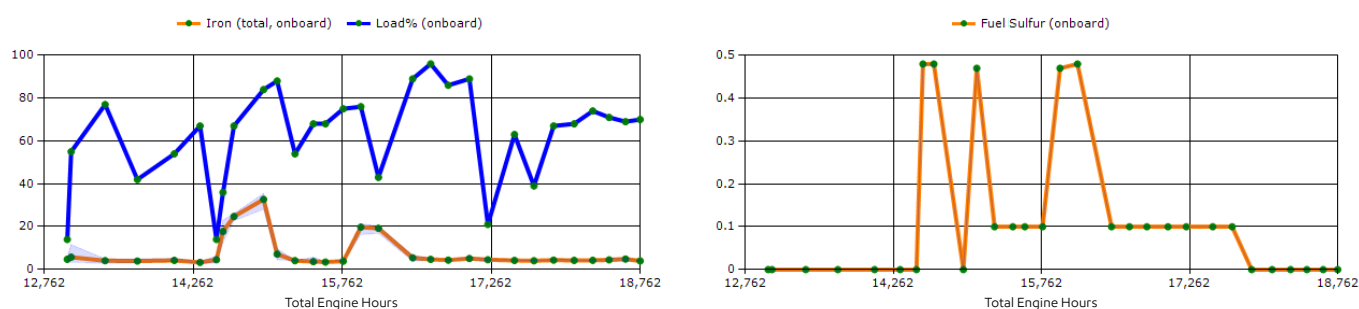
Results

Cylinder oil consumption was optimised across a range of vessels while running on LNG. The vessels LNG Megrez and LNG Dubhe successfully operated at a feed rate of 0.7 g/kWh, a reduction of 36%, for more than 4,800 and 5,400 hours respectively. The LNG Phecda and LNG Rosenrot also reported success while operating at reduced feed rates. The ability to successfully operate at this low feed rate using Mobilgard 540 X has been recognised by WinGD and is due to the carefully chosen combination of base oils and additives that help keep the engine clean.

Mobil ServTM Cylinder Condition Monitoring confirmed that the vessels' engines demonstrated excellent cleanliness and component wear levels at the reduced feed rates, delivering peace of mind and an assurance that lubricant costs had been optimised without compromising engine performance or reliability.

Fig 1: Mobil ServSM Cylinder Condition Monitoring data – Average total iron, load, fuel sulfur versus running hours – LNG/MGO

Note that the small increase in total iron when vessel ran temporarily on VLSFO was well within safe levels. Data when running on MGO is very similar to that for LNG.



*Based on the experience of a single customer. Actual results can vary depending upon the type of equipment used and its maintenance, operating conditions and environment, and any prior lubricant used.

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