

## **Concordia Maritime, Total and MAN Diesel in joint Energy Savings**

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Concordia Maritime and French energy company Total have jointly taken the decision to install MAN Diesel turbochargers with the company's new VTA variable turbine area technology aboard a new tanker. The turbochargers with VTA technology will equip the MAN B&W brand low speed engines aboard the new P-MAX tanker *Stena Progress*, which will be delivered June 2009. On the basis of earlier trials, they are expected to reduce fuel consumption by around 2-3% with parallel reductions in exhaust emissions.

"We are always interested in new energy saving technologies," noted Hans Norén, President, Concordia Maritime. "When approached by MAN Diesel about employing VTA we decided right away that this was something we wanted to participate in. It has been tested onboard our ship *Stena President* with very positive results and, as a consequence, we and our customer Total have decided to install VTA turbochargers onboard the *Stena Progress*."

Stena Progress is a 65,200 DWT shallow draught ice class tanker of the P-MAX type under construction for Concordia Maritime at the Brodosplit shipyard in Split, Croatia. It is due for delivery in June 2009 and will be chartered to Total for 5 years. MAN Diesel type TCA55V turbochargers – the "V" suffix denotes the inclusion of variable turbine area technology - will be used on the two MAN B&W brand six cylinder type 6S46MC-C low speed main engines aboard the *Stena Progress* and other P-MAXs. As stated, field testing was carried out onboard the *Stena Progress* and other P-MAXs. As stated, field testing was carried out onboard the *Stena President* and MAN Diesel reports that the results of the trials have exceeded expectations, leading Concordia Maritime to the decision to equip the engines of other P-MAXs with VTA turbochargers. All the parties involved with the operation of the ships – Owner Concordia Maritime, Commercial Manager Stena Bulk and Total on the Charterer side – have expressed their enthusiasm for both the reduced fuel consumption and reduced emissions of the ships with VTA turbocharging.

"These tankers' routes include arctic waters, which means varying ice conditions and thus highly variable load profiles," stated Jacob Norrby, Naval Architect, at Stena Teknik. "By allowing charge air delivery to be optimised at all engine loads, the TCA55V turbochargers give the engines better response to load changes, improved emissions at part load and, most importantly, the 2 to 3% reduction in fuel consumption. So as well as low noxious emissions, we are also reducing emissions of greenhouse gases to the atmosphere."



## **Background Information: MAN Diesel VTA Technology**

In turbochargers with VTA technology, fixed vane nozzle rings are substituted by nozzle rings with adjustable vanes. Under electronic control, vane pitch is adjusted to regulate the pressure of the exhaust gases on the turbocharger turbine and so vary the output of the turbocharger compressor. The quantity of charge air entering the cylinder can be more precisely matched to the quantity of fuel injected, allowing combustion to be optimized over the complete engine operating profile. According to turbocharger type, VTA technology can also be retrofitted to turbochargers already in service.

**Concordia Maritime** is an international tanker shipping company listed on the OMX Nordic Exchange in Stockholm. The company has ordered ten tankers, which are being built in accordance with the MAX concept. These vessels, P-MAX, are product tankers of about 65,200 dwt. The MAX concept means that the vessels are designed for maximum loading capacity in shallow waters. They have been designed according to a new concept for safer oil transportation with double main engines in two completely separate engine rooms, double rudders and steering gear, two propellers and double control systems. <u>www.concordia-maritime.se</u>