

# Cylinder condition monitoring helped increase piston ring life by 56 per cent

Kyklades Maritime Corporation | Nissos Serifos | MAN 6S60MC-C MK8.1 TII engine



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The implementation of ExxonMobil's MobilGard™ Cylinder Condition Monitoring (CCM) programme, combined with a high-performance MobilGard™ cylinder oil, enabled operator Kyklades Maritime to significantly reduce liner wear and extend piston ring overhaul periods of the oil tanker Nissos Serifos.

## Situation

Vessel operators must carefully approach extending maintenance intervals to not compromise engine integrity. Replacing piston rings and liners can have a commercial impact and associated downtime. Kyklades Maritime operators wanted to postpone engine maintenance for their oil tanker for as long as possible without jeopardising safe operation.

The original equipment manufacturer's guidance (MAN Diesel & Turbo) was that piston rings in the Nissos Serifos' MAN 6S60MC-C MK8.1 TII main engine should be replaced after 16,000 unmonitored engine hours, or as determined by cylinder condition monitoring. The vessel was running Mobilgard™ 570 cylinder oil at a feed rate factor of 0.20g/Kwh.

## Recommendation

ExxonMobil worked alongside Kyklades Maritime engineers to implement MobilGard CCM, a programme designed to assess lubricant performance and engine operation. Its findings can help improve engine reliability and reduce maintenance costs by providing guidance on cylinder oil selection and feed rate

optimisation. Together, these can help reduce engine wear and oil consumption and extend component life.

## Impact

After approximately 25,000 hours, the wear rates in cylinders and piston rings remained within acceptable parameters, almost 56 per cent longer than expectations. This extended maintenance intervals by five years, which is the optimum dry dock interval for tanker operators.

The MobilGard CCM programme proved so successful that Kyklades Maritime implemented it on two more vessels. Both Nissos Anafi and Nissos Kythnos ran piston rings and liners for appreciably longer than expected while cutting cylinder oil consumption by 29 per cent.

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MobilGard Cylinder Condition Monitoring helped extend liner and piston ring life by 56%.

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