

## **What's new in tankers?**

### **A roundup of the latest developments in tanker design, construction, equipment and services**

#### **11 newbuilds to swell Teekay's expanded fleet**

The saga of Teekay Shipping's phenomenal growth continues, with news in December that the Vancouver-based shipping group is to acquire Statoil's shipping subsidiary, Navion ASA, and its fleet of 50 tankers on a debt-free basis for approximately \$800m.

The move creates a combined fleet of 147 tankers, including 11 newbuildings. It also positions Teekay as a strategic logistics provider of shuttle tanker services to Statoil and other oil companies, and increases Teekay's presence in the conventional crude oil and product tanker trades. Through Navion Chartering, an entity owned jointly with Statoil, Navion has the right of first refusal on Statoil's oil transport requirements at the prevailing market rate.

A measure of the importance of short-haul North Sea shuttle operations to Navion is given by the fact that in 2001 the Stavanger, Norway-based ship operator transported a total of 160 million tonnes (mt) of crude oil and petroleum products, exceeding the 135 mt carried by Teekay, with almost twice as many ships, in that year.

Navion provides logistics services to Statoil and other oil companies through a portfolio of fixed-rate, long-term contracts of affreightment (COAs). This COA business is supported with a modern fleet of nine owned and 17 chartered-in shuttle tankers, including four vessels from Ugland Nordic Shipping AS (UNS), Teekay's shuttle tanker subsidiary located in Sandefjord, Norway.

Combined, the Navion and UNS fleets total 41 shuttle tankers, approximately one-half the world fleet of this type of ship. Two of the 11 tankers currently under construction for Teekay are UNS shuttle tankers - one of 92,500 dwt and one of 147,500 dwt. Both ships will be delivered by Samsung this year for use in the North Sea and both are advanced shuttle tankers built to high specification demands.

The other newbuildings are six Aframax and three Suezmax size tankers, all to the order of Teekay. Teekay is already the world's largest operator of Aframax tankers and Navion brings only four chartered-in vessels to the combined Aframax fleet which now stands at 69 ships, including the six newbuildings.

Two of the Aframax newbuildings, along with three Suezmaxes, were originally ordered at Hyundai Heavy Industries by the oil company Tosco Corp. However, Teekay has taken on ownership of the vessels following the conclusion of 12-year charters plus options for all five vessels in a deal with Tosco worth an estimated \$800m.

The three 152,000 dwt Suezmaxes and two 112,000 dwt Aframaxes are being built to designs which optimise the volume of cargo which can be delivered, given the access restrictions at the Tosco refineries. All five ships will be delivered in 2003.

Tosco has been acquired by Phillips Petroleum since the ships were ordered.

The other four Aframax newbuildings are 115,000 dwt tankers ordered in September 2002, two at Samsung and two at Daewoo, at a total cost to Teekay of \$152m. All the ships are due for delivery in the second half of 2004 and will go on charter to Seaspan of Canada. Both shipyard orders hold options for two further ships. Once again, the quartet are being built to a high specification, and will have a wide beam of 44 metres.

The purchase of Navion by Teekay follows the acquisitions of Bona Shipholding in summer 1999 and UNS in spring 2001. The latest transaction is expected to add further stability to Teekay's financial performance due to Navion's long-term contracts. Peter Antturi, Teekay's senior vice president and chief financial officer, has taken on the role of president of Navion.

### **Oil terminal network augmented**

Sonatrach, the Algerian state oil and gas company, began constructing a new "floating" crude oil loading facility 6 km off the coast near the Mediterranean port of Bejaia in January 2003. The new facility will be able to accommodate tankers up to 300,000 dwt in size, in contrast to the 80,000 dwt tankers which are the maximum size ships that can berth at Algeria's existing shoreside oil terminals. The new installation is expected to be fully functioning by late 2003 or early 2004.

Sonatrach also has similar plans to build two floating quays near its key oil export hub of Arzew and two others in Skikda in a bid to boost its oil shipping capacity. Algeria's crude oil production, most of which is exported, has recently been increased from around 875,000 barrels/day (bpd) to 1.1 million bpd, as new oil fields have been brought onstream. Algeria is a member of OPEC.

In Europe, the transition of the Aalborg oil terminal into a strategic storage site for the western end of the Baltic is continuing with the recent visit of the largest tanker to dock at the facility. Following the discharge of a part cargo in Rotterdam, the 112,000 dwt Ionian Spirit called at Aalborg with a shipment of gas oil.

Once a tank farm serving the local power station, the 240,000 cu m oil storage terminal has been acquired by Tank Store 2000 Ltd and given a new lease of life as a commercial facility following upgrading of the infrastructure. The terminal offers traders the option of storing various oil products close to the main Baltic Sea shipping routes.

"We offer easy access, 24/7 availability, no congestion, no ship length restrictions, a high-capacity heating system and enough tankage to make it possible to accept vessels at short notice for either long or short-term storage," reports Tank Store 2000 director Morten Ingemann Andersen. "We are also close to safe deep draft anchorages for ship-to-ship transfer operations."

### **Closing down escape route for sunken oil cargoes**

The continuing escape of heavy fuel oil cargo from the sunken tanker Prestige off the coast of Spain has triggered interest in the integrity of cargo tanks on tankers lying on the seabed and how cargo oil escapes.

One aspect often overlooked is the fact that water will start entering the tank through the cargo tank vacuum relief valve when the valve is submerged less than half a metre. The inflow of water is important for allowing the tank to resist the outer hydrostatic pressure.

Unfortunately, however, the vacuum valve disc, once opened, is likely to remain in the open position when the tanker is settled on the sea floor. Depending on the cargo tank remaining intact and the physical properties of the cargo, the replacement of oil by water takes place through a relatively small diameter pipe opening.

To prevent this from happening, Pres-Vac of Denmark developed a simple, low-cost, automatic device in the aftermath of the Erika sinking in December 1999. Currently, four tanker newbuildings for Italian account are being fitted with these devices, which act to close the vacuum valve disc when the tank is full of water and oil. The devices are also suitable for retrofitting on existing tankers.

### **Transas equips Croatian tankers, opens in Norway**

Transas is to equip two 108,000 dwt tankers building at the Brod Split yard for Primorsk Shipping Company with integrated navigation and information-processing systems to its latest design. The EUR 1 million contract covers the provision of two Transas ECDIS Navi-Sailor 3000 packages.

Navi-Sailor 3000 is designed in compliance with the latest IMO regulations governing the universal automatic identification system (UAIS) interface, and will be enhanced

with ARPA/radar and conning display. Each ship set also encompasses radio equipment, including GMDSS units, satellite communications and intercoms. Transas has recently opened an office in Oslo to provide a better link with the growing number of customers in Norway than was possible previously with Transas Scandinavia's Gothenburg office. Transas Norge AS is now the official distributor of the whole range of Transas products, including marine software and electronics, maritime simulators and VTS systems, in Norway. The Transas network of representative offices now takes in 48 countries worldwide.

### **Approval for Totem black box**

Totem has received type approvals from Det Norske Veritas (DNV) for both its voyage data recorder (VDR) and protective memory capsule (PMC) .

The Totem VDR, rather unusually, does not use the mixing of audio channels. Instead, the audio recording of each individual channel is carried out in modern MP3 format for up to eight individual channels in the standard configuration. The VDR has a built-in Siemens S7-200 PLC to allow easy recording of analogue and binary signals, a capability which should facilitate the retrofitting of such equipment. Totem reports that its VDR has already been fitted on several ships, including newbuildings at the Stocznia Gdynia and Samsung shipyards and on several existing passenger ships under retrofit contracts.

The Totem PMC comes with 2GB of memory, enough for the mandatory 12 hours recording. This memory can be expanded to 4GB for special applications. A common ethernet protocol is used for transferring data (standard Windows files) from the VDR into the PMC system.

### **Fast forward for MOL product tankers**

Mitsui OSK Lines (MOL) is to expand its fleet of mid-size petroleum product tankers at a much faster rate than originally envisaged. MOL currently operates 10 so called medium range (MR) clean product tankers jointly with its affiliated company Asahi Tanker. They had planned to increase the size of this fleet to a certain extent by the end of 2004. However, management has decided to implement a new plan calling for a fleet of 25 MR product tankers by the end of 2005.

A total of 15 new double-hull tankers of 45,000 dwt will be built. The expanded fleet will be deployed beyond MOL's current product tanker service area in the Far East to cover South East Asia and the entire Pacific Ocean. MOL expects steady increases in the trade of petroleum products such as gasoline, naphtha, gas oil, kerosene, and jet fuel in the Pacific Basin in the years ahead.

### **Mariner for managing shipboard risks**

Lloyd's Register of Shipping (LR) has unveiled Mariner, a new operational risk assessment software tool designed to help ship operators identify and manage risk in shipboard operations. Mariner also incorporates other applications, including health surveillance, incident reporting, environmental management systems and accident statistics based on the OCIMF Marine Injury Reporting Guidelines, to provide a comprehensive safety management package.

The Mariner handbook and CD-Rom have been designed with the seafarer in mind, and the software's in-built messaging system allows the paperless exchange of information such as risk assessments, accident reports and near-miss reports. As the risk assessment process used in Mariner is the same as that described in Chapter 1 of the UK Maritime & Coastguard Agency's Code of Safe Working Practices for Merchant Seamen - a key industry document, it should be familiar to the majority of seafarers.