

# Pacific International Lines defeated cold corrosion and reduced lubricant consumption

Pacific International Lines (PIL) Pte. Ltd. | Kota Sabas | Wärtsilä Gen X engine



Energy lives here™

Mobilgard™ 5100 cylinder oil and Mobil Serv<sup>SM</sup> Cylinder Condition Monitoring enabled PIL to stop cold corrosion, optimise oil feed rates and improve engine performance, increasing vessel reliability on the Kota Sabas container vessel.

## Situation

PIL's Kota Sabas operates a Wärtsilä Gen X engine. Using a 70 BN oil in the W6X72 engine prototype, cold corrosion was found in the form of black spots on the liners. This, along with very low residual BN levels at a feed rate of 1.3 g/kWh, limited their ability to optimise feed rates.

## Recommendation

ExxonMobil recommended switching to Mobilgard 5100 cylinder oil and leveraging Mobil Serv Cylinder Condition Monitoring to assess engine and lubricant condition throughout the test. Mobilgard 5100 is a 100 BN advanced cylinder oil that helps optimise the performance of engines operating on heavy fuel oil (HFO) with a sulphur range of 3.5 per cent. It has been proven to be a more cost-effective cold corrosion solution versus a lower BN oil at a higher feed rate.

Mobil Serv Cylinder Condition Monitoring leverages a suite of tests to provide a complete picture of engine and lubricant condition. The tests detect how much corrosive and abrasive iron is present in an oil sample and the oil's residual BN level. It can help extend piston overhaul intervals and optimise feed rates while providing the data needed to tackle cold corrosion.

## Impact

Kota Sabas's feed rate was lowered from 1.3 g/kWh to 0.9 g/kWh, with high reserve BN levels averaging 35. Mobil Serv Cylinder Condition Monitoring data highlighted low iron levels, indicating minimum liner wear, noting minimal deposits on the piston rings. At current feed rates, PIL will see a 36 per cent annual savings in cylinder lubricant consumption, and additional savings may be available through further feed rate optimisation. Mobilgard 5100 oil helped to deliver improved engine performance, increased vessel reliability and decreased maintenance and operating costs.

---

PIL saw a reduction in  
lubricant consumption of  
**36%**

---