Mobil Serv℠
Cylinder Condition Monitoring

Mobil Serv℠ Cylinder Condition Monitoring helps Hawaiian Highway cut cylinder oil feed rate by 18.75%.

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ExxonMobil's Field Engineering Services (FES) team helped the crew of pure car/truck carrier vessel Hawaiian Highway safely reduce its annual cylinder oil consumption by 11,880 litres.

Situation

'K' Line's pure car/truck carrier (PCTC) vessel, Hawaiian Highway, was using Mobilgard™ 5100 cylinder oil in its Japan Engine Corp 7UEC60LSE-Eco-A2 main engine. The 100BN lubricant had been selected to combat cold corrosion and its feed rate was being gradually reduced during the engine's running-in operation. By enhancing the engine monitoring process, ExxonMobil's Field Engineering Services (FES) team believed that a safe feed rate reduction was also possible, without compromising on engine protection.

Recommendation

ExxonMobil's engineers recommended that the vessel implement Mobil Serv℠ Cylinder Condition Monitoring in tandem with a phased reduction in cylinder oil consumption. By conducting regular scrape down oil analysis it would be possible to ascertain the optimum feed rate without degrading engine cleanliness or operation.

During this period, the vessel partly operated in Emission Control Areas (ECAs) and as a result switched to a compliant 0.10% fuel in tandem with a low BN cylinder oil, where appropriate.

Impact

The onboard scrape down oil sampling confirmed that the cylinder oil feed rate could be safely reduced to 0.65 g/kWh while retaining sufficient BN to protect the engine liners and piston from cold corrosion. Used oil analysis also confirmed that the cylinder lubricant was continuing to provide outstanding engine cleanliness, potentially extending piston overhaul intervals to more than 20,000 hours.

The Hawaiian Highway safely reduced the consumption of Mobilgard 5100 by 18.75%, which resulted in an annual saving of more than 11,880 litres. The test findings indicate that a further feed rate cut to 0.60 g/kWh might be possible.

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