

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

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

#### **Stena Bulk takes delivery of first C-Max**

Stena Bulk has taken delivery of Stena Caribbean, the first of a pair of sophisticated, 10,000 dwt, diesel-electric product tankers earmarked for service in the Caribbean under a long-term charter with Texaco Eastern Caribbean Ltd (TECL). The second of the two ships, Stena Calypso, is due for handover, again by the Gdynia Shipyard in Poland, this coming August.

The ships are built to the shipowner's C-Max design, an adaptation of the much larger V-Max crude carrier design, as embodied in Stena Bulk's Stena Vision and Stena Victory, built in 2001. The product tankers combine a wide-beam, shallow-draught hull configuration with exceptional manoeuvrability and enhanced operational safety and flexibility.

The diesel-electric propulsion system on Stena Caribbean features four main engines supplying power to two independent azimuth thrusters which can be rotated through 360°. This arrangement provides high levels of redundancy, e.g. one or more engines can be shut down for maintenance while the vessel continues its voyage with the remaining engines in operation, and ship manoeuvrability. The latter capability is further enhanced by the ship's bow thruster.

The double azimuth thrusters and an optimised hull design have also made it possible to build wider vessels than has so far been the case. Stena Caribbean has a beam of 23.8 metres, far in excess of the 17-19 metres usually found on tankers with a similar draught, i.e. 6.5 metres. The shallow draft will enable the C-Max ships to deliver large volumes of cargo to ports where the draught is restricted. The majority of the depots and service stations belonging to TECL and its customers are located close to ports with draught restrictions which limit the cargo volumes conventional tankers are able to discharge.

The Caribbean petroleum product market is a diverse one which involves deliveries of a wide range of cargo types, grades and parcel sizes to a multitude of island and mainland ports. The C-max ships have 16 coated cargo tanks, each fitted with a Framo deepwell cargo pump and offering double-valve segregation. The C-Maxes are also fitted with two deck tanks, of 640 cu m each, for the carriage of LPG.

Stena Bulk AB operates about 40 tankers totalling 6.5 million dwt. The company has a strategic alliance with Texaco under which Stena Bulk operates the oil company's tanker fleet both commercially and technically. StenTex, in which Stena Bulk has a 50 per cent holding, is responsible for chartering the tonnage required to handle Texaco's oil traffic of approximately 42 million tonnes per year.

#### **Jo Tankers contracts 30,000 dwt parcel tanker**

The Norwegian/Dutch chemical tanker operator Jo Tankers has ordered a sophisticated 30,000 dwt chemical parcel tanker at Kitanihon Shipbuilding Co Ltd in Japan for delivery in January 2004. Jo Tankers also holds an option for a sistership. The tanker will have 28 fully segregated, solid stainless steel cargo tanks and will be able to carry over 800 different chemical cargoes.

"The vessel will meet or exceed all the present and known amendments to international rules and regulations, in particular those of SOLAS, MARPOL, other relevant IMO codes and conventions, EU Marine Directives and the US Coast Guard," states Johan Odvar Od fjell, co-managing director.

Compliance with these requirements will be manifested in efficient stripping of the cargo tanks to reduce cargo residues; fully protected cargo tanks by means of a two-metre wide double hull on both sides and a double bottom; vapour emission control

systems, arranged such that cargo vapours can be returned to the loading terminal; additional segregation of diesel oil to handle low-sulphur diesel oil as required within the EU; a separate storage tank on deck where rainwater and spilt cargo residues can be collected; and main and auxiliary engines with the latest technology available for conserving energy and reducing exhaust gas emissions.

The newbuilding, as well as six others recently contracted by Jo Tankers, will strengthen the operator's fleet of mid-size chemical tankers in the 20- 30,000 dwt range. They will be primarily employed in the Atlantic Basin. While some of the new ships will replace existing, third party-owned tonnage in the pooled chemical tanker fleet managed by Jo Tankers, the majority will augment existing ships and increase the service and flexibility levels provided to the company's customers."

### **Athenian Sea Carriers gains ISO 14000 certification**

The Greek product tanker operator Athenian Sea Carriers (Athenian) has achieved the ISO 14000 environmental management system certification from ABS Quality Evaluations. The certification will cover all the ships in Athenian's fleet, as well as its head office in Athens.

"This certification represents another pillar in the development of a new culture of risk management that guides every aspect of our operations," said Nicolaos Hondos, ceo of Athenian. "The first pillar is the renewal of our fleet. The second is the adoption of risk assessment and management strategies that will guide our decision-making process. ISO 14000 certification is the natural extension of the ISM safety and ISO 9000 quality management systems that we have already adopted."

Athenian currently operates eight product tankers and recently ordered two Suezmax tankers at IHI, with options for a further two.

### **BP Shipping makes move on VDRsBP Shipping recently acquired four**

VoyageMaster voyage data recorders (VDRs) from marine electronics supplier Sperry Marine, a business unit of Northrop Grumman Corporation. According to Sperry Marine, VoyageMaster VDRs meet the International Maritime Organisation's (IMO) carriage requirements for VDRs and are fully type-approved.

BP Shipping ordered the VDRs for four new tankers currently under construction at Tsuneishi Shipbuilding in Japan. The tankers, to be called the British Laurel, the British Hawthorn, the British Willow and the British Oak, will also be fitted with Sperry Marine electronic chart systems and are scheduled for completion in 2002 and 2003.

### **UKOOA releases FPSO guidance**

The UK Offshore Operators Association has published a set of guidelines for the design of floating production, storage and offloading installations (FPSOs) destined for service on the UK continental shelf (UKCS). The new "Design Guidance Notes for FPSOs for UKCS Service" publication is the result of discussions held with FPSO owners and operators over the last 18 months that highlighted the need for a single integrated FPSO-specific guidance document. The guidelines effectively translate hard-earned lessons learned in service and summarise good current design practice and research.

### **Viken Shipping orders from MAN B&W**

Viken Shipping of Norway has ordered MAN B&W's 6S70ME-C electronically controlled diesel engine for a Suezmax 'shuttle light' tanker with upgraded specifications.

The 6S70ME-C engine has an output of 18,660 kW at 91 r/min and features variable, electronically controlled fuel injection and exhaust valves. This approach, says MAN B&W, helps reduce engine emission levels and equalises thermal loads in and between cylinders.

The tanker will be delivered by Samsung of Korea in November 2003 and will enter a long-term time charter for Navion in the North Sea. Viken is in the process of negotiating two more Suezmaxes and two Aframaxs from the same yard and they, too, will have MAN B&W ME-C engines.

### **Jotun and Kansai form alliance**

Norwegian coatings manufacturer Jotun has announced the formation of an alliance with NOF Kansai Marine Coatings (NKM). Operating as SeaStar Alliance the companies will endeavour to "serve the world marine and offshore coating market". The alliance is the latest step in the 30-year relationship between Jotun and NOF and, according to the partners, the presence of Kansai adds a significant share of the market, taking it to more than one fifth of the global marine coatings market. The alliance will include branches in more than 50 companies around the world with production plants in more than 20. "The global presence will ensure that products and support services are readily available wherever a ship is being built or dry-docked," says a Jotun spokesperson. The Japan-based NKM will be responsible for operations in Japan and Taiwan and Jotun will be responsible for production and deliveries everywhere else.

### **Kongsberg's LNG custody transfer system wins Far East contracts**

Kongsberg Maritime Ship Systems (KMSS) has recently won orders for its LNG carrier custody transfer systems from shipyards in Japan and Korea which are collectively worth over \$1 million.

The systems are being fitted onboard a joint Mitsui OSK Lines (MOL)/Qatar Gas LNG carrier currently under construction at Mitsui Engineering and Shipbuilding Co Ltd in Japan; a Shell newbuilding underway at Mitsubishi Heavy Industries Ltd in Japan; and a Bergesen ship under construction at Daewoo in Korea. The Shell and Bergesen ships are the third in their respective series to be fitted with KMSS equipment.

KMSS' CTS systems provide ship operators with cargo status reports based on measurements and calculations carried out during the custody transfer process. The system measures ullage, temperature and pressure to calculate levels, vapour and liquid average temperatures and cargo volumes at average liquid temperatures. The system also utilises KMSS' GL-100 radar tank gauges and GLK-100 signal processing units which are usually located in the cargo control room.

### **Ship Analytics adds membrane LNG training model**

Ship Analytics of North Stonington, Connecticut, a designer and provider of maritime simulation systems, has introduced of a new LNG carrier cargo-handling training package to its roster of ship simulation products. The new model covers cargo-handling operations on LNG carriers fitted with a membrane containment system and complements the existing Ship Analytics LNG cargo operations system for ships fitted with spherical cargo tanks.

The new model combines all cargo operations systems to be found on a membrane-type

LNG carrier. It provides full control of all equipment and machinery and allows the changes in the flows, temperatures and pressures of the liquid and gases within the various systems to be monitored and adjusted as required.

"Particular attention has been focused features specific to membrane LNG carriers," says Ship Analytics. "These include the nitrogen pressurisation system for the interbarrier spaces around the cargo tanks and the procedures required in unusual circumstances, such as in the event of a cargo leakage when an emergency cargo pump needs to be installed and operated."

### **Chile joins Tokyo MOU**

Chile was confirmed this month as the 18th member to join the Tokyo Memorandum of Understanding (MOU) on Port State Control. The decision was taken at the 11th meeting of the Tokyo MOU executive body's Port State Control Committee in Manila. The Committee also said it is planning to run a concentrated inspection campaign on compliance with the ISM Code compliance for the three months from 1 July to 30 September. In addition, it approved the Tokyo MOU ship targeting system which is to be implemented on a trial basis from the start of 2003. The regime is to be based on similar factors to those used by sister port state control grouping, the Paris MOU. The 12th meeting of the Port State Control Committee is scheduled for March 2003 in Chile.

### **World's biggest lifeboat from NME**

Equipment supplier Norwegian Maritime Equipment AS (NME) has launched a new fully enclosed lifeboat with a capacity of 102 people which, the company claims, makes it the biggest lifeboat in the world. The tanker-specific version of the lifeboat is brand-named QFP-9.35 and customers to date include Bergesen, Single Buoy Mooring, Exxon and Petrobras. The boats are produced in China by Jiangyin Xinjiang

According to Styrk Bekkenes, NME marketing manager, shipowners are tending to purchase bigger lifeboats than originally required. This is particularly true of floating production, storage and offtake vessels (FPSOs), for which crews are often modified or extended. This requires a concomitant extension of the safety and lifesaving equipment onboard.

### **Lloyd's Register reinforces transparency**

Lloyd's Register of Shipping (LR), the London-based classification society, will now include information on port state control (PSC) detentions for all LR-classed vessels on ClassDirect Live, its online class information service. The enhanced level of transparency is part of LR's current drive, started in 2000, to weed out substandard tonnage.

The PSC data will be used to identify trends across the fleet, enabling LR to raise awareness of specific detention items. The information will be available in various groupings, including by ship type, flag, age and detention item. An archive going back to 1998 is also available.

LR reports that the service will also provide owners with benchmarking indicators, so that they can see how their fleet measures up to the rest of the LR-classed fleet, in terms of PSC detentions. The information currently consists of raw data from the PSC authorities, but LR will analyse the data to determine the most common detention items and the ways in which they are combined in order to assess the hazards to vessels.

The new LR information service is in keeping with the European Union's Directive on the transparency of ship class information. "The way the industry is moving, this information will be freely available to all who want it," says Alan Gavin, marine director of LR. "The web site of aircraft manufacturer Boeing, for example, allows users to burrow down to information on the performance of a particular plane. Eventually, this will also be the case in the shipping industry, for individual ships." However, he cautions, "total transparency" could lead to a 'check-box type' survey, which is a danger to be avoided. He also points out that "transparency is a two-way street" and says that every party involved in ship safety should be transparent, not class alone.

### **Videotel launches safety officer training package**

Videotel Marine, maritime training specialist, has introduced a new training package for onboard safety officers. Developed in association with the ship management

company V Ships, the package comprises a CD-ROM training tool, workbooks, projects, quizzes and tests. Videotel states that the package is not simply a training aid, but also comprises a full course for which certification can be awarded upon completion, depending upon assessment of the student's portfolio of work.

The CD-ROM component is the information delivery medium and includes video clips, information and assessment tools. There are 14 modules on the CD and Videotel believes that it will take students between two and three months to complete the course. In addition, individual projects help motivate students to contextualise the information absorbed from the CD-ROM.

According to Chris Haughton, deputy managing director of Videotel, the assessment portion of the course is where the company has "really pushed the envelope". Students will be expected to hand in a portfolio of completed coursework, authenticated by their senior officers, as well as pass a final test consisting of 84 questions. Portfolios will be sent back to the UK, where they will be handed to independent assessors, who will decide whether or not to award certification.

The Nautical Institute has accredited the training package, making it the first computer-based training aid ever to be so recognised by the Institute. The Institute has also pledged to offer a prize to the seafarer who hands in the best portfolio of the year.

Videotel hopes that senior officers onboard ships, as well as senior operational staff ashore, will take an active role in mentoring those who undertake the course. The company itself will operate an e-mail hotline to field any questions or queries and aims to answer all correspondence within one working day of receipt. "Professionals helping one another - this is the main thrust," says Haughton.

### **Electronic charts just got cheaper**

Primar Stavanger, the electronic navigation chart (ENC) coordinator, has reduced the retail price of its electronic charts. The new Primar distributors' recommended sales prices are now as low as \$24 for an ENC equivalent in size to the comparable paper chart. The price includes all weekly updates for a year.

Primar Stavanger was created in March this year when the UK Hydrographic Office and the Norwegian Mapping Authority decided to split up Primar, their former joint venture for the compilation and distribution of electronic chart data for Northern Europe.

### **Bright outlook for US tanker newbuilds**

A new analysis by the Shipbuilders Council of America shows that substantial new Jones Act tonnage, including tankers, will be required from US shipyards in the near and mid-term. According to the analysis, there is a substantial requirement for additional new tonnage to replace tankers and ocean-going tank barges in domestic service that are being phased out under the US Oil Pollution Act of 1990 (OPA 90) regulations. In addition, only 750 of the 3,000 US inland tank barges are less than 20 years old and almost 50 per cent of the inland dry cargo and deck barge fleet is more than 15 years old.

### **Oil spill updates from NRC, ITOPF**

Oil tankers in distress may produce dramatic photos, but a new study by the US Natural Research Council points out that the vast majority of the human-related petroleum released into US coastal waters comes from consumers, not the ships that carry the oil.

Approximately 29 million gallons of oil enter the oceans around North America each year as a result of human activities. Of that, the largest share, 15.6m gallons, comes from street runoff, industrial waste, municipal wastewater and wastewater from refineries. In addition, 1.6m gallons comes from recreational vessels, where two-

stroke engines that mix oil and gas are often used in personal watercraft and as outboard engines.

Another significant source, accounting for 6.1m gallons, is "atmospheric deposition," i.e. oil deposited on the ocean surface as a result of emissions into the air from motor vehicles, power generating facilities, industrial plants and similar sources. Spills from tankers average 1.5m gallons each year, a figure that has been declining steadily, and 551,000 gallons came from pipeline spills, the report found.

The single largest source of oil in the oceans bordering North America is natural seeps from undersea oil sources, releasing an estimated 46.4m gallons annually. The latest meeting of the International Tanker Owners Pollution Fund's (ITOPF) board of directors, held in Houston last month, reviewed the 24 spills attended on-site by ITOPF technical staff over the previous 18 months. Interestingly, only three of these spills involved crude oil - the rest being fuel oils, either carried as cargo or bunkers. All the spills involved relatively small quantities of oil, the largest being the loss of 2,700 tonnes of heavy fuel oil from the Baltic Carrier in March 2001. However, said ITOPF, the the clean-up and damage issues were not in any way lessened by the small volumes of oil spilt.