ENERGY
ENVIRONMENT
ECONOMY

CASE: PROPULSION CONDITION MONITORING ON THE FAIRSTAR FJORD

Harrold van der Meer
Fleet Manager. Fairstar Heavy Transport NV

Fairstar Heavy Transport NV's semi-submersible heavy transport ship, the Fairstar Fjord, was the first vessel to be outfitted with the Propulsion Condition Monitoring Service (PCMS), which is Wärtsilä's monitoring solution for propulsion equipment. The solution provides the customer with real-time advice and periodic reports about the condition of the machinery. "The installation of the PCMS gives us the possibility to be 'ahead of the game' with our thrusters," says Harrold van der Meer, Fleet Manager for Fairstar.

Fairstar Heavy Transport NV, incorporated in July 2005, is a provider of marine heavy transport solutions, specialising in cargoes for the offshore and onshore energy and construction industries. Fairstar owns and operates three modern semi-submersible heavy transport ships: FORTE, FJORD and FJELL. A fourth open-stern semi-submersible vessel, FINESSE, is to be delivered in October 2012. The company was acquired by the Dockwise Group in 2012.

The vessels being semi-submersible means that the deck can be lowered below the water surface and cargo can be floated on and off for transport. Typical cargo is oil rigs, platforms or any kind of floating objects like barges. Other types of transport assignments include various kinds of modules for land-based industries.

PREDICTING THE FUTURE

The Fairstar Fjord is equipped with two Wärtsilä – LMT FS3500 WM azimuth thrusters.

WÄRTSILÄ

Back in 2010 Fairstar wanted to maximise the availability of their installation while reducing their total cost of ownership and increasing their profitability.

– We experienced some exceptional wear of the lower gearboxes. In order to be able to monitor what happens to the thrusters we entered into a dialogue with Wärtsilä about improving the system and jointly decided to install the PCMS system. This has now given us the possibility to trace system faults and potential equipment failures at an early stage, says Fairstar's Harrold van der Meer.

The system detects faults at an early stage, thus reducing the risk of consecutive damage. The availability of both the machinery and the vessel itself will, therefore, be increased and their respective lifecycles will be extended.

– We now have the possibility to monitor the vessel on a daily basis. The results from the last six months have been very good. We were for instance able to advise Fairstar on what was causing filter blocks on the thruster hydraulics, says **Peter Sterrenburg**, Senior Account Manager at Wärtsilä.

– The installation of the PCMS also signalled to Fairstar that they are dealing with an OEM that really cares about their business operations, says Peter Sterrenburg.

Harrold van der Meer adds that the relationship with Wärtsilä has mostly been constructive and in favour of a 'doer' mentality where both parties have a mutual understanding of the other's business needs.

– This is growing stronger by the day, Harrold says.

EXTENDED VALUE PROPOSITION OF PCMS

The American Bureau of Shipping (ABS) has recognized Wärtsilä as a Propulsion Condition Monitoring Service (PCMS) specialist. With this approval, ABS acknowledges that Wärtsilä's PCMS is able to determine the health condition of propulsion equipment without visual internal inspections. Therefore, on vessels where an approved condition monitoring system based on PCMS is in effect, the class requirement for a fixed five-yearly internal survey can be waived. Instead, the thruster is maintained in accordance with the manufacturer's recommendations and the monitoring process is audited on an annual basis. It is not a class requirement to overhaul a thruster every five years. Thanks to the PCMS, major overhauls can now be scheduled when needed instead of at pre-determined intervals. In addition to saving maintenance costs, the amount of downtime is greatly reduced.

– The PCMS system is really sophisticated and extremely good in monitoring the performance of the propulsion system. The ABS recognition adds further to the benefits that we get. Being able to schedule the maintenance to when it is really needed is a real cost saver for us, says Harrold van der Meer.

In addition to Fairstar being able to monitor the condition themselves, the data is also sent to Wärtsilä where it is further analysed. Once a month Wärtsilä provides the customer with analysed data on the condition of the installations.

CONDITION MONITORING – A STANDARD PART OF DAILY OPERATIONS

Harrold states that the relationship and co-operation with Wärtsilä have always been good; and especially so during the installation. The Fjord is also equipped with other Wärtsilä products such as a Wärtsilä – CT225M-D bow thruster and three Wärtsilä 8L32 engines. For the engines, Fairstar has a five-year maintenance agreement with Wärtsilä.

On the matter of condition monitoring Harrold thinks that in general it is not only of significance for propulsion systems, but also for engines. Today it has become an important standard part of the daily operations.

– I do not think you can afford to be without it. Nowadays we need systems in place to monitor and optimise maintenance costs, conduct fault analysis and increase overhaul intervals, concludes Harrold van der Meer of Fairstar Heavy Transport.

WÄRTSILÄ