



New equipment being readied for a ship's conversion allowing it to run on HFO

Switch over savings for short-sea

When Intertanko proposed that all vessels should switch from heavy fuels to using MDO as a way of reducing SOx emissions the idea was not well received by the shipping world in general. Intertanko's view that, as well as being a way to meet ever stricter emission rules, the switch would put all shipowners on an even footing as regards fuel costs was never likely to be a convincing argument for it would have increased an owner's biggest item of operating expenditure by a huge margin.

For most owners the best answer to the SOx issue would be removal or reduction of the sulphur content of oil in the refineries. Not only would that resolve the problem of ensuring sufficient supplies of low sulphur fuel for all, it would also spare the expense of installing SOx abatement equipment onboard individual ships.

Intertanko's membership comes from every sphere of tanker owning and so its members will be operating engines of vastly different types. The biggest

ships will be equipped with low-speed two strokes but further down the scale medium-speed diesels will be in the majority.

The switch that Intertanko envisaged would have seen the change occurring in the large ship sector but Dutch-based Eefing Engineering believes that there is a big cost benefit to be had from switching away from MDO and running medium speed engines on IFO 380. So far the company has installed new fuel systems in several ships – mostly from the small size dry cargo sector – and reckons that some owners are saving up to \$400,000 per year in fuel costs.

Eefing Engineering is a relatively young company specialising in auxiliary and processing equipment for a range of industries including marine, power and oil and gas. Harm Eefing MD and owner of Eefing Engineering told *Solutions* that any ship currently running on MDO and with a medium speed main engine of 1,500kW or above is an ideal candidate for conversion.

To date the company has carried out or has orders for 35 conversions and is currently taking on around a dozen every year.

A typical conversion for a single engine ship would take between two and four weeks. Slightly longer perhaps than a scheduled drydocking but as Eefting points out, drydocking is not essential for the work which can be done alongside. He adds that the fuel cost saving can in some cases be sufficient motive for the owner to decide to do the work between drydockings.

Side by side systems

Although Eefting refers to the work as a conversion, it in fact involves adding in a whole new system for the heavy oil while leaving the fuel treatment system for the MDO intact albeit somewhat modified. The MDO will still be useable for manoeuvring and when environmental regulations such as SECAs demand.

Creating tank space for the heavy fuel, if there are insufficient individual tanks already available, can either be done by diving some of the existing tanks or by creating new fuel tanks in the ballast spaces. As a minimum, Eefting recommends two storage tanks and one settling tank for each type of fuel. There will of course be alterations to the pipework and transfer system as well as a need to add heating elements to the new heavy fuel tanks. In the machinery spaces room will need to be found for the booster module with associated pumps, centrifuges and separators.

Most of the ships that Eefting has converted have been Dutch flagged but in recent years German and Finnish owners have also been regular customers. In the main they have been typical European short sea types built between 1997 and 2001 when it was fashionable for such ships to be designed to run on MDO which was then relatively inexpensive. Today the price differential is around \$200 per tonne with MDO costing \$466 and IFO380 just \$263.



The trading pattern of short sea ships means that they are only at sea for around two days in every three so the potential for savings might be though a little limited. Eefting calculates that, allowing for the fact that slightly more IFO fuel will be consumed than when run on MDO, annual savings of around \$138,000 per 1,000kW of main engine power is possible. The cost for a full conversion varies depending on each ship's own characteristics and ranges from \$200,000 to as much as \$800,000 with an average of around \$478,000.

Clearly that is a major investment for an owner to make on a small ship but those that have taken the step have done so on ships that are between three and six years old. Since European short sea vessels regularly trade into their late 20s and beyond, the owners of converted vessels can expect around 20 years of savings making the switch a very attractive proposition. **S**

Checking over the system after a heavy fuel conversion



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