

## **Product tankers in the spotlight**

**Newbuilding activity in the product tanker sector is now more intense than ever before. Will it be enough to renew an ageing fleet under regulatory onslaught or will it lead to long-term over tonnage?**

The roller coaster ride in product tanker freight rates that has characterised the opening years of the new century is continuing into 2003. Fortunately for shipowners, the current trend is an upward one, and is bringing relief after the generally depressed trading conditions of 2002.

A series of events have come together to double average freight rates in the space of a few short months, and the US marketplace, as the largest importer of refined products, is central to these developments. One of the coldest winters in many years, the oil strike in Venezuela, the Prestige sinking and seasonal repair and maintenance work at US refineries have combined to bring windfalls to owners of modern product tanker tonnage.

Generally, uncertainties over the situation in Iraq, and hence the tendency to stockpile, are adding to the current good performance in the product tanker sector. However, they also make it difficult to predict how owners will fare over 2003 as a whole.

### **Faster renewals**

Growing customer concerns about ship quality following the sinking of Erika has provided a considerable impetus for shipowners in recent years. For a start, the accelerated, international phaseout schedule for older, single-hull tankers agreed at IMO gets underway this year.

Most owners with serious aspirations in the product tanker sector are embarked on continual fleet renewal programmes. The pace of product tanker ordering quickened in 2002, as owners sought to book available shipyard capacity in order to minimise the risk of not having sufficient modern tonnage acceptable to charterers in their fleets.

The loss of Prestige four months ago, with the resultant likelihood of a further acceleration of the single-hull tanker phaseout schedule, at least in Europe, highlights the prescience of those owners that decided to invest in new tonnage sooner, and to a greater extent, than they may have originally planned.

### **Expanding fleet**

At the end of 2002 there were 410 tankers in the 10-80,000 dwt size range on order, 92 more than the number of such tankers under construction at the end of 2001, and 61 per cent of all tankers over 10,000 dwt on order.

This total "small" tanker orderbook is comprised of 76 Panamax ships in the 60-80,000 dwt size range, primarily engaged in the carriage of crude oil, and 334 product tankers in the 10-60,000 dwt size range. The product tanker orderbook is substantial compared to the 1,982 tankers of this size, totalling 60.4 million dwt, currently in service. This fleet has grown by a net 105 ships since 1998, indicating that the seaborne movement of petroleum products is growing more rapidly than that of crude oil.

Another product tanker growth sector is the shipment of large parcels of naphtha in Aframax ships of 105-110,000 dwt in size, i.e. the so-called long range (LR) product tankers. Although the majority of Aframax ships are built for the carriage of crude oil, a growing percentage are being provided with coated cargo tanks and built as LR product tankers.

Encompassing 553 ships totalling 53.7 million dwt, the Aframax fleet is the second biggest in the tanker sector. There has been a net increase of 56 Aframax tankers since 1998.

### **Prestige effect**

Over the years the tanker industry has tended to demote tankers from the clean to dirty product trades as they near the end of their working lives.

The break-up and sinking of the tankers Erika and Prestige in European waters in recent years has raised concern about the structural integrity of ageing tankers and prompted the introduction of new regulatory controls. Single-hull tankers as well as ships without a separate ballast system will be phased out more quickly than originally planned.

Under the post-Erika regime agreed at IMO, roughly 45 per cent of tankers in the 25-40,000 dwt size range will need to be decommissioned by 2007. Following Prestige, the European Union is likely to bring this date forward to 2005 for ships visiting EU ports and ships flying EU flags.

Such a decision will necessitate a flurry of newbuilding activity over the next two years as owners seek to replace tonnage no longer deemed acceptable.

### **Flexible friends**

One of the key drivers of sophistication in the design and operation of product tankers is cargo-handling flexibility. Two of the most popular sizes of product tanker - the Handysize of 35,000 dwt and the Handymax of 45,000 dwt, also known as small and large medium-range (MR) ships - traditionally have been used for deepsea balancing movements of petroleum products between regions to meet shortfalls in a particular location.

Over the past decade these ships have increasingly been built not as straightforward product tankers but rather as combined product/chemical carriers to increase their employment opportunities. Such cargo-handling attributes enable shipowners to transfer their ships between the petroleum and simple, commodity chemical trades according to market dictates.

The more astute shipowners have been able to ensure that their modern MR product tankers enjoy laden petroleum product and chemical legs in the same voyage. A good example is Laurin Maritime AB of Gothenburg, one of the first shipowners to build combined product/chemical tankers and a company which has built up expertise in operating such ships to optimum effect.

### **Further refinements**

Laurin is currently taking delivery of six 47,500 dwt IMO 2 chemical/product tankers from the Trogir yard in Croatia. The cargo space is divided into 16 tanks, including two slop tanks, and the pumping and piping system allows up to eight grades of cargo to be handled simultaneously. Structure in way of the cargo tank area has been strengthened to enable the carriage of high specific gravity cargoes.

Cargo discharge is handled by 14 Marflex submerged centrifugal pumps and Laurin has opted for electrically, rather than the more traditional hydraulically, driven pumps due to their improved performance in terms of cargo discharge rates and reduced noise levels. In addition, Smit Sinus onboard nitrogen generators have been chosen for cargo blanketing and tank purging duties, rather than the more traditional inert gas plant. In this way it is possible to load chemicals without extensive cleaning of the tanks to remove inert gas soot.

The Laurin ships are also fitted with a Becker rudder and two medium-speed diesel engines which are connected through a reduction gear to a single Kamewa controllable pitch propeller. The arrangement provides the ships with an element of propulsion system redundancy and a high degree of manoeuvrability and performance.

One of services provided by Laurin on a regular basis is the carriage of chemicals eastbound transatlantic out of the US Gulf to Europe, returning to the US with full cargoes of clean petroleum products. The new ships are helping the shipowner to consolidate its position on these routes and to reduce empty ballast legs.

### **MOL gets a move on**

One shipowner that has decided to accelerate its product tanker fleet buildup as a result of recent events is Mitsui OSK Lines (MOL). In December 2002 MOL announced it was to build fifteen 45,000 dwt MR product tankers to augment the 10 ships of this type it is currently operating jointly with its affiliate company Asahi Tanker.

MOL and Asahi Tanker had already planned to expand this fleet with new orders by the end of 2004. However, they have decided to move more rapidly than their initial plan in order to meet all anticipated customer requirements. The 15 new ships are expected to be in service by the end of 2005.

In conjunction with the growing

number of ships there will be an extension of the fleet's sphere of operations.

Whereas the 10 existing ships are serving the Pacific Far East region, the 25-ship fleet will range over the entire Pacific Rim and down to South East Asia. MOL expects steady increases in the movement of petroleum products such as gasoline, naphtha, gas oil, kerosene and jet fuel in the Pacific Ocean Basin in the coming years.

### **Coastal clout**

In contrast to inter-regional balancing movements, product tankers are also used to distribute refined products from refineries to local customers within the same region. Ships engaged in the distributive trades range from the fleets of small coastal tankers that serve North West Europe and Japan to those larger tankers that do the same job on a grander scale in south east Asian waters.

Coastal tankers, too, have been the subject of continuing enhancement of their cargo-handling and propulsion system capabilities in recent years.

Two new product/chemical tankers ordered by Crescent Tankships of Southampton last autumn are set to establish new standards of safety and flexibility for tanker operations in Northern European waters.

### **New-look Crescent**

The 3,500 dwt, double-hull ships will be fitted with twin medium-speed diesel engines, twin screws and twin rudders to provide a degree of operational redundancy heretofore found primarily on larger tankers serving US ports or performing North Sea shuttle duties. Twin medium-speed diesels require less engine room space than a single, conventional, slow speed diesel, allowing more internal space in the ship to be devoted to cargo-handling duties.

The double-hull arrangement not only cuts down on the likelihood of pollution but also obviates the need for handling dirty ballast. This, in turn, reduces costs and port time, the latter being a critical factor in the Northern European trades where distances between ports are short and the need to speed port turnarounds is a major focus in efforts to improve efficiency.

The new Crescent tankers, which are being built at the Rousse Shipyard in Bulgaria for delivery in the fourth quarter of 2003, have been designed with five degrees of cargo segregation from five pairs of cargo tanks. The ships will be fitted with Pres-Vac's innovative magnetic-drive deepwell pumps on a one pump per tank basis. Such pumps eliminate shaft leakage, the need for mechanical seal maintenance and the risk of cargo contamination from lubricating oil. Magnetic-drive pumps are also reported to be far less noisy than equivalent hydraulic systems.

The Crescent ships will be able to carry IMO Type 3 commodity chemicals, lube oils and veg oils as well as petroleum products, increasing opportunities for loading backhaul cargoes.

### **Everard onboard**

F T Everard is a UK/Ireland shortsea operator that pushed out the boundaries of coastal product tanker design in 1997 with the construction of the 3,700 dwt Asperity and a sistership at the Keppel Singmarine yard in Singapore.

This ship was designed without a centreline bulkhead but with a central trunk on deck for pipework and to provide a measure on longitudinal strength. The arrangement marked a departure from conventional design and was provided to facilitate quick cargo discharge operations and, hence, rapid port turnarounds.

Everard has, more recently, been in the market for further newbuildings to renew its fleet and, after weighing up its options, has now taken the plunge. Orders for four 3,750 dwt product tankers, with two options, have been placed with the Qingshan yard at Wuhan in China.

The most distinctive feature of the new Everard ships is their diesel electric propulsion systems, twin engine rooms and twin propellers. Although such a system has been specified for several series of chemical parcel tankers and a number of shuttle tankers, diesel electrics have not, as yet, found their way onboard such small tankers. Like Asperity, the newbuildings are to be built with a main deck trunk arrangement.