

April 2003

MARITIME REPORTER AND ENGINEERING NEWS

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Offshore Technology: AHTS is Master of its Domain



Propulsion Update
MAN B&W Makes Electronic Milestone

Technology
Dynamic Positioning Expands Opportunities

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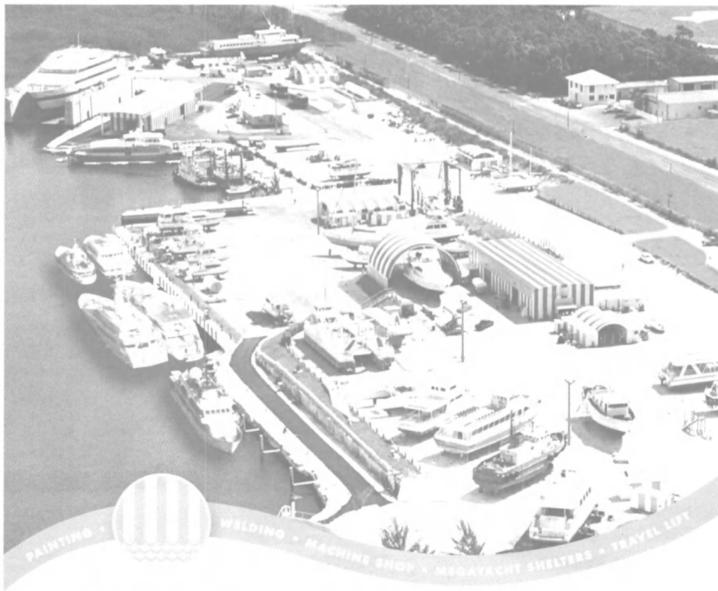
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MARITIME REPORTER AND ENGINEERING NEWS

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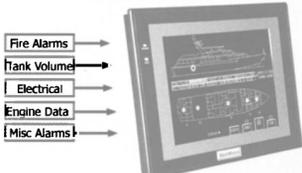
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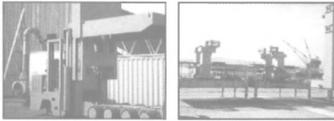


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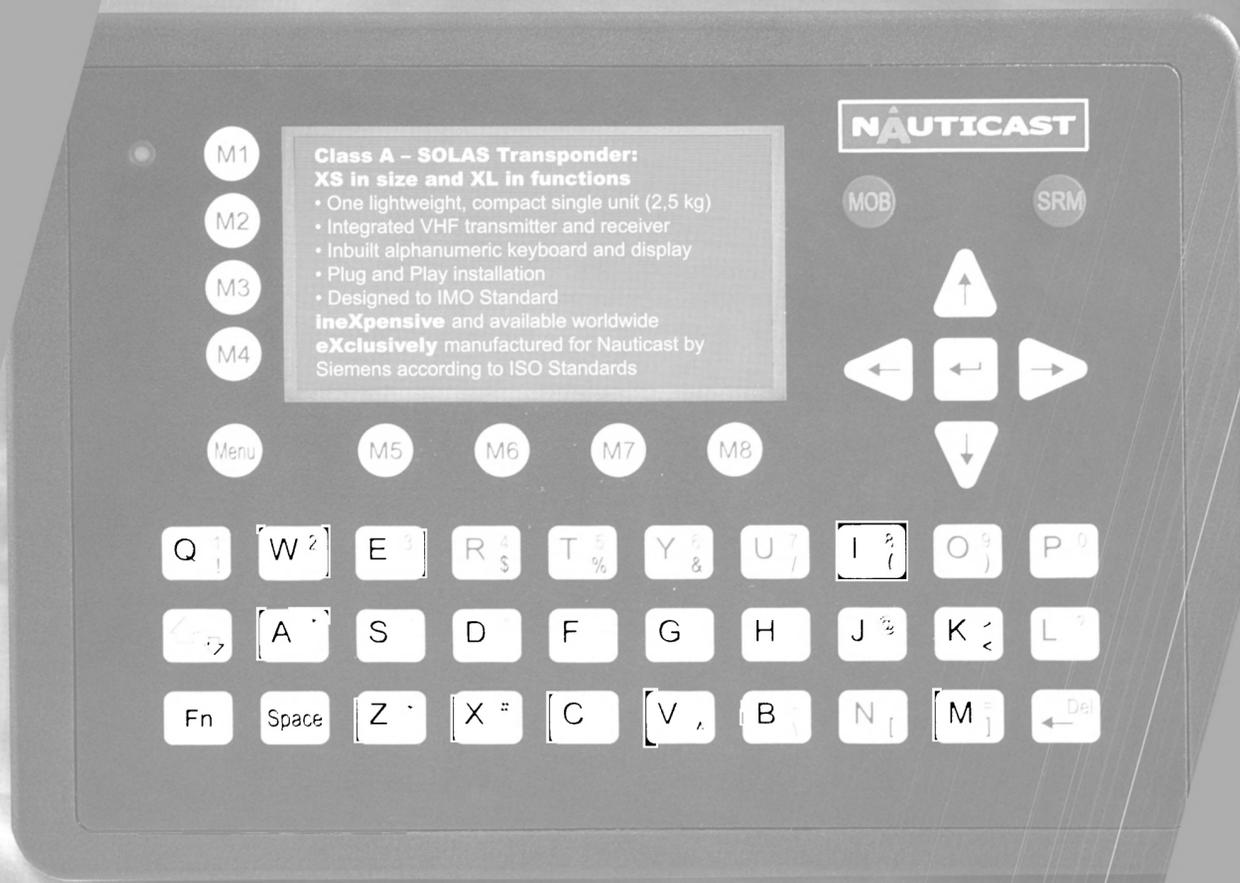


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Editor's Note

I'm not sure if it's just me, but if you haven't noticed, the earth has stopped spinning, the sun has gone dark and the world is coming to a cataclysmic end any day now. A bit extreme, you say? Perhaps.

But frankly, the dour reports coming from all four corners is starting to have an effect. Not in recent memory have so many had so little to be happy about.

Cruise? No orders in more than a year. **Offshore?** Starting a down cycle. **Tanker?** Too much capacity/too many subsidies. **Most everything else?** Terrible.

Is it all that bad? I think not.

If there's one thing I've noticed about the marine business, an industry which is notorious for its cyclical nature, there is seldom if ever an upbeat tone. The very nature of this diverse business, though, practically mandates that there is always an opportunity ... sometimes they are simply harder to find.

There has been a lull in new cruise ship construction, a fact most assuredly tied to the events of 9/11. But lost sometimes is the fact that the cruise industry has, over the last decade, simultaneously experienced a record number of new ships and endured ceaseless corporate consolidation. These two factors alone could provide a cause for pause in the ordering of half-billion dollar ships. The fact that more people were unable or unwilling to travel down south to jump aboard a cruise ship is real, but this situation has spawned cruises from a host of new, non-traditional cruise home ports that have proven popular and could spur real passenger growth in the years to come.

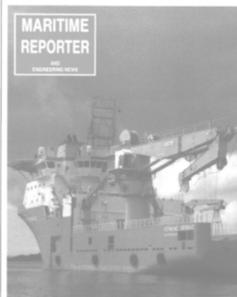
Maritime Security is an area for obvious growth, with the demand for vessels and equipment climbing rapidly around the country, and around the globe. The time to target the vast "homeland security" market is yesterday, but it is still not too late to jump on now. The government, with the official "opening of the doors" of the Department of Homeland Security on March 1, 2003, has undergone one of its most radical restructuring in almost 60 years. Security starts at the borders, and at last check, the U.S. has more than 95,000 miles of navigable waterways with which to contend. New missions, new technologies, more vessels ... sounds like an opportunity to me.

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On the Cover



Pictured on this month's cover is *Normond Mermaid*, a massive Anchor Handling Tug built by Norway's Ulstein Verft. A similar vessel, *Normond Master*, was delivered last month for Solstad. The story starts on page 40.

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Subscriptions: One full year (12 issues) \$24.00 in U.S.; outside of U.S. \$96.00 including postage and handling. For subscription information, contact: Dale Barnett, fax: (212) 254-6271; e-mail: barnett@marinelink.com

MARITIME REPORTER

AND
ENGINEERING NEWS

www.marinelink.com

ISSN-0025-3448
USPS-016-750

No. 4 Vol. 65

118 East 25th Street, New York, NY 10010
tel: (212) 477-6700; fax: (212) 254-6271

Founder: John J. O'Malley 1905 - 1980
Charles P. O'Malley 1928 - 2000

Maritime Reporter/Engineering News is published monthly by Maritime Activity Reports, Inc. Mailed at Periodicals Postage Rates at Waterbury, CT 06701 and additional mailing offices.

Postmaster send notification (Form 3579) regarding undeliverable magazines to Maritime Reporter/Engineering News, 118 East 25th Street, New York, NY 10010.

Canada Post International Publications Mail Product (Canadian Distribution) Sales Agreement No. 0970700. Printed in U.S.A.

Publishers are not responsible for the safekeeping or return of editorial material. ©2003 Maritime Activity Reports, Inc.

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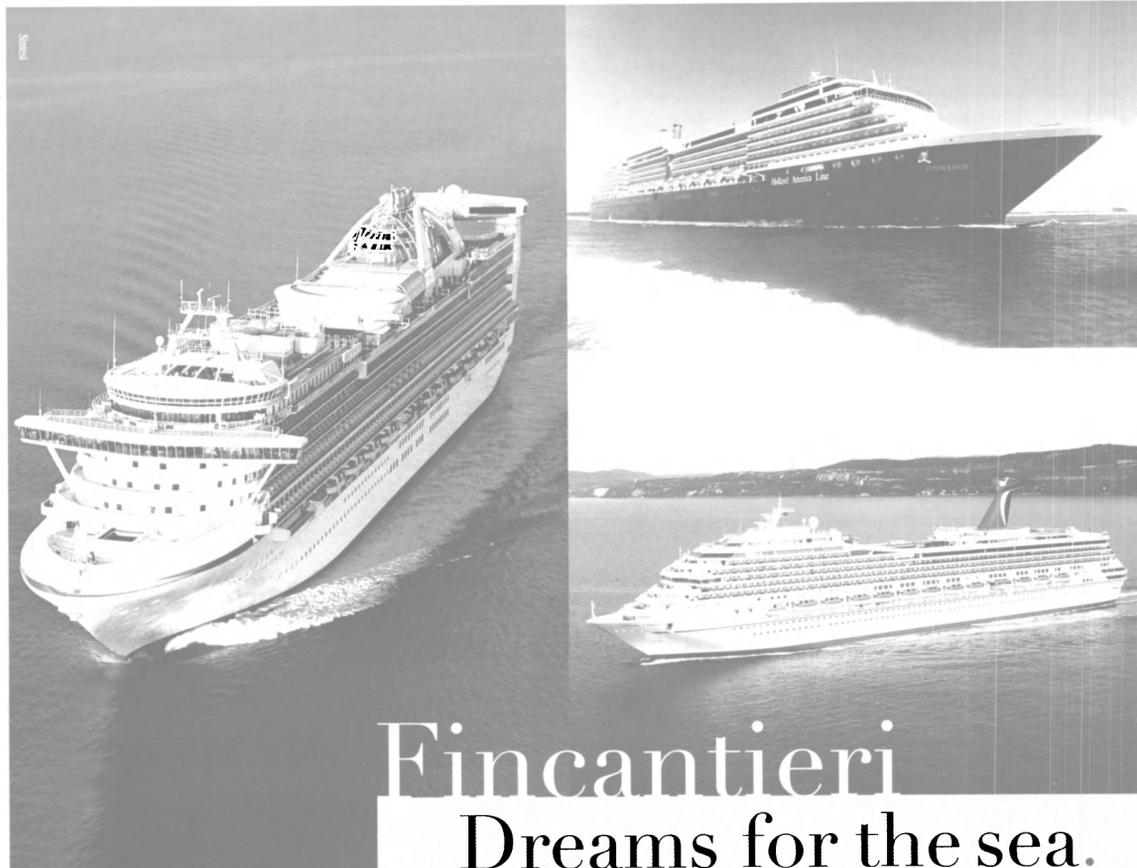
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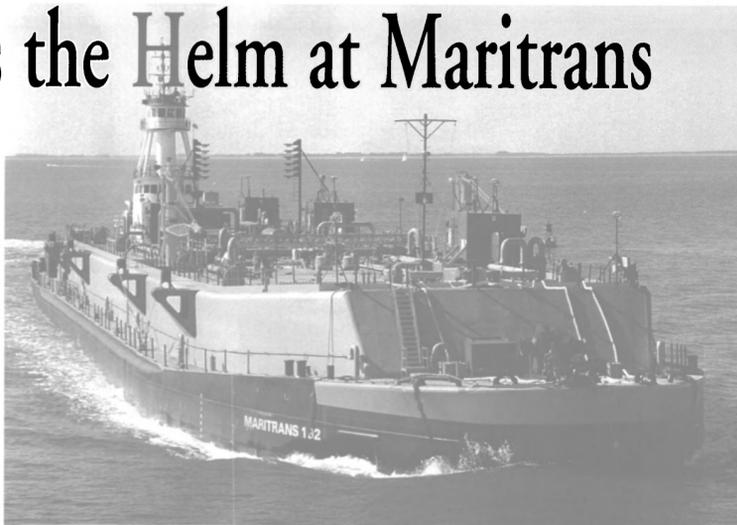
Profile

Doherty takes the Helm at Maritrans



For the past 75 years, Maritrans has maintained a high level of customer satisfaction due to its constant vigilance regarding safety and performance. In order to instill and maintain these efforts, the company has always been quick to pursue individuals who can maintain this level of excellence. Most recently with Phil Doherty, who took over the head post at the Tampa, Fla.-based company this past April 1, 2003. No April Fool's joke here, as Doherty, who credits his passion and commitment to Maritrans and the offshore industry, has big plans for the tug and tanker company - the fate of which now lies within his hands.

— By Regina P. Ciardiello, managing editor



While Maritrans' business platform may have begun on its 75-year traditions, the company has never balked at the opportunity to embrace new technology. Before the company's newly-appointed CEO, Phil Doherty

had even thought about joining Maritrans, the company, which had been led by former CEO Stephen Van Dyck, was well on its way to the distinction of being a premier owner of tank barges and tugs. It was Van Dyck, whom Doherty hails as his "mentor," who for the past 28 years with Maritrans, worked to revolutionize the company.

With the passing of the Oil Pollution Act (OPA 90), the tank barge industry found many owners sweating the fact that vessels would have to be decommissioned, forcing them to scrap single hull fleets and invest millions in new double hull units. Maritrans had a strategy though to overcome this dilemma. The company, which already had constructed its barges in the 1970s and 1980s "to exceed requirements," developed a plan that was both economical and efficient - refit the existing barge fleet for approximately one-half the price of ordering a new vessel.

The company, whose headquarters were based in Philadelphia, Pa. at that time, called upon Tampa Bay Shipbuilding & Repair Co., Tampa, Fla., to perform the first-ever double hull refit on its Maritrans 192. Made possible by advances in CAD/CAM technology, the single hull Ocean 192 was rebuilt at Tampa Bay with an internal double hull to comply with the OPA 90 requirements. Since then, Maritrans has contacted Tampa Bay for work on several of its barges, specifically the Maritrans 244, which was completed in 2000, the 252 finished in January 2002, and the 254 completed in November 2002. According to Doherty, Maritrans expects an additional vessel, Ocean States to enter Tampa Bay's repair yard sometime during Q3 for yet another refit job. Using Maritrans' patented double hull manufacturing process, which involves modular internal hull sections fabricated with computer-aided design, the company will refit this vessel with a 30,000 bbl mid body to comply with OPA 90 double hull requirements.

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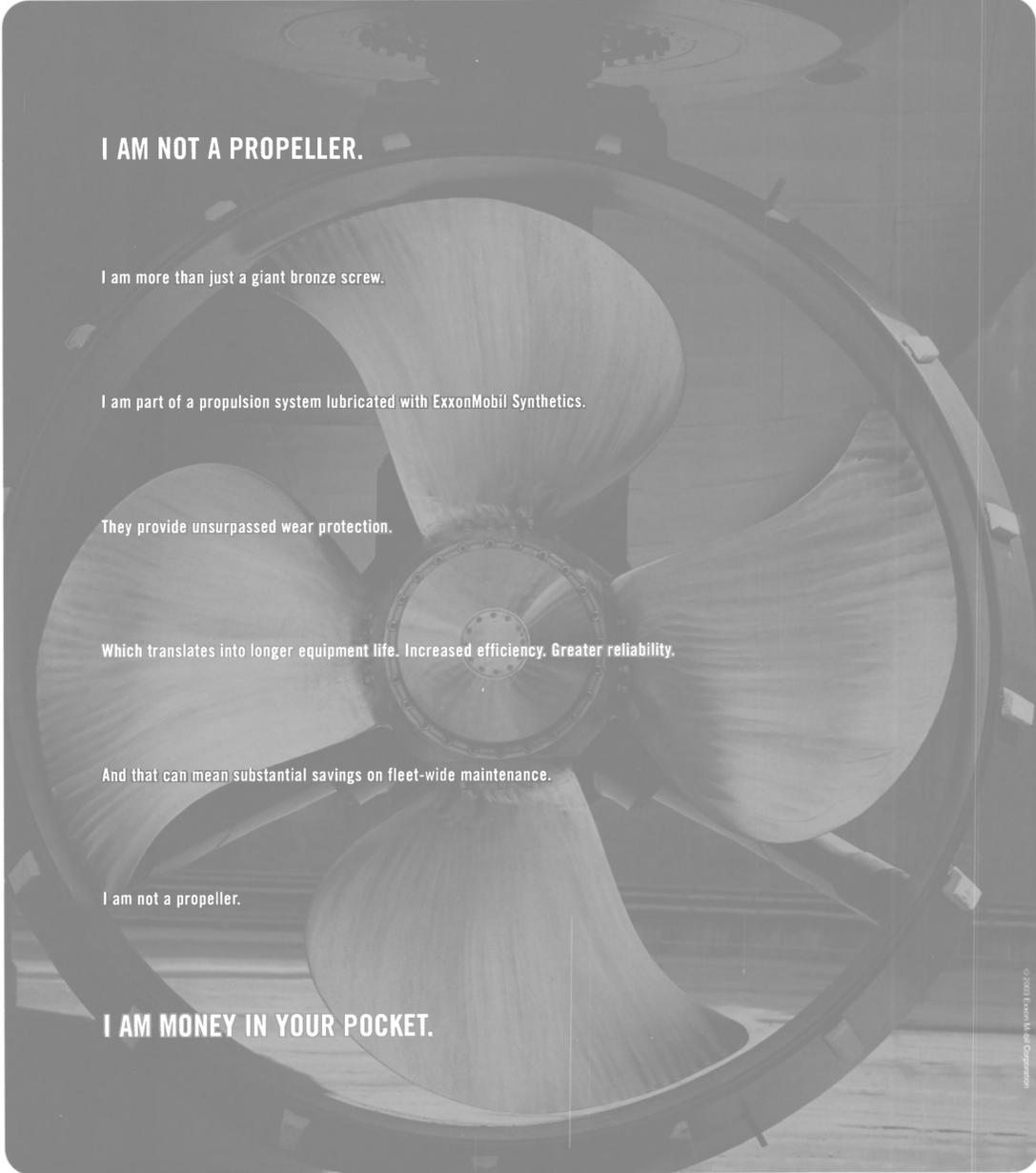
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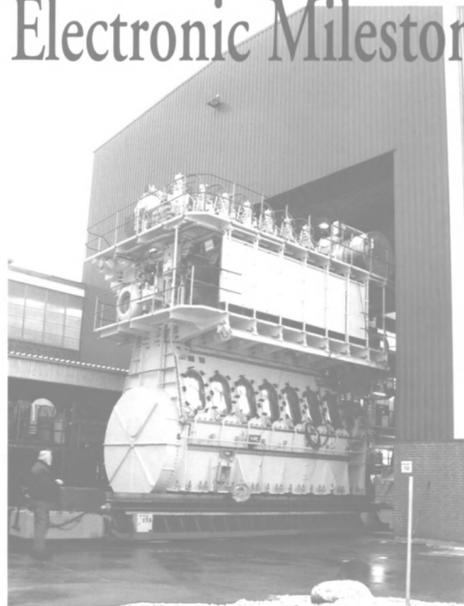
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Investment in Design

Electronic Milestone for Two-Stroke Champ



By David Tinsley, technical editor

As the culmination of nearly 12 years' research and development work, and a pointer to the direction of two-stroke diesel propulsion technology, MAN B&W has rolled-out its first purpose-built, electronically-controlled low-speed engine. Produced at the group's versatile Frederikshavn plant in Denmark, the camshaft-free 7S50ME-C engine is claimed to offer a range of operating, cost and environmental benefits, and will be fitted in a 37,500-dwt new-build for Norwegian chemtanker specialist Odfjell.

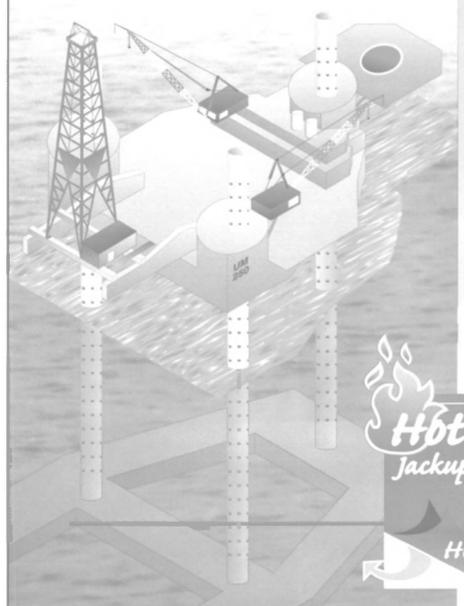
Odfjell's bold decision to nominate the ME concept, and so dispense with conventional control arrangements based on camshaft drive, follows its experience with a modern tanker powered by a two-stroke 6L60MC engine adapted for full electronic command in November 2000. The 14,160-bhp installation in the 37,000-dwt Bow Cecil has continued to be run in full electronic mode across the ship's entire trading profile, having now completed 10,000 service hours in 6L60ME format.



by David Tinsley,
technical editor

The operating flexibility and reliability achieved to date with the prime mover in Bow Cecil has vindicated the owner's early receptivity to the technology, and also inspired confidence in the concept across a broader front, such that Odfjell's move has been followed by commitments from other fleet operators to ME engines for newbuild projects.

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Circle 303 on Reader Service Card

Investment in Design

"MAN B&W is convinced that the ME engine will overtake the conventional engines in the course of the next decade," said **Peter Sunn Pedersen**, executive vice-president, in charge of the two-stroke business unit within the MAN B&W Diesel group. "For shipowners, the purchase of the large ME engines will be cost-neutral, maybe even cheaper. In operation, the engine can save money, partly because the fuel consumption is lower at part loads, and partly because savings are made in maintenance," he added.

The ability to optimize the plant for, say, exacting criteria governing smoke emissions in certain ports is indeed a valuable environmental feature, but this goes hand-in-hand with the wider, practical goal of achieving the best combustion at every stage in the vessel's operating profile. The electronic arrangements incorporated on Bow Cecil's engine, for instance, have facilitated tuning to the widely differing properties of the heavy fuel oil bunkered at a number of locations around the world.

The ME program is a pillar of MAN B&W's technical endeavors to maintain its pre-eminent position in the global

two-stroke propulsion market. The development project has entailed total expenditure of approximately \$14.5-million, and absorbed 215 man-years on the part of 60 engineers and technicians. Most significantly, MAN B&W has developed the necessary electronics itself, and programmed the engine's integrated control system. Extensive tests have been conducted with systems fitted to its dedicated research engine in Copenhagen. Whereas the retrofitting of the electronic elements to the Bow Cecil's 6L60MC engine left the camshaft in situ, albeit now unused, the 7S50ME-C installation for the Odjell newbuild has been manufactured and supplied with fully integrated electronics that eliminate the camshaft.

The 500-mm bore size encapsulated by the Odjell parcel tanker main engine is at the lower end of the application range for the ME technology.

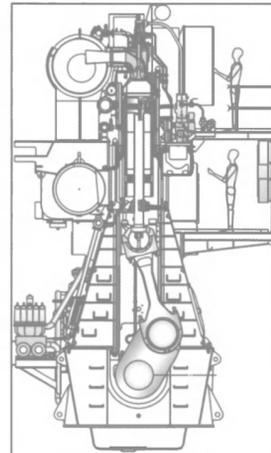
Contracts and preliminary orders for electronic variants include machinery up to the largest two-stroke currently in production, the 980 mm-bore K98 family, and MAN B&W also advocates the system for an envisioned new generation of containership engines, designed with a

record-breaking bore of 1,080-mm.

The seminal 7S50ME-C unit of 10,430-kW (14,200-bhp) was manufactured at the Alpha works, a bastion of the European diesel engineering and integrated propulsion system production in northern Jutland, for supply to Norwegian shipyard Kleven Floro. The recipient parcel tanker is scheduled for handover during the spring of this year.

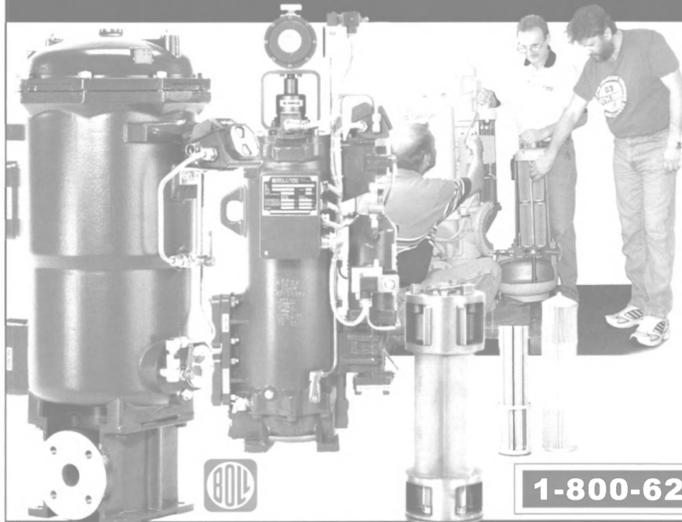
In essence, the advantages of the ME series arise from the fact that the timing and intensity of fuel oil injection and exhaust valve opening and closing is optimal at all steady and transient loads, making for lower part-load consumption, lower emissions and particularly smoother and improved low-load operation. The balance between cylinders is easier to adjust for smoother operation, militating in favor of longer TBOs (times between overhaul).

Rather than being reliant on a conventional camshaft, ME engines provide power for fuel injection and exhaust valve lifting by way of a hydraulic oil loop, using fine-filtered oil from the main engine lubricating system at about 200 bar pressure. The microprocessor-based, electro-hydraulic Engine Control



7S50ME-C for Bow Firda Chem Tanker	
Length	10.25 m
Width	4.75 m
Height	9.33 m
Mass	235 tons
kW	10,430
kW (cyl.)	1,490
RPM	120
MEP	19
Propeller	VBS 1560
Control	Alphatronic 2000

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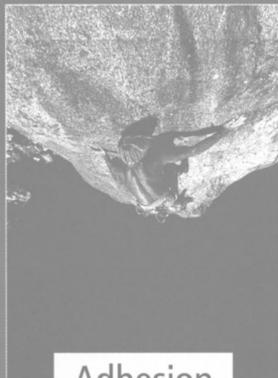
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Investment in Design

System (ECS) controls the timing of the fuel injection through close monitoring of the crankshaft position via a tachometer system, regarded as far more accurate and responsive than any mechanical method of control. When compared to conventional designs, the most visually apparent difference in the ME breed is

the absence of the timing chains. In combination with the removal of the camshaft, this results in weight savings.

At the recent presentation and acceptance of the first dedicated, cam-less ME engine in Frederikshavn, **Peter Sunn Pedersen** said the event marked "the greatest technical step forward in the

technology of large marine diesel engines since our company introduced turbocharging of such large two-stroke engines in 1952". He described it as "the first fully commercial step" on way to realizing the company's long-term vision of "the intelligent engine."

Circle 160 on Reader Service Card

New Era of the Double-Hull Bulker

As an endorsement of a commercially circumspect approach to double-hull bulk carrier design and construction, UK-based Graig Group has generated a tranche of orders for its cost-competitive Diamond ultra-handymax type. Although a letter of intent signed with China Shipbuilding Industry Corp. (CSIC) during the SMM Exhibition in Hamburg last September had put four newbuilds and four options in the frame, recently confirmed transactions open the way to a 16-ship program. New Century Shipbuilding has been entrusted with four examples of the robust 53,000-dwt Diamond class, and Chengxi Shipyards has been awarded three vessels, and a total of nine options have been taken out at the two yards.

Two of the seven firmly-booked bulkers will be taken over a further two Graig orders at New Century. Norwegian principals have booked the trio at Chengxi, via Graig. Prices have not been revealed, although it is understood that the pair destined for Greek control is costing in the region of \$18- to \$19-million per ship. This new breed of bulker incorporates five holds, offering a maximum cargo volume of 64,000-cubic meters, plumed by four 36-ton-capacity, level-luffing deck cranes, and suited to the range of bulk commodities or full shipments of packaged timber, steel products and other goods. The Diamond 53 type is the first product of the joint venture design company set up in Shanghai in 2001 by Cardiff shipowning, shipmanagement and marine services group Graig and Danish naval architecture and marine engineering consultancy Carl Bro. Technical input on structural and regulatory issues has been fed in by Det Norske Veritas, which is also classing the series.

The double-hull configuration and high specification, obtainable at keen prices in the highly motivated Chinese shipbuilding industry, are intended to address IMO and IACS concerns regarding bulk carrier safety, while promising tangible benefits for owners, operators and charterers. Savings for owners and users are claimed to stem from lower capital and operating costs, shorter discharge and cleaning times, and the increased safety and environmental protection afforded by the double-hull design, relative to a traditional bulk carrier structural layout. The double-hull layout results in smooth hold surfaces, free from the conventional, internal side frames, making for easier cargo unloading and hold preparation between cargoes, while creating a strong and robust hull structure. In the interests of long-term integrity, the designers of the Diamond 53 have stipulated an increased mild steel content, and proportionally reduced quantities of high tensile steel, resulting in a higher light-weight relative to equivalent capacity, single-skin handymax vessels. The Graig/Carl Bro joint venture design firm in Shanghai now plans to expand the Diamond range into both the panamax and capesize bulker categories. The panamax version, the Diamond 75, is imminent, as the subject of a China-based design, finance and build package offering.

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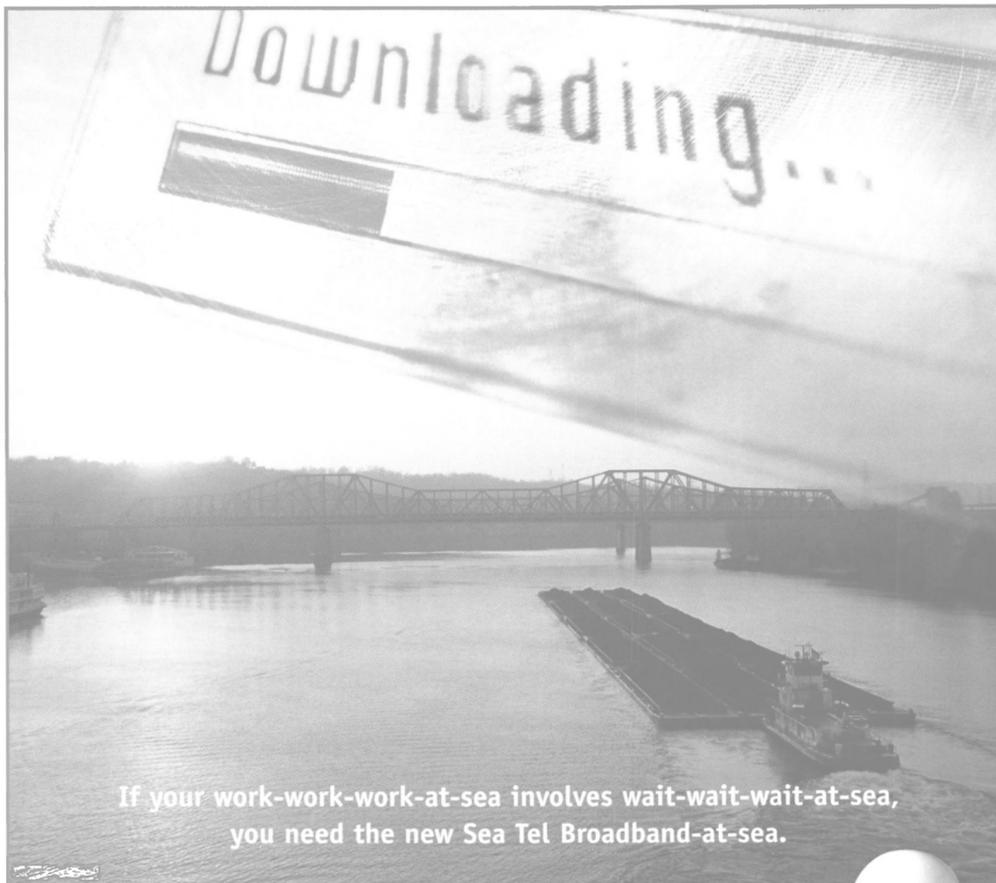


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Circle 270 on Reader Service Card

Vessels

IZAR Sestao Launches 11,300-cu. m. Dredger

The Sestao Shipyard has launched the newbuilding number 324, a suction dredger with a capacity of 11,300 cu. m. Known as Filippo Brunelleschi, the vessel will be delivered next September and

will go to work in Southeast Asia. This dredger is the first of a series of two, the second one will be launched in April. These, as well as the previous ships Juan Sebastian de Elcano and Kaishuu, of 16,000 cu. m., will be operated by the same Belgian shipowner, Jan de Nul.

Filippo Brunelleschi and its twin ship are smaller than their predecessors, but are able to dredge to a major depth and are better manageable.

First of a twin vessels contract signed with the Belgium dredger operator, Jan de Nul N.V., Filippo Brunelleschi is a



Main Particulars

Length overall	456 ft. (138.9 m)
Breadth	90 ft. (27.5 m)
Design draft	29 ft. (9 m)
DWT	18,590
Propulsion	2 x MAN B&W de 5,760 KW each
Dredge pumps	JHC
Engines	Caterpillar 1,550 kW @ 1,800 rpm

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trailing suction hopper dredger with a 11,300 cu. m. hopper capacity, designed and built to perform a variety of functions. The dredger is equipped with one suction pipe of a 1,200 mm internal diameter, dimensioned for dredging at a depth of 32.5 m (adjustable to 52 and 71 m) under the waterline with the hopper empty, and with a 50 degree or 55 degree, respectively maximum angles between the suction pipe and the baseline. A draghead of a 1,200 mm bore, with an adjustable visor and a swell compensator, is fitted to the end of the suction arm. The dredger is powered by two MAN B&W diesel engines, type 12V32/40, of an 5,760 kW power output at 750 rpm, burning heavy fuel of a max. viscosity of 390 cst at 50°C.

SB main engine, driving: a Wartsila controllable pitch propeller via a flexible coupling, a Jahnel Kestermann reduction gearbox with clutch coupling; a Nihhuis jet pumpset from the forward end of the engine via reduction gearbox with two outgoing speeds. Between engine and gearbox a flexible coupling, between gearbox and pumpset a tooth coupling are fitted

Circle 26 on Reader Service Card

Oceaneering Acquires New Vessel

Oceaneering Intl. purchased the Gulf Quest for conversion into a 145-ft. (44.1-m) dive support vessel. Built in 2001, and renamed the Ocean Quest, the vessel will be upgraded in spring 2003. When completed it will feature: 2,100 sq. ft. of deck space, 24 person accommodations (in addition to vessel crew), dive support equipment installed below deck, marine rated API 10 ton crane on the stern, 24 hr. operational capacity and built-in, below deck, 6 x 6 jet pump.

Maritime Reporter & Engineering News

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Circle 221 on Reader Service Card

Vessels

Dredge Built to Withstand Siberian Weather

A Russian customer placed an order for a CSD350 Cutter Suction Dredge with VOSTA LMG. This cutter suction dredge will be one with special requirements, as it is due to operate in Siberia

with weather conditions up to minus 40 degrees C. The Russian contractor plans to use the dredge to construct sand roads on the northern tundra's to make the oil and gas fields accessible during the summer period when they are swampy after being frozen in the winter.

The dredge is of the dismantable and

easy transportable type so it can transport to the tundra's before summer. After the summer, when the temperature starts to decrease, the dredge can be dismantled and stored.

Circle 4 on Reader Service Card



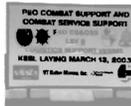
Main Particulars - Vosta LMG CSD350
 Length, (o.s.) 82 ft. (25 m)
 Breadth, (molded) 21 ft. (6.5 m)
 Depth to main deck 8 ft. (2.5 m)
 Dredging depth 26 ft. (8 m)
 Cutter power 55 kW
 Dredge pump GIW 12 x 14 LSA 36
 Total installed power 485 kW
 Diameter discharge pipe 350 mm
 The dredge will be equipped with a cutter-head type VOSTA LMG - TSC 04

VT Halter Marine Lays Keel for LSV

At a keel-laying ceremony on March

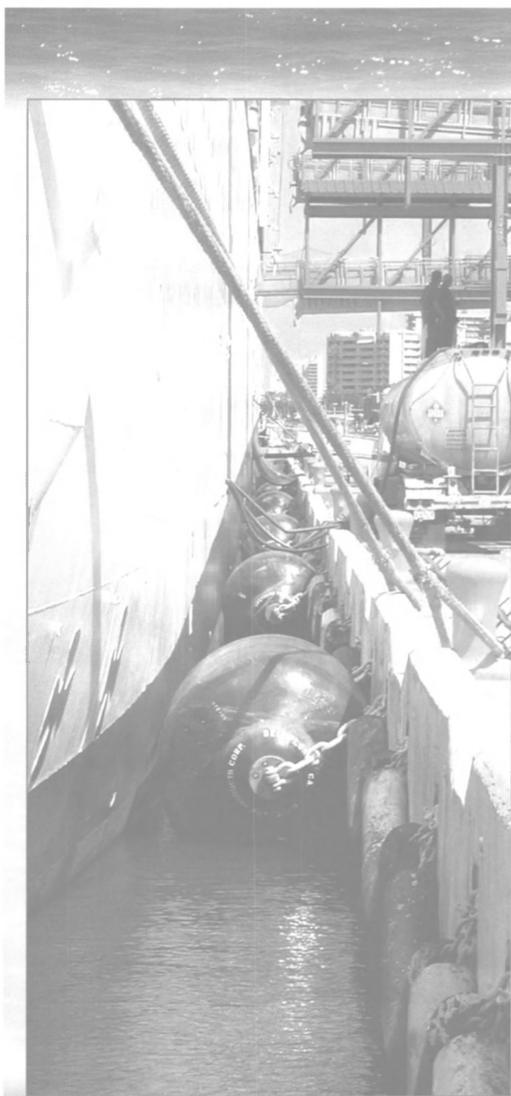


Pictured, L to R, are: **Anil Raj**, President and COO, VT Halter Marine, ; **COL Genaro J. (Gino) Dellarocco**, U.S. Army, and **Boyd E. (Butch) King**, CEO VT Halter Marine.



13, VT Halter Marine Inc., began the construction of the U.S. Army Tank-automotive and Armament Command's (TACOM) newest Logistic Support Vessel. "We value the confidence and trust that the U.S. Army has placed in our company and our employees," said **Butch King**, CEO of VT Halter Marine. "Our employees have first-hand experience in designing and building Logistic Support Vessels, Large Tugs and LCU-2000 Class Landing Craft that are specifically tailored to operational requirements. The U.S. Army is a long-term marine customer and about 50 vessels in their fleet have been built at our shipyards. We are very proud of the fact that this vessel will be used to help support our fighting forces and guard our national interests." The 313-ft. (95.4-m) LSV class vessel, designed to carry more than 2,000 tons of deck cargo, has a beam of 60-ft. (18.2-m) and a molded depth of 19 ft. (5.7 m) VT Halter Marine announced the Logistic Support Vessel (LSV) contract award December 20, 2002. Vessel delivery should take place sometime during the fourth quarter, 2004.

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Circle 286 on Reader Service Card

Government Update

Advance Notices of Arrival

By Dennis L. Bryant, Senior Maritime Counsel,
Holland & Knight

Since the seminal events of September 11, 2001, it seems like every U.S. federal agency concerned with maritime commerce has enhanced its requirements relating to advance notices of arrival for ships, cargoes, and persons coming to the United States. One federal agency mariners had largely ignored also dipped its toes in these waters, only to withdraw, at least for the moment. This article will provide an overview of current federal requirements relating to advance notices of arrival. Like so much in the field of maritime security, these requirements change quickly and this article might be outdated by the time you read it - but here goes.

Coast Guard Advance Notice Requirements

Traditionally, the U.S. Coast Guard required ships coming to U.S. ports to provide it with an advance notice of arrival at least 24 hours prior to arrival. The elements that had to be reported were fairly basic. This laid-back system changed drastically with the October 4, 2001 publication of an emergency temporary rule that did three major things: (1) it expanded the amount of information that had to be reported; (2) it required submittal of information (for most ships) at least 96 hours prior to arrival; and (3) it eliminated various exemptions to the reporting requirement.

Advance Notice of Arrival

The Coast Guard has now modified the emergency rule and made it permanent. As of April 1, 2003, ships coming into U.S. ports will be required to submit reports to the Coast Guard that largely resemble the ones submitted since October 2001, but with various changes.

The list of ships exempted from the reporting requirement has been adjusted only slightly. The list of 'certain dangerous cargoes' that must be specially reported has been limited to only those cargoes deemed by the Coast Guard to pose the greatest risk to maritime safety and security. The differentiation between crewmembers and persons on board in addition to crew has been sharpened, but the amount of information required for each person is largely unchanged. The Coast Guard is extremely concerned about the accuracy of this information. If it boards a ship and finds material discrepancies between the list submitted and the persons actually on board, the ship will be delayed while the matter is resolved to the satisfaction of the Coast Guard and immigration officials.

In addition, commencing July 1, 2003, the Coast Guard is mandating that ships required to present advance vessel cargo declarations to the U.S. Bureau of Customs and Border Protection (nee U.S. Customs Service) submit such information electronically utilizing the Sea Automated Manifest System (AMS). This latter requirement is highly unusual, as it has one agency directing how to comply with another agency's requirements. This is a sign of the new times. Maritime security provisions are changing rapidly and some of the usual routines are being circumvented. In addition, this represents some of the new inter-agency cooperation resulting from formation of the Department of Homeland Security. It is anticipated that the Bureau of Customs and Border Protection will soon issue its own regulations in this regard, allowing the Coast Guard to recede on this point.

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Government Update

The Coast Guard acknowledged that it received complaints about what was perceived as duplicate reporting requirements from different government agencies. It stated that it is working with

other agencies to integrate information and data requirements. Relief cannot come soon enough.

The 24-hour advance notice regarding offshore lightering is unchanged.

Notice of Hazardous Conditions

Whenever there is a hazardous condition on a ship in U.S. waters, the master is required to immediately notify the Coast Guard. For this purpose, haz-

ardous condition means any condition that may adversely affect the safety of the ship or the marine environment. For conditions that arise prior to entry into U.S. waters, the hazardous condition is to be included in the advance notice of arrival or in a separate notice submitted prior to such entry. Recently, the master and chief engineer of a foreign ship (along with various senior shoreside personnel located in Denmark) were prosecuted for, among other things, failure to submit a notice of hazardous condition when the ship made a port call in Baltimore.

Customs Advance Notice Requirements

The Bureau of Customs and Border Protection requires various reports relating to cargoes being carried to the United States. The most significant of these reporting requirements is the so-called "24-hour rule".

Advance Vessel Cargo Declaration

On October 31, 2002, the U.S. Customs Service promulgated a regulation requiring sea carriers to present a vessel cargo declaration at least 24 hours prior to loading cargo in a foreign (non-U.S.) port when the ship is bound for a U.S. port. The vessel cargo declaration must include both cargo scheduled for offloading in the United States and cargo scheduled for offloading in a non-U.S. port that will remain on board the vessel when it calls in the U.S. (referred to as "foreign cargo remaining on board" or FROB cargo).

Exemptions

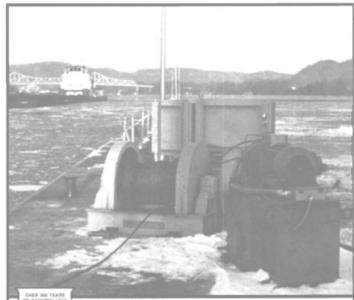
Bulk cargo is exempt from the requirement to present an advance vessel cargo declaration. For this purpose, bulk cargo is defined as homogeneous cargo that is stowed loose in the hold and is not enclosed in any container, such as a box, bale, bag, cask, or the like. The important factor here is that the cargo is relatively uniform and is open to view (not wrapped or enclosed in a container of any type). The risk that cargo meeting these requirements will contain a weapon of mass destruction is considered minimal. Break bulk cargo may be exempted from the requirement to present an advance vessel cargo declaration if the carrier applies for an exemption and the application is approved. For this purpose, break bulk cargo is defined as cargo that is not containerized, but is otherwise packaged or bundled.

Electronic Submittal

Carriers are strongly encouraged by Customs to submit the advance vessel

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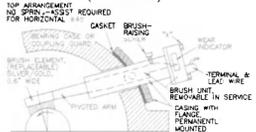
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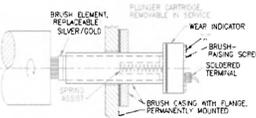
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cargo declaration electronically, either directly or through an agent. Carriers participating in the Sea AMS program are required to submit the cargo declaration electronically. As noted above, the Coast Guard is requiring that, as of July 1, 2003, the advance vessel cargo declaration be submitted electronically to Customs via Sea AMS.

Accurate and Complete Submittals

The carrier is required to present an accurate and complete vessel cargo declaration. A precise description of the cargo (or the Harmonized Tariff Schedule [HTS] numbers to the six-digit level) must be included in the declaration. Generic descriptions, such as 'freight of all kinds' (FAK), 'general cargo', and 'said to contain' (STC) will no longer be accepted. Likewise, general characterizations, such as 'chemicals' or 'foodstuffs', are considered overboard. The carrier should not accept cargo from a shipper unless the description provided is consistent with the above requirements.

"No Load" Messages

Customs will attempt to screen all advance vessel cargo declarations within 24 hours of receipt. If it perceives a security risk with regard to a particular container or other cargo, it will direct the carrier to not load that cargo. The cargo subject to the 'no load' order will then be examined by appropriate officials. Customs will not send messages stating that any particular cargo is cleared for loading. Rather, the carrier may load any cargo reported in its advance vessel cargo declaration for which a 'no load' message was not received within 24 hours of submittal.

In the absence of new information, Customs is unlikely to require special inspection of cargo included in an advance vessel cargo declaration when that cargo arrives in the United States. Being a government agency though, Customs will not provide any guarantees to this effect.

Results to date

While the avowed purpose of the 24-hour rule is to allow Customs to identify suspect cargoes before they are loaded on ships bound for the United States, there is some indication that the rule has turned into another reporting exercise. In the first full week of enforcement, Customs reviewed more than 142,000 advance vessel cargo declarations. It issued 13 'no load' orders, all based on inadequate cargo descriptions. The agency is now focusing on the timeliness of submittal and expects to begin

issuing penalties in the near future for ships that load cargoes less than 24 hours after submitting the advance vessel cargo declaration. It is hoped that, eventually, the system will start serving its true purpose.

Immigration Advance Notice Requirements

The Immigration section of the Bureau of Customs and Border Protection (nee Immigration and Naturalization Service [INS]) does not currently require that the arrival manifest be submitted until

the ship actually arrives in a U.S. port. Rather, Immigration relies on the information submitted to the Coast Guard as part of the advance notice of arrival regarding crew and other persons on board. It should be noted that the information required by Immigration upon

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Government Update

arrival differs from that required by the Coast Guard, so the information must be submitted at two different times and in two different formats. Immigration has embarked upon a cooperative program with the Coast Guard. Immigration reviews the information submitted to the Coast Guard for persons who might present a security risk to the United States. Primarily, it is looking for suspected terrorists and persons of that ilk. Unfortunately, Immigration is also concerned about persons of certain nationalities and persons without U.S. visas. The nationalities currently on the Immigration 'watch list' are: Iran, Iraq, Libya, Syria, and the Sudan. In addition, Immigration is concerned about males between the ages of 16 and 45 from Pakistan, Saudi Arabia, and Yemen. If the ship has a crewmember either without a current U.S. visa or falling into the nationality watch list, the Coast Guard will order the ship to remain offshore until an acceptable crew security plan has been submitted to Immigration. For the most part, for a crew security plan to be acceptable, the master must arrange for hiring a commercial guard service to keep these crewmembers on board during the time the ship is in U.S. waters.

APHIS Advance Notice Requirement

The Animal and Plant Health Inspection Service (APHIS) requires the

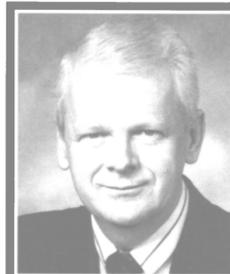
carrier to submit an advance notification of arrival for any ship entering the United States from a foreign country or arriving in the continental U.S. from Hawaii or an insular possession. The notice must reach the APHIS office for the arrival port at least 12 hours prior to the ship's estimated time of arrival. The notice must include, among other things, the exact dock or pier where the ship will be berthed and the names of all foreign and non-continental U.S. ports where any cargo, crew, or passengers destined for the U.S. boarded since the ship's most recent arrival in the U.S.

FDA Advance Notice Requirement

In January, the U.S. Food and Drug Administration (FDA) issued a notice stating that it was drafting a regulation that would require prior notice be submitted regarding commercial food shipments to the United States. The purpose of the prior notice would be to allow the FDA to review the planned shipment for potential bioterrorism. One of the parties under consideration for the obligation to submit this prior notice to the FDA was the carrier. When the official proposal was published in February, the FDA elected to impose this new reporting requirement on the importer, except where the shipment is in bond. In that event, the reporting requirement is on the carrier. The rule has not yet been finalized and remains subject to change.

Summary

Since the horrific events of September 11, 2001, much has been done to improve maritime security in the United States and worldwide. Enhancement of reporting requirements for ships, cargoes, and persons coming to the United States is a significant aspect of that enhanced security. It is only to be hoped that the agencies receiving all this additional data have the ability to utilize it for the intended purpose and do not see this as just another opportunity to take enforcement action against an already pervasively regulated industry.



Dennis L. Bryant, Senior Maritime Counsel at the law firm of Holland & Knight, Washington, D.C., is a contributing editor of MR/EN.

SUNY Maritime Hosts Annual Awards Night

The Alumni Association, SUNY Maritime College, hosted its annual Awards Night on March 27, 2003 at Manhattan's New York Athletic Club.



Captain Robert E. Johnston, Class of 1969, has been selected as the Distinguished Alumnus of the Year, which is given to an alumnus who has achieved outstanding success in his/her career as well as service to their industry, country and alma mater. Capt. Johnston is the Executive Vice President of OSG Ship Management, Inc. He joined OSG in June of 1969 as a Third Mate, and in 1974, he assumed command of a 38,000-ton tanker. His seagoing experience was gained on crude oil and product tankers in all capacities from Third Mate to Master. In 1976 he came ashore as a Port Captain for Maritime Overseas Corporation, the agent for Overseas Shipholding Group (OSG). In 1983 he was named Vice President, U.S. Operations, and 10 years later, in November 1993, he was named Senior Vice President. In October 1995 he was appointed Chief Commercial Officer for the entire OSG Fleet, and in 1997 was promoted to Executive Vice President. In 1999 he formed with BP and Keystone Shipping Company the Alaska Tanker Company, the premier Tanker Company serving the Valdez, Alaska - U.S. West Coast trade route.

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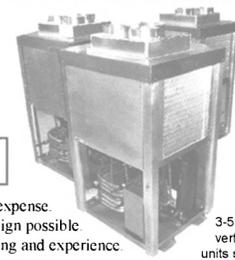
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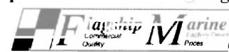
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Maritime Reporter & Engineering News



LCS Program Team Announced

Trumpeting the strength of combining leaders in systems engineering, mid-market shipbuilding and naval architecture, officials from Lockheed Martin, Gibbs & Cox, Bollinger Shipyards and Marinette Marine announced a teaming effort to capture the Navy's Littoral Combat Ship program. With Lockheed Martin designated as the prime contractor, Gibbs & Cox, Bollinger Shipyards and Marinette Marine will share significant roles as principal team members.

As a leading naval architectural and marine engineering firm, and world-renowned designer of surface combatants for the U.S. and international navies, Gibbs & Cox will be the team's platform design authority, naval architect and platform systems integrator. As mid-market shipbuilders, Bollinger Shipyards and Marinette Marine's construction work serves smaller classes of ships and vessels, similar to the Navy's size requirements for LCS. In addition, both ship builders have significant experience serving commercial markets, where price, design, quality and on-time delivery are the primary measures for winning new customers.

Marinette Marine, with its shipyard facilities in Marinette, Wisc., is a leading shipbuilder serving the government, military and commercial customers throughout the maritime industry. Its shipbuilding portfolio includes U.S. Coast Guard icebreakers and buoy tenders, U.S. Navy mine countermeasure vessels and ocean tugs, as well as ferries, dredges and tugs. Responsibilities for the two shipyards include production and cost engineering, production design and platform production.

In addition to serving as the overall prime, Lockheed Martin will be the systems and modularity architect, hullform developer and lead the overall program management and cost analysis work. For further information on the companies listed, please circle the corresponding numbers on the Reader Service Card

Gibbs & Cox	20
Lockheed Martin	21
Marinette Marine	22

American Superconductor \$70M Navy Contract

American Superconductor has been selected by the U.S. Navy's Office of Naval Research (ONR) as prime contractor to lead a team in designing and building a prototype 36.5 MW high temperature superconductor (HTS)

propulsion motor for electric warships. AMSC has teamed with Northrop Grumman.

The full value of the contract will be approximately \$70 million. As prime contractor, AMSC will lead the design and manufacture of a prototype HTS electric ship propulsion motor system

that includes a 36.5-MW/120-rpm HTS motor and the required power electronics, circuit breakers and switchgear. The motor is expected to be less than half the size and approximately one-third the weight of a conventional copper-based motor.

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Cruise & Ferry

There's Something About Mary

Queen Mary 2 will not only be the largest, tallest and fastest passenger ship of its type in the world; it will also revive the august tradition of the transatlantic liner and take the design of such vessels several steps further into the future

The long and illustrious tradition of glamour associated with transatlantic liners is set to continue when Queen Mary 2, owned by Cunard and classed by Lloyd's Register, leaves the port of Southampton for Fort Lauderdale on its maiden voyage in January 2004. After this first voyage, Queen Mary 2 will sail the traditional transatlantic liner route from Southampton to New York City for which it was specifically designed, although the ship will, over its lifetime, play a dual role as both liner and cruise vessel. Upon completion in December 2003, it will be the largest, tallest and fastest passenger vessel of its type yet built in the world, at a height of 236 ft. (72 m), a beam of 134.5 ft. (41 m) and a length overall of 1,132 ft. (345 m). "From the beginning,

Carnival Corporation [Cunard's parent company] made it clear that it wanted a vessel that would be able to sail the cruise trades, as well as operate in the original liner trade from the UK to New York City," says John Rugg, Senior Vice-President and Cruise Business Manager for Lloyd's Register. "This meant that Queen Mary 2 would have to be able to operate to a strict timetable in all weathers and that it would need to have a robust structure that could deliver that reliability of operation."

The vessel's hull structure is unique in several ways that are a direct result of both the ship's size and its intended route. Queen Mary 2 has a long, slender bow to enable it to cut through the waves of the North Atlantic, and its superstructure of seven decks is set back to prevent damage from greenwater. For passenger comfort, the vessel will be fitted with two sets of 'active fin' stabilisers to reduce rolling. In addition, to give the ship's structure greater strength and support, it is being built as a longitudinally framed ship structure, in which the longitudinal members traverse



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Cruise & Ferry

the length of the ship, rather than as a traditional transversely framed ship structure.

"Queen Mary 2 is an extremely strong ship," says **Warwick Malinowski**, Lloyd's Register Senior Ship Surveyor, who spent five weeks on-site at the

Alstom Chantiers de l'Atlantique's Saint-Nazaire yard, where the ship is being built. "The plates in the bow are completely different from those on a normal cruise ship. The structure may look the same as that of any passenger ship from the outside, but internally and

with respect to the thicknesses of the plates, it is completely different."

A further unique feature of the vessel is the inclusion of three open public spaces, with minimal obstruction by pillars or other supporting structures. To facilitate these open spaces, which

include a theatre, the designers had to create suspension structures supported by longitudinal bulkheads running over them.

Queen Mary 2 will have a total of 1,310 staterooms, three-quarters of which will have private balconies. Over 90 of these will be suites, including six penthouses and five 1,650 sq. ft. duplex apartments. Other features will include a 1,300-seat three deck-high restaurant, five swimming pools, an art gallery and various entertainment venues. Queen Mary 2's lower bed passenger capacity will be 2,620.

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Stephen Smith, Lloyd's Register site manager for St. Nazaire.



Maritime Reporter & Engineering News

Cruise & Ferry

Power will be generated by four Wartsila 16V46C diesel engines, each rated at 16.8 MW, and two General Electric LM2500 gas turbines, generating 25 MW each. The power for all shipboard systems — propulsion, engineering, lighting and other systems — will be routed through two main switchboards.

The General Electric gas turbines were chosen specifically for their ability to provide the vessel with the extra power it would need to reach and maintain a speed of over 29 knots without impacting the ship's internal volume.

Like most modern passenger vessels, Queen Mary 2 is practically a 'floating

power station', says Lloyd's Register Senior Surveyor **John Baghurst**. Running at 90 percent of the plant's full power, the vessel can attain a speed of over 29 knots in Force 2 sea conditions. Propulsion will be provided by four pods, two fixed and two azimuthing,

with the steering function being provided by the two steerable pods. The vessel will not have a separate rudder.

Queen Mary 2 will also have three bow thrusters equipped with hydraulically operated closing doors. When the ship is at full speed, the doors will be

closed, further streamlining the ship's hull and allowing reduced resistance. "To my knowledge," says Malinowski, "this is the first such vessel to have four pods and closing doors for its bow thrusters. These features are yet another example of the innovation brought to



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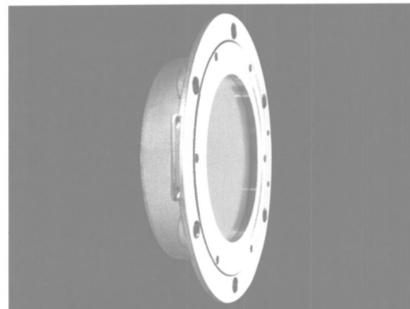
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bear on this unique vessel."

As an added assurance of the reliability of the vessel's propulsion system, Cunard has selected Lloyd's Register's propulsion and steering machinery redundancy (PSMR) class notation. In order to achieve the notation, the ship must be able to retain a minimum of 50

percent of its propulsive power and maintain steering capability at a speed of not less than seven knots in the event of a machinery failure. In addition, a failure mode and effects analysis (FMEA) must be carried out on all propulsion systems, electrical power supplies, essential services, control sys-

tems and steering arrangements. Queen Mary 2 will have a single engine room, but in the event of flooding or other damage, emergency power would activate instantly, while the General Electric gas turbines located on Deck 14 behind the funnel would come on line in seven minutes or less to provide full back-up

power.

Crosshead All for One

In addition to participating in the design of the vessel and overseeing its construction, Lloyd's Register has also been closely involved in the statutory work related to Queen Mary 2, acting as the single point of contact for Alstom Chantiers de l'Atlantique.

"As well as helping with the structural specifications, we looked at the ship's safety aspects," says Rugg. "We knew that Queen Mary 2 would fly the British flag and that statutory certification would be the responsibility of the U.K.'s Maritime and Coastguard Agency [MCA]. To ensure efficiency and the best service possible, we formed an agreement with MCA, which empowers us to work in conjunction with the agency to oversee safety matters such as watertight integrity, watertight subdivision, damage stability of the ship and life-saving arrangements. It is an unusual arrangement, but because of the size and the complexity of the ship it was felt to be a necessary step to facilitate a more efficient plan approval and survey regime."

In Malinowski's experience, the shipyard has also been extremely efficient. He points out that Alstom Chantiers de l'Atlantique has a long history of involvement with famous passenger vessels, including Normandie and France. "The yard is well organized, particularly the internal logistics system. If you think of a ship under construction as a complex number of parcels, which are spread out around the yard in various stages of completion, then you can imagine the difficulties this might entail. At St Nazaire, they are expert at ensuring that when it comes time to put various pieces of the package together, they are all in the right place at the right time."

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Circle 210 on Reader Service Card

A Love of the Sea Takes Dreams to Reality

While this year's Sea Trade Cruise Shipping Convention in Miami, Fla. offered up the usual fare of new innovations and ideas for the cruise industry, Fincantieri introduced not a new vessel or concept, but a book outlining the concepts and designs that the yard has based its European traditions. Rather than focusing on just the vessels themselves, Fincantieri's executive team, namely Executive Chairman **Corrado Antonini** and **Giuseppe Bono**, the company's CEO, approached the situation as an historical artifact. Therefore, the company sought the assistance of **Fiara Steinbach Palazzini**, a writer and communication consultant, who is also a professor at Trieste University.



Fiara Steinbach Palazzini

Palazzini, who teaches the course "Theories and Techniques of Image Promotion," is also a life-long resident of the city, which happens to be the location of Fincantieri's headquarters. Her knowledge of rich history regarding this port city, coupled with her professional experience led to Fincantieri's decision to formulate their dream of this book, ironically titled, "La Fabbrica del Sogno," (The Dream Factory), into a reality.

Following the book launching party that was held on the second day of the Sea Trade Convention, *MREN* had the opportunity to catch up with Palazzini, (via a translator supplied by Fincantieri), who shared her vision and inspirations for both the book and the vessels that adorn it. Throughout the conversation, Palazzini mentioned several times that her drive to produce this book stemmed from her love of the sea and a passion for the ships that sail on it. "I remember as a young girl, the ocean liners coming into the Port of Trieste, and now, later on in my life, I had the opportunity to tell my story," she said. "To tell the story from the past - is the actual story."

Aside from her personal knowledge regarding Fincantieri and its vessels, Palazzini, spent approximately one year

researching materials for the book, often spending days at a time at the shipyard's Trieste location sifting through years of archived materials, not to mention fact

checking and interviews with individuals who had worked on the vessels. Deciding that she would divide the book into two sections - personal stories and

the construction process. Palazzini, learned amazing facts and figures regarding the various phases of ship construction — by speaking to those

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Circle 227 on Reader Service Card

Cruise & Ferry

who had participated in the vessels' construction process. She also presents brief profiles on some of the most prominent figures in the cruise industry today — both on the business and design side. Featured are Micky Arison, Carnival Corp. Chairman and CEO; Joseph Farcus, who has been designing

Carnival's vessels for the past 25 years; Matt Ouimet, president Disney Cruise Line; Designers Petter Yran and Bjorn Storbraaten, whose firm Yran & Storbraaten created some of the interiors on Disney Magic and Wonder; and Pier Luigi Foschi, president and managing director Costa Crociere.

Meeting and speaking with so many industry figures also provided Palazzini with a well-rounded perspective on the planning and effort that goes into creating these "dream factories."

"I knew that Fincantieri had created these ships, but in doing all this research, I understood just how complex

this industry is," she said. "I learned more about the shipbuilding process from speaking to different people, and after writing this book, I now understand the complexity of it all."

She continued: "The ship today that Fincantieri has built represents the realization of dreams," she said. "The idea of taking people to some of the most beautiful places on the high seas is a very beautiful thing."

— Regina P. Ciardiello

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Stork Kwant Launches New Products

Stork Kwant creates nautical instrumentation and control systems — with products ranging from rotating and speed control units (RSCU), control units for pitch and/or rpm and rudder angle indicators — for seagoing vessels, such as ferries, cruise liners, tug boats and dredgers, as well as military vessels.

Stork's integrated bridge system (IBS), control panels and other systems are found on a variety of ships worldwide, and both Norwegian Star and Norwegian Dawn equipped with the latest developed Stork Kwant control units of the type RSCU Mark-3 Star. These units transmit the signals of speed and azimuth to the ABB Azipods, and for each operating position on the bridge, the control units RSCU Mark-3 Star have been installed.

Stork Kwant has launched a new, redesigned electric shaft system, type ELAS-4, which is a technologically-driven redesign of the present electric shaft systems manufactured by Stork Kwant for more than 25 years.

Two new types of rotating and speed control units (RSCU) have also been introduced, the RSCU-3 Star, which is a custom made unit in a complete new shape, and the Mark 4, which is a small unit with the sizes 96 x 96 mm. Also, a small type control unit type BUK-G has been launched. Designed especially for application onboard yachts, this device is available in a variety of colors.

Circle 153 on Reader Service Card

Kvaerner Masa-Yards Signs \$300 million Cruise Ferry Deal

Kvaerner Masa-Yards, the Finnish shipbuilder, has signed a contract with Color Line AS, the largest ferry operator in Norway, for the construction of a 74,600-gt cruise ferry. The 2,800-passenger cruise ferry, the largest in the world, is valued at approximately \$329 million. The vessel will be built at Kvaerner Masa-

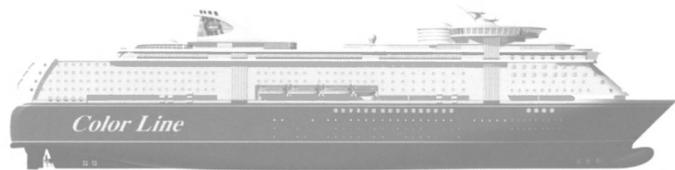
Yards Turku shipyard for delivery in December 2004. The contract immediately affects the workload at the yard's design departments and, from late spring 2003, also the production departments.

Intended to start sailing between Kiel and Oslo for the Christmas season 2004, this new ship will

set new standards in ferry design, confirming Color Line's position as one of the leading European cruise ferry operators.

Circle 50 on Reader Service Card

Main Particulars - Color Line Ferry	Atrium	120 m long, 3 decks high	Number of crew	230
Classification	GT	approx. 74,600	Speed, service	22 knots
Length	Passenger capacity	2,770	Main Engines	4 x 7,800 kW
Breadth, approx.	Passenger cabins	971	Cars	750
Draught, approx.	Passenger cabins with outside view	494	Trailer lane meters	1,270



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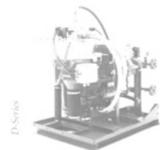
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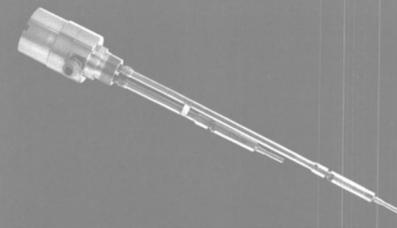
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Circle 228 on Reader Service Card

Marlink Extends Radisson Seven Seas Contract

First announced this past fall, a new four-year agreement between Marlink and Radisson Seven Seas, was finalized during a press conference at this year's Sea Trade Cruise Shipping Convention in Miami, Fla. Held at the Raleigh

Hotel, executives from Marlink, (a wholly owned subsidiary of Telenor); and Radisson Seven Seas Cruises, the briefing outlined the satellite services that will be provided onboard Seven Seas Navigator and newbuild Seven Seas Voyager, which is to be launched this year. The two vessels will join

Seven Seas Mariner, which has been offering Marlink's service since 2001, in providing high speed data communications at 128 kbps. The new agreement calls for Marlink to serve as the preferred interface between maritime customers and the satellite communications industry, while providing Sealink high-

speed data service. The systems allow passengers and crew to obtain the highest level of access to e-mail, fax and phone services. The agreement with Radisson is two-fold. With Sealink providing totally integrated system solutions via Telenor's former NORSAT Sealink service with Telenor's C-Band services of its U.S.-based entity, Telenor will be responsible for all elements - including equipment, space segment for C and Ku-band, gateway functions, installation, and operation and maintenance of each system.

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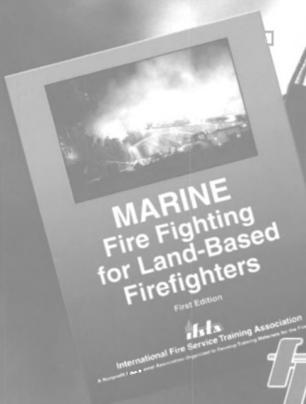
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CF '03 Spotlights Industry Challenges

Cruise + Ferry 2003, which is set for London's Grand Hall, Olympia, from May 13-15, will be the 10th biennial exhibition and conference in a series ranked as the passenger shipping industry's premier technical and operations event. The extended format introduced in 2001 - which helped to attract more than 350 exhibitors and 3,500 professionals from 50 countries - is being retained with major maritime hotel content in the trade fair and conference program as well as a gala dinner marking the second Cruise + Ferry Awards. In a new feature, a special arena within the exhibition hall will be available for company and product presentations.

Apart from individual booths showcasing suppliers to the cruise, ferry and fast ferry sectors, exhibitors range from shipyards, engine and propulsion manufacturers, systems developers and design consultancies. There will also be 10 national pavilions, and a U.K. Interiors Group pavilion. Exhibitor highlights include: A&P Group, who will be featuring repair and conversion capabilities such as the recently-completed first scheduled drydocking and guarantee inspection on the P&O Cruises vessel Aurora; and Belimo Automation - the Swiss-based manufacturer that will be showing its range of electric actuators for motorized control devices in heating, ventilation and air-conditioning systems; Blohm + Voss Repair: spotlighting its development of environmentally-friendly Dockmaster and Dockboy hydro-blasting units and the Paintmaster coatings robot; and GE Marine Engines: U.S. manufacturer of gas turbine propulsion systems has completed or is fulfilling orders for COGES and CODAG systems on 21 cruise ships.

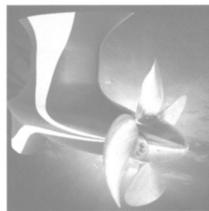
On the Conference side of Cruise + Ferry 2003, the line-up of more than 30 speakers includes **David Dingle**, managing director of P&O Cruises; **Jack Williams**, president and COO of Royal Caribbean International and Celebrity Cruises; **Alexander Panagopoulos**, managing director of SuperFast Ferries; and **Mark Hilferty**, managing director of McNeece. For more information, call +44 (0) 1932 893 860, or log on to the Cruise + Ferry 2003 website - www.cruiseferryex.com, which includes facilities for stand bookings and visitor/delegate registration.

Circle 97 on Reader Service Card

Azipull Technology Debuts on Offshore Vessels

Havila is set to retrofit its supply vessel Havila Tampen with a pair of Ulstein Aquamaster Azipull azimuth thrusters for main propulsion, replacing conventional azimuth thrusters. The Azipull azimuth thruster from Rolls-Royce uses a pulling propeller ahead of the streamlined leg and lower gear house, and a simple gear drive transmission. The units for Havila will be the largest built to date: type AZP120 designed for inputs up to 3,000 kW, but in this case each transmitting 2,500 kW.

"We have chosen to pioneer this new propulsor in offshore service because we believe that



it will give us significant fuel savings — in the region of seven to eight percent compared with traditional thrusters — through its improved hydrodynamic design, with a minimum of noise and vibration," said Robert Welsvik, managing director of Havila.

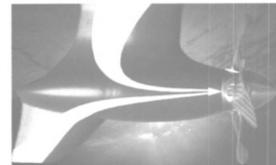
Havila Tampen is a UT-Design type UT745E boat that was delivered by Kleven Verft in September 2002. The vessel uses diesel-electric propulsion and the two Azipull units under the stern will be powered by electric motors in the hull. Conventional thrusters from Rolls-Royce were installed to get Havila Tampen into service. However, the owner had decided in principle to change to Azipull units as soon as these were released for offshore service, and this has now been confirmed. The changeover is designed to be quite simple. The existing propulsion motors and the input gear units in the hull can remain in place, and only the outboard parts of the main thrusters need to be exchanged.

The first Ulstein Aquamaster Azipull thrusters to enter service will be four AZP085 units

propelling the first innovative new Fjellstrand FerryCat catamaran double-ended ferry, now under construction, which is scheduled to start operating on a route in the Stavanger region of

Norway this summer. The thrusters have been shipped, and Rolls-Royce has orders for another two shipsets (eight units) for two more FerryCats to be built for operation in Turkish waters. For more information from Rolls-Royce

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Circle 229 on Reader Service Card

Keppel To Build \$105M Jack-Up Bigfoot for ENSCO

Unlike the "Sasquatch" that was rumored to roam the Pacific Northwest for many years, even gaining fame with a cameo on the 1970s television adventure show "Six Million Dollar Man," a very real Bigfoot will be working for Enesco soon.

Enesco selected Keppel FELS' propri-

etary jackup (JU) design, the KFELS MOD V (B) class, as the basis for a new generation premium jackup rig.

The KFELS MOD V designs are developed by Offshore Technology Development (OTD), the R&D arm of Keppel Offshore & Marine (Keppel O&M). The enhanced MOD V (B)

design, modified to ENSCO spec, will be named Bigfoot.

"We believe, as drilling requirements become more stringent, and as fleet renewal becomes imperative, balance between capability and cost will be crucial. We are confident that the Bigfoot will optimize our philosophical criteria



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■ SJD-1206 IRCS Workstation

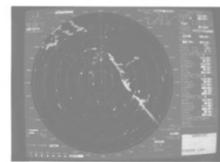
With this one workstation it is possible to operate a multitude of radio communication facilities. A user-friendly design ensures easy operation by all operators.

● JMA-9800 Color ARPA Radar

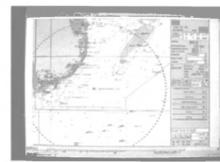
This futuristically designed radar unit features a large 29-inch high-definition color CRT display. It enables quick detection of small targets.

● JAN-3598 ECDIS Total Navigator

This advanced ECDIS system permits fully automatic navigation. It features a large color LCD and abundant functions unique to JRC, including radar video overlay, grounding prevention, NAVTEX data, route safety check, alarm displays and engine data display. The result is greater safety and economy.



Color Radar



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Bigfoot Technical Specs	
Classification	ABS
Hull length	234 ft. (71.3 m)
Hull width	208 ft. (63.3 m)
Hull depth	25 ft. (7.6 m)
Leg length	503 ft. (153.3 m)
Spudcan	53 ft. diameter
Quarter accommodation	100
Drilling outreach	70 ft. off transom x 15 ft. P/S
Operating water depth	350 ft. (106.6 m)



BigFoot is a modification of Keppel's KFELS MOD V "B" class. ENSCO 104 (formerly Chiles Discovery) is a KFELS MOD V "B" (Pictured).

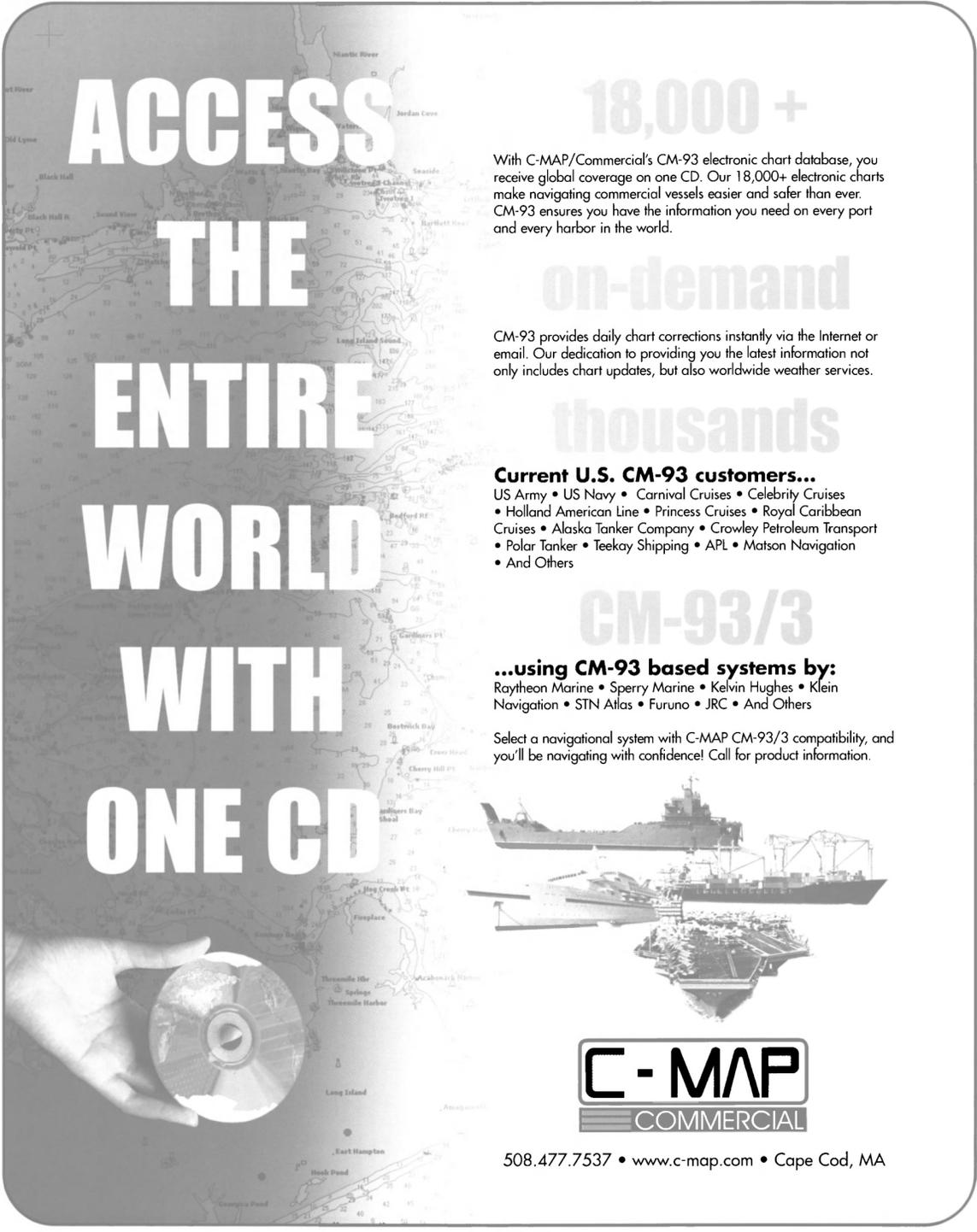
and are most pleased that Keppel FELS has again agreed to be our partner in this project," said **Carl Thorne**, Enesco's Chairman and CEO.

In an alliance agreement, Keppel FELS and Enesco will build, own and operate the Bigfoot design jack-up on a 75/25 basis respectively. Valued at \$105 million, the rig will be completed by the first quarter of 2005. Enesco will have an option to purchase Keppel FELS' 75 percent interest in the rig prior to delivery, and for two years after delivery.

"We are happy that our valued customer, Enesco, has chosen us as their partner in this Bigfoot jackup rig which we believe has strong potential to be widely accepted by the industry to address significant replacement requirements of the existing aging fleet," said **Choo Chiau Beng**, Chairman & CEO of Keppel O&M. "This Bigfoot alliance arrangement also demonstrates our engineering and financial strength and flexibility in structuring win-win commercial deals in partnership with our customers, which is one of the keys to our success."

This alliance agreement is not expected to have any significant impact on the NTA or net earnings per KCL share for FY2003. This arrangement is similar to that of ENSCO 102, which is currently on charter offshore Sarawak.

For more information from Keppel
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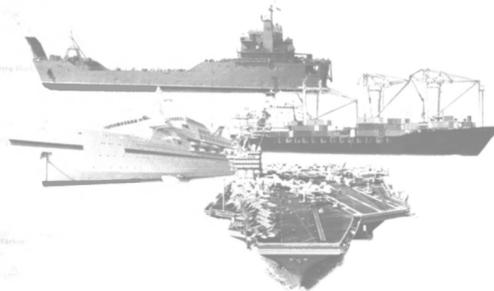
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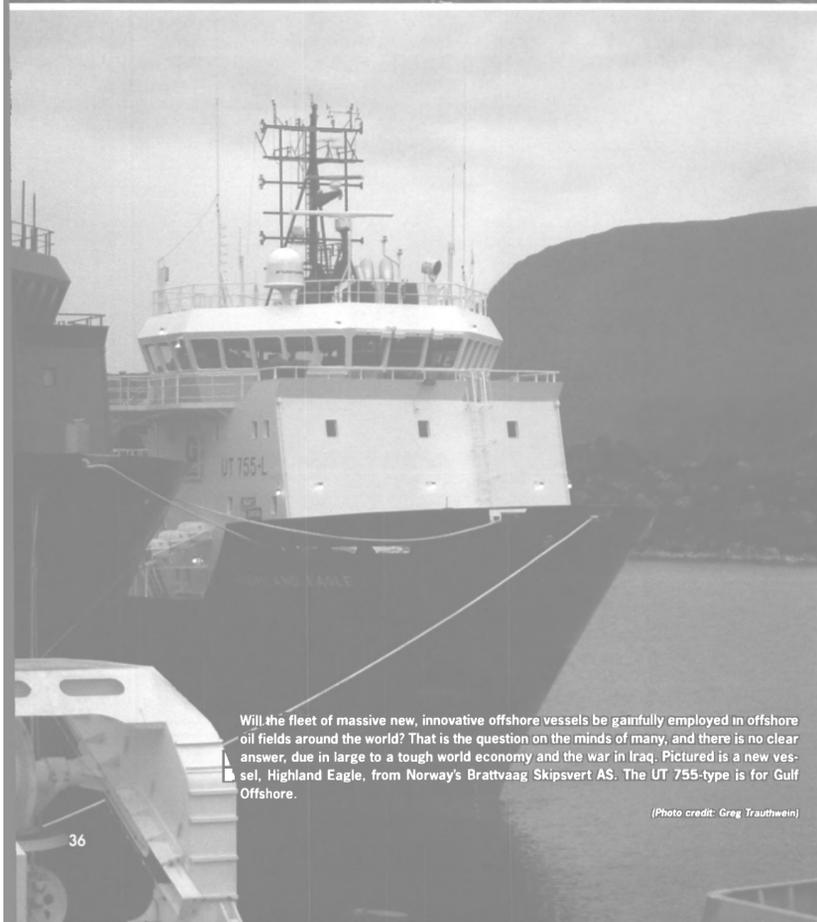
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World Offshore Drilling Activity: A 5-Year Outlook



Ragnhild Knutsen (Courtesy Knutsen OAS)



Will the fleet of massive new, innovative offshore vessels be gainfully employed in offshore oil fields around the world? That is the question on the minds of many, and there is no clear answer, due in large to a tough world economy and the war in Iraq. Pictured is a new vessel, Highland Eagle, from Norway's Brattvaag Skipsvert AS. The UT 755-type is for Gulf Offshore.

(Photo credit: Greg Trauthwein)

The following is an outline of some of the key conclusions of the "The World Offshore Drilling Report 2003-2007" recently published by energy analysts Douglas-Westwood.

— By Dr. Michael R. Smith, Douglas-Westwood

Offshore drilling has, for the last 30 years, been the driving force behind growth in oil and gas industry activity and production. Beginning in the 1960s, after global opportunities on land had begun to decline, offshore drilling levels grew rapidly, peaking in 1981 following two decades of technology improvements and a decade of energy price rises. Since then, offshore drilling levels have broadly stabilized on a flat trend, albeit moving up or down in response to fluctuations in energy demand and oil price. Drilling levels increased through early part of the 1990s in an environment of increasing energy demand and stable prices linked to improvements in technology. However, it is expected that over the next five years, drilling levels will become opportunity-constrained with expenditures not increasing consistently even if there is real oil price growth. Furthermore better development wells, which make up the lion's share of drilled wells, incorporating horizontal elements and multilateral completions, will mean fewer will be needed per field. Only in the deepwater environment is steady drilling expenditure growth to be expected.

Shortage of Opportunities

From 1998 to 2002 Douglas-Westwood estimates that a total of 15,360 wells were drilled. The company forecasts that over the next five years 14,626 offshore wells will be drilled.

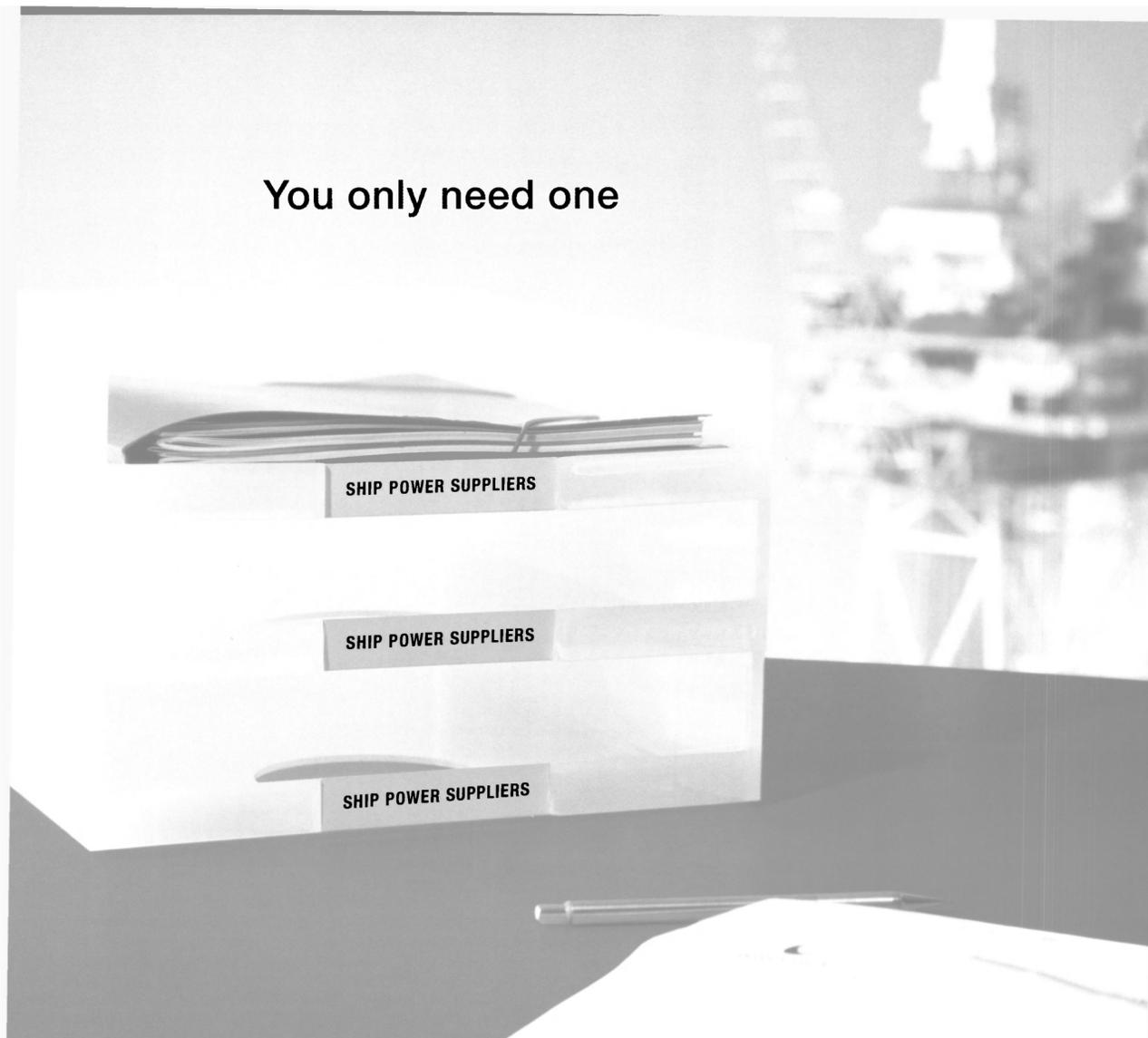
Estimated Offshore Wells Drilled Since 1991 and Forecast to 2007

The main drivers for this anticipated steady decline in drilling numbers, despite relatively high oil prices, would appear to be an increasing shortage of shallow water prospects and field developments in the Gulf of Mexico, the North Sea and elsewhere. Some additional shallow water drilling is possible in the Persian Gulf, depending on controlling governments encouraging investment to a greater extent than they do now, but elsewhere there is little room for drilling sufficient to maintain current levels.

Increasing Water Depths

During the last decade reductions in opportunities in shallow waters have been counter-balanced by moves towards increasing water depths. Water depths capabilities will continue to grow beyond the current drilling record of 2,965 m partly offsetting declining activity in shallow waters. Of the approximately 3,000 wells drilled offshore each year, 12 percent are now located in deepwaters. The number of deepwater wells relative to shallow water wells is expected to increase to around 16 percent by 2007.

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Offshore Report

Estimated Shallow and Deepwater Drilling Expenditure to 2007

Deepwater drilling expenditure is forecast to see strong growth over the next five years, with a total of \$40 billion to

be spent on approximately 2,000 wells. The deepwater share of drilling expenditure, which stood at around 15 percent in 2002, will increase to around 26 percent by 2007. This is both due to more spend-

ing in deepwaters but also to declines in spending in shallow waters.

Higher Cost of Development Wells

There are three categories of well —

exploration, appraisal and development. Exploration wells make up approximately 20 to 25 percent of offshore wells and success rates have increased over the last decade. Appraisal wells make up approximately 10 to 15 percent of all offshore wells while development wells make up the rest. Since 1991 the percentage of development wells relative to exploration and appraisal wells has increased and this trend is expected to continue as success rates improve.

Relative Expenditures on Well Types Drilled Since 1991, Forecast to 2007

Expenditure on development wells relative to exploration and appraisal wells has been consistently increasing and will continue to increase — from approximately 52 percent of total spending in 1991 to approximately 65 percent in 2007. Growth in the next five years is almost entirely expected to be due to the increase in the number of deepwater developments. Deepwater fields are often exploited using fewer wells, but the associated drilling costs are significantly higher than shallow water wells.

Drilling costs vary enormously, most falling within the very wide range from around \$2 million to perhaps \$30 million although some extreme wells have cost much more. The cost of the rig may be between 20 and 35 percent of total well cost. Support services, including transport such as boats and helicopters, make up by far the greatest portion of engineering costs, often reaching as much as the rig itself.

Some overall cost escalation might also be expected over the next five years due to an increase in average water, target and total depths. Conversely this will be partly counter-balanced by technology improvements that speed up drilling.

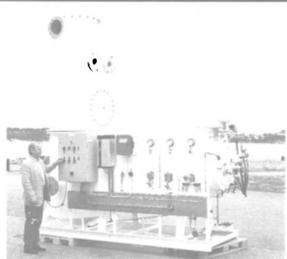
Changes in the Regional Mix

Throughout the next five years, offshore wells drilled worldwide are expected to have a total cost of approximately \$170 billion. Total drilling and well completion expenditure in 2002 is estimated at \$33.5 billion and global spending levels are expected to stay roughly at this level over the next five years. However changes in the relative shares taken by the regions are anticipated. North America will have the highest share of the total spend, slightly increasing compared to the previous five-year period and growth of a similar magnitude is also expected in Africa, Latin America and the Middle East.

Drilling Expenditure 1998-2002

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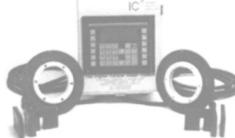
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Figure 1B The multiple slot interrupter (black) is passing through the fiber optic sensor (orange).

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Offshore Report

both expected to see declines in expenditure. Asia's forecast five-year spend is approximately \$4.5 billion less than the previous period, and the outlook is similar in Western Europe, where forecast expenditure is more than \$5.2 billion less than the 1998-2002 level. The biggest influence on these drilling expenditure levels has been the growth in deepwater activity. Africa and Latin America are expected to see deepwater drilling expenditure exceeding shallow water drilling expenditure for the first time in 2003 and this will continue for the forecast period. With the exception of the Middle East where there is no deepwater activity, all other regions should also see a shift from shallow to deepwater.

Drilling Expenditure by Region 1991-2007 (\$ million)

The deep and ultra-deepwater rig market is expected to remain at high utilization rates throughout the next five-year period, especially for drillships and fifth generation semi-submersible rigs water depth rated greater than 1,500 m.

The shallow water semi-submersible market will be weaker but decline in demand for semi-submersibles, particularly in the Gulf of Mexico and the North Sea, will be counter-balanced by a pick-up in demand in West Africa, India and China, at least over the first three years of the five-year period. Demand for high specification jack-ups is likely to remain strong as new gas projects are identified.

A steady improvement to drilling equipment and services is thus anticipated over the next five years facilitating wells to be drilled in more extreme situations, in greater water depths and reservoir depths, at higher temperatures and pressures, and in areas prone to greater hazards. However no radical new processes are expected to make an impact on expenditure over the period.

Because of the shortage of shallow water prospects most new expenditure on drilling rigs is expected to be directed at upgrading jackups and floating rigs to allow deeper reservoir drilling and deeper water drilling in addition to the usual progress made in allowing faster and cheaper drilling. In fact towards the end of 2002 rig rates were moving downwards as rig counts declined for older jackups and semi-submersibles.

The World Offshore Drilling Report 2003-2007 comprises an in-depth analysis and a full five-year forecast of wells and expenditure. It is available from Douglas-Westwood Limited at <http://www.dw-l.com>, and is one of a series of reports used by over 200 companies in 28 countries including leading oil & gas companies, contractors and investment banks.

panies in 28 countries including leading oil & gas companies, contractors and investment banks.

About the Author Dr. Michael R Smith

is an independent energy consultant and writer based in the UK. He has worked throughout the world as a geoscientist, exploration manager and energy advisor with oil and gas companies and consultancy organizations. Two of his latest reports are available from Douglas-Westwood: "The

World Oil Supply Report 2003-2050" and "The Offshore Drilling Report 2003-2007" discussed above. He is currently developing an Internet-based information service called EnergyFiles to be launched this summer. For more information: glow@lineone.net.

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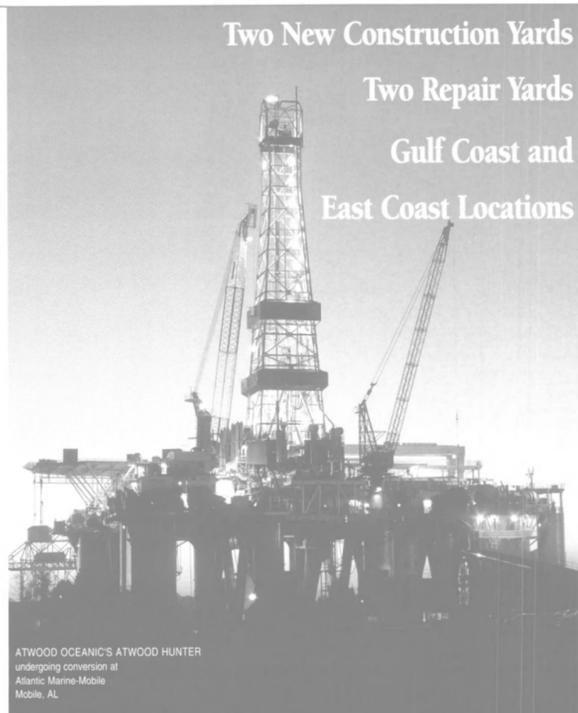
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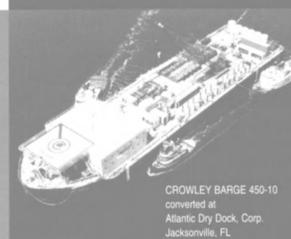
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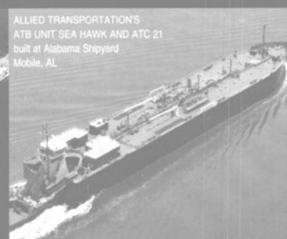
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Offshore Report

Ulstein Delivers 23,500-hp Normand Master

By Greg Trauthwein

Jan Paulsen has been a busy guy. Paulsen was the project manager, which saw through the construction of four massive 23,500-hp anchor handling tug supply vessels (AHTS) — two for Solstad and two for Olympic Shipping — starting with the delivery of the first ship in January 2002, and culminating with the delivery of Normand Master on March 28, 2003.

Normand Master, hull no. 265, was designed by Ulstein Design AS (type A101) and was built by Ulstein

Verft AS for Solstad Shipping ASA. While the vessel is nearly identical to the trio of ships that preceded it, it does boast one major design modification: a massive A-frame, 250-ton deck crane bolted on the aft deck.

Arguably, the heart and soul of vessels of this genre are in the amazing packages of deck machinery, and here again Normand Master stands tall. The impressive list of deck machinery, designed to enable it to carry out a multitude of functions, from anchor handling in deep water to supply services to subsea operations, includes: A 500-ton winch; two combined



Jan Paulsen, Project Manager for the series of four 23,500-hp AHTS vessels, culminating with the delivery of Normand Master (pictured right) to Solstad on March 28.

(Photo credit: Greg Trauthwein)

Windlass/Mooring Winches: a 15-ton pull mooring winch; two 22-ton pull tugger winches; two 15-ton pull Capstans, aft; two towing/working drums with spooling gears, with a capacity of 2,700 m of 83 mm diameter wire; one anchor handling drum with spooling gear, with a capacity of 2,000 m or 109 mm diameter wire in five lay-

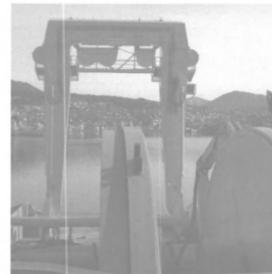


ers; two secondary winches with spooling device, and a 170-ton pull capacity; One storage winch for spar tow wire; twin stern rollers; two retractable anchor handling forks; and two sets of retractable towing pins.

Power for all operations is entrusted to Finland's Wärtsilä, which supplied four main engines, each rated 4,320 kW at 750 rpm.

Normand Master is much like the three vessels that preceded it, save one detail: a massive A-frame aft.

(Photo credit: Greg Trauthwein)



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The series from Ulstein is a victory for its Ulstein Design, which was started in 1999 as a department of Ulstein Verft in the series of dealings that saw Vickers PLC and eventually Rolls-Royce end up with the popular "UT" line of vessels in its stable. Ulstein Design became a separate company in 2002, and to date the company has seven vessels from its design stable delivered.

"The fact that such an important offshore industry operator as Solstad chooses our designs is a major achievement for Ulstein Design," said **Tore Ulstein**, V.P. Ulstein Verft. "Our designs have been well-received by the market since we established our own design operations."

Upon a short tour of the vessel, which was busily being prepared for the vital bollard pull test, Ulstein's pride in the design is well founded. The technical capabilities of the vessel notwithstanding, the interior outfit of the ship, capable of accommodating up to 61 but usually sailing with far less, was the quality and grade of a modern cruise ferry, with a fit and finish designed to lure and keep

mariners, an increasingly difficult task in Norway and, in fact, around the world. Construction of Normand Master also highlights some of the recent construction efficiencies realized by the Ulstein yard, most notably the use of its new covered building hall, an impressive edifice that, along with the accompanying drydock, represents an investment of nearly \$40 million.

For more information on Ulstein Verft

Circle 71

Normand Master Main Particulars	
Builder	Ulstein Verft
Owner	Solstad Shipping
Design	Ulstein Design
Design type	A101
Length, o.a.	249 ft. (75.7 m)
Length, b.p.	230 ft. (70.2 m)
Breadth, molded	64 ft. (19.5 m)
Depth to main deck	31 ft. (9.3 m)
Draft, max.	35 ft. (10.5 m)
Design draft	33 ft. (10 m)
Classification	DNV
Speed	18.5
Accommodation	61
Main engines	Wärtsilä
Power	4,320 (each) @ 750 rpm
Gears	two
Propellers	(2) CP
Winch	500 ton
Bollard pull	280 tons
Oil recovery	1,035 cu. m.
Fuel oil (MDO)	1,213 cu. m.
Fresh water	751 cu. m.
Ballast water	3,352 cu. m.
Brine	401 cu. m.
Cargo (rig) chain lockers (4)	567 cu. m.
Cargo deck area	600 sq. m.
Cargo deck area dim.	10 T/sq. m.
Deck cargo	1,550 ton
DWT at max draft	4,000 ton
GT	4,477
Net tonnage	1,343



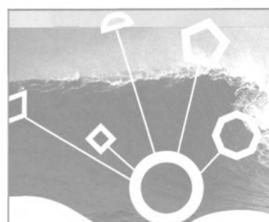
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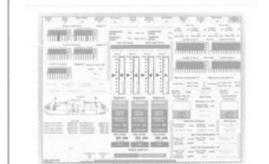
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42

Offshore-Inland Provides the Fix



Last year Offshore-Inland installed a motion suppression system onboard Cal Dive's Intrepid.

Established in 1983 to provide timely, cost effective hydraulic remanufacturing services to the pulp and paper, marine, offshore and steel industries, Offshore Inland Services has dominated this niche. To extend its expertise within the oceangoing marine and offshore industry, the company formed a second group to provide a more concentrated focus. A turnkey service provider, Offshore Inland Marine & Oilfield Services is known throughout the industry for providing quick turnaround while maintaining high quality and controlled costs.

The company has often been referred to as the "shipyard on wheels," as it is willing to meet its customer's needs, wherever those needs may be, oftentimes dispatching crews of 10-15 workers to locales near and far. The company recently expanded its facilities to accommodate growing levels of business. The new waterfront location — boasts all the features necessary to complete large-scale marine and oilfield projects including unobstructed access to the Gulf of Mexico. Located at 7611 Lake Rd. South, Bldg. 500, Mobile, Ala. 36605, Offshore-Inland Marine & Oilfield Services is now better positioned to serve the needs of the offshore drilling and ocean-going marine industries. The new location has a 600-ft. (82.8-m) double deck concrete pier, 970-ft. (295.6-m) of total bulkhead area and 38 ft. (11.5 m) of water depth. Directly in front of the pier is a deepwater turning basin 55 ft. (16.7 m)

deep and 1,000 ft. (304.8 m) in diameter. Offshore-Inland Marine & Oilfield Services new facility also has more than three acres of fabrication and lay down area along with 50 tons of total overhead crane capabilities.

Recent projects the company has taken on, prior to moving to its new operation, include several jobs (vessels Leonard Jones, Amos Runner and Max Smith) for Noble Drilling. Work involved a variety of improvements, specifically on Leonard Jones, which received new shell shakers and a flare boom piping system. Max Smith underwent structural repairs to bulkheads on its pontoon.

Offshore Inland also took on a project for Haliburton's Semi II, replacing its hot/cold piping system in the accommodation area, as well as the provision of accommodation modules.

One of Offshore's more formidable jobs was completed last summer on Cal Dive International's Intrepid, which received a new motion suppression system, as well as nozzle repairs on its fuel tank.

Offshore Inland also took on a barge pair for J. Ray McDermott — Derrick Barge 50 and Derrick Barge 60. Work on Barge 50 included the removal, overhaul and installation of sheaves, while the 60 incurred installation of cooling water piping and steel deck renewals, as well as the installation of a hydraulic operating system for its derrick crane.

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Rolls-Royce Debuts New UT Designs

UT737L



Main Particulars - UT737L		Accommodation		Length, (b.p.)		Fuel oil	
Subsea Support Vessel/Riser	81	Speed	14 knots	Breadth, (molded)	69 ft. (21 m)	Ballast/drill water	3,000 cu. m.
Less Well Intervention Vessel		Azimuth thrusters	ABB	Depth, main deck	27 ft. 8.2 m	Fresh/potable water	1,200 cu. m.
Name	Island Frontier	Thrusters (Fore)		Design draft	20 ft. (6 m)	Liquid mud	760 cu. m.
Builder	Soviknes Verft	(Swing up)	Ulstein Aquamaster	Max. draft midship	20 ft. (6.2 m)	Brine	180 cu. m.
Delivery	October 2003	(Tunnel)	Kamewa Ulstein	Cargo deck area	945 sq. m.	Glycol	250 cu. m.
Owner	Island Offshore	Thrusters (Aft) (Swing up)	Ulstein	Deck cargo	3,400 tons	Slip	200 cu. m.
Class	DNV	Length, (o.a.)	348 ft. (106.2 m)	Deadweight at draft	4,600 tons	Methanol	100 cu. m.

By Greg Trauthwein

Rolls-Royce introduced a pair of new vessels for its popular UT line of vessels, the UT712 and the UT737L. To be built by Soviknes for Island Offshore and delivered in October 2003, the new UT737L, dubbed Island Frontier, takes multi-tasking to dizzying new heights. Under development for almost three years, according to Svein Kleven, Rolls-Royce Marine AS, the design is an evolution of the UT745E, and is particularly notable that it demanded classification society Det Norske Veritas to create a new classification for the type: Ship Shape Well Intervention Unit 1.

While full technical specs on the vessel are still being kept under wraps by the designer for competitive reasons, it is described as a Subsea Support Vessel built for world operations, capable of:

- Subsea installation and module handling
- ROV operations & Well intervention services
- Diving support & Trenching
- Offshore Pipe Laying & Offshore Cable Laying
- Transport (pipes, equipment, cargo)
- Load/Unload alongside pipelaying barge in the North Sea condition with wave height of 4.6 m and tidal current of 3.5 knots.

To accomplish all of these tasks with an even degree of efficiency and safety, the ship is outfitted with a "Who's Who" list of the latest technology, including a pair of ABB Azipod thrusters; four thrusters, including a pair of swing-up thrusters and a pair of Kamewa tunnel thrusters; a combined package which is designed to provide unprecedented station keeping.

In addition, the ship will feature an Ulstein roll

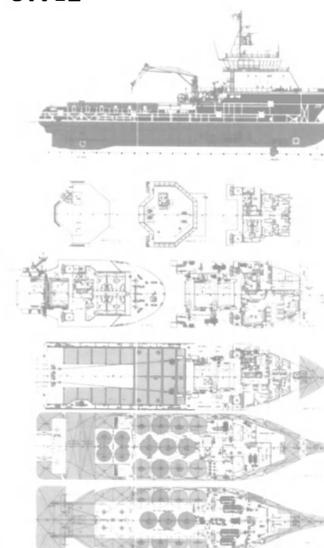
reduction system, a dynamic positioning system to the DNV "Dynpos Autro" notation, a myriad of deck cranes and ROV handling system, a helideck and a moonpool.

UT712

The UT712 was designed to meet the needs of IOS, a joint venture between Norway's Farstad and P&O, a venture, which operates out of Australia. The design is the platform for an evolving series of three generic vessel types, ranging in size from 246 to 285 ft. (75 to 87 m) in length. UT712 is a multifunctional AHTS with a bollard pull of 150 tons, and two are currently under construction at Norway's Simek. The first, which at press time was just undergoing sea trials, was expected for delivery in late March, with the second to follow in July. As the popularity of the AHTS type continues to gain strength, the UT712 is designed to capture market share with a number of design enhancements.

Most notably, the ship's hull is optimized for fuel savings, while the deck design is large for a vessel this size to offer higher cargo carrying capabilities, said Kleven. To the former, the ship's hull features an 27 ft. (8.3 m) depth to the 249 ft. (75.8 m) length overall, allowing for a pronounced vee in the afterbody to give a clean flow of water in the higher speed range, and like many other of the recent designers from Ship Technology - Ulstein in Rolls-Royce. To the latter, the cargo deck area boasts 510 sq. m. of space with four tanks totaling 230 cu. m. It also features a bulbous bow. A high premium has been placed on safety and comfort, with additional efforts going into providing supe-

UT712



Main Particulars - UT712 AHTS		Engines	
Builder	Simek	(4) Bergen 25:33	
Country	Norway	Winch, main	550-ton brake holding load
Design	Rolls-Royce	Winch, secondary	350-ton pull
Owner	IOS (Farstad, P&O joint venture)	Cargo deck	510 sq. m.
Country	Australia	Fuel	1,000 cu. m.
Classification	DNV	Fresh water	600 cu. m.
Length, (o.a.)	249 ft. (75.8 m)	Water ballast	1,300 cu. m.
Beam	56 ft. (17.2 m)	Base oil	500 cu. m.
Depth	27 ft. (8.3 m)	Mud	450 cu. m.
Draft	22 ft. (6.8 m)	Brine	400 cu. m.

rior station keeping, while minimizing noise and vibration. The UT712 is a link in the Rolls-Royce endeavor to become a one-stop shop, save the final responsibility of actually building the ship. This design series, and others, undoubtedly will play a role in the development of the next generation DPS system, a current R&D project ongoing under the direction of Rolls-Royce's Gunnar Nyland, corporate research. For flexibility of operation, a father and son engine layout has been chosen, based on the Rolls-Royce Bergen C25:33. Specifically, one nine-cylinder engine (2,700 kW) and one six-cylinder unit (1,800 kW) are geared to each shaft, providing a total power of 12,240 hp. For propulsion and maneuverability, the ships are outfitted with tunnel thrusters fore and aft, and a swing up azimuth thruster under the bow. The initial UT712s built by Simek feature a Rauma Brattvaag two drum low pressure hydraulic main winch rated for 550-ton brake holding load and 350-ton pull on the first layer, and a 0-40 m/min hauling speed. A 138-ton secondary winch can handle either synthetic rope or wire.

For more information from Rolls Royce
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Maritime Reporter & Engineering News

DPS: Expanding Options for Many Operators

Paul English, sales and business development manager for Alstom's Marine and Offshore activities, looks back at the company's role in the development of Dynamic Positioning Systems.

In recent years, dynamic positioning (DP) systems have become almost as accepted a feature of certain types of marine and offshore vessels as autopilot. DP — which automatically controls a ship's heading and station keeping (either a fixed or moving target) while minimizing thruster activity — has considerably expanded the options for shipowners/operators whose vessels remain at sea for long periods of time, often in deep water and in areas where laying anchors is either not an option due to seabed structures, or impractical because of timescales.

These include drill ships, shuttle tankers, FPSOs (floating, production, storage and off-loading), cable ships and pipe layers, offshore support and platform supply vessels, anchor handlers, diving and semi-submersible support vessels and many more.

Increasingly DP is becoming more common in cruise ships, enabling them to keep station in locations where anchoring could result in environmental damage to coral reefs. Alstom has been at the forefront of DP technology for offshore vessels for more than 30 years.

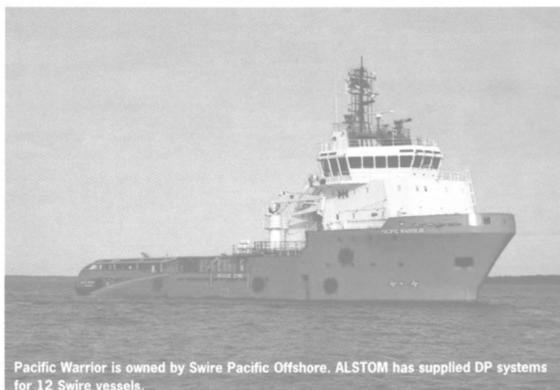
Before then, control of the thrusters was very much a manual process, using only manual controls or the vessel's joystick to keep station — a procedure which challenged the most experienced of captains in changing weather conditions.

Alstom's involvement in vessel control began with the development of the first U.K.-built and owned DP system for the coring and surveying vessel Wimpey Sealab (now Norskald).

A 'stay-still' solution was needed for the vessel, which was to be used for surveying coal deposits off the north east coast of England. The then GEC spent three years developing its first Simplex (stand alone) DP control system, which was purpose-designed for Wimpey Sealab.

GEC followed this in the mid 1970s with a Duplex system for Uncle John, a semi-submersible and diver support vessel. This order marked a significant technical challenge beyond the Wimpey Sealab installation as the thruster con-

April 2003



Pacific Warrior is owned by Swire Pacific Offshore. ALSTOM has supplied DP systems for 12 Swire vessels.

figuration was more complex and required a redundant console (one in control with one serving as a hot back up) — to control the vessel.

Development continued through the rest of the 1970s and 1980s with each system being application driven and designed as a one-off to meet the clients' specific needs.

In the 1980s Alstom developed the DPS 800 series, a series, which helped to establish the company's reputation in

DP technology. Its key features were retained and further developed as the key attributes for its successor, the 900 series. Alstom's flagship family of DP control systems is currently the 'A' series, which is suitable for approval by Lloyd, DNV, ABS, Bureau Veritas, Germanischer Lloyds and other classification society standards.

Kalman Filters

Since the early 1980s Alstom's DP

technology has been based on Kalman Filters — a mathematical model of the ship and any external forces that affect it, including wind, waves, currents and other forces such as cable and pipe tensions. The information is checked against actual measurements from the vessel's sensors and position measurement systems.

The DP system uses the Kalman filter model to calculate the thruster references, leading to reduced noise and less lag compared to a conventional software filter. Positioning can be maintained over a greater range of weather conditions, enabling the vessel to extend its operational window.

Other advances which have aided the on-going development of DP — and hence more accuracy in vessel positioning — have included developments in measuring equipment. The introduction of Differential GPS, approximately 10 years ago, revolutionized the whole process. The accuracy of global positioning systems — the satellite based passive ranging navigation system which provides latitude, longitude and altitude data for anywhere in the world — had been greatly enhanced with differential GPS which improved standard positioning service (SPS) accuracy for non-military users from 3 - 16 ft. (1 - 5 m).

Most vessels are now fitted with DGPS as standard as it is a cost-effective, widely available solution and, more importantly, makes dynamic positioning a viable proposition for many more vessels. Previously, more expensive positioning systems made the cost of DP prohibitive.

Alstom further enhanced the technology with the development and launch in 2001 of CyScan — a laser-based positioning and tracking system. This high precision system provides another means of independent measurement when standing by other vessels and has advantages over DGPS, which can be affected by interference from the sun's radiation and other factors, knocking it out for short periods of time.

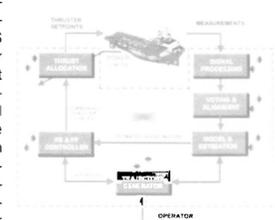
CyScan — evolved from well-established laser-based navigation technologies for industrial applications — provides continuous position feedback to the vessel's DP system and/or to the operator display panel. Unlike other systems, CyScan ensures that the retro-reflective targets are continuously tracked, even in low sun conditions or

Rolls-Royce Makes Next-Generation DPS Strides

Rolls-Royce signaled that it is quickly moving ahead with its mandate to become an integrated, one-stop-shop single source ships system supplier with the announcement that it is working towards developing a next-generation Dynamic Positioning System (DPS). Gunnar Nyland, Rolls-Royce Corporate Research, would not commit to a timetable, but in a discussion recently with *Maritime Reporter*, he spoke of Rolls-Royce's development plans for its own DP technology to interface, among other things, with GPS and the various proprietary position reference systems.

The move is to fulfill the aforementioned single-source strategy, but is also the result of information gathered that indicates bought-in DPS may not be optimized for Rolls-Royce thruster characteristics, resulting in faster equipment wear and higher fuel burn rates. Work is progressing on a Common Control Platform that will align hardware and software solutions and serve as the basis for the RR standard solution, which will target Offshore Service Vessels, rigs, production storage units, and seismic survey vessels, among others. In conjunction, the company is said to be in discussions with a major Integrated Bridge System manufacturer, with an agreement — in whatever form it takes — allowing RR to take yet another major step toward its single-source goal. The DPS solution will offer everything from standard systems to complex technical solutions, ranging from single IMO DP Class 1 class systems to sophisticated redundant systems meeting the IMO DP Class 2 and 3 requirements. The company will take a module-based approach for both the software and hardware components, a strategy to increase flexibility for the user and enable easier system upgrades. For more information

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Dynamic Positioning Systems

when bright lights are positioned behind the targets. CyScan even has the ability to identify false targets, such as people wearing reflective clothing.

In recent years the advent of DGPS, combined with the competitiveness and

operating advantages of DP systems, has seen a surge in the number of offshore vessels opting for dynamic positioning.

Size is not an issue when it comes to installing DP systems in vessels. Alstom is installing an integrated DP system

from its 'A' series in Cunard Line's Queen Mary 2, which will be the largest cruise liner ever built. In contrast, the company has recently commissioned the DP systems for 49 ft. (15-m) catamarans, which need to maintain station for

survey work.

Dynamic positioning is suited for nearly all types of vessels — newbuilds or retrofits — with either mechanical (diesel and turbine) or electrical propulsion systems.

The Future

In recent years progress in DP has been concentrated on refining existing equipment: better user interfaces, improved technology and less operator intervention.

Alstom — which has delivered more than 300 DP systems worldwide in the last 30 years — predicts the future will see more integration of systems with other elements of vessel control running on common platforms. The company already has extensive experience in providing fully integrated power and propulsion packages for a wide range of customers and the order book is set to increase as more owner/operators look to single source suppliers to provide total solutions for their power, control and monitoring systems.

Recent Orders

- Bender Shipbuilding & Repair Mobile, Ala., awarded Alstom a \$20 million contract to design, install and commission the fully integrated AC electrical propulsion and control systems for 10 new platform supply vessels which will be based in the Gulf of Mexico. The equipment includes DP systems from Alstom's 'A' Series.
- Alstom recently secured a contract to supply its eighth vessel set, each including Simplex DP systems from its 'A' series from the Scheepswerf de Hoop shipyards in the Netherlands and the U.S. The latest order is for an offshore support vessel for Otto Candies.
- The India-based ABG shipyard has chosen Alstom to supply the complete power and propulsion package for a new generation diesel electric dynamically positioned diving support vessel being built by Consolidated Contractors International SAL (CCC), based in Abu Dhabi.
- In the last year, Singapore-based Swire Pacific Offshore, which maintains a large fleet of vessels for the offshore market, has contracted Alstom to supply DP systems for a total of 12 vessels, built to UT design at shipyards in Norway, Korea and Singapore. This will bring the total number of vessels owned by Swire with Alstom DP systems to more than 20.

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Bollinger Delivers For K-Sea Transportation

Bollinger Marine Fabricators has delivered the DBL 81, an 80,000-barrel ocean service, double hull, oil tank barge to K-Sea Transportation Corp. It is the second of a four OPA '90 barge contract underway at Bollinger for K-Sea. DBL 101, a 100,000 bbl barge, the first of the four was delivered by Bollinger in July 2002. The remaining two barges in the contract will each have capacities of 80,000 and 100,000 bbl's, and are scheduled for delivery in the second and fourth quarter of 2003. DBL 81 was built to a new design provided by Guarino and Cox naval architects and

marine engineers, which was adapted from a Richard Taubler Inc. design. The barge is coupled with an existing K-Sea tug, JAVA SEA, using a connection system designed and delivered by Acomarin Engineering. While the DBL 81 was in the final stages of construction, Bollinger Gulf Repair, L.L.C., retrofitted the Java Sea with a JAK coupler system. DBL 81 will feature double block cargo segregation, segregated ballast, cargo monitoring — as well as advanced electrical and hydraulic systems. The unmanned barge also features an eight-foot high trunk deck.



Bollinger Shipyards, Inc. delivers Integrated Tug Barge (ITB), Java Sea and newbuild 80,000 BBL OPA '90 Double Hull Tank Barge, DBL 81 to K-Sea Transportation.
(Photo courtesy of Bollinger Shipyards, Inc. / Gavin Photography)

All the Men in the Sea

Author's Introduction: One of the most exciting rescues in history took place when Derrick Lay Barge 269 sank during Hurricane Roxanne in the Gulf of Mexico in 1995. Two hundred and thirty men threw themselves into thirty- and forty-foot seas, some with defective life jackets and some who could not swim. Only two oil supply vessels and a tug could come to their rescue. The three crews risked capsizing and being swept off their own decks to try to save the men in the water. Seldom in maritime history have so many been saved in such terrible conditions by so few in such great risk to their own safety.

As the Carolina worked her end of the ragged line formed by the three rescue boats, she seemed to be finding just swimmers, no life rafts. So Zapata dealt with the men one by one, until another big wave exploded into the Carolina. Eulalio went over the side again in a tidal wave of water. The lifeline cut into his ribs, almost tearing him in half, as the next wave slammed him back into the supply boat's hull. He swung in the air like a side of beef, then plunged beneath the surface as the Carolina rolled in another wave. Eulalio was on the side opposite the cargo net, and he couldn't turn himself around to grab the rail. Each time he tried, another wave sucked him underwater, and when he emerged all he could do was try to clear his lungs. He coughed and sputtered and thought he was dying as once more he plunged into the sea.

Eventually a wave spun Eulalio on his lifeline so that his hands could grasp the bulwarks and he managed to climb onboard, where he collapsed on deck. Cassel, at the rear steering station, had seen him go overboard again but was

unable to leave the helm. Now he called out over the loudspeaker, "Zapata, you OK?" Eulalio looked up and nodded weakly, but had a hard time regaining his feet.

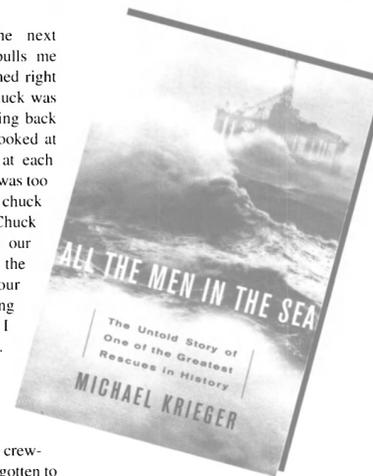
Fortunately, a young Mexican deckhand from the 269 whom he had rescued earlier had come back to help. Zapata found another safety line for the crewman, and for a while the two men worked together. Then two of the rescued American dive crew also came out. Eventually a third crewman joined them, and these four men took over the rescue work, letting the weary Eulalio retire to the wheelhouse. The overloaded raft with Phil Richard, Mitch Pheffer, Chuck Rountree, Ray Pepperday, and two dozen others had not been drifting long when it was suddenly illuminated by a searchlight. Before the groggy survivors knew it, the Captain John was just in front of them. Mitch watched as the tug's stern pitched out of the water and the boat's screws screamed in his face. Trosclair swung the stern away and soon the raft was alongside. One after another the men bounded onboard. The last four still in the raft as a wave started to push it away from the tug were Phil, Mitch, Chuck, and a guy in the bottom who seemed unconscious. At the last second Phil leaped on to the deck. But then the raft again drifted back toward the John's stern and her thrashing propellers. Another wave momentarily swept the raft toward the tug, and Mitch, realizing that this might be his last chance to get aboard, jumped.

"I grabbed the rail [the bulwarks]," he remembered, "but I couldn't pull myself over the side. My legs are hanging in the water. I've got my wetsuit and my work boots on, and I don't have the strength to pull myself over. One

moment I'm underwater; the next moment Phil grabs me and pulls me over, and he falls down. I turned right around because I knew that Chuck was still in the raft and it was drifting back toward the propellers. I just looked at Chuck. Chuck and I looked at each other and I said, 'Jump man.' It was too far and he couldn't make it. But chuck jumped and we locked hands. Chuck is hanging in the waves and our hands are locked. We rode the waves out. They covered our heads and Chuck is still hanging down. I couldn't pull him over. I didn't have enough strength. Then Phil is back and pulls Chuck over and the three of us go rolling around on the deck." After the men boarded Captain John, there was still a crewman left in the raft who had not gotten to his feet. He did not move but stared up with sightless eyes from inside a 4-foot pool of water in the raft's center. His mouth open, with a look of horror on his face, Angel, the young Mexican radio operator, had drowned in their midst, and no one had even noticed. Evidently he had slipped beneath the surface of the pool and been unable to call out or claw his way past all the men on top of him.

Quickly they grabbed the raft and brought Angel into a cabin where they stretched him out on his back. After clearing his airways, the 269's doctor, Raymundo Hernandez Isidro, a forty-year-old physician from Veracruz who had already been taken onboard, began to give him artificial respiration. The doctor worked steadily, trying desperately to bring even a spark of life back into that motionless young body. After three-quarters of an hour of devoted effort, Dr. Isidro stopped, realizing he had failed. The doctor seemed to die as well. He went off into a corner and sat in a stupor, staring into space.

The Captain John continued to find and pick up survivors. When they sight-



From ALL MEN IN THE SEA by Ellen Pollock. Copyright © 2002 by Mitchell Krieger. Reprinted with permission of The Free Press, a division of Simon & Schuster, Inc., New York.

ed the next raft, Robert Trosclair left the wheelhouse and took the controls in the glassed-in doghouse. It sat on the aft end of the bridge deck facing out over the stern. With its complete set of controls Trosclair could operate his tug as well from there as he could from the bridge. Lorenzo Wilson kept the searchlight on the men in the water and maintained control on the bridge until Robert reached the doghouse. Then Lorenzo scrambled down to take charge on deck.

As Captain John rode up a big wave, Robert feathered his props, reducing power, and took his engines out of gear. If the props of the tug or of either the supply boats were out of the water when the boats were under full power, an automatic override, an integral part of the controls of most large vessels, would shut down the engines down to keep them from overrevving and destroying a bearing or breaking a shaft. An inadvertent engine shutdown at the wrong time

in hurricane seas could jeopardize the safety of the vessel. On the other hand, an override failure could cause them to lose both their engines at a critical time. Either situation was to be avoided, and the captains, as a matter of course, cut back their power each time the props came out of the water. With waves staggering the vessels every few seconds, maneuvering throttles was a constant and demanding part of maintaining control of the ships. Trosclair resumed power once the tug's stern was back in the water and brought the Captain John to within about 10 feet upwind of the raft, keeping it in his lee. Then Robert reduced power and put his engines out of gear again, but just briefly. He had to hold position so he would not be pushed on top of the raft. However, he was also faced with possibly sucking the raft into the near Kort nozzle and the massive

propeller inside it as the tug rolled, bringing the near-slide propeller very close to the surface. So every time he approached a raft or a swimmer, he left the near-side engine out of gear.

The deckhands had knotted some 1-inch nylon lines and tossed them toward the raft, one minute near the tug's deck level and the next bobbing 25 feet beneath it. The first man grabbed a knotted line and was quickly hauled on deck. The next fellow got a grip on a line, but before the crew could haul him in over the bulwarks another wave swelled under the tug, pushing it high above the Mexican dangling on the end of his rope. Lorenzo screamed at him in Spanish not to let go, for if he did he would get sucked right under the tug. Together the crew yanked the petrified man onboard and then had to wrestle the line out of his hands.

Their timing seemed off, for the next two men also were left dangling, but somehow Lorenzo and the crew were able to bring them aboard. During all this, wave crests were breaking over the John's wheelhouse roof and cascading over the afterdeck. Somebody would shout a warning and the sailors would grab a stanchion or any handhold they could find to keep from getting washed over the side. Finally all the men from the raft were onboard. Robert and Lorenzo returned to the wheelhouse and the crew collapsed around the survivors, who were beginning to fill every nook and cranny of the tug's interior.

Phil Richard and Mitch Pheffer, the two young divers, then took over rescue duties from the exhausted crew. Each time they saw a light or someone in the water, they ran up to the wheelhouse and pointed out the location to Robert, who

would then move to the doghouse. Chuck stayed in the wheelhouse and acted as lookout. The rest of the night Phil and Mitch, by themselves, worked the afterdeck, pulling in one survivor after another. When a wave came, one or the other would yell a warning and they would grab whatever was handy. Phil remembered, "Tugboats have huge, huge cleats that you could wrap around your arms and legs around. I would wrap myself around one of those, in the fetal position, and the deck of the tug would go underwater for what seemed like an eternity. I would sit there underwater and go 'One-Mississippi, two-Mississippi, three-Mississippi.' I would hold my breath and finally the son-of-a-bitch would pop back out of the water. I was puking up seawater for days after that."

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KING-GAGE® Marine Systems

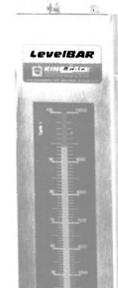
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Kizomba B Contract Coming Together

AMEC and its alliance partner Fluor, were awarded a multi-million dollar contract by Hyundai Heavy Industries to provide design, engineering and project management services for ExxonMobil's Kizomba 'B' floating production and offloading (FPSO) facility which will operate in deepwater off the West Africa coast. AMEC's services are being provided from its office in Houston. Hyundai Heavy Industries of South Korea will carry out the main contract for production of the FPSO hull and topsides, which will be fabricated in Hyundai's Ulsan yard in South Korea. AMEC and Fluor will provide design and engineering for the topside facilities and support the Hyundai project management team in the overall execution of the project. Kizomba 'B' is the second in the series of Kizomba FPSOs.

Hamworthy to Display New Innovations in Houston

In partnership with Navion ASA, Hamworthy KSE has developed a new solution to the environmental problems related to VOC emissions from shuttle tankers. Following a year-long development project, Hamworthy KSE has brought to market a commercially viable VOC recycling system, incorporating proven components and technology. Development has been focused on the effect of using blanket gas consisting of hydrocarbons produced from liquid VOC to maintain overpressure and keep the tank atmosphere below explosion limits. VOC recycled to the cargo tank during unloading forms a hydrocarbon blanket which reduces the release of VOC from the crude by as much as 40 percent. VOC emitted from the crude oil during loading is condensed in a process plant, and components such as methane and ethane are burned in a boiler to produce steam to be used for operation of the plant. The solution developed by Hamworthy KSE and Navion reduces the environmental impact of crude transportation and handling by a factor of six (CO₂ equivalent) compared with competing systems.

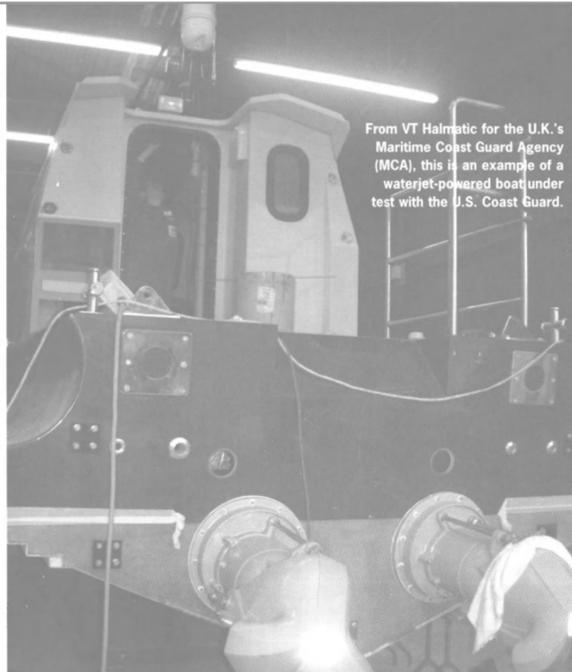
Hamworthy can be found at OTC on Booth 1463.

Circle 14 on Reader Service Card

Dresser-Rand to Supply for Statoil

Dresser-Rand will supply about \$8 million worth of gas export compression equipment for Statoil's Troll A platform in the North Sea. The equipment is being purchased by ABB AS Offshore Systems and will be supplied under the terms of D-R's frame contract with Statoil. D-R will provide two DATUM centrifugal compressors driven by 40 MW electric motors to the main contractor ABB AS Offshore Systems. The motors, purchased by Statoil directly from ABB Industries will be shipped to the module manufacturing yard in Norway and connected to the compressor packages under supervision of D-R and ABB. D-R's LeHavre, France, facility will provide the DATUM compressors.

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From VT Halmatic for the U.K.'s Maritime Coast Guard Agency (MCA), this is an example of a waterjet-powered boat under test with the U.S. Coast Guard.

VT Halmatic Takes Charge

Despite a parceling of marine business to the Far East, the British commercial and naval marine construction base has fought to maintain an edge in certain niches. VT Halmatic has been one of the more progressive and aggressive British companies in maintaining a strong hold on commercial and military marine business, with the production of some outstanding boats for pilot, patrol, marine security and naval operations. Noting the 60 to 70 percent of the company's production is for export, **Sebastian Freeman**, commercial controller, said, "that's how we survive." While the client list is diverse, VT Halmatic's "bread and butter" is the pilot and workboat markets, and despite the fact that the majority of its boats are sent abroad, the Royal Navy is still its biggest customer for RIBs.

An innovator since its start-up in 1952, the company is a specialist in glass reinforced plastic (GRP), composite construction and RIBs, has had a recent roller coaster history as the result of defense industry consolidation, with the purchase of the company by defense Goliath VT in 1998 and the relocation to the Portchester Shipyard in 1999.

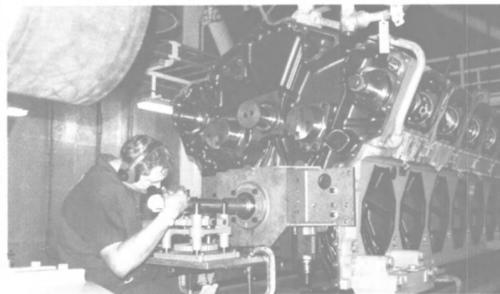
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Boardroom bravado aside, the company has maintained a straight course in the production of quality boats for a diverse customer base, with a staff of 335 and a yearly turnover approaching \$35 million.

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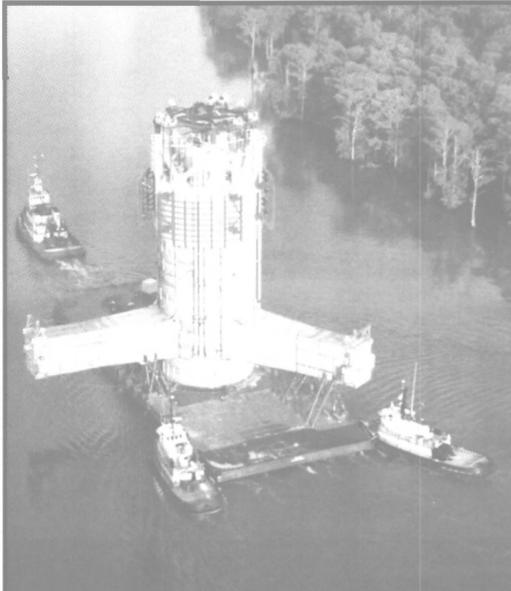
UK Report

with globalization finally being realized in nearly all corners of manufacturing, Freeman said "Halmatic is always looking for the right partner," in response to a question regarding the company's activities in the U.S., and the prospect of

garnering market share for the quickly expanding "marine security" fleet of boats.

The list of design advantages touted by the company is as diverse as its customer base, but above all is seakeeping,

with its 50 footers able to navigate safely and efficiently through Sea States 6 and 7. The company regularly partners with leading designers to ensure that its boats are top of the line, such as a recent deal with Cougar, which was developed



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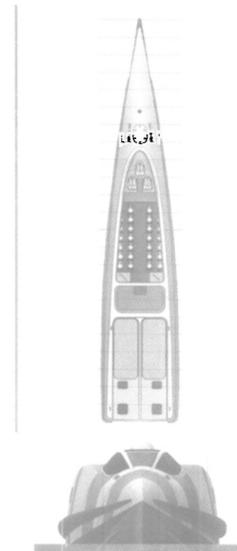
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50



Halmatic's cutting edge technology VSV22 travels at speeds topping 60 knots.

to develop, manufacture and market the Cougar range of commercial and military powerboats, and has led to the development of the Enforcer 33, a high-speed asymmetrical narrow tunnel cat coastal patrol craft capable of 60+ knots.

VT Halmatic's product range fits into three categories: Commercial Craft; Fast Patrol Boats; and Rigid Inflatable Boats.

On Patrol

As a fast-growing segment of its product portfolio due in large to prevailing political conditions, the Patrol Boat segment of VT Halmatic is a diverse range of vessels and shapes with one overriding staple: expertise in the incorporation of the latest materials built on more than a half of a century experience.

The current patrol boat range extends from 39 to 98 ft. (12 to 30 m), and is based on planning, stepped and wave-piercing hull forms with speeds from 25 to 60 knots.

The range includes the conventional to the extreme, with the futuristic VSV wave-piercing design (pictured above).

The M120 and M140 (40 and 48 ft. (12.2 and 14.8 m, respectively)) class are based on medium V hull forms offering 40 knot top speeds, with the volume to accommodate four on extended patrols of up to 400 miles. The M160 and M180 class, slightly larger at 52 and 58 ft. (16 and 17.7 m), respectively, have proven effective in diverse services such as the Royal Navy and Caribbean Police Forces. Able to accommodate eight at

Maritime Reporter & Engineering News

speeds to 35 knots, the 450-n.m. range vessel is particularly flexible for navy, police, customs or coast guard operations. The M300 is the latest addition to the line, the largest of the VT Halmatic Patrol Boat offering at 98 ft. (30 m). Able to accommodate 15 with sleeping quarters, the 30-knot vessel has a range of 1,000 n.m. and is configured to allow for a variety of lightweight naval gun systems.

The VSV22, produced using Paragon Mann's unique wave piercing hull design, is by far the most revolutionary in the VT Halmatic stable of offerings, but is a proven monohull in military applications. The VSV22, the largest of this genre, measures 75 ft. (22.9 m) and has a top speed in excess of 60 knots. Featuring a sandwich construction which incorporates carbon fiber, Kevlar and a foam core, the craft is classed by ABS and is powered by twin 1,000 to 2,000 hp diesel engines powering surface drives. It is built to carry up to 26 passenger and collateral gear, and is able to be configured for transport via aircraft.

Refitted Pilot Boat Returns to Service

As the "Estuary Warden" a VT Halmatic Nelson 48/50 pilot boat has recently been delivered back to Estuary Services Ltd. following a thorough mid-life refit at VT Halmatic's Portchester Shipyard.

The Cutter entered service in 1992 and has been in continuous service ever since in the busy approaches to the Thames Estuary and Medway Ports. The comprehensive refit focused on the major systems and structure. The original diesel engines were replaced with new Caterpillar 3406E marine diesels (rated at 550 bhp @ 2100 rpm) coupled to overhauled ZF BW155A gearboxes to provide a service speed of 22 knots. New silicon element Vulastik couplings were fitted between the engines and gearboxes. Teignbridge supplied new 5-blade propellers that have been designed to provide good acceleration and smooth running characteristics. Twin single lever electric cruise command engine and gearbox controls have been fitted to give precise handling and 'soft' gear engagement to prolong the life of the gearboxes. The electronic engine management system provides full multi-function digital displayed information at the helm console that can be interrogated with a laptop computer.

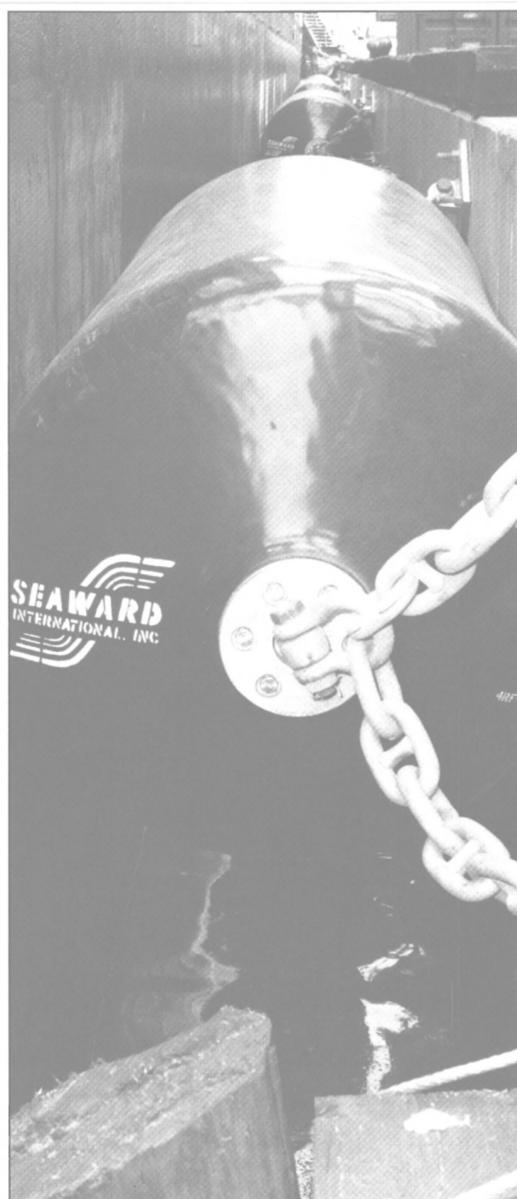
In addition the vessel is fitted with a real time data logger, which is interfaced with the GPS.

VT To Unveil Shipyard Technology Investment

This Spring, VT Group will unveil what it touts as Europe's most advanced naval shipbuilding facility, a nearly \$60 million investment located within Portsmouth Naval Base. From the start,

the facility will be used to build blocks for all the Royal Navy's new 7,500-ton type 45 destroyers, as VT will build the forward section, funnel and mast section for these ships. In addition, the company

HMS Severn at the VT Southampton yard.



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UK Report

OPV Specification	
Length (o.c.)	262 ft. (79.8 m)
Breadth, molded	45 ft. (13.6 m)
Depth, molded	23 ft. (7 m)
Speed, full load	20 knots
Range at 15 knots	5,500 n.m.
Accommodation	48
Main engines	(2) 4,125 kW @ 1,000 rpm

is in competition to build additional 262-ft. (80-m) offshore patrol vessels (OPV) for the Royal Navy, a project that would also take advantage of the new complex. Three vessels were previously contracted, and one (HMS Tyne) is now in service. The OPVs are a unique procurement for the Royal Navy, as they are believed

to be the first ships built and funded by industry for charter to the Ministry of Defense. VT is financing the \$90 million build of the three ships, and will charter them to the MoD for an initial period of five years, at which time the MoD can either extend the charter or return them to VT.

VT's Integrated Logistics Division will fully support the ships in service, guaranteeing a greater amount of sea availability than currently afforded by the five Island Class ships.

Speeding to Safety



While it is not a vessel you will see anytime soon on U.S. port patrol, the BladeRunner speed boat from IceMarine could offer some technological cues to designers seeking to deliver an ultra fast boat with outstanding handling characteristics, a trait evident even in rough seas. *Maritime Reporter & Engineering News* had the good fortune to test drive the BladeRunner speed boat off England's Isle of Wight late last year, putting the powerful 34-ft. (10.3-m) boat through its paces with **Jeremy Watts**, Managing Director and Owner of Ice Marine, alongside. Taking the helm is much like climbing behind the wheel of a Ferrari, with its race pedigree and accents evident from Watts' experience as a World Offshore Powerboat

Champion. The BladeRunner 34 is an "Air Entrapment Monohull" (AEM) which is touted by Watts as radically different to any conventional monohull, in that it has dramatic twin tunnels which flare out from either side of the slender twin stepped hull. AEM provides the boat with phenomenal aerodynamic lift (confirmed and endorsed heartily by this reporter's test ride), improving speed and efficiency and significantly softening the ride by compressing the air inside the tunnels to add a cushioning effect. The boat's performance is nothing short of incredible considering the powerful characteristics it possesses. As tested, the 35 x 9.5 x 1.7-ft. (10.6 x 2.8 x 0.5-m) boat was powered by a pair of twin Mercury Optimax 225 hp V6 outboards, delivering a top speed of 74 mph. Other propulsion options include twin Honda BF225 VTEC V6 4-stroke outboards, or twin Mercury Promax X 300 hp V6 outboards. Depending on

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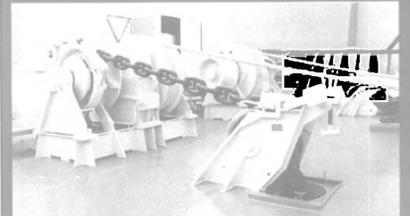
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final propulsion choice and accessories, the highest spec BladeRunner is said to top out in excess of 100 mph. The ride is surprisingly quiet, given the tremendous power packs sitting less than 12 ft. away, and almost inexplicably, the vessel leave little to know wake, a testament to seven years of investment in the optimized AEM design. The boat was jointly designed by Watts and **Lorne Cambell**, a Naval Architect and Designer with many boating championship credits to his name.

Circle 81 on Reader Service Card

LR to Class New Container Ships

Lloyd's Register (LR) will class a series of five 8,100-teu container ships to be built at Samsung Heavy Industries. The ships, ordered by Seaspans and China Shipping Group, are the largest container vessels to be built in South Korea.

Protect Surfaces During Construction

As marine construction and repair activities can often result in damage to other parts of a vessel, a British company, Spraylat International, offers a solution. Teakguard and Deckstrip coatings from the company are water borne, non-toxic and non-hazardous dispersants that are applied with a roller and dry to form a protective plastic skin that grip the substrate and follow its contours exactly. They are said to resist foot traffic, abrasions and any spillage of paint, varnish, oil and solvents. Upon completion of work, the coatings are designed for easy removal.

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Lighthouse Shows the Way to Safety

Lighthouse Maritime Security was created to help tackle new and emerging threats facing the maritime community. Services, all of which meet the requirements of IMO's new International Ship and Port Facilities Code (ISPS), include security assessments and the design and implementation of security plans.

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Mersey Maritime: Strength in Numbers

Mersey Maritime is the latest effort by the U.K. to reinvigorate its maritime business. Merseyside, with a maritime history dating back almost 300 years, is already a leading U.K. center for mar-

itime services, home to about 500 maritime-related companies, representing an annual turnover of about \$2 billion and employment for approximately 6,000. "By establishing this cluster we aim to promote the many advantages offered by the Merseyside region in all

areas of the industry," said John Mutch, chief executive of Mersey Maritime.

"The vision is to ensure that all companies within Merseyside's maritime sector work together, resulting in a greatly improved local economy, and creating a region with world-class edu-

cation and training and greater employment prospects," says Ian Higby, managing director of ACL and chairman of Mersey Maritime. Plans include the establishment of a \$30 million maritime training institute on Merseyside.

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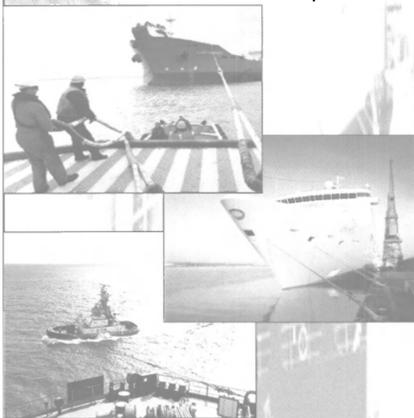


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Scotland Sees Opportunity, Innovation in the North Sea

Britain's offshore industry is strong, and Scotland is committed to ensuring that the United Kingdom Continental Shelf (UKCS) remains one of the world's top offshore energy provinces for many years to come. The oil and gas industry is facing a set of unique challenges: determining how to instill sustainability, meeting the needs of remote reservoirs, ensuring the progression to fallow fields, looking to make cost reductions and making use of the technological advances in the industry. Scotland has drawn on its industry expertise, strong academic tradition and

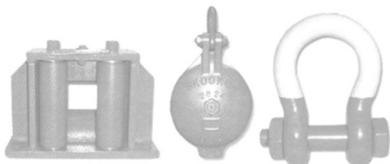


experience in innovative technologies to develop a strategy that will meet the emerging needs of the industry.

The approach, developed by Scottish Development International, has two main objectives. By focusing on the commercialization of research and development, SDI will ensure the best use of the North Sea's resources. The organization will also look to develop the knowledge base and expertise necessary to support diversification into alternative industry sectors — and emerging overseas markets. SDI is a government-funded organization that works to help businesses use Scotland's key strengths in knowledge-based industries, high-level skills, technology and innovation. The goal of SDI is to broaden Scotland's international appeal as a first choice source of knowledge from which to develop and exploit innovative technologies and ideas. For the oil and gas industry, SDI works with Scottish companies in geographical and industrial diversification and looks to bring the strength of the Scottish companies and universities to international organizations. According to **Tom Lamb**, Head of Energy and Engineering — Trade, SDI, "Scotland has an outstanding record of achievement in developing leading-edge technologies for the offshore energy sector, with our companies continuing to invest heavily in research and development for ultra deepwater markets. This record has been achieved by Scotland's continuous investment in people and skills." The North Sea industry continues to be among the most innovative in the world, with leading technologies and highly effective and efficient contracting strategies, and development techniques. Performance improvement in the areas of operations and management, asset management, engineering, field-life extension, satellite field development, supply-chain management, and well services and drilling, will ensure that the North Sea continues to be on the forefront of this change. Scotland is proud to be spearheading this effort for the next phase of technology.

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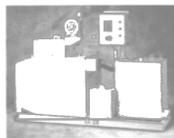
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(Continued from page 8)

Doherty takes Maritrans Helm

Making the Grade

In selecting their replacement, executives knew that Van Dyck's shoes would be hard to fill, but also came to the conclusion that the new candidate for chairman and CEO had to be someone with drive, vision, ambition and industry know-how — hence, their selection of Doherty. And Van Dyck could not have been happier to pass the torch on to his new successor, who will be able to maintain the leadership and intelligent strategies that Van Dyck established throughout his tenure. According to the former CEO, who will continue to advise Maritrans' executive team when it comes to execution of strategies, Doherty is poised to lead the company into even higher rungs of success.

There will be no sleepless nights experienced by those who were proactive in the decision to hire Doherty — because he has the ability to further Maritrans' corporate strategy.

Doherty, who holds both B.A. and M.A. degrees in Chemistry from Tufts University, spent 12 years in various capacities within the environmental industry — on both the managerial and technical sides. Realizing that he had a "knack" for the managerial aspect of the business, he decided to pursue an M.B.A. in finance from the University of Pennsylvania. Following the completion of his degree, he was hired by Computer Command and Control Company as its director of business development. The company, which was simply known as 4C's, created logistics tools and software for financial and economic purposes. Ironically 4C's biggest customer was Maritrans, who went on to acquire its management science group in 1997, the same year that Doherty was brought onboard as director of finance. Embracing his new position, Doherty "took the bull by the horns" and was promoted to V.P. of the company's Corporate Group where he was instrumental in the strategic planning and sale of Maritrans' five barges and three tugboats to Baltimore, Md.-based Vane Bros., as well as the transaction of 10 barges and eight tugboats that were sold to K-Sea Transportation in Staten Island, N.Y. Both agreements, which were signed at the end of 1999, were a result of a decline in demand for single hull equipment. According to Doherty, this coupled with the overtoned Northeast market, would enable Maritrans to not only focus on its successful double hull program, but on furthering its Gulf Coast trade as well — a market that has experienced a high level of growth in recent years. The beginning of the new millennium brought about more change for Maritrans when the company decided that it would move its corporate headquarters from the Philadelphia waterfront to Tampa, Fla. While its main business functions are performed out of Tampa, Maritrans still keeps a location in the Philadelphia area to maintain its lightering fleet.

Subsequent to the successful outcome of these divestments, Maritrans has continued to maintain a healthy, profitable fleet. The company, which currently owns and operates 11 super barges ranging in size from 175,000 to 380,000 barrels (six of which are already double-hulled); and four tankers (two single, two dou-

ble hulled) ranging from 242,000 to 265,000 barrels, provides a healthy offering for its customers (both potential and current). With its lightering focus remaining in the Philadelphia location serving the Delaware Bay, Maritrans has grown with its Gulf of Mexico runs of refined petroleum products, which can easily be conducted from the Tampa, Fla. location.

The Long and Short of It

It would seem that Doherty would not have to incur many changes when assuming his new post, for it would appear that the term "if it ain't broke, don't fix it," would fit in suitably here. Why change a company, that has always been able to maintain a healthy bottom line in a down economy, had divested interests that were not producing, and has had a solid relationship with a reputable Gulf of Mexico shipyard, who is working to cost-effectively rebuild its single-hulled tank barges? According to Doherty, it's the customers who further Maritrans' desire to excel. "The hallmarks of Maritrans' strategy is to be known as a premium company in the oil transportation business," he said. "Our employees and customer satisfaction drive profitability."

Before being appointed to his current position this past January, Doherty was elected by Maritrans as the company's president in 2001, working with Van Dyck and the executive team to instill some of the strategies that he plans to implement as chairman and CEO. During his discussion with *MREVEN* via conference call from his Tampa, Fla. office, Doherty mentioned that the company had just celebrated its 75th anniversary — a milestone — which he hopes to contend for another 75 years. Just how will he accomplish this? The answer, according to Doherty is to continue to effectively supply reliable transportation solutions for customers while providing them with profitable returns. He also touched on the company's so far successful double hull rebuild program, another cost-effective measure that has allowed the company to save its dollars.

Is a newbuild program out of the question for the near future of Maritrans? According to Doherty, both he and the executive team will continue to examine potential newbuild possibilities,

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but at the moment it's not something in the immediate future. While to some this decision may not portray Maritrans as "aggressive" or "risky" the absence of the latter has actually provided an increase of the former. By avoiding risky business decisions, Maritrans has enabled its stature as an aggressive player in the tug and barge industry. By using simple business sense and just knowing when to walk away from a deal that doesn't seem attractive, the company reaps its risk reward via financial discipline and analytical rigor, according to Doherty. Keeping capital structure at a comfortable spot that has allowed to Maritrans to thrive — even during years when the market was down. "Maritrans, even on down years, always had a cash flow," Doherty said. "Simply because we don't ever bite off more than we can chew."

In the short term, Doherty and his team will stick with the "bread and butter" of Maritrans — the customers and employees. Doherty will also continue to improve Maritrans' already stellar safety record in an industry where there is little margin for error. He furthered that the company's dedication to providing a



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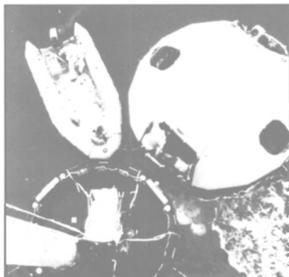
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56

safe, efficient operation (on all fronts), demonstrates its desire to provide a high level of customer service, as well as maintaining an environmentally friendly workplace. One way that Maritrans has been able to uphold its high standards is by staying ahead of the industry and working with both its vessel crews and shoreside staff to maintain its motto of "Not one drop of cargo gets into the water." This motto, which was established by Doherty's predecessor, Van Dyck, earned Maritrans the prestigious Benkert Award for Environmental Excellence distributed by the U.S. Coast Guard. Garnering first place in 1998, the company won again in 2002, this time coming in third behind Sea River and Marathon Ashland. According to Doherty, of the more than seven billion gallons of petroleum that Maritrans moved in 2002, only less than two gallons were spilled — or .0002 gallons for every billion carried.

Not only has Maritrans taken the initiative to maintain its environmental diligence, but also the industry as a whole has joined in on this effort, and according to Doherty has come a long way since the days of the Valdez when the numbers (as per AWO's recent testimony on Capital Hill) were as high as 14 gallons spilled for every million carried. "The industry has come a long way...we're much more diligent about safe operations and reducing the amount of cargo being spilled," Doherty said. "Maritrans is on the leading edge of that by staying ahead of industry curve and expectations of both regulators and customers. We work to exceed these requirements, not just meet them." He continued: "This is not an industry where you can be complacent. You will fall behind if you don't go beyond what was instilled (in terms of safety and regulations) one year ago."

Further Nacos Orders For Sam Electronics

STN Atlas Marine Electronics has received orders from German, Italian and South Korean yards for an addition of 16 NACOS integrated navigation command systems incorporating Radarplot Atlas 1000 radars, ECDIS and other proprietary sensors. Worldwide sales of systems for installation aboard commercial and passenger vessels as well as retrofit applications now exceed 850 configurations. The new commissionings include Series 45 systems for five 30,800-gt RoRos ordered by DFDS Tor Line from Flensburger Schiffsbau for delivery this year and next while a series of eight new container vessels being completed during the course of this year at the Hanjin HI and Hyundai HI yards in South Korea on behalf of MSC Mediterranean Shipping are being equipped with Series 35 configurations.

Circle 199 on Reader Service Card

Hammar Introduces Hydrostatic Release Unit

Often found in life rafts and EPIRBs of all sizes and on all types of ships around the world, the new Hydrostatic Release Unit — with the same name as its predecessor H20 — has been introduced. The new



H20 is designed for yet easier installation so that even the last possible errors can be eliminated. It has a three-step coupling device that eliminates the risk of incorrect installation. The Weak Link of Hammar is now integrated into a new black thimble. This gives smaller tolerances in the Weak Link system (breaking strength 2.2 +/- 0.4 kN) as well as a stronger lower thimble construction. For the end user, the new design will be noticed in first place by the clear and easy-to-understand installation. The thimble is, for instance, clearly marked with "DECK" to avoid any misunderstanding and possible upside-down installation. Each unit is supplied with multilingual installation manual and instructive self-adhesive label for the liferaft container.

Circle 8 on Reader Service Card

SeaWave and Radio Holland Collaborate

SeaWave and Radio Holland USA, Inc., have formed a cooperation agreement. According to **Andre Kik**, vice president of technical services for Radio Holland USA, "The SeaWave/Radio Holland deal strengthens our ability to offer comprehensive, integrated communications solutions to our customer base of 'blue water' merchant ships, workboats, fishing and other commercial vessels.

We expect it will also increase our sales of hardware and technical services." SeaWave, in turn, gains the ability to deploy their solutions throughout the U.S., Canada and Mexico utilizing Radio Holland USA's long established services network.

Circle 198 on Reader Service Card

Nera Offers Fleet F55

Nera will launch this summer its Nera F55 terminal, which is part of the Inmarsat Fleet F55 communication service for maritime medium-sized vessels. Nera F55 provides 64 kbps ISDN data capabilities to medium-sized vessels, enabling advanced, reliable and cost effective communication facilities previously only available to larger ships.

Circle 197 on Reader Service Card

RT-Flex Engines Chosen by Safmarine

Three Sulzer 9RT-flex60C low-speed diesel engines were ordered by the German shipbuilder Volkswerft Stralsund GmbH for installation in three 2,100 TEU container ships contracted there by Safmarine. The ships are due for delivery in 2004.

The nine-cylinder engines will each have a maximum continuous power output of 21,240 kW at 114 rpm.

Developed by Wartsila Corporation, Sulzer RT-flex engines are touted as the first low-speed engines to have electronically-controlled common-rail systems for fuel injection and valve actuation, a system designed to delivery maximum flexibility in the way the engines operate, with benefits such as lower exhaust emissions, lower fuel consumption at part load, and better maneuvering ability.

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 e-mail: info@chesapeakemarineinst.com
 Web: www.chesapeakemarineinst.com
 Contact: Capt. Jim Parry

Founded in October 1992, Chesapeake Marine Training Institute, Inc. (CMTI), occupies more than 8,000 sq. ft. of a modern office and training complex. Located near the historic triangle of Yorktown, Jamestown and Williamsburg, Va., CMTI is a full time training facility, open year-round. The company offers more than 25 U.S. Coast Guard approved courses all of which are approved by the Virginia Board of Education for Veterans education benefits for certain courses. CMTI's instructors are all USCG licensed, professional mariners, with over 300 years combined experience in the marine field, skilled in sharing their knowledge with others and providing personal tutoring when needed.

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 New Orleans, La. 70119-4399
 Tel: (504) 483-4266, Fax: (504) 483-4157
 Rick Schwab, project manager
 email: rschwab@dcc.edu
 Internet: www.dcc.edu

Delgado Community College, in a cooperative effort with the Louisiana Department of Labor and the college's Maritime Advisory Board, has brought the latest in ship simulation technology to New Orleans. The Navi-Trainer Full Mission Bridge Simulator, housed at Delgado's Marine Radar



April 2003

ISPS Model Security Training Courses Update

By Glen M. Paine, Executive Director MITAGS/PMI

The Maritime Institute of Technology and Graduate Studies (MITAGS) was part of the U.S. delegation to the International Maritime Organization (IMO)-STW-34 meeting held in London from February 24-28, 2003. At this meeting, the IMO established the basic framework and competencies for the Port Security Officer (PSO), Company Security Officer (CSO) and Ship Security Officer (SSO) training programs. This information has been forwarded to the U.S. Maritime Administration, who will complete the development of the model courses by August of 2003. All three programs will be developed concurrently, with more emphasis for security placed on the ports and companies and less on the ships. The information in the model courses will be rational and within the capabilities of the industry to perform. Additionally, there will be no requirement for "certified training." Companies need only provide "documentary evidence" that the training occurred and included the information provided by the model courses. (Also note that IMO model courses are provided for guidance only. They are not part of the Code.) MITAGS will continue



Glen M. Paine

to forward the "lessons learned" from our security courses to the Maritime Administration for use in the development of the IMO model courses. MITAGS has also established an informal network with a number of maritime training centers around the world to share information on security training.

Further standardization will continue when the ship's security plan is submitted to the Flag State Regulatory Authority, e.g. U.S. Coast Guard, or Recognized Security Organization (RSO), e.g. American Bureau of Shipping (ABS) or Det Norske Veritas (DNV), for approval. It should be

noted that training is a required element of the plan. Many Companies will also opt to include their security plans, training exercises and drills within the context of their safety management system (ISM).

IMO is urging companies not to wait for the model courses to get started. The U.S. Coast Guard delegation at the IMO-STW-34 supported this position. Copies of the training competencies, which were discussed at this meeting, are available on the MITAGS website at www.mitags.org under "News and Events." For companies and mariners desiring formal training structures, MITAGS is offering a combined 4-day CSO/SSO course on monthly basis. A 3-day version has been created for off-site training and at MITAGS West Coast affiliate, Pacific Maritime Institute (PMI) in Seattle, Wash. PMI's website can be found at www.mates.org.

The information contained in these programs is also valuable for individuals responsible for the port facility security. Further course information and registration details can be found on the websites noted above or by calling, toll-free, MITAGS' Admissions at (866) 656-5568 or PMI Admissions at (888) 893-7829.

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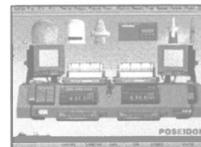
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Contact: Mark Hill

EnVision Leadership Systems has signed a contract to provide leadership development and training services to Sea Star Line, LLC, a Jacksonville-based transportation company. EnVision, which helps organizations determine meaningful objectives and achieve meaningful



EnVision president **Mark Hill** mentors sales associate **Nicole Miller** of Sea Star Line's Virgin Islands office during a workshop session.

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Web: www.ifsta.org
Contact: Lori DeGeorge

results through a systematic, integrated and proprietary leadership process that will provide Sea Star Line a variety of services, including leadership effectiveness workshops, employee satisfaction surveys and total quality management training.

Developed by Fire Protection Publications, the text of *Marine Firefighting* addresses the shipboard fire fighting requirements of various maritime regulatory organizations such as U.S. Coast Guard, Canadian Coast Guard, and International Maritime Organization. It will aid the mariner, whether a new entrant about to join a vessel for the first time or an officer seeking higher certification. Others who can benefit potentially from the publication are officer charged with inspecting fire equipment or conducting a training session, or a senior officer conducting a drill while in command.

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Fax: (718) 565-4186
e-mail: msihq@marinesafety.com
Web: www.marinesafety.com
Contact: F. Eugene Guest

In January 2003 MarineSafety International's Norfolk Center began training in its new Radar/ARPA and ECDIS Labs. The new facilities include a three station Radar and ARPA lab, which was purchased from Buffalo Computer Graphics and an eight-station ECDIS lab, comprised of networked PC's, which can host any one of several ECDIS programs including ECPINS and TRANSAS, among others.

This expansion was undertaken to meet emerging U.S. Navy requirements for advanced radar. Principal Radar Instructor **Chris Wahler** with a class of ARPA students from a U.S. Navy ship.



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and electronic navigation training. The lab will enable MSI Norfolk to teach ARPA and ECDIS courses without impacting ship simulator training. Courses offered include MSI's USCG approved four-day ARPA, five-day ECDIS, five-day Original Radar, and Radar Re-certification courses as well as combined ARPA and ECDIS courses tailored to U.S. Navy requirements.

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The Maritime Institute of Technology and Graduate Studies (MITAGS)
5700 Hammonds Ferry Road,
Linthicum Heights, Md. 21090
Contact: Craig Thomas,
Business Development Manager
Tel: (866) 656-5569
Email: cthomas@mitags.org
Website: www.mitags.org

West Coast Affiliate:
Pacific Maritime Institute
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Greg Trunnell, Director; Tel: (206) 239-9965
Email: info@mates.org
Website: www.mates.org
The Maritime Institute of Technology and Graduate Studies (MITAGS) and the Pacific Maritime Institute in Seattle, Wash. are excellent

Training & Education Directory

sites to house security related training due to the quality of their programs and locations. The Institutes both have substantial expertise in the maritime transportation sector. The MITAGS 80-acre campus is located within minutes of the Baltimore-Washington International (BWI) Airport, light rail, AMTRAK, and I-95, and PMI is located in the heart of Seattle.

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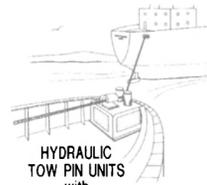
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Recognizing that "post-it" note observation on radar is an effective alternative to rapid radar plotting, the U.S. Coast Guard recently approved the Center for Maritime Education's innovative Inland Waters Radar Renewal and Western Rivers courses. This Inland Waters Radar Renewal course uses post-it note observation as an alter-

native to rapid radar plotting. Rapid radar plotting is practical for the ocean-going seafarer, but not universally appropriate for mariners on the inland waterways. Radar units on tugs have small screens and are usually a raster scan head up unstabilized type display. There is no reflection plotter. CME's new course provides the necessary review and competency evaluation for all officers in charge of a navigational watch with a current radar endorsement on vessels with Radar on Inland Waters. Participants taking the Western Rivers course can expect approximately four hours of lectures, demonstrations, tutorials and class work and simulation work. Inland

officers receive an additional hour of review, demonstration and competency evaluation on the post-it note method of radar observation.

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Contact: Bob Negron

An instructional resource that combines broadcast quality videotapes, pictorial workbooks and

computer-based training has been created to provide vessel operators and seamen with a cost-effective means of complying with the drilling, training and assessment requirements established by the International Safety Management (ISM) and Standards of Training, Certification and Watchkeeping (STCW) codes. Walport's new interactive training drilling and assessment compact disc, facilitates onboard training, drilling and assessment, and associated record keeping. Vessel managers have access to a secure area of the database that offers step-by-step guidelines for conducting onboard drilling, training & assessment operations.

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Contact: Barbara Steinberg

Videotel launched Shipboard Security, a distance learning course produced in association with The West of England Ship Owners Insurance Services. Shipboard Security is specially designed for training Ship Security Officers in accordance with the new SOLAS Chapter XI-2 "International Ship and Port Facility Security (ISPS) Code." Shipboard Security ensures the Ship Security Officer is trained in all aspects of security by implementing the security plan for their vessel and disseminates security information to the crew. Shipboard Security also addresses the vital interaction between the ship, the Company Security Officer and the Port Facility Security Officers.

Circle 61 on Reader Service Card

Ballast Convention Nears Completion

Last month, the IMO came a step closer in the completion of the international Convention on the control of Harmful Organisms in Ships' Ballast Water. Intertanko participated at the specially convened meeting of the Ballast Water Working Group where over 180 delegates representing member states and NGOs upheld the IMO's spirit of compromise in discussing and agreeing on some of the main principles of this difficult Convention. One of the most significant aspects of the Convention is the ballast water treatment standard. It was agreed that this would be based on a size criteria in which organisms above 50 microns would be removed from the ballast water. The eventual aim would be to remove, kill or inactivate all the organisms in the ballast water. A further breakthrough was the inclusion of an exemption clause for vessels, which are participating in research and development schemes, such as those within the MARTOB project. This is intended to encourage owners and operators to participate in trial schemes which may not quite meet the standard in the long run but will further the development of treatment systems and hence the eventual applicability of the technology to the world's fleet.

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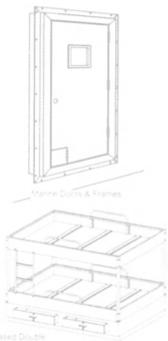
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Committees, Associations, and Societies

By John W. Waterhouse, P.E.,
President, Elliott Bay Design Group

Last Fall I had the opportunity to attend the Southeast Conference in Craig, Alaska. This conference is an association of communities working together on common issues such as transportation, their regional economy, and outside influences on their region such as the federal government. It is a great group of people, brought together by a common purpose: improving the quality of life for their communities. Seeing this group effort made me reflect on other gatherings where people come together to work on common problems.

The marine industry is diverse geographically, economically, and politically. It has been characterized historically by individuals of strong character, capable of making life or death decisions as they ply their livelihoods on the great and small waters. This is not a group to meekly follow a leader or to do something just because the other person is doing it. Getting a consensus opinion out of mariners is akin to herding cats — a challenge at best and a hopeless frustration at worst.

However the marine industry can and does work together. These are smart folks and they know that a collective voice is necessary if they are to defend and support their livelihoods. As a political consultant once said to a group of passenger vessel operators — "You are either a player or a victim". The message is clear: If you don't get involved and work with others towards common goals then you better be prepared to get rolled over.

Two great examples of the benefits of working together are the Passenger Vessel Association (PVA) and the American Waterways Operators (AWO). When the U.S. Coast Guard was undertaking a major re-write of the Code of Federal Regulations affecting small passenger vessels, PVA pulled together operators and designers to review the proposed rules. Through a series of meetings, they crafted a detailed report which endorsed the positive features of the new rules and provided solid objections to those rules which were unnecessary or poorly crafted. The Coast Guard recognized the quality effort that went into the PVA response and listened carefully to PVA's opinions. As a result, the Subchapter T and Subchapter K rules that we are using today are workable and accepted by industry.

Similarly, when barges pushed by the



tug MAUVILLA collided with an Amtrak railroad bridge causing the collapse of the bridge and the subsequent loss of life when a passenger train plunged into the water, the towing industry was confronted with calls for new regulations and strict oversight. The members of AWO could have hunkered down and fought blindly fought any proposed regulations. Alternatively, they could have rolled over and accepted whatever reactionary rules were placed upon them. Instead AWO worked with its member companies to create consensus standards for improved operation and management of the towing industry. Further, these industry standards were made mandatory upon AWO members, a bold step that cost AWO some membership but showed the seriousness of AWO's commitment to improving their industry. The resulting Responsible Carrier Program is a model for other marine organizations to consider.

The message in all this is that we need to work together. I encourage everyone in the marine industry to get actively

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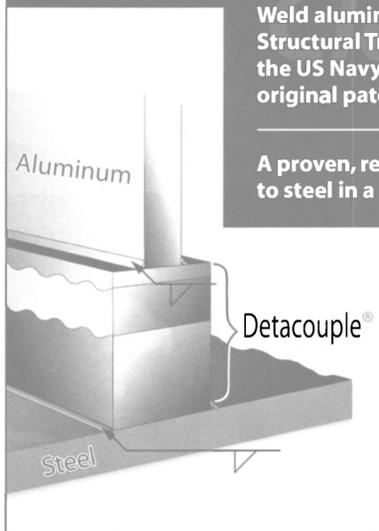
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involved. Whether you drive a tug, design cruise ships, operate a platform supply vessel, or manage a fleet of tankers, there are organizations that are working for your benefit that could use your input. Seek out the trade associations such as AWO and PVA, get involved with committees such as the Merchant Marine Personnel Advisory Committee, or the American Bureau of Shipping Small Vessel Advisory Committee, join a professional association such as the Society of Naval Architects and Marine Engineers or the Council of Master Mariners. One of the great things about our country is the freedom to associate with other people and to speak with a collective voice. Small groups of dedicated individuals can accomplish amazing things. So get involved! I guarantee that you will meet new people, learn more about your industry, and have an opportunity to make a difference.

HeatBlocker Granted Patent

The HeatBlocker Division of the Kalb Corporation has been issued Patent #64444287 by the U.S. Patent & Trademark Office for its product, HeatBlocker Ultra Performance. The HeatBlocker exhaust insulation system is the result of a research and development program that stretched over 24 months. Testing of various materials and fabrications provided performance data that thoroughly examined a multitude of operating conditions. The exacting specifications that successfully provided the durability and protection required were incorporated into the final design for the HeatBlocker product. HeatBlocker kits offer the state-of-the-art design technology and ultra high temperature materials demanded by major OEM's for the protection of their high output diesel and natural gas engines. Each component is engineered to install, remove, and replace quickly both on the assembly line and in the field.

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World Maritime Tech Exhibit Set For San Francisco

In a bold move, The Society of Naval Architects and Marine Engineers (SNAME), in partnership with 12 professional naval architecture and marine engineering organizations from around the globe, has created **The World Maritime Technology Conference and Exposition**. From October 17-20, 2003 in San Francisco, Calif., key marine industry decision-makers, leaders, engineers, managers, technicians, educators, shipyards, equipment manufacturers, naval forces, government, ship owners and operators, classification societies, and leaders of worldwide maritime organizations will meet at a single conference to discuss and debate the issues facing the maritime industry in this unprecedented forum.

Keith Read, CBE, Director General of IMarEST said, "Much of the business

of the world and the sea is now global whereas in the past it was concentrated in the efforts of a few nations. Offshore technology is now being developed not only in the North Sea and Gulf of Mexico, but also in West Africa and Brazil. Shipbuilding and repair has its major focus in the Far East with China now threatening to overtake Japan and Korea while those who man the ships come from as far afield as the Philippines, India and the Ukraine. The sea from being a global business run by the few is now a global business run by many."

Bruce Rosenblatt, president of SNAME concurred as well, offering his views on the current state of the global maritime industry. "In a post-9-11 world, maritime security has come to the forefront. Safety, Security,

Environmental, Technological issues - all are relevant issues, which demand a global effort within the maritime industry to develop clear goals and solutions," said Rosenblatt. The role of maritime societies is crucial if we are to educate the public and government about the importance of maritime affairs. "We must develop common policies towards the issues that most affect the maritime industry today," said Rosenblatt.

For more information on this year's World Maritime Conference, including exhibitor inquires

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The list of organizations that have signed on as Principal Sponsors of The World Maritime Technology Conference and Exposition are:

- The Society of Naval Architects and Marine Engineers (Organizer)
- The American Society of Naval Engineers
- The Chinese Society of Naval Architects and Marine Engineers
- The Danish Society for Naval Architecture and Marine Engineering
- The Institute of Marine Engineering, Science and Technology
- The Royal Institution of Naval Architects
- The Society of Naval Architects of Japan
- The Society of Naval Architects of Korea
- Asociacion de Ingenieros Navales y Oceanicos de Espana
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- Schiffbautechnische Gesellschaft e.V.
- The Society of Naval Architects and Marine Engineers (Singapore)

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63

SeaArk Delivers Patrol Boat to NYPD

SeaArk Marine, Inc. delivered a 35-ft. (10.6-m) Dauntless Class patrol/rescue boat to the New York Police Department (NYPD) Harbor Unit. The boat is responsible for patrol, search and rescue, port security, diving and anti-terrorism activities in New York Harbor and the waters surrounding New York City. The SeaArk 35-ft. Dauntless is con-

structed of all-welded marine grade aluminum and features a deep vee variable deadrise hull that produces a smooth, dry and stable ride.

Launch 35 is powered by twin Caterpillar 3126 inboard diesel engines, each rated @ 420 hp. Additional outfitting includes a Kohler generator, an ICOM VHF/FM radio, a Northstar chart

plotter and a Furuno radar. For all-season crew comfort and operation, the boat includes heating and air conditioning.

Currently, SeaArk is producing a large quantity of Dauntless Class boats for the U.S. Navy for port security at naval installations worldwide.

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- Professor K. Shah, Ph.D., Department of Marine Transportation, U.S. MERCHANT MARINE ACADEMY
- George A. Rodriguez, Director, Cargo Security, TRANSPORTATION SECURITY ADMINISTRATION*
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**Camarc, Kvichak Team
On Pilot Boat**



Main Particulars - Pilot Boat

Length, (o.a.)	75.5 ft. (23 m)
Displacement	108,000 lbs.
Main engines	Detroit Diesel
Waterjets	Hamilton
Radar	2x Furuno FR8111 & FR2115
GPS	Northstar 952XD
Generator	32kW Northern Lights
Beam, over guard	21.5 ft. (70.5 m)
Fuel capacity	1,600 gallons
VHF	3x Icom M127
Autopilot	Robertson/Simrad AP9MK3

Camarc, Ltd. and Kvichak Marine Industries have teamed up to design and build an all-aluminum 72-ft. (22-m) pilot boat. The new boat, Sabine Bank Pilot, was recently delivered to the Sabine Pilots Service of Groves, Texas and will have a pilotage route that extends 20 miles off the Texas coast and 56 miles up the Sabine-Neches River.

Twin Detroit Diesel 16V2000 engines rated for 1,285 bhp each at 2,100 rpm provide power for the Sabine Bank Pilot and Hamilton HM651 waterjets were chosen as the propulsors. This combination will allow excellent maneuverability, a top speed of 28 knots, and a cruising speed of 26 knots.

The "Popsafe" fendering system will be used to protect the vessel hull while boat and pilot transfers are made. Protection and recovery of the pilots in the event of a man overboard will be enhanced with a combination jet guard and stern platform. Also, a forward raised pilot boarding platform with articulating outboard ends will improve pilot transfers.

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Rickmers Tokyo Sets Sail

Rickmers Tokyo, the second of nine new Superflex Heavy MPC (multi-purpose container carrier) vessels being built in China for Rickmers-Linie, the Hamburg-based global project liner and heavy lift specialist, arrived in the port of Hamburg on its maiden voyage on February 24, 2003.

April 2003

Special Advertising Section

KMM to Open Houston Office

Kvaerner Masa Marine, (KMM), a subsidiary of the Aker Kvaerner Group, has been an established member of the marine design community in North America since 1983. From its beginnings in Vancouver, Canada, the company expanded into the US, opening an office in Annapolis, Maryland in 1994.

Principal products for which the company is best known have historically been Offshore Supply Vessels, Offshore Patrol Vessels, Ferries, Floating Power Plants and Government Vessels. Icebreaking technology also continues to be a major element of the company's capabilities.

Following a review of current and potential future business operations, KMM has identified an opportunity to expand its client base to include the offshore oil and gas industry. This opportunity, along with a desire to provide better service to its existing clients, has led KMM to establish an office in Houston, beginning in May 2003.

The KMM Houston office will operate as a stand-alone entity, selling its products equally to competitors of its sister companies as well as offering services within the Aker Kvaerner Group.

Ron Pearson, P.Eng., with the company since 1995, has been selected to manage the Houston operation. Ron has a B.Sc. in Mechanical Engineering and brings more than twenty-five years of broad based engineering experience to the position, including managing complex projects through to successful completion. Ron will be charged with supporting KMM's current ship-related client base in addition to expanding the operation to include the offshore oil and gas industry.

KMM has concluded that many of the skills and technical considerations experienced in the marine industry are paralleled in the offshore oil and gas industry. The requirement for easy to build low weight structures, piping module design, sloshing loads analysis, hydrostatics, and corrosion control are just a few examples common to both market sectors. In all its work, KMM strives to provide a good balance between advanced analyses and practical solutions that can be built.

A service that may be of interest to clients of KMM is in the field of Computational Fluid Dynamics (CFD). This relatively new technology



Ron Pearson

enables more cost-effective solutions for many marine related fluid mechanics problems that have traditionally been solved using model tests.

KMM has successfully provided engineering assistance to Gulf Coast clients throughout the last twenty years from its two existing offices in North America. A recent increase in Gulf Coast activities has now encouraged the company to take this step of opening another office to better serve its existing and future clients.

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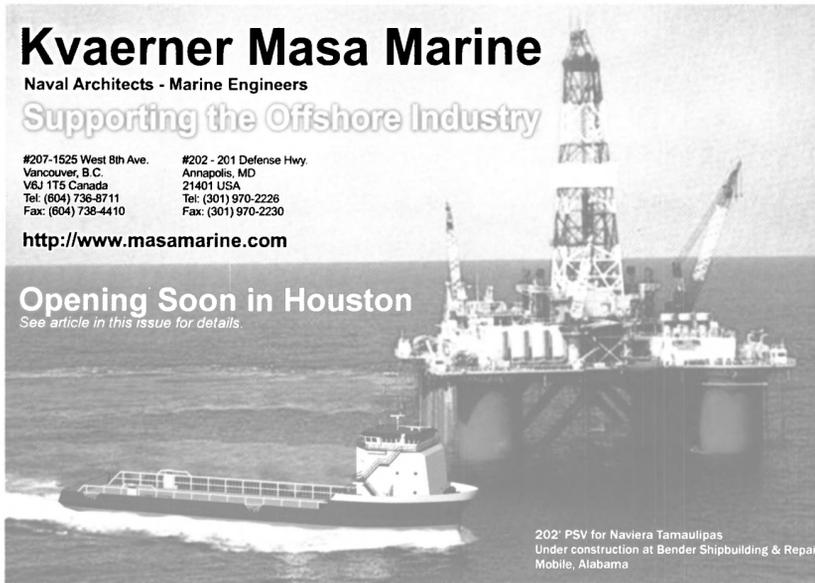
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<http://www.masamarine.com>

Opening Soon in Houston

See article in this issue for details.



202' PSV for Naviera Tamaulipas Under construction at Bender Shipbuilding & Repair Mobile, Alabama

Circle 314 on Reader Service Card

**Nauticast X-Pack
Receives Type Approval**

Nauticast, formed in 2000, is focused on the development of AIS systems. The company's X-Pack product line comprises of the X-Pack DS, Class A - AIS Transponder and will soon be enhanced by mobile Transponder, and Base Station Units. Siemens Austria AG is its

ISO 9001 certified production partner, thereby guaranteeing extensive manufacturing capacity and the production of a solid, tried and tested product. The X-Pack DS Transponder was "Wheelmark Approved" by the Federal Maritime and Hydrographic Agency of Germany (BSH) on March 7, 2003.

Circle 32 on Reader Service Card

**GD Appoints New VP of
Marine Systems Group**

General Dynamics has appointed **Michael W. Toner** as executive vice president of the Marine Systems group, reporting to the chairman and CEO. He succeeds **John K. Welch**, who had led the Marine Systems group since January 2000. Toner became a vice president of

General Dynamics and president of Electric Boat in January 2000. He joined EB in 1965 as a test engineer, and throughout the next 25 years, he held several management positions, including manager of Reactor Services.

**First Order Received For
ME Engine in Japan**

Hitachi Zosen Corp. has received an order for a Hitachi-MAN B&W ME engine. The order, for a 6S50ME-C, was placed by shipowner Nissho Shipping Co. Ltd., for builder Naikai Zosen, is the first ME engine ordered in Japan. It is scheduled for delivery in February 2004.

Circle 36 on Reader Service Card

**SeaWave's New
Stations Completed**

SeaWave LLC has completed two new communications stations in South Texas and Seattle, Wash. The new stations consist of multiple antenna arrays, which bolster SeaWave's worldwide coverage, particularly in the Gulf of Mexico, South America, the Caribbean, Africa, and the Pacific coast.

Circle 38 on Reader Service Card

**Miller to Lead
HudsonTrident**

HudsonTrident LLC of Philadelphia and London announced that **Vernon C. (Buck) Miller, Jr.** has joined HudsonTrident as President and CEO. Miller, who assumed his position on February 10, 2003, is responsible for all aspects of the company's operations, including marketing and legal affairs.



**Stolt Offshore
Appoints CFO**

Stuart Jackson has been appointed as CFO for Stolt Offshore. He will start with the company on April 22, 2003. Jackson is a graduate Chartered Management Accountant with 19 years energy sector experience including 11 years in the oil and gas industry. He joined Marathon Oil in London in 1983 as a financial analyst.

**GE Shipping Receives
Lloyd's Register BWMP**

The Great Eastern Shipping Co. Ltd. (GE Shipping) became the largest private-sector shipping company in that country to receive Lloyd's Register's ShipRight ballast water management plan (BWMP) descriptive note. GE Shipping has received certification for both its tanker and gas carrier fleets, 17 ships in total.

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Frommelt Named President of PVA



Gary Frommelt, Hornblower Marine Services, Elizabeth, Ind., was elected 2003 PVA President on February 18 during the PVA Annual Convention at MariTrends 2003 held in Long Beach, Calif. Other officers elected were PVA Vice President, **David B. Clark**, Golden Gate Ferry, Larkspur, Calif.; and PVA Secretary-Treasurer, **Cornel Martin**, Delta Queen Steamboat Company, New Orleans, La. New PVA Board of Directors members are **Beth Gedney**, Victoria Express, Port Angeles, Wash.; **Ray Lyman**, Catalina Express, San Pedro, Calif.; **Jay Spence**, Massachusetts Bay Lines, Boston, Mass.; **Michael Hock**, Detroit Diesel, Detroit, Mich., is the newly elected Associate Member Representative to the PVA Board and **Troy Manthey**, Starship Cruise Line, Tampa, Fla., has been re-elected to serve another three-year term.

Drew Marine Will Supply DPATM for Frontline

Drew Marine of Ashland Specialty Chemical will supply and install DPATM Diesel Performance Analyzers with their new Fuel Channel Option to Frontline Management AS of Oslo, Norway. The ships into which the DPA systems will be installed are managed by Thome Ship Management, Singapore; Wallem Shipmanagement Inc, Deerfield Beach, Fla.; International Tanker Management, Dubai.

Circle 2 on Reader Service Card

Markey To Distribute Lantec



Markey Machinery Co., of Seattle, Wash. has been appointed as an authorized dealer for Allied's Lantec Winch line.

Circle 53 on Reader Service Card

Crowley Appointed VP of Ops

Inland Marine Service, Hebron, Ky., has announced the appointment of Captain **A. Steven Crowley** as Vice President of Operations, where he will oversee management on all line haul boats and harbor boats. Crowley has been the director of Inland Training at the Seaman's Church Institute for the last several years, and he held various positions at Ingram Barge Company.

MTN Expands Services

Maritime Telecommunications Network (MTN) added three new vessels to its current contract with Global Industries for VSAT services. Currently providing VSAT services on two of Global's vessels, MTN will now install its communications suite on three additional barges.

Circle 43 on Reader Service Card

Seabulk Offshore Appoints Gray

Seabulk Offshore appointed **Gerald A. Gray** as Senior Vice President-International. Gray, who is responsible for Seabulk Offshore's operations in overseas markets, including West Africa, the Middle East, and Southeast/Southwest Asia.

Volvo Penta Delivers Engines to Indonesian Governor's Boat

Volvo Penta increased its Asian sales of engines and drive systems for commercial marine use with an order for the engines to the new Governor's boat in East Flores in Indonesia. The 93.5-ft. (28.5-m) vessel was built by the Binamina Karya Perkasa shipyard in Jakarta, Indonesia. Twin Volvo TAMD16SP 16-liter diesels at 770 hp each provide a top speed of 22 knots.

Circle 56 on Reader Service Card



Hamworthy Sells Business Lines

Hamworthy KSE Group sold its starting air compressors and Schilling rudders businesses to Hatlapa Uetersener Maschinenfabrik GmbH & Co. Hatlapa has

acquired Hamworthy KSE's starting air compressors business, while subsidiary Becker Marine Systems assumes ownership of its Schilling rudders business.

Circle 57 on Reader Service Card

Cooney Joins Graig Group

The Graig Group has appointed **Peter Cooney** as a non-executive director.

New Chafe Gear Development

JHRG has teamed with Samson Rope Technologies in the design, development and marketing of chafe gear products. Made of patented materials, it is said to offer advantages over other chafe gear materials in terms of extending the durability of high-performance ropes, in-field installation and reduced weight.

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Products



AmeriC
AmeriC's VAF Series combines dependable power with practical design. AmeriC offers stackable design that saves you valuable floor or storage space. The centrally located handles for balanced maneuverability, to the anti-skid rubber feet for steadfast operation. AmeriC covers all the practical details for you.

Circle No. 101



Ameripack
Ameripack has an inventory of carrying, shipping, rack-mount, panel mount and transit cases that are injection molded and rotational molded to be airtight, watertight, crush-proof, rustproof as well as provide maximum protection.

Circle No. 102



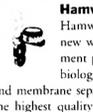
Curacao
Curacao Drydock has invested in modern technologies, and boasts laser technologies, robotics and 2,000 meters of repair quays outfitted with 13 cranes with a lifting capacity up to 75 tons, including two crane trucks with a maximum capacity of 140 tons. Adding to the established capability in the customary quarter of tankers, bulk carriers, container and cargo vessels.

Circle No. 103



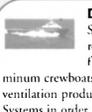
ARL
Albacore Research develops ShipConstructor, an easy-to-use, AutoCAD based product-modeling tool for ships and offshore structures of all sizes. ShipConstructor integrates functions for External Curved Plate Production, Internal Structure, Piping, HVAC, Nesting and NC Processing with a central database that can be tied to purchasing and planning, thus improving product quality and increasing productivity.

Circle No. 104



Hamworthy
Hamworthy KSE's new waste water treatment process based on biological degradation and membrane separation produces the highest quality discharge without requiring any addition or generation of chemicals that are hazardous to the environment or ship operation. Recent tests conducted by NSF produced results exceeding the most stringent future legislative pollutant values envisaged.

Circle No. 105



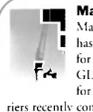
Delta T
Scacor Marine recently decided to fit all its new aluminum crewboats with engine room ventilation products from Delta "T" Systems in order to provide reliability and longevity. According to Joe McCall, Scacor's western operations manager, "Not only did we need more fresh air for greater engine longevity, but our crewmen who work in the engine rooms needed cooler air, too."

Circle No. 106



Coastal Marine Equipment
Coastal Marine Equipment, Inc. (Stennis Space Center, MS), offers a complete line of marine deck machinery as well as custom engineering and design. They recently delivered the second Combination Double Anchor Windlass/ Mooring Winches to Hornbeck Offshore for installation on their 240-ft. OSVs being constructed at Leevac Shipyard in Jennings, La.

Circle No. 107



MacGregor
MacGregor Cranes has secured contracts for 34 of its new GLB-2 bulk crane for series of bulk carriers recently contracted by Chinese Shipyards. All the cranes are GLB 30/26-2 and 30.5/26-2 models with a lifting capacities of 30 and 30.5 tonnes respectively at its maximum outreach.

Circle No. 108



NautiCast
NautiCast AG is an AIS-Systems specialist, catering for the maritime and inland waterway industries. They are globally launching their AIS-Transponder, the X-Pack DS, which aims to enhance their AIS offering with base, and repeater stations by spring 2003. NautiCast production is ISO 9001 certified and out-sourced to Siemens AG Austria.

Circle No. 109



NLB
Case history describes how NLB water jets improved surface prep on a naval vessel, removing 90 sq. ft. of paint per hour. Ultra-high-pressure water jetting (up to 40,000 psi) leaves a better surface for repainting than sandblasting, without environmental issues.

Circle No. 110



Marine Electric Systems
Marine Electric Systems has introduced trouble free salinity control, monitoring and alarm systems, is proud to introduce its "Smart Salinity System." The user-friendly microprocessor based system incorporates features that other competitive systems will only dream of. With its modular channel configuration, you can design your own system with 1 to 30 modules.

Circle No. 111



Superior Lidgerwood-Mundy
Superior Lidgerwood-Mundy manufactures a variety of deck machinery including capstans, hoists, winches, anchor windlasses and steering gears for the marine market. For over 125 years, SIM has had a reputation for quality and service, providing top notch technical services and repair parts, as well as new equipment.

Circle No. 112



Pigtail Fastener
The Pigtail Fastener is designed to overcome the shortcomings of traditional knots, including the challenge of learning to tie various knots and the tedious process of untying them. The Pigtail Fastener allows for a quick, four-second attachment and detachment of ropes and lines and offers a non-slip, secure connection regardless of tension with virtually no damage to the line.

Circle No. 113



Goodway
Goodway Technologies Corporation was founded in 1966 by Per K. Reichborn. Since its earliest days, the company has built a reputation for manufacturing the highest quality cleaning systems in the world. Our quality maintenance equipment is used in a wide variety of commercial and industrial applications.

Circle No. 114



Lantec
Lantec has introduced its newest product, the LH Series Hoist. Specifically designed for offshore cranes, this new hoist series includes more than 10 models to suit nearly any crane. Features include long-life gearing, improved high-capacity sprag clutch, stable and reliable brake valve, and footprints identical to competitive models for easy field replacement.

Circle No. 115



Alatas
Alatas provides parts and repair services to Owners of Ship & Offshore Deck cranes worldwide. Operating from their U.K., Singapore, Houston and Panama offices, the company specializes in European & Japanese Deck cranes. Its Service Engineers are factory-trained professionals with extensive Experience of Liebherr, Hagglund, Fukushima and Tsuji cranes.

Circle No. 116



Burrard
Burrard recently supplied an H8V 54mm hydraulic vertical capstan windlass and four CH5 533mm diam. hydraulic mooring capstans and an emergency towline reel to Island Tug & Barge for their oil barge being built in China.

Circle No. 117



Fincantieri
Fincantieri is the heir to the tradition of the Italian shipbuilding industry. Two hundred years of history marked by the construction of over 7,000 ships of all types which have taken and continue to take the image of Italian industry round the world. Its head office is located in Trieste with design centers in Genoa and Trieste, Italy.

Circle No. 118



Safe Harbour
Safe Harbour Technologies has expertise in areas that address a number of issues that are currently affecting the Maritime industry. They can help in the time and cost areas with: sharing and reducing cost and reducing costs with Skillbuilder for web-based training.

Circle No. 119



Ballast
Ballast Technologies, Inc. (BTI) has been a provider and installer of fixed ballast materials since 1983. The company's product and service known as Perma Ballast, is widely acknowledged to be the quickest and most cost-effective method of ballast installation today.

Circle No. 120



Edgewater
Edgewater Machine & Fabricators, Inc. has been a diversified manufacturer within the marine industry in excess of 40 years. They have the talent, equipment and facilities to engineer, prototype, test and finish to your specifications. They operate a quality assurance system with rigid adherence to the MIL-145208A standards, assuring compliance to all customer specifications.

Circle No. 121



WEB-TEC
WEB-TEC chafe guard is a revolutionary line protection system designed to protect ropes from the most abrasive marine environments. WEB-TEC is an extremely flexible, yet rugged wrap of high-tech urethane coated nylon and Kevlar fabrics. Designed to offer either fixed or sliding protection, WEB-TEC is available for any line diameter or length.

Circle No. 122



Incat
Incat - The Magazine is produced six times a year by Incat Australia Pty Ltd; builders of some of the world's fastest large vehicle and passenger ferries. Recent Incat deliveries to Europe include four fast 315 ft. (96 m) catamaran ferries operating in Spain and the Royal Australian Navy's HMAS Jervis Bay which carries and troops between Darwin and East Timor.

Circle No. 123



ITT
Plateflow heat exchangers from ITT Standard are designed to provide close temperature control of fluids for heat recovery applications where space is a prime consideration. The compact, plate-and-frame design offers an attractive alternative to shell-and-tube exchangers, especially for many CPI applications.

Circle No. 124



Craft Bearing
Craft Split Roller Bearings are becoming the industry standard in the marine industry. The standard product line is available from 1 7/16 - 32 in. The bearing continues to have a successful track record in propulsion shafting, deck machinery, mooring winches, fans, conveyors and thrusters. Metric and special design bearings are available upon request. Made in USA. Lloyds Register Type Approved & DOD Approved.

Circle No. 125

Sulzer RT-flex60C Manufactured in Korea

A series of electronically controlled Sulzer RT-flex low-speed marine diesel engines are in production under license from Wartsila in the Ulsan works of Hyundai Heavy Industries Co Ltd in Korea. The engines are a series of four Sulzer 7RT-flex60C engines for a series of four 30,000 tdw multi-purpose carriers contracted at Shanghai Shipyard in China by Chinese-Polish Joint Stock Shipping Co. (Chipolbrok).

Circle 7 on Reader Service Card

Hornbeck Offshore Reports 4Q Results

Hornbeck Offshore Services, Inc. announced that revenues for the quarter ended December 31, 2002 increased 20.7 percent to \$26.2 million compared to \$21.7 million for the same quarter in 2001. The increase was primarily the result of the addition of five deepwater OSVs that entered the fleet since September 30, 2001.

Xantic Delivers for P&O Nedlloyd

Xantic has signed an agreement with P&O Nedlloyd calling for 23 vessels of the P&O Nedlloyd Container Line fleet migrated from Inmarsat A to Inmarsat Fleet 77. Xantic teamed with Thrane & Thrane distributor Holland Nautic to provide a turnkey solution.

Circle 10 on Reader Service Card

Goben Named Wins Prestigious Safety Award

Captain Richard Goben, Hornblower Events & Cruises, San Diego, Calif., has been awarded the Passenger Vessel Association and the Passenger Vessel Foundation's first recipient of the Roger Murphy National Marine Safety Award. Nominated by his employer, California-based Hornblower Events & Cruises, Goben was selected for the honor by PVA's Safety & Security Committee.

The award is named after the late Roger Murphy, former President and Board Member of PVA, and founder and long time chair of the Safety Committee.

Wynn Wipers on Fireboat

Wynn Marine has completed the installation of a window wiping system for a new Los Angeles Fireboat. The high-tech vessel is in production for the Los Angeles Fire Department by Nichols Bros. Boat Builders, based in Freeland, Wash. The boat has been commissioned to serve the L.A. Port area. The wiper system is based on the Type C Internal motor Straight line wiper.

Circle 40 on Reader Service Card

April 2003

Hanson Retires from San Francisco DryDock

United States Marine Repair (USMR) announced the retirement of one of its key executives. Carl Hanson, president and general manager of San Francisco Drydock (SFD), one of seven USMR ship repair facilities, including Southwest Marine (SWM) and NOR-SHIPCO on the East Coast, has retired. Hanson, who had been with the compa-

ny since 1978, will remain involved with the company on a case-by-case consulting basis. Joe O'Rourke, who has been with the company since 1987, has assumed the president/general manager position at SFD. He also serves as vice president and general manager of Southwest Marine's San Pedro, Calif. shipyard. O'Rourke served as the controller at SFD in 1990 and was promoted to vice president of finance in 1993.

Boston Whaler Opens New Facility

Boston Whaler Commercial and Government Products opened a new facility in Edgewater, Fla. The newly constructed facility encompasses 46,000 sq. ft. under roof, on 6.3 sq. acres of land. The facility will be used to build unsinkable fiberglass boats specifically for commercial applications.

Circle 30 on Reader Service Card



- **Vessel Owners:**
Key personnel, phone, fax, e-mail and details on over 60,000 commercial vessels!
- **Commercial Fishing Vessel Owners:**
Complete details on over 50,000 vessels.
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All the major builders/repairers of the world's commercial fleets and offshore rigs.
- **Marine Suppliers/Manufacturers:**
The marine industry's leading suppliers for every conceivable kind of equipment, product or service.
- **Shallow Draft/Offshore:**
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OR MAIL TO: Maritime Reporter, 118 East 25th Street, New York, NY 10010

*System Requirements: Windows/PC Platform, 32 MB Ram, 80 MB of available hard disk space.

Circle 313 on Reader Service Card

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MACHINERY MAINTENANCE, REPAIR AND TESTING

Gibson, New York Corp., 102 Van Buren St., Brooklyn, NY 11231
Mackay Communications, 2721 Discovery Dr., Raleigh, N.C. 27604-1851
MANAGEMENT SYSTEMS & SERVICE
Machinists, Inc., Rt. 5, 12260 Lakeside Road, Baton Rouge, LA 70807
PCS Marine, 174 Colonna Road S., Napanan, Ontario, K2E7L5
MARINE & OFFSHORE SIGNAGE
Maritime Associates, PO Box 1788, Crystal Bay, NV 88422

MARINE CONSULTANTS
Special Industries & Consulting Services, P.O. Box 1366, Mobile, AL 36691
Hall Associates of Washington, Inc., P.O. Box 154, Mukwonago, WI 53075
PCS Marine, 174 Colonna Road S., Napanan, Ontario, K2E7L5

MARINE CONSTRUCTION/REPAIR
Sundal Marine, 5026 N.E. Sundal Road, Troutdale, OR 97160

MARINE CRANES
Liebherr Werk Nenzing GmbH, PO Box 46710, Nenzing, Austria

MARINE DECKING & FLOORING
Flecken Decking, 3708 N. Astorland Ave. S., West Palm Beach, FL 33407
Hogeman Brothers, Inc., P.O. Box 870, Waynesboro, VA 22986

MARINE ELECTRONICS
ACR Electronics, Inc., 5733 Ravenswood Rd., P.O. Box 5247, Ft. Lauderdale, FL 33310-5247

MARINE ENGINEERING
Beier Racing, 1980 Industrial Ave., Haney, LA 70058
Caldenberg Engineering, 2010 W. Miami Ave., Miami, FL 33137

MARINE EQUIPMENT
Batic Spine Services Ltd & Alprodnomico S.r.l., 80-290 Gdansk-Poland
Commercial & Marine Products, 3024 Forest Dr., #11, Columbia, SC 29204

MARINE GLASS
Beier Glass Center, Inc., 3535 Davisville Rd., Harborside, PA 19040

MARINE HARDWARE
HMS Marine Hardware, 333 W. Maricopa Road, Valley Stream, NY 11580-5219

MARINE RADIOS
Raymond Radio, 10200 Walker St., Cypress, CA 90630

MARINE SERVICES
Coastal Inspection, 182 International Blvd., Glendale Heights, IL 60139

MARINE THERMAL IMAGER
Orion Infrared, 720 Glen Edge Drive #100, Winter Springs, FL 32708

MARITIME TRAINING & SCHOOLS
Marine Safety Intl., Marine Terminal, Laganas Airport, NY 11371

METALS ALLOY DISTRIBUTORS
Thermod Metal, 49 Van St., Canton, MA 01027

METERS
Ritec, 2508 Leveaux Ct., Atlanta, GA 30307

MONITORING SYSTEMS
GR Bowler, 2261 Lake Rd., Orlando, NY 14519
NCA Enterprises, Inc., 2960 Airways Ave., #4-103, Costa Mesa, CA 92626

MOORING LINES
Rover Tavel Building, 8 Du Marquis, Montreal, QC H3B 2G6, Canada

MOORAGE FACILITY
Sava An Marine, PO Box 210, Montpelier, VT 05602

MOTOR PROTECTION
Marine Safe Electronics, 281 Midway Ave., #12, Concord, Ontario, L4K 4K9

MOUNTING SYSTEMS
Bionix Support Inc., 1088 8th St., West Virginia Beach, VA 23451

NAVAL ARCHITECTS, MARINE ENGINEERS
A.K. Suda, Inc., 3004 19th St., Malibu, LA 90262-4989

NAVIGATION
Dennis Marine, 1051 S. Andrews Ave., Suite 202, Fort Lauderdale, FL 33316

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OFFSHORE TOWING

Offshore Towing, 1000 Lakeside Road, Baton Rouge, LA 70807

OIL/WATER SEPARATORS
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Jouit Paints, Inc., 1401 Swann St., Baltimore, MD 21202

PAINT REMOVAL
Spartan USA, PO Box 816, Haney, LA 70058

PARIS LOCATOR SERVICE
Theories Locator Service, 3025 Henderson Rd., Memphis, TN 38115

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GS-Hydro USA, 1395 Bluefish Ave., Bloomfield, CT 06002

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Vapour Research, 1685 Latham Rd., West Farm Beach, FL 32040

PIPE FITTING/CUTTING/CONNECTING/JOBS
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PIPE FITTING/CUTTING/CONNECTING/JOBS
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Amec Corp., 1910 E. Devon Ave., Elk Grove Village, IL 60007

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PORT SECURITY
Chaslerby for Raytheon, Neen Navigation, 11 Main Drive, Salem, NH 03079

PRECISION FLAME CUTTING/SAWING
Precision Flame, 2145 S. Holmes Dr., Tucker, GA 30085

PREVENTATIVE MAINTENANCE
Lamar & McHugh GmbH & Co. Inc.

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NASSCO Holds Keel Laying Ceremony for BP Tanker



Double-hull configuration of Alaskan Frontier, which will feature twin-shaft diesel-electric propulsion.

National Steel and Shipbuilding Company (NASSCO) held a keel laying ceremony this past March for Alaskan Frontier, the first of four Alaska Class, double-hull oil tankers being built under contract at the yard. On the day of the ceremony, **Robert McRae**, BP's NASSCO Site Team Manager, welded his initials into the keel to signify the erection of the first structural block of the Alaskan Frontier.

Circle 84 on Reader Service Card

ConocoPhillips Gains Integrity

ConocoPhillips christened the second of four new towboats, which have received classification from ABS. The ceremony christening Integrity was held at the Port of Orange in Orange, Texas, on March 5, 2003.

Captain Convicted of Dumping Asbestos

A Federal Jury found Ronald Cook, a Canadian Citizen, guilty of illegally dumping trash bags full of asbestos into the Gulf of Mexico and elsewhere. He had been hired to lead a crew performing demolition on an old ferry boat, the Muskegon Clipper, as it sailed from San Diego, Calif., through the Panama Canal to Mobile, Ala. The ship was eventually to be transformed into a riverboat gambling casino. In order to save time and costs, the crew bagged up the demolition debris, including plastic garbage bags full of asbestos, and threw it overboard into the Pacific Ocean, Gulf of Mexico and Caribbean Sea at the direction of Cook. Dissenting crew members photographed the others as they threw the asbestos and trash into the sea. The exact amount of asbestos that was removed from the Muskegon Clipper, a U.S. registered vessel, and dumped overboard is unknown. Witnesses reported that "hundreds" of bags were dumped. It is assumed that a significant amount was discharged, as the asbestos removal contract was estimated to cost between \$600,000 and \$1.7 million. "I'm pleased to see criminals like this brought to justice," said Tom Sansonetti, Assistant Attorney General for the Justice Department's Environment and Natural Resources Division.

April 2003



L.A. Fireboat 2 Delivered to Port of Los Angeles

The Los Angeles Fire Department has accepted its new fireboat, L.A. Fireboat 2. Built in 18 months by Nichols Brothers Boat Builders of Freeland, Wash., the new fireboat was designed by Robert Allan Ltd. of Vancouver, B.C. The fireboat is significant, as it is the largest in the U.S. at 105 x 29 x 13.3 ft. (32 x 8.84 x 4 m) with a 15.2 ft. (4.6 m) draft. It has a fire-fighting capacity of 10,300 cu. m./hr. The boat was built to Voith Water Tractor specifications, from Voith Schiffstechnik of Germany. During fire-fighting, the pumps are running with 70 percent of the main engine power and the remaining 30 percent are sufficient for the Voith-Schneider Propeller to keep exact position. Propulsion and steering control are provided by twin Voith cycloidal propellers, provided by Voith Schiffstechnik, each driven by an MTU/Detroit Diesel Model 12V000 diesel engine, rated 1,800 bhp (1,343 kW) at 1,800 rpm, which also drive a fire pump through a front end PTO. In addition, a pair of MTU/Detroit Diesel 8V-4000 pump engines each drive two fire pumps. All machinery is mounted resiliently to minimize noise and vibration.

The first of the towboats, Spirit, was christened in January. Two additional towboats, Liberty and Innovator will be christened in April and May, respectively. Orange Shipbuilding of Orange, Texas, built the vessels, which have safety enhancements such as CO2 extinguishing systems, fuel shutdowns, fire detection systems and fire fighting systems. In addition, they are equipped with double-hull fuel tanks and five-blade propellers that are more efficient and reduce hull vibration by as much as 50 percent compared to a conventional four-blade propeller.

Circle 24 on Reader Service Card

MAN B&W's Exhaust Gas Reduction Proves Successful

The nitrogen oxide reduction technology based on fuel water emulsion injection (FWE), developed by MAN B&W Diesel, has proved a success in series operation. Water in the combustion chamber reduces temperature peaks during the combustion process, which results in a clearly smaller nitrogen oxide content in the exhaust gas of two-stroke and four-stroke engines. In general, there are three possibilities to bring the water into the cylinder: admix to the fuel (emulsion), direct injection or humidification of the aspirated combustion air. All three possibilities have been realized in practical operation: direct water injection (DWI), fuel water emulsion (FWE) and for an even more significant reduction of nitrogen oxide humidification of the aspirated combustion air in the Humid Air Motor (HAM).

The lowest nitrogen oxide output is achieved by the humidification of the aspirated combustion air in the

Humid Air Motor (HAM). MAN B&W is already applying this technology in the Baltic Sea ferry Mariella.

Circle 39 on Reader Service Card

Austal to Build Another Ferry

Austal Ships has added a third vehicle-passenger ferry to its order book, signing a contract for a 164-ft. (49.9-m) catamaran with established operator Kangaroo Island SeaLink. Signifying Austal's first sale of a vehicle-passenger ferry to its local market, the new contract increases the group's order book to 19 vessels.

With the capacity for 250 passengers and 55 cars (or 16 cars and eight trucks), the new aluminum catamaran will join SeaLink's two existing vessels to meet an increase in demand in passenger traffic and improve ferry services to Australia's third largest island.

With an operating speed of 15 knots, the catamaran will be the first medium-speed vehicle-passenger ferry built by Austal and will cross the challenging waters of the Backstairs Passage between Cape Jervis and Penneshaw in approximately 45 minutes.

Circle 31 on Reader Service Card

Main Particulars	
Classification	Det Norske Veritas
Length	164 ft. (49.9 m)
Waterline length (approx)	162 ft. (49.5 m)
Molded beam	58 ft. (17.8 m)
Loaded draft	8 ft. (2.5 m)
Passengers	250
Vehicles	55 cars or 16 cars and 8 trucks
Deadweight (max)	350 tons
Main engines	2 x Caterpillar 3512B: 1118kW each
Gearboxes	2 x Reintjes WAF 643
Propellers	2 x fixed pitch
Speed	15 knots

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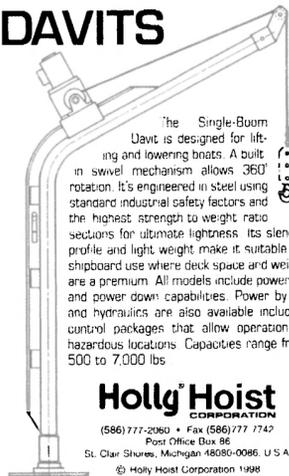
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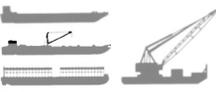
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