

What's new in tankers

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

MOL at the double

Leading Japanese shipowner MOL has ordered six new very large crude carriers (VLCCs) as part of a fast-track programme of introducing double-hull ships throughout its fleet of large oil carriers. The new 300,000 dwt ships are to be built by Kawasaki Shipbuilding Corporation, Mitsui Engineering & Shipbuilding Co and Mitsubishi Heavy Industries for launching in 2004 and 2005.

The decision to accelerate the transition to a double-hull VLCC fleet aligns with the company's corporate principles that emphasise protection of the global marine environment. The new orders also accord with the rapid expansion of MOL's energy-related business streams, including VLCC and LNG carrier operations. The build-up of these activities had originally been one of the key elements in the company's next mid-term management plan, but here, too, the original schedule has been brought forward.

When the six new tankers are completed, by March 31, 2006, MOL will have a total of 24 double-hull VLCCs, i.e. more than 80% the company's VLCC fleet. MOL's initial plan was to have 100% of its VLCCs equipped with double hulls by March 31, 2011, but the accelerated programme means that this goal will be reached two years ahead of schedule, i.e. by March 31, 2009.

MOL is engaged in energy transport across a wide spectrum and is the owner of one of the world's largest tanker fleets. The company is also moving to adopt the double-hull configuration throughout its other tanker fleet segments, including methanol and product tankers, more quickly than is mandated by IMO. Currently, 51 of 76, or 67%, of MOL-operated tankers have double hulls.

If the 40 chemical tankers operated by affiliate company Tokyo Marine are added in, the MOL tanker fleet numbers almost 120 vessels. This is the world's largest tanker fleet, and enables carriage of the full range of oil and petroleum-derived products.

Traditionally, about two-thirds of MOL crude oil tankers have served under contracts with the leading Japanese oil companies, and the rest with foreign oil interests, including oil majors in Europe, the US, and South Korea. MOL has placed increasing emphasis on marketing its services to overseas clients in recent years as part of an effort to diversify its customer base.

Advice on Bosphorus delays

Lawrence Graham, the London law firm, has advised those involved with ships transiting the Turkish Straits, including the Bosphorus, to plan ahead in order to minimise the risk of lengthy delays.

Ships negotiating the narrow waterway began encountering protracted delays this past winter as a result of severe weather and restrictions on night-time tanker movements. The problem has since been exacerbated by new requirements introduced by the Turkish maritime authorities governing the paperwork required to transit the straits, and the confusion these measures have introduced.

Before October 2002, ships could telex their sailing plans and then rely on local agents to submit copies of the required back-up documents. Now it is necessary for vessels to submit their sailing plans, accompanied by their P&I Club certificate, IOPC certificate, the last port state control form and evidence of payment of light dues. The changes in the rules make telex submission impossible, and many vessels are being caught out because they are unable submit the right documents by fax.

The Turkish authorities are trying to address the problem by putting in place a vessel traffic management (VTMS) system to cover the entire straits, and reviewing of how the regulations are being applied.

In the meantime Lawrence Graham is advising shipowners and charterers to plan ahead, not least by ensuring that a clear and unambiguous Turkish Straits clause is inserted into charter parties and by working with a solid local agent who can submit documents on behalf of the ship when the ship sends in its sailing plan.

The Lawrence Graham advisory points out that the International Association of Independent Tanker Owners (INTERTANKO) published a model clause in March this year. Although this has had some take-up, the clause has usually been modified to make it slightly less owner-friendly. Some disputes over demurrage resulting from poorly drafted clauses have already arisen, so attention to this point during charter party negotiations is important.

New Oilcon 6 discharge monitor from VAF

VAF Instruments of Dordrecht in the Netherlands has launched the latest, Mark 6 version of its Oilcon® oil discharge monitor. Based upon the established light scattering technique, the Mark 6 Oilcon incorporates the latest SMD technology to provide a high level of signal processing and enable more flexible installation options. "More and more tankers are being built without pump rooms and the greater signal processing capabilities gives the Mark 6 a considerable advantage for such ships," states Dik Snel, technical director of VAF. "It has always been difficult to achieve the levels of oil content monitoring reliability and accuracy required using the older fibre optic signal transfer method on tankers without pump rooms. In addition, the use of LEDs in place of laser diodes in the Mark 6 provides the sensing system with a longer life expectancy."

The Oilcon Mark 6 meets the requirements of IMO Resolution A.586(14). The heart of the system, the main control unit (MCU), is designed for wall or console mounting. Input signals, such as ships speed, overboard discharge flow, valve control and position, are processed and recorded by the MCU.

The first Mark 6 has been installed on a tanker building at the Kitanihon yard in Japan, and as of late May VAF had received about 35 orders for the new monitor.

STX passes 2003 orderbook target

Thanks to contracts for 14 ships totalling \$440m in May, STX Shipbuilding of Korea has already exceeded its newbuilding orders target for 2003. The yard, one of the world's leading builders of product tankers, had hoped to gain \$800m worth of new orders this year. As of the beginning of June, the total number of new contracts for the year stood at 30 ships valued at \$900m, bringing the total STX orderbook to 58 ships worth \$1.8bn.

Most of the newbuildings will be delivered between now and the end of 2005, although a handful of the latest vessels contracted are scheduled for completion early in 2006.

According to figures published by Clarkson Research Studies this March, STX had the 8th largest orderbook amongst world shipbuilders. The yard may have climbed a further notch or two in the rankings as a result of the May order surge.

The May contracts included a breakthrough order for 10 container ships from Greek and German principals. This was the first time the yard had secured business in the container ship sector since it emerged, as STX Shipbuilding, from the bankruptcy of the old Donghae yard in 2001.

Despite this container ship success, product tankers remain the yard's primary source of work, 42 of the 58 ships on order being product tankers. Approximately 60% of the current tanker orderbook comprise Handymax product tankers of 46,000 dwt, 25% Panamax ships of 71,000 dwt and 15% Handysize tankers of 35-37,000

dwt. The tankers are able to carry simple chemicals as well as refined petroleum products.

STX tanker deliveries in recent months include Alia and Azahar, two 36,500 dwt product/chemical tankers for Seaarland Shipping Management GmbH and Motia Compagnia di Navigazione SpA, respectively, and ICS White Point and Green Point, two 45,800 dwt product/chemical tankers ordered by Pietro Barbaro SpA.

Besides the container ships, the new May 2003 orders comprised four of the 45,800 dwt Handymax product tankers. TransPetrol Service NV of Belgium and d'Amico Societa di Navigazione SpA of Italy contracted a pair each.

STX Shipbuilding recorded a 27.4% increase in sales in 2002 compared to the previous year. The company achieved a \$52m profit on a turnover of \$472m last year.

In recent weeks a fund managed by HSBC private Equity Asia Ltd acquired a 15% stake in the company for \$33.5m, making it the first foreign investor in STX.

Leading lightering pair form global alliance

Heidenreich Lightering Services Inc and Fender Care Marine Ltd have formed a strategic alliance to jointly provide a full service suite of lightering and ship-to-ship (STS) transfer solutions to customers worldwide.

The initiative unites HLSI's commercial vessel management experience and growing presence in the US Gulf with Fender Care's position as the leading global provider of STS products and services.

"We can now offer a single point of contact for complete STS and lightering service solutions for loading, carrying and discharging tanker cargoes," said Per Heidenreich, president of the Heidmar group of companies

Fender Care Marine was established in 1995, with its head office in Norfolk, UK, following the acquisition of Shell's in-house lightering business. The company offers a STS lightering service from 16 bases around the world and created the World Lightering Organisation in order to provide a prompt response to distressed vessel operations. The company is currently considering additional bases in East Africa, mainland China, South Korea, Russia and the Gulf of Suez.

Since its formation, HLSI has focused on the commercial management of lightering operations and the provision of associated logistics services in the US Gulf from its Houston base.

Rotterdam oil product flows surge

The transshipment of refined oil products in Rotterdam jumped 27% in 2002 to 35.5m tonnes (mt), from 27.9 mt in 2001. The transshipment of oil products has been steadily increasing since 1997; since 2000 the volumes have been accelerating.

The main supply sources are the Middle East, where oil refinery capacity continues to expand, and Russia which is exporting growing amounts of naphtha and fuel oil. With the demand for petrol in Russia is increasing, refinery output of all products, including fuel oil surplus to local requirements, is expanding.

Because of the need for currency, fuel oil is sold to the international market at low prices. The oil is moved to Rotterdam using relatively small tankers and is then shipped to Singapore in larger vessels, for local distribution in Asia. The demand for fuel oil from countries such as China is high, as are the prices.

Crude oil imports in 2002, at just under 100 mt, were 1.8% down on the previous year while other liquid bulk cargoes also dropped marginally. However, although the 24.3 mt of liquid bulk chemicals handled last year was 3.2% down on 2001 levels, record volumes of this type of cargo passed through Rotterdam in 2000 and 2001. As a general trend flows of bulk chemical cargoes have been moving in an upward direction since the early 1980s.

Rotterdam Port Authority carried out almost 10,000 safety and environmental inspections onboard ships in 2002, of which only 160 resulted in a summons. The number of oil spills during vessel refuelling also fell again. The number of such spills recorded annually has dropped from 550 to 316 over the last five years. In 55 cases the amount of oil spilt was large enough to require cleaning up. Some 29,000 oceangoing ships visited the port in 2002.

Rotterdam is by far the world's largest port. A total of 322.1 mt of cargo of all types was handled in 2002, marginally below the record volume achieved by the port in 2000.

Shuttle tanker completes ballast exchange tests

Fullscale evaluation trials of a new ballast water exchange system onboard the shuttle tanker Navion Dania have proved successful, yielding results that have exceeded initial expectations.

The system has been developed by the tanker operator Navion in partnership with the Norwegian research institute Sintef and Vekos, the ship installation specialists. The new BWE approach takes advantage of varying water densities to create a piston effect that pushes old ballast water out of ballast tanks in a process known as "plug-flow".

Navion and Vekos acknowledged that developing an effective BWE system posed considerable challenges, not least because ballast tanks are designed for strength, not to facilitate the exchange of water.

Because freshwater tends to float to the surface while seawater sinks to the bottom, the rolling motion of a vessel at sea can affect water density layers in tanks. By leveraging these varying water densities, Navion and Vekos sought to prove their "plug flow" water exchange system could address some of these issues with the Navion Dania test programme.

Lab testing had indicated that there would be a clear plug-flow effect, even with a salinity difference of 5%. While the fullscale tests showed that higher differences in salinity created an improved plug-flow effect, even with a difference in salinity as low as 3%, a clear plug flow was indicated.

The tests also showed that when a volume equal to 1.3 times the volume of the tank was pumped in, 95% of the ballast water was exchanged. Navion and Vekos technicians noted that even though some organisms may remain inside the tank, the new BWE system greatly reduces the risk of spreading potentially harmful organisms.

Jiskoot sampler checks oil onboard

A new, mobile, shipboard sampling system from Jiskoot Autocontrol collects flow-proportional, representative samples at the point of custody transfer to enable assessment of the water content of crude oil and refined product cargoes.

Designed for mounting on the tanker's manifold and bidirectional to suit all discharge and loading operations, the sampler is fully pneumatic for use in hazardous areas. The device provides either flow- or time-proportional sampling, and both single and dual-channel versions are available. The sampler can be easily transferred between tankers.

The system has a built-in calibration facility and is available with a 9 or 18-litre sample receiver. A mixer unit is offered to ensure that samples held for some time before analysis are thoroughly homogenised.

The Jiskoot sampler's spool assembly fits between the manifold flange and the loading arm or hose and can be used with a spacer when installed between flanges. The control unit allows the batch size to be set, monitors and indicates flow rate, operates the sampler probe and totalises samples. The unit's stainless steel box protects the controls and indicators behind a hinged, clear door.

Oil-free stern tube bearings for Bergesen LNGCs

Thordon Bearings Inc of Burlington, Ontario in Canada is to supply its water-based Thor-Lube sealed stern tube bearing system for four LNG carriers under construction at Daewoo Shipbuilding & Marine Engineering Co Ltd (DSME) for Bergesen dy ASA of Norway.

Thordon Bearings has now secured orders for the supply of 11 Thor-Lube stern tube bearing systems for LNG carriers from a number of different owners within the past year. Three of the Bergesen ships are due for handover in 2005 and the fourth in 2006.

The Thor-Lube environmentally friendly design eliminates the risk of pollution associated with oil-filled stern tubes. Thor-Lube systems feature a water-based TL3G lubricant, Thordon XL non-metallic elastomeric bearings and a lubricant circulation and monitoring system. Water soluble TL3G lubricant is biodegradable and leaves no sheen should accidental leakage occur, eliminating the risk of pollution and associated fines.

TL3G is specifically formulated to provide a viscosity level similar to an SAE 30 mineral oil in the operating temperature range. In the event of a seal failure and subsequent loss or contamination of the lubricant in the stern tube, the system can be converted to operate on emergency seawater lubrication, enabling a safe passage to port.

Facing an emergency, without a crisis

While those with frontline responsibilities understand the importance of good communications in a major casualty or spill situation, managing demands for information is often not second nature to those who are primarily focused on operational tasks.

This critical issue is addressed by the Managing Marine Emergencies (MME) course, part of the SMIT Salvage outreach programme. This programme aims to share knowledge in the context of marine casualty management. Now in its tenth year, this four-day course is held twice yearly at SMIT's Rotterdam headquarters. The course is attended by shipowners, shipmanagers, P&I representatives, hull insurers, port authority managers, representatives of national response organisations - including coast guards representatives - and salvage masters and managers from other salvors. This unusual and intense course addresses technical, operational and a wide range of external response issues, including media.

The first three days of the MME concentrate on technical, legal, insurance and salvage matters. Each element is presented by a highly qualified trainer, including SMIT Salvage Masters and, where appropriate, external specialists. The programme includes practical exercises.

The fourth day is devoted to understanding and managing the communications aspect of a major incident, in particular the media-related aspects of casualty response. An external consultant specialising in media and casualty response presents the concluding day.

The managing communications day opens with a comprehensive introduction to the media dimension of casualty management, with case profiles drawing on major cases such as the Exxon Valdez, Braer and Prestige. During the afternoon, MME participants put the theory into practice and take part in a demanding tanker casualty simulation.

Participants are divided into two groups: the Emergency Response Team (ERT) and Media Response Team. The ERT leader is provided with background information concerning a potentially serious incident involving a laden crude carrier, including situation reports from the Master. The ERT team is then asked to draft a statement for media distribution. They are also expected to consider the operational aspects

requiring priority action and to anticipate the many media and other public issues which arise from their decisions. During the exercise, the Media Response Team members deal with telephone enquiries from a group of role-playing journalists. Media enquiries are filtered through to the ERT team, together with requests for TV and radio interviews.

The status of the "casualty" continues to deteriorate throughout the afternoon, testing the ERT's ability to balance operational and media aspects of the situation. The ERT is confronted with difficult choices when dealing with demands for sensitive information. The company comes under severe pressure to communicate on subjects such as manning, accident record, flag, accident cause and vessel age. The team has to develop and communicate core messages emphasising the company's competence in managing the emergency. The course concludes a simulated press briefing. A briefing team is selected to answer questions, face-to-face, from the role-playing journalists. This briefing is observed by all participants.

SMIT Salvage commercial director Geert Koffeman says: "The final day draws together the entire MME programme in a practical and highly realistic way. The objective is not to provide training in a conventional sense, but to give the participants an 'experience' of what it feels like to be faced with an extremely challenging casualty situation. It provides an opportunity to explore and manage many problems which often arise during the first 24 hours in real cases.

Dire straits in Turkey

Delays to tankers transiting the Turkish Straits have become a real problem. What are the Turkish authorities doing to tackle the delays, and what can owners and charterers do in the meantime to protect themselves, asks international law firm Lawrence Graham.

If you try to squeeze ever increasing volumes of oil through a narrow, congested, foggy and dangerous strait, then both tanker owners and charterers are willing to accept that some delays are inevitable. More, they are willing to share the costs of those delays.

However, congestion and unpredictable delays at the Turkish Straits, the Bosphorous and the Dardanelles, have increased dramatically since October 2002, and tankers find themselves waiting for up to seven days both on their way into the Black Sea, and on their way out.

Part of the problem was a severe winter, which led to frequent closures of the Straits due to thick fog. Part of the problem is the restrictions on night time transit on tankers over 200 m loa. However, it was an attempt by the Turkish Department of Maritime Affairs to clarify the regulations which govern paperwork required to transit the Straits which have had the worst affect. The clarification, issued in October 2002, led to confusion amongst owners and agents and introduced contradictions and complications into what had until then been a relatively simple procedure.

According to Istanbul-based lawyers Messrs Ersoy Bilgehan, since October, vessels preparing to enter the Turkish Straits have to submit a sailing plan SP-1, accompanied by their P&I Club certificate, their IOPC certificate, their last Port State Control Form and evidence of payment of light dues. Previously, ships could submit SP-1 by telex, and then local agents could submit copies of the required back up documents later. The changes in the rules make telex submission impossible, and many vessels are caught out because they cannot submit the right documents by fax. The Turkish authorities are doing two things that they hope will help. They are constructing a VTMS system which covers the entire Straits, which should, when it comes on stream in 2004, enhance safety of navigation and so perhaps lead to less weather shut downs and so faster transits. As for paperwork, there has been a general election since the clarification which caused the problems was brought out. A new Director General of Maritime Affairs is in place and a review of how the regulations are applied is underway.

Meanwhile, owners and charterers can help themselves by thinking ahead. Firstly, a clear and unambiguous Turkish Straits Clause should be inserted into the charter party. Intertanko published a model clause on March 7, 2003. It has had some take up, but it has usually been modified to make it slightly less owner-friendly. Intertanko calls for the owners to bear the first 12 hours delay only, and calls for all other delays due to traffic regulations or actions by the Turkish authorities to be paid by the charterer at the demurrage rate. Commonly, owners bear the first 24 hours delay, charterers the rest. We have seen some disputes over demurrage resulting from poorly drafted clauses so attention to this point at the time of negotiations is vital. Secondly, owners can plan ahead and work with a solid local agent who knows exactly what is required and who can submit the documents on behalf of the ship when the ship sends in the SP-1.