

November 2003

MARITIME REPORTER AND ENGINEERING NEWS

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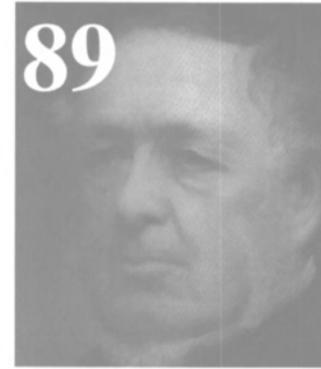
— by Michael Skillingberg & Marc Cruder

Cover Story

82 E-Ship: The Paperless Trail

With paperwork pressure mounting on mariners by the day, one company proposes an innovative paperless solution.

— by Steve Harding



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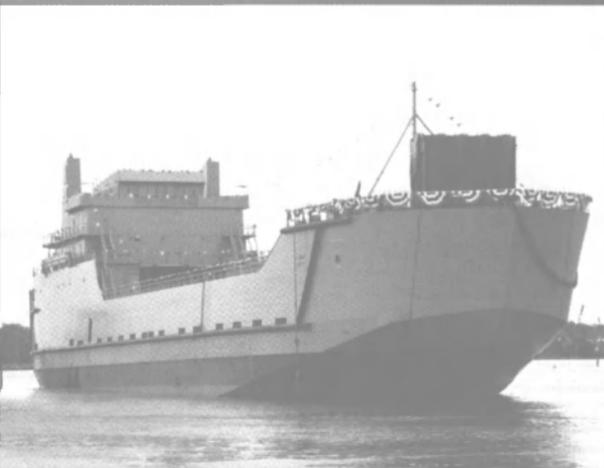
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Editor's Note

Photo Credit: Barbara H. Kempe



Just when I begin to think that some of the messages we reiterate in our pages are becoming trite, one of the largest ferries in our country's most populous city smashes into a pier, killing 10 and injuring dozens. With tens of millions of passengers delivered safely to and fro via water transportation 365 days a year, it is foolhardy to damn an entire market based on one incident. But, given the horrific nature of the reported injuries, the mystery surrounding the exact sequence of events, and the reported refusal of cooperation from the vessel's captain, the Staten Island Ferry crash of October 15, 2003 will likely serve as a lightning rod for change.

While it is hard, indeed, to find fans of additional rules and regulations, it is even more difficult to find those that can stomach another senseless accident where lives and/or the environment are imperiled.

By chance, the impact of ever emerging, evolving and convoluting rules and regulations, and their effect on the mariner — and ultimately their effect on the safety and efficiency of vessel, crew and cargo — is the topic of this month's cover story. "E-Ship: The Paperless Trail," which starts on page 82, details one company's effort to alleviate some of the procedural burden onboard modern marine vessels, with the end goal being an elevated sense of security and efficiency.

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On the Cover



Pictured on this month's cover is an illustration depicting the potential consequence of too much regulation and paperwork on the maritime community. Story starts on page 82
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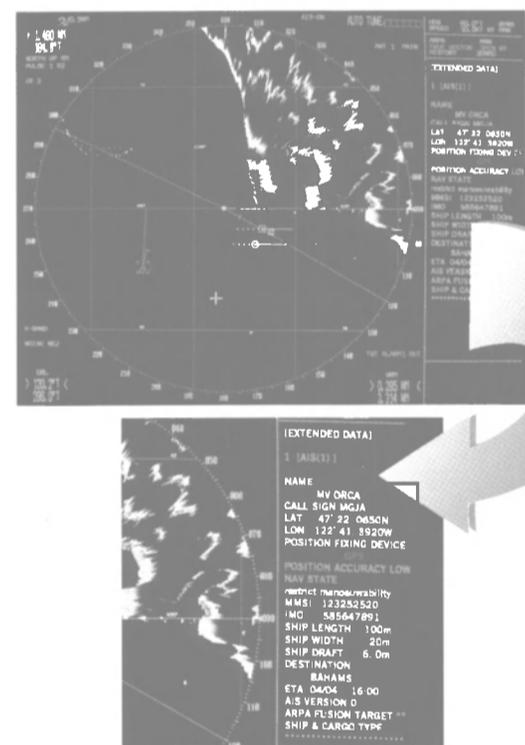
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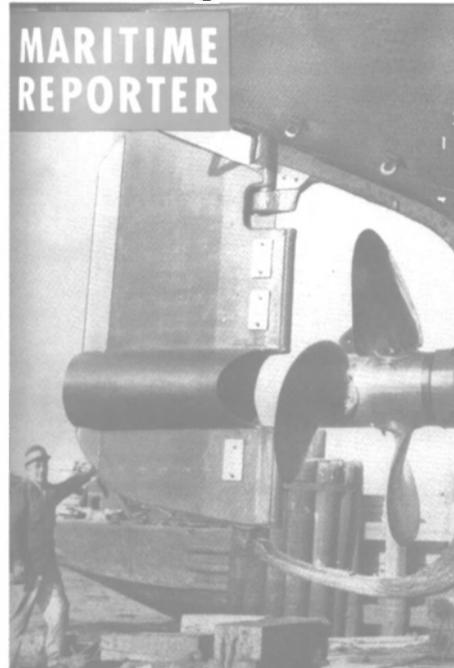
Did You Know?



Robert E. Lee was a U.S. Army engineer officer from 1829 to 1855. Born Jan. 19, 1807 in Stratford Hall, Westmoreland County, Va., Lee's father was Revolutionary War hero Henry "Light-Horse Harry" Lee. Home-schooled by his parents until he was 13, he then entered an academy in Alexandria, Va. After a year at a Quaker prep school, he entered the U.S. Military Academy, West Point, NY July 1, 1825. An excellent student, Lee graduated number two in the class of 1829 and entered the Corps of Engineers. His first assignment was as assistant engineer of

fortification work on Cockspur Island in the Savannah River. For a time he worked under the command of Lt. Joseph Mansfield, Corps of Engineers, who would be killed at Antietam leading a Union Army Corps. In 1831 Lee went to Fort Monroe, Va., as assistant engineer responsible for the outworks and approaches to Fort Monroe and preparatory work for construction of Fort Calhoun, now Fort Wool, Va. (Source: The New York District Times, Summer 2003, U.S. Army Corps of Engineers, by Mary Stavina)

50 Years Ago



Pictured on the cover of the January 1, 1953 edition of *Maritime Reporter* is a close up of the rudder and propeller assembly of the Dalzellera, the first harbor tug in the U.S. to be equipped with the new controllable pitch propeller. The 100-ft. pioneering tug was operated in New York harbor by the Dalzell Towing Company.

Workboat Coverage starts p. 24

Cartoon



"YOU SHOULD HEAR HIM TOOT, WHEN THE SAINTS COME MARCHING IN."

Workboat Coverage starts p. 24

Maritime Meanings

Balk

An old term for naval timber imported from the Baltic countries as large, squared beams. From the Anglo-Saxon balca, ridge, and the Old Norse balkr, hedge, boundary. To balk is to put an obstacle or stumbling block in someone's path, to check another's freedom, in the same way that a timber (a beam, a frame or some such) can be a hindrance, or act as a boundary to one's sphere of movement. Found, for example, as the "balk line" in the game of billiards.

Source: *An Ocean of Words: A Dictionary of Nautical Words and Phrases*, by Peter D. Jeans; Birch Lane Press, 1998

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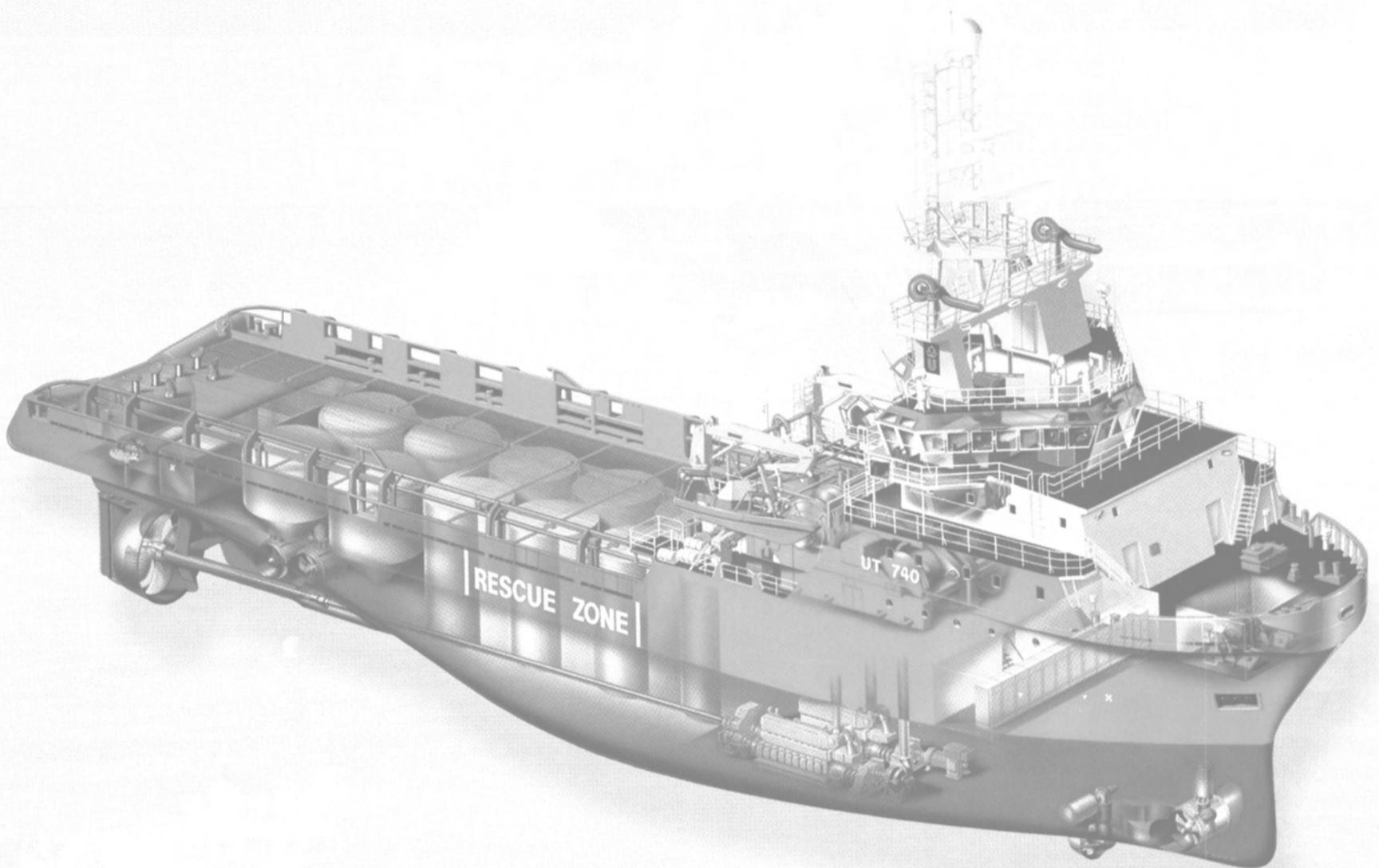
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EU Single-Hull Phase-Out Elicits IMO Scorn

Taking a page from OPA 90, the European Union has officially adopted its unilateral plan for accelerated phase-out of single-hull tankers. The regulation was published in the October 1 edition of the *Official Journal of the*

European Union and came into effect on October 21, 2003. It provides for, among other things, the immediate ban on transport of heavy grades of oil in single-hull oil tankers of 5,000 dwt or above to or from EU ports and the accel-

erated phase-out of single-hull oil tankers on a schedule tied to the ship's MARPOL category.

The move drew immediate negative reaction from the International Maritime Organization (IMO), an organization



Secretary-General of IMO, Mr. **William A. O'Neil**, was disturbed by new EU rules to accelerate the single-hull tanker phase-out.

which generally frowns upon such national or regional action. In a statement released October 23, Secretary-General of IMO, **William A. O'Neil**, expressed serious concern about the European Union Regulation on single-hull oil tankers. O'Neil was particularly disturbed at their unilateral character and the negative repercussions the measures would have on the shipping industry, which, due to its international nature, makes it imperative that safety, security and environmental standards must be established on the basis that they would be applied globally.

The statement indicated that he was particularly disappointed for two reasons:

- the decision not to choose IMO as the international forum for consideration and adoption of such measures as those brought into force by the European Union flew in the face of IMO's successful response to challenges which followed the 1999 incident involving the tanker Erika - a response which had been received with satisfaction by all parties concerned, including the European Union members; and
- because the Organization had already agreed to adopt a "fast-track" approach to accommodate European Union environmental concerns arising from the Prestige accident, particularly to consider the accelerated phasing-out of single-hull tankers. To this effect, the Membership of IMO has agreed to convene a special meeting of the Marine Environment Protection Committee (MEPC) in December to consider amendments to the MARPOL Convention, as proposed by the European Union members, with the aim of securing agreement to new global standards.

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Sustainable Growth for Liner Shipping

Drewry Shipping Consultants' latest report "Annual Container Market Review and Forecast 2003/04" highlights that despite economic uncertainty, the war in Iraq and the outbreak of the SARS virus, 2003 will be a good year for liner shipping companies as trade volumes, especially to and from China, register strong growth. The report reports how this year has seen a further recovery in the liner shipping industry as the cargo volume surges experienced in headhaul trades out of Asia in 2002



continued into the first half of 2003. What is more, these containers are being carried at significantly higher freight rates than last year, with Drewry Shipping Consultants projecting total gross carrier income of a record \$106 billion in 2003, up more than 19 percent on last year.

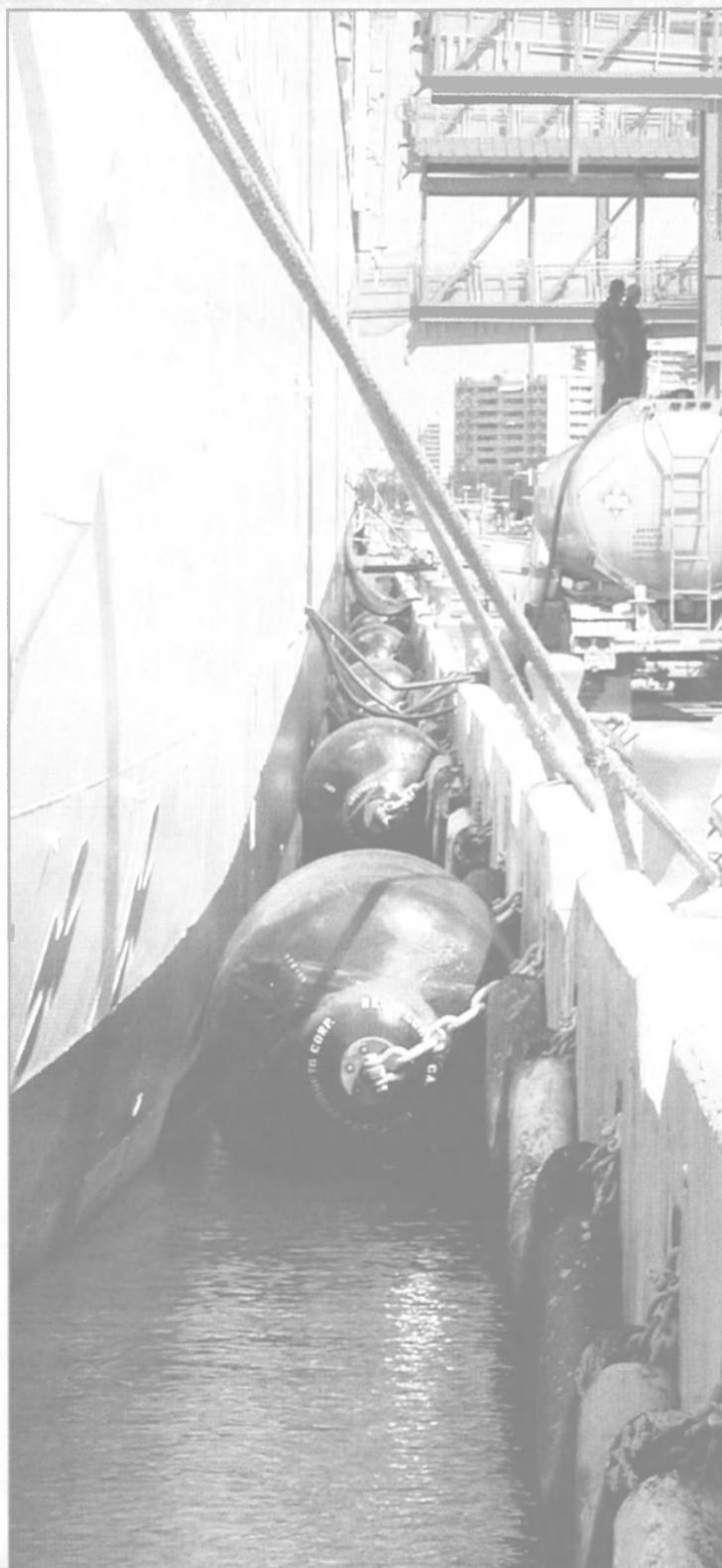
With world container trade expected to grow 11 percent this year and 9 percent

in 2004 and the supply of new slots (effective capacity) rising by 10.3 percent and 8.8 percent, respectively, vessel utilization levels are forecast to remain high over the next two years (see Table 1). This should enable further rate restoration programs to be implemented, with carriers, potentially at least, entering a period of sustained profitability. new global standards.

Costa Victoria in for a Facelift



Radical changes are imminent for Costa Victoria, one of the nine members currently comprising the Costa Crociere fleet. On January 6, 2004, at the end of her New Year's Eve cruise, the ship will leave the port of Savona bound for Bremerhaven in Germany, where it will arrive after five days at sea and undergo work at the Lloyd Werft shipyard. During Costa Victoria's stay in the yard, which will last approximately 30 days, it will be dry-docked for routine maintenance work, which is performed regularly every two years on all the company's vessels. At the same time, it will be subjected to extraordinary upgrading work, involving the addition of panorama verandas to 242 oceanview cabins on decks 9 and 10, as well as to 4 mini suites on deck 11 - in all, 43 percent of the ship's oceanview cabins. This will be the first time that refurbishing of this kind has been carried out on a cruise ship that is already in service, and it will result in the further enhancement of the Costa fleet. With the advent of the refurbished Costa Victoria and the new flagship Costa Fortuna - being built by Italy's Fincantieri - due to be christened at the end of November 2003, some 44 percent of the fleet's oceanview cabins will now be equipped with verandas overlooking the sea. Costa Victoria, which was built by the Lloyd Werft shipyard and entered into service in 1996, is 75,000 gt, 826 ft. (252 m) in length and 105 ft. (32 m) in breadth. The ship can accommodate up to 2,394 passengers in 964 cabins.



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World's Biggest LNG Carrier Due in 2005

A 153,500 cu. m. LNG carrier ordered by Gaz de France from Chantiers de l'Atlantique - reported to be the largest ever LNG carrier - will be classed by Bureau Veritas and is due for delivery in 2005. The order includes an option for a second vessel. The vessels feature a long list of innovations, but two of them are particularly noteworthy.

The traditional steam turbine plant will be replaced by a low-pressure dual fuel diesel electric system. BV cooperated with Wärtsilä for the development of the safety concept of the low-pressure dual fuel diesel/gas engine, and has issued new rules for such engines.

The dual fuel diesel electric propulsion system is more compact as compared to a typical steam turbine plant installation, with the obvious benefit of providing for more cargo space. In addition, operators have more flexibility with respect to crewing, as engineers familiar with turbine installations are now in short supply. Machinery redundancy is enhanced, cutting the risk of a power failure. Another major feature is



Artist's impression of membrane-type LNG carrier with DF-electric propulsion.

that the cargo gas will be carried in the new GTT CSI membrane system. BV co-operated with GTT on the complex calculations and modeling needed to develop the cost-effective CSI containment system. CSI was granted BV con-

cept approval in 2002.

The CSI containment system combines the best features of the proven Mark III and NO96 membrane systems. According to BV, this solution offers increased strength, faster fabrication,

and a cost reduction of 15 percent compared to existing systems. Partial loading conditions are also possible, improving operational flexibility.

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Announcing MITAGS/PMI's New Port Facility, Company, and Ship Security Officer Training Program.

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Shipbreaking in the Spotlight at ILO

Existing international and national regulations do not specifically address shipbreaking, widely regarded as one of the world's most hazardous occupations. Some sites where shipbreaking takes place are referred to as 'time bombs' as they hold potentially dangerous long-term effects for public and environmental health.

"Although working conditions vary from country to country, workers in shipbreaking are exposed to extremely hazardous working conditions with high accident rates leading to injuries and fatalities," said Dr. **Jukka Takala**, director of the International Labor Organization (ILO)'s InFocus Program on Safety and Health at Work and the Environment.

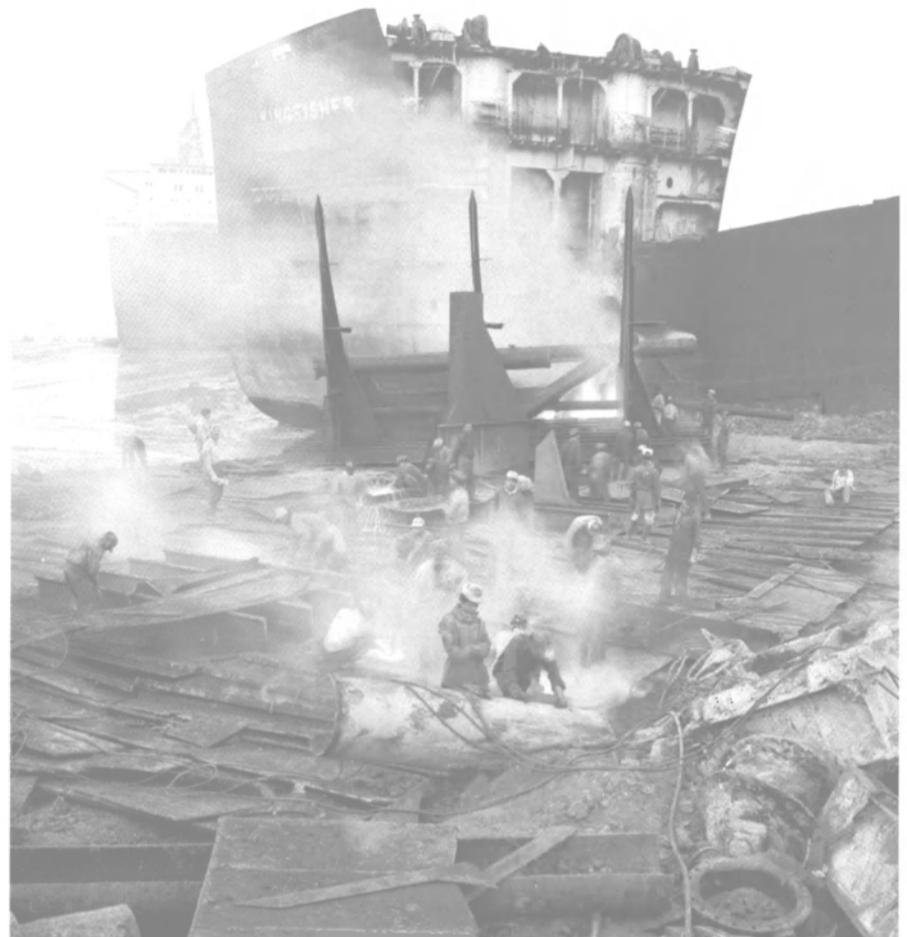
"Inadequate safety controls, badly monitored operations, exposure to high-

ly toxic substances, a high risk of explosions and a lack of adequate training exacerbate the situation."

The ILO, concerned by the lack of protection for workers in this area, held a Tripartite Meeting of Experts on Safety and Health in Shipbreaking from October 7-14 in Bangkok. During the meeting, guidelines for responsible ship dismantling and the provision of support for improved safety and health in shipbreaking were revised and adopted.

"Our long-term objective is to improve the health and safety conditions for workers in shipbreaking operations by transforming it from the informal sector into a sustainable industry in the formal sector, thus contributing to poverty alleviation," Takala explained.

The program aims at the establishment of sound national frameworks for



Pictured are shipbreaking operations in Bangladesh, as seen through the lens of photographer **Edward Burtynsky**, and as originally published in the June 2002 edition of *Maritime Reporter & Engineering News*. Burtynsky's graphic images helped educate many on the brutal conditions encountered in shipbreaking operations in the developing world. The International Labor Organization addressed the matter in a recent meeting. (Image by Edward Burtynsky, and courtesy of the Charles Coweles Gallery, New York, NY)

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responsible ship dismantling, and the provision of support for improved safety and health in shipbreaking by:

- Applying relevant ILO international instruments and codes of practice
- Enhancing social dialogue in OSH
- Strengthening national legislation

and enforcing OSH standards; and

- Assisting governments, employers and workers through the execution of comprehensive technical cooperation projects aimed at national and enterprise levels

Effective shipbreaking largely depends on how the vessel is prepared

for dismantling. Although the maritime industry is very well regulated, the end of a vessel's life and its dismantling are not comprehensively covered.

U.K. EA Authorizes Dismantling of U.S. Ships

The UK Environment Agency (EA)

issued a modification to the waste management license of Able UK such that the company may engage in the dismantling of U.S. ships at its Teesside Reclamation and Recycling Centre. Able U.K. submitted an application to the U.K. Environment Agency on July 31, 2003 to modify the existing license for its Teesside Reclamation and Recycling Center (TERRC) site, to permit an increase in its handling capacity from 24,500 to more than 75,000 tons per year. In issuing the license the Agency has restricted the annual amount handled to 200,000 tons. The Agency granted the modification after it had undertaken a thorough assessment reviewing all the potential environmental risks to the Tees Estuary and the surrounding sensitive habitat sites. This assessment involved looking at the potential impact, of not only the waste management license modification, but also all other relevant plans and projects, such as creating a temporary bund and installing new dock gates so that the dry dock can be used for dismantling vessels/ships.

Signet Maritime Inks Garrett Contract

Signet Maritime Corp. and Garrett Marine, Inc. executed agreements August 29, 2003, for charter and purchase of Garrett's Aransas tug business, finalizing plans that originated in 2002 to expand Signet's presence in the Aransas Pass/Ingleside region. Every Signet seagoing person will undergo firefighting training at Texas A&M University as well as ISM and ISO Code testing and certification to further cement Signet's position of strength. **Bill Thwing**, Signet Aransas Regional Manager, said "We are purchasing an additional two tugs to ensure uninterrupted service to our customers."

Signet is a privately held global marine transportation and vessel management company providing worldwide transport of bulk, energy and heavy-lift project cargo shipments and marine towing. For a quarter century, Signet has specialized in marine transportation, ship management and vessel design. Contracts with GATX, Texaco, Gulf Oil, Chevron, Mobil and Military Sealift Command included the design and operation of integrated tug-barge vessels with parabolic bows and deep-notched sterns propelled by heavy fuel ocean-going tugs. These vessels moved refined petroleum products on ocean routes in the Gulf of Mexico, Central and South America, and the Atlantic Coast of the United States from Portland, Maine to Florida.

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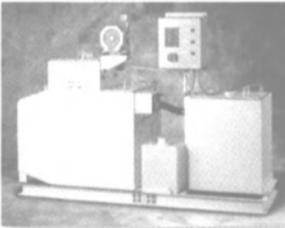
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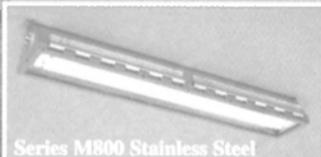
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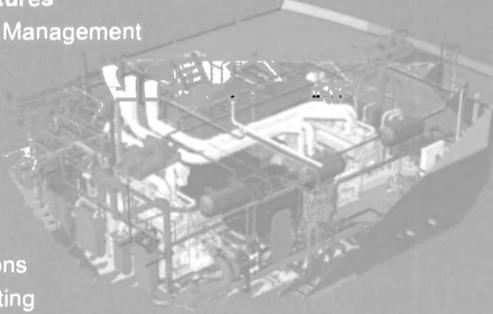
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IZAR Enters Fast Ship Project

The U.S. based Fastship initiative received a boost with the addition of Spain's IZAR to its team. Fastship, which for years has been trying to bring from drawing board to the waterways its innovative - door-to-door from the U.S. to Europe - maritime cargo transport project, signed an agreement for IZAR to conduct a feasibility study of the ships and their construction. The project would link both continents by means of a high speed ship line running from Philadelphia to Cherbourg, able to deliver the cargo to its destination in the same time than air transport at a sensibly lower cost - up to 50 percent cheaper, the company claims. The project will undergo an intense analysis, with IZAR exclusively in charge of revising the design to optimize technology, a phase expected to be completed in December.

Once the concept has been verified, IZAR will be in charge of the construction of the ships. The current plan call for, during the first phase, for IZAR to build a series of three or four 265-m, 40-knot containerships, each propelled by Rolls Royce gas turbines. The plan is a ship able to travel from Philadelphia to Cherbourg in an average 92 hours. Significant reductions in cargo handling times and in official customs procedures will also be achieved.

Fastship and its strategical partners in the project: BP Marine, Cargolux, Cherbourg Port, CDC IXIS, CP Ships, Greenwich Terminals, International Development Projects, JP Morgan, Lockheed Martin Corporation, Rolls Royce, TTS Marine, as well as IZAR, are jointly working in the setting-up and development of a financial package for the total coverage of the project, including the port terminals and the construction of the ships.

Boeing Awards \$73M Platform Contract

AMFELS Inc. won a \$73-million firm-fixed-price contract for the modification of a platform from The Boeing Company. The SBX Platform is a self-propelled semi-submersible modified oil-drilling platform developed for the U.S. Government's Sea-Based Test X-Band Radar (SBX) in support of its ground-based midcourse missile defense system. The work scope involves outfitting of the bare hull of the platform, construction and assembling of the living quarters, the electrical, networking and mechanical work and the commissioning of the vessel. The vessel is expected to be delivered in the first quarter of 2005. AMFELS currently is

building a jack-up rig for a Mexican owner and a platform drilling rig for an American firm as well as upgrading several offshore drilling rigs.

For more information
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TEN Signs Time Charter for Aframax Olympia

Tsakos Energy Navigation Limited (TEN) announced a new time-charter contract for the Aframax Olympia with a major European charterer. The two-year contract begins in November 2003 upon

the expiration of Olympia's current contract. The rate obtained for the new time charter will positively impact earnings. "TEN remains committed to securing attractive, long-term charters that will provide a steady and predictable flow of earnings and strengthen its balance sheet," stated Nikolas P. Tsakos,

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President and CEO of TEN. "We will continue to expand our strong relationships with our clients in Europe and around the world by building, maintaining and providing tankers that meet our clients' individual requirements and by providing superior customer service and support." Overall TEN has 19 vessels operating with medium or long-term employment contracts or contracts accounting for 78 percent of estimated

operating days for the remainder of 2003 and 62 percent for 2004, which should provide a sustainable flow of revenue and earnings and enhance shareholder value.

Cruise Port Expenditure to Reach \$300M

U.S. ports are facing potential expenditures of \$150-300 million to meet existing Federal regulations for cruise

facility design and space. That's the conclusion of a study launched this year by the American Association of Port Authorities (AAPA), with the results unveiled at AAPA's annual convention in Curaçao.

AAPA initiated the study to address cruise ports' pressing concerns over what it believes are elaborate, cumbersome, costly and duplicative Federal requirements. The association retained

the services of Bermello, Ajamil & Partners, experts in facility design, to conduct the study and recommend solutions. Under current regulations, separate facilities must be provided at cruise ports for Federal inspectors to conduct immigration, customs and agriculture checks. Although these spaces typically are used only part time, the space accounts for up to 30 percent of the entire port facility. The study found that ports have invested millions of dollars and extensive time constructing and reconstructing facilities to comply with strict regulations, only to have these expensive facilities frequently go underutilized. It is estimated that U.S. ports will need 56-70 new terminals over the next 15 years to keep up with cruise industry growth. Based on existing FIS guidelines, these terminals will require an additional 1,000,000 to 2,100,000 square feet of space to accommodate the agencies' requests, at a cost to ports of \$150-300 million.

Austal Progresses on 192-ft. Passenger Ferry



Austal USA's latest project, the 192 ft. vehicle passenger ferry for Lake Express, LLC, is quickly taking shape. The tunnel has been stood and all of the piping and electrical wiring within the tunnel has been installed. Ninety percent of the hull frames have been stood in preparation for fitting to the main deck. The wheelhouse module is 90 percent complete and plating has started. Prefabrication work on the ferry is also in its early stages. The ferry will run across Lake Michigan between Milwaukee, Wis., and Muskegon, Mich. It will be the first high-speed vehicle/passenger ferry to operate within the Continental U.S. The aluminum catamaran will be the largest vessel so far and first of Autstal Ship's world-class Auto Express designs constructed at Austal USA's purpose-built shipyard in Mobile, Alabama. With capacity for 253 passengers and 46 cars, the Auto Express 58 will be capable of 34 knots. The service is scheduled to begin by the summer of 2004.

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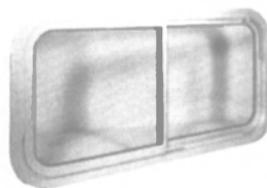
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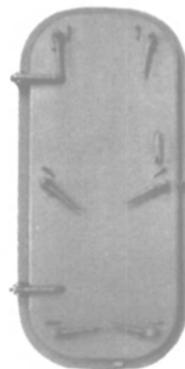
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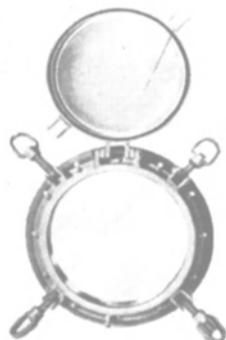
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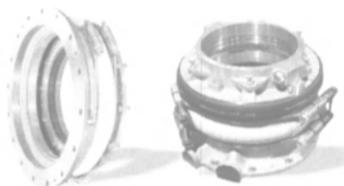
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At Sea with U.S. Maritime Security

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

The U.S. Coast Guard issued its final regulations implementing the Maritime Transportation Security Act of 2002 (MTSA). These regulations replace the interim rules issued on July 1, 2003 and take into account comments received thereon. Few substantive changes, though, have been made. The majority of the changes are in the nature of clarifications. The submission date for security plans was changed from December 29 to December 31, 2003. Vessel and facility security plans must be in full effect not later than July 1, 2004.

Various alternative security programs submitted by specialized industry groups were approved. Overall, the Coast Guard is to be congratulated for its development of a program for enhancing U.S. maritime security while maintaining consistency with the international regime. The rulemaking fails, though, to acknowledge the ongoing dispute with Congress over whether this approach is consistent with that mandated by the Maritime Transportation Security Act (MTSA). This leaves the owners and operators of foreign-flag SOLAS vessels stuck in the middle, with Congress having told them to submit security plans to the Coast Guard,

while the Coast Guard says such submissions are unnecessary.

The problem has been building for almost two years - from the time bills were introduced in the House of Representatives and the Senate to enhance the maritime security of the United States following the horrific terrorist attacks of September 11, 2001. These bills contained provisions that were unilateral, that would require foreign ship owners and operators to do things that were not going to be duplicated internationally, such as making the U.S. government the arbiter of how secure a ship coming to U.S. waters had to be and setting security standards for



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

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Government Update • Maritime Security

foreign ports. A few voices counseled against this unilateral approach. Surprisingly, the Coast Guard was silent. Admittedly, the agency had its hands full ramping up maritime security in all U.S. ports and orchestrating development of international maritime security standards, but its silence was perceived by some in Congress as providing the green light needed to move ahead swiftly and unilaterally.

The MTSA was enacted on November 25, 2003. At the time, it was considered a great step forward in enhancement of maritime security and as an early endorsement of the international maritime security standards being developed under the auspices of the International Maritime Organization (IMO). At an international diplomatic conference held in London on December 9-13, 2002, parties (led by the United States) adopted amendments

to the International Convention for the Safety of Life at Sea (SOLAS Convention). The major change to the SOLAS Convention was the International Ship and Port Facility Security (ISPS) Code.

To the casual observer, the ISPS Code and the vessel security planning requirements of the MTSA appeared to be virtual mirror images, with both requiring development and implementation of ship (or vessel) security plans that established physical security, passenger and cargo security, and crew security, among other things.

The ISPS Code, though, provided that the ship security plan was to be reviewed and approved by or on behalf of the flag administration. The MTSA required security plans for all vessels operating in U.S. waters to be submitted to and approved by the U.S. Coast Guard. The MTSA also required that

the vessel security plan address several unique issues, such as consistency with the overall U.S. national maritime transportation security plan.

The U.S. Coast Guard, working under a tight deadline imposed by Congress and pressured to develop its maritime security program in a manner consistent with the ISPS Code, latched onto a vague provision in the preamble to the MTSA stating that it is in the best interests of the United States to implement new international instruments that establish a maritime security system. Now is a good time to state that I concur with the view currently espoused by the Coast Guard that an international approach to maritime security is preferable to a unilateral approach. After all, I was one of those few voices crying in the wilderness back when the legislation was still in draft form.

The Coast Guard wrote both its inter-

im regulations and its final regulations so as to be consistent with the international standard established by the ISPS Code and other amendments to the SOLAS Convention. It did this by exempting from the strictures of the vessel security plan requirements foreign ships that are subject to the SOLAS Convention and have on board a valid International Ship Security Certificate. The Coast Guard has emphatically stated that it will utilize its Port State Control program to require full compliance by such ships will all applicable international security requirements. At the same time, the agency has stated that it does not want these foreign ships to submit security plans to it for review.

One of the reasons (although not the primary reason) that the Coast Guard does not want to receive any of the approximately 40,000 foreign vessel security plans is lack of resources. As is



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Maritime Reporter & Engineering News

too often the case, Congress has handed the Coast Guard a major new mission and then failed to provide funding for the personnel and resources necessary to accomplish the mission. Senator Hollings (D-SC) has been particularly vocal about this shortfall, but the appropriations committees have not been listening.

Congress, and in particular, the House Subcommittee on Coast Guard and Maritime Transportation, has challenged the Coast Guard repeatedly over the inconsistency between the regulations and the MTSA. On April 2, 2003, Representative Oberstar (D-MN), one of the principal authors of the MTSA, stated on the House floor: "We [Congress] did not intend the security of the Nation to be placed in hands of the flag of convenience registers. We expect the Coast Guard to review the plans firsthand." Senators McCain (R-AZ) and Hollings have requested the General Accounting Office (GAO) to investigate whether all requirements of the MTSA are being executed effectively.

The Coast Guard Subcommittee conducted oversight hearings on June 3 and July 22, 2003 into the Coast Guard's implementation of the MTSA. At both hearings, members criticized the approach taken by the agency in accepting flag administration approval of foreign vessel security plans. The Coast Guard, though, has not changed course.

The problem is not so much with the bureaucratic standoff between the Congress and the Coast Guard. After all, most observers agree that the Coast Guard position is preferable and the Congress lacks its own enforcement capability. The difficulty lies with the foreign ship owner or operator who is stuck in the middle.

In the event that there is a transportation security incident (i.e., a terrorist attack) in U.S. waters involving a foreign ship subject to SOLAS, things from a legal aspect will get very interesting. The owner will immediately file for limitation of liability. At the same time, all third parties who have suffered damages as a result of the incident will file suit against the owner - not being able to sue the terrorists directly. The court will have to determine whether the owner is eligible to limit liability. One of the steps in that process will be an analysis of whether the ship was in compliance with all applicable laws and regulations. There is a high likelihood that, if the ship has not submitted a vessel security plan to the U.S. Coast Guard for review, as required by the MTSA, the owner will not be allowed to limit liability. This means, in effect, that the owner has wagered its entire company on the outcome of the litigation.

(Continued on page 95)

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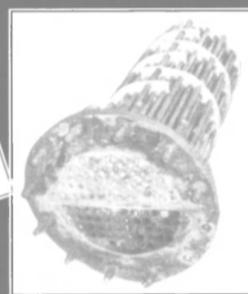
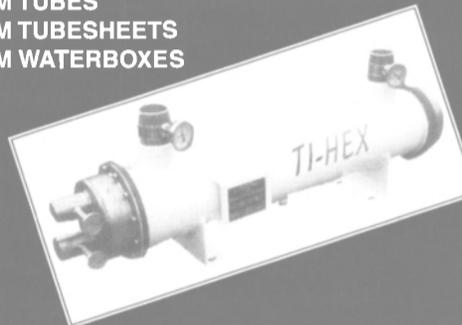


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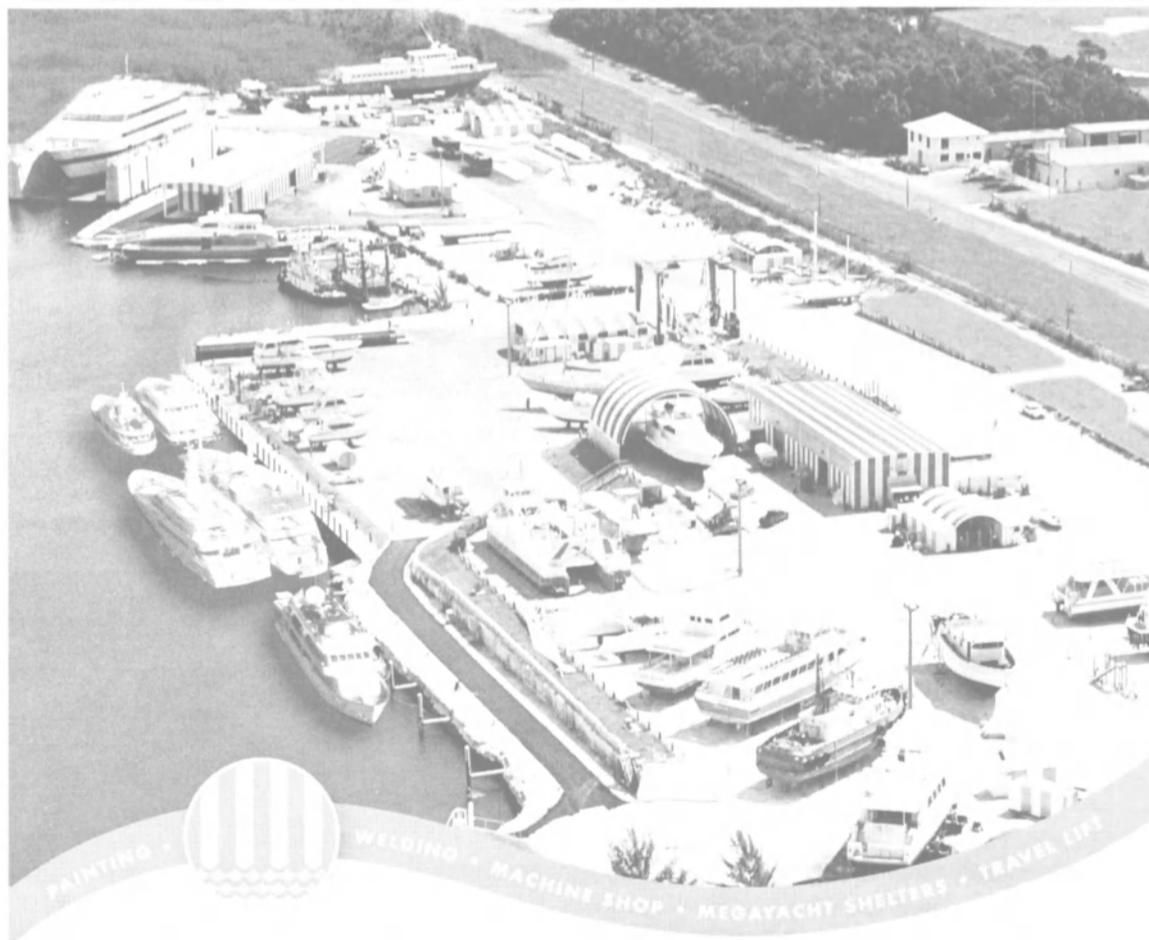


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23

Dredging

NY Navigation Channels: The Really Big Dig

Boston can claim its new tunnel project as the "big dig", but the nearly \$3 billion effort to dredge navigation channels in and around New York to 45 — and eventually 50 ft. — is the second largest USACE project; ever.

— by **Greg Trauthwein**

The initial thought while standing in the working cockpit of the world's largest backhoe dredge is: "how does this thing not simply snap off and fall in?"

However, with each 13-yd. bucket scoop of the bottom of Kill van Kull breaking above the water's surface and being unceremoniously dumped into an awaiting 4,000 yard scow — a process that takes all of 60 seconds — one quickly appreciates the engineering genius behind the behemoth from Liebherr, the entire vessel in fact, as it steadily works to deepen the navigation channel for the growing fleet of very large, very deep draft containerships that call on the ports of New York/New Jersey.

Maritime Reporter recently ventured out into the harbor with the U.S. Army Corps of Engineering - New York District, hosted by Colonel **John O'Dowd**, District Engineer, to view first-hand the gargantuan task of digging the navigation channels to 50 ft. The effort is necessary to accommodate the growing number of very large containerships that come calling on the port. Simply put, the dig is essential for the port's long-term survival. While local tug operators may not be pleased with the effort, equating deeper draft ships to fewer ships entering port and hence fewer billing opportunities, if the big ships do not find NY accommodating their needs, they will simply go elsewhere. According to the American Association of Port Authorities, in 2002 New York/New Jersey ranked number three in North America in total TEU moved and is enjoying a healthy growth, with a total of 3,749,014 boxes, up 432,739 boxes (13%) from 2001. (See chart p. 28). As the USACE — NY



Gone in 60 Seconds: Dredge New York, reportedly the world's largest backhoe dredge, can accurately scoop and dump in about one minute.

District's quarterly newsletter quite accurately states, history is being made right now in the Port of New York and New Jersey, as currently there are approximately 80 pieces of dredging-related equipment in the harbor, including dredges, drill boats, survey boats, tugs and scows - arguably the largest concentration of equipment in one area in the entire 200-year history of the U.S. Army Corps of Engineers. Included in this mix is the backhoe dredge New York, the aforementioned largest backhoe dredge in the world.

New York, New York

The New York District is responsible for the Corps' water resource development, navigation, and regulatory activities in northeastern New Jersey, eastern and south-central New York State, including New York Harbor and Long Island, and parts of Vermont, Massachusetts, and Connecticut. In a nutshell, Colonel O'Dowd, who assumed command of the New York District of the U.S. Army Corps of Engineers in July 2001, is responsible for about 240 miles of Federal channels. Col. O'Dowd — who also holds the title

of Supervisor of New York Harbor - annually oversees the awarding of approximately a half billion dollars in contracts for the district. Dredge New York was specifically built in 1999 for the job it is now performing, stationed in Contract Zone 5 (see map of area), a critical two mile-long by 800 ft. wide span that is scheduled for completion in the Spring of 2004. To the layman, accurately ascertaining exact dredging depth may seem more art than science. But according to **Christopher G. Gunsten**, project manager for Great Lakes Dredge & Dock Company, the advent of multi-beam bathymetry allows the operator and the Corps of Engineers to know the exact depth at any point on a given channel. "We have to come to within a tenth of a foot ... so if they tell us to dredge to 52 ft., and it is only 51 ft., nine inches, we have to go back out and complete the job," said Gunsten.

Dredging in New York is far from a straight-forward process, as there are myriad logistical and environmental considerations, conditions which change with each of the dredge contract areas. Adding to the challenge: while the work goes on, the navigation channel must be kept open to normal commercial traffic, a feat which requires close cooperation with the U.S. Coast Guard as well as the other area marine authorities. The navigation channels in and around New York/New Jersey actually bear strong resemblance to its population: a massive quantity, but hardly homogenous. As Col. O'Dowd explained, digging out the area is a challenge on many fronts, not least of which is the wide variety of material to be dug: from sandstone and shale to Diabase rock, which is granite-like in appearance. Dredge New York can handle up to a 28-yd. bucket, but given the consistency of material in its present position, the 13-yd. size was deemed the most efficient for the task. Working 18 to 20 hours per day with a rotating crew of 40, Dredge New York is the largest and most efficient of the lot, utilizing the latest software which gives the operator a crystal clear picture of the bucket, allowing them to know its position within six inches at all times.

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Workboat Annual 2003

The Project

Many pieces of equipment are working to deepen the three active contract areas in the Kill van Kull to 45 ft., which stretches eight miles from Upper New York Bay into Newark Bay. Eventually, using a creative "piggyback" contract by

the Port Authority of New York and New Jersey, a portion of the KvK channel will be the first completed 50-ft. channel in the port.

Years before the mobilization of the first dredge, before the first project area was awarded to a contractor, the KvK

team worked together to produce a Project Management Plan during the planning and design phase. Now, the Project Delivery Team has executed an aggressive, accelerated schedule, which by 2004 will complete the deepening project ahead of schedule and under

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Depth 15 ft (4.6 m)
Draft 7 ft (2.1 m)
Bucket Size 7-25 cu. yd. (5-19 cu. m.)

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Fuel Capacity 60,000 gal (227,124 l)
Total Installed Power 3,434 hp (2,561 kW)



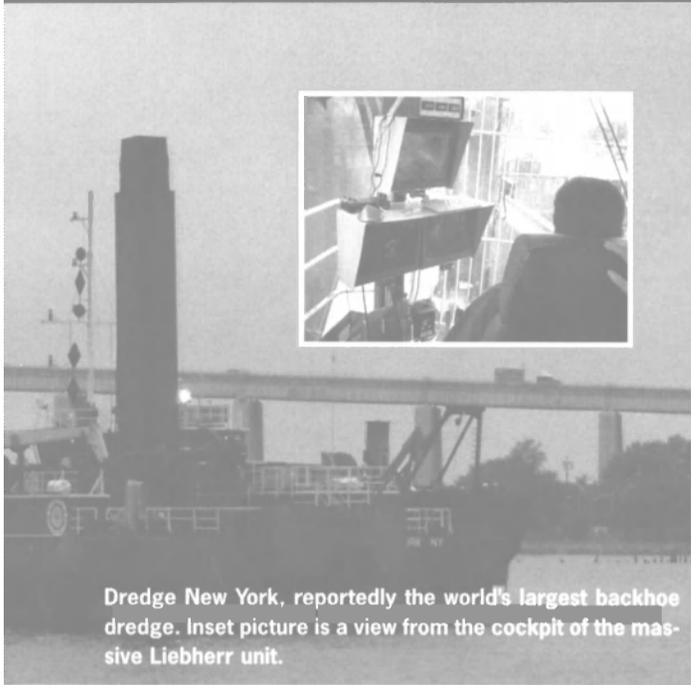
Colonel **John B. O'Dowd**, District Engineer



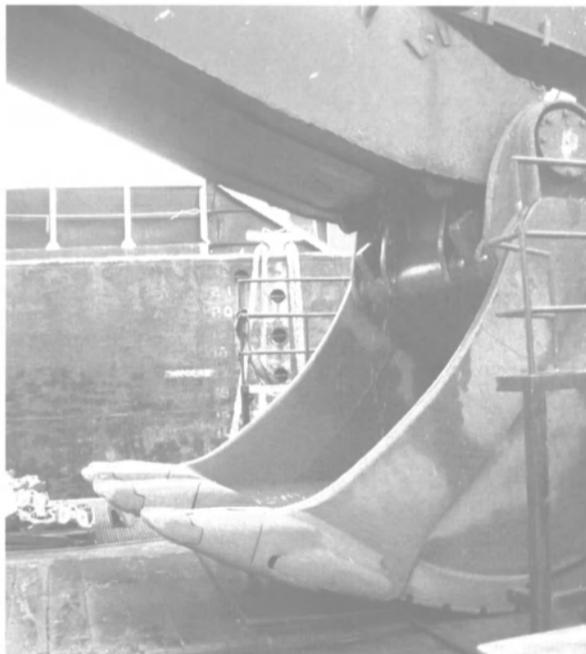
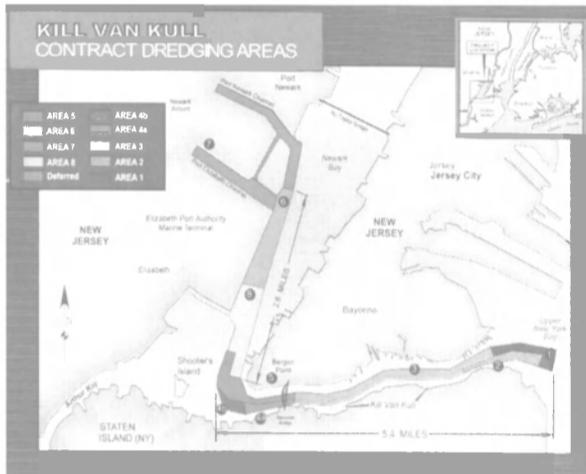
Christopher G. Gunsten, Project Manager,
Great Lakes Dredge & Dock Co.

budget. The first phase of this project began in the mid 1980s and deepened the KvK to 40 ft.. Now, because of the demand of the larger vessels calling at the port, contractors have been working to construct a 50-ft. channel in certain areas. Post-Panamax vessels, which to the outside eye can appear no different from 10 years ago, actually will carry 8,000 containers, compared to 3,000 typically loaded on today's Panamax ships. The Kill van Kull is one of the most heavily trafficked channels in the port, where dredging, drilling and blasting occurs daily.

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Dredge New York, reportedly the world's largest backhoe dredge. Inset picture is a view from the cockpit of the massive Liebherr unit.



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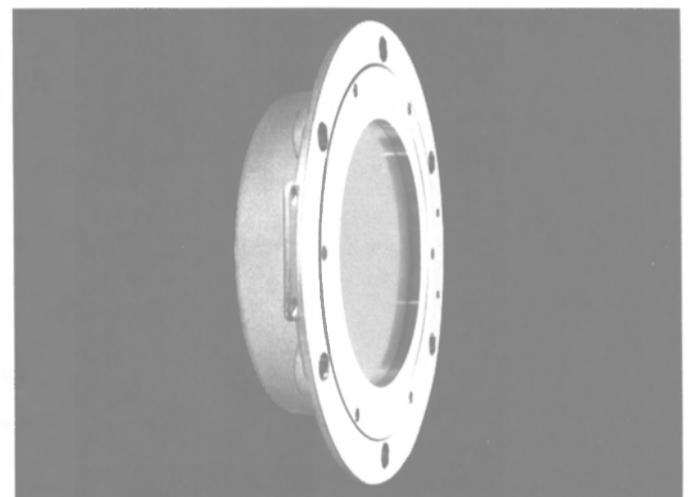
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Workboat Annual 2003

The ability to handle massive new containerships is the driving force for dredging New York's navigation channels to 50 ft. Here's a look at the country's top 30 containerports. (Source: AAPA)

North American Container Traffic • Port Ranking by TEU

Rank	Port	Country	2002	2001	Change	Change%
1	Los Angeles (CA)	U.S.	6,105,864	5,183,511	922,353	17.8%
2	Long Beach (CA)	U.S.	4,524,038	4,462,959	61,079	1.4%
3	New York/New Jersey	U.S.	3,749,014	3,316,275	432,739	13.0%
4	Oakland (CA)	U.S.	1,707,827	1,643,577	64,250	3.9%
5	Charleston (SC)	U.S.	1,592,834	1,528,034	64,800	4.2%
6	Tacoma (WA)	U.S.	1,470,826	1,320,274	150,552	11.4%
7	Vancouver (BC)	Canada	1,458,242	1,146,577	311,665	27.2%
8	Seattle (WA)	U.S.	1,438,872	1,315,109	123,763	9.4%
9	Hampton Roads (VA)	U.S.	1,437,779	1,303,797	133,982	10.3%
10	San Juan (PR) (fy)	U.S.	1,393,627	2,057,733	-664,106	-32.3%
11	Savannah (GA)	U.S.	1,327,939	1,077,478	250,461	23.2%
12	Houston (TX)	U.S.	1,159,789	1,071,601	88,188	8.2%
13	Montreal (QU)	Canada	1,054,603	989,427	65,176	6.6%
14	Miami (FL) (fy)	U.S.	980,743	955,671	25,072	2.6%
15	Honolulu (HI) (fy)	U.S.	945,460	923,943	21,517	2.3%
16	Jacksonville (FL) (fy)	U.S.	683,836	698,903	-15,067	-2.2%
17	Manzanillo (COL)	Mexico	634,155	458,472	175,683	38.3%
18	Port Everglades (FL) (fy)	U.S.	554,041	621,421	-67,380	-10.8%
19	Veracruz (VC)	Mexico	548,422	543,327	5,095	0.9%
20	Halifax (NS)	Canada	524,336	541,640	-17,304	-3.2%
21	Baltimore (MD)	U.S.	508,068	493,135	14,933	3.0%
22	Anchorage (AK)	U.S.	463,395	360,615	102,780	28.5%
23	New Orleans (LA)	U.S.	302,318	307,925	-5,607	-1.8%
24	Portland (OR)	U.S.	255,745	278,918	-23,173	-8.3%
25	Wilmington (DE)	U.S.	244,564	211,784	32,780	15.5%
26	Altamira (TAM)	Mexico	225,937	206,864	19,073	9.2%
27	Palm Beach (FL) (fy)	U.S.	221,132	197,541	23,591	11.9%
28	Philadelphia (PA)	U.S.	215,061	178,834	36,227	20.3%
29	Gulfport (MS)	U.S.	154,486	129,020	25,466	19.7%
30	Boston (MA)	U.S.	142,102	132,650	9,452	7.1%

Kvichak Delivers for NY

New York Corp's newest survey vessel — Moritz — recently joined the fleet. The 58-ft. catamaran was built in Seattle by Kvichak Marine and features an extensive array of survey equipment, including a Ross Dolphin Mini-Sweep System. With a beam of 18.5 ft., the vessel displaces 30 tons and can sustain speeds up to 30 knots. The Ross Mini-Sweep is a nine-channel system with individual transducers mounted on two 17-ft. hydraulic booms and in the hull to provide a sweep wide of approximately 55 ft. The booms are stored in recessed areas in the hull, leaving the deck clear at all



times. The booms are deployed by an independent hydraulic system using controls at the helm station. Electronics are stowed in two desktop cabinets, one containing the depth sounding system and the other a data collection computer and DGPS sub-meter system. Coastal Oceanographics Hypack Max and Hysweep software were installed for data processing. Upon arrival on the East Coast the vessel will be assigned to work out of the Caven Point, N.J. facility. New York District's Civil Works mission includes navigation and water resource activities in the watershed areas of Lake Champlain, the Hudson River, New York and New Jersey, western Vermont and small portions of Massachusetts and Connecticut. The vessel was named in honor of Kurt Moritz, who in 1977 retired from the Corps of Engineers after 27 years of service.

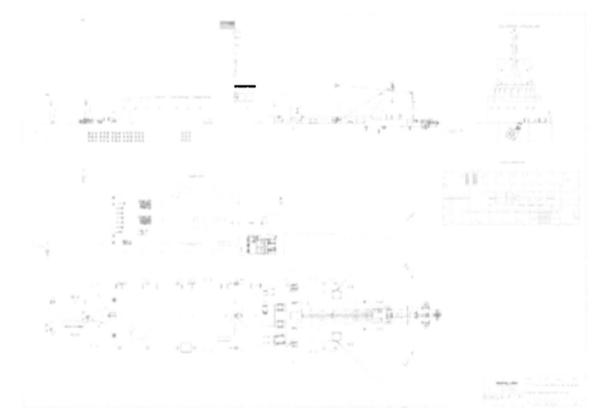
Circle 27 on Reader Service Card

Moritz Main Particulars

Builder	Kvichak Marine Industries, Inc.
Length	58 ft.
Beam	18.5 ft.
Hull Type	Catamaran
Survey Equipment	Ross Dolphin Mini-Sweep System
Displacement	30 tons
Speed	30 knots
Data Processing	Coastal Oceanographics

Vosta LMG signs U.S. contract for 18" Cutter Suction Dredge design

Vosta LMG won a contract for components and engineering package for an 18-in. Cutter Suction Dredge for Cottrell Contracting, a U.S.-based dredging company. The dredge will be built in co-operation with Cottrell Contracting at a shipyard in the U.S. The 18-in. Cutter Suction Dredge is a U.S. equivalent of a CSD500, but has accommodation for 25 people is built to work in a variety of conditions. The current fleet of Cottrell Contracting needed to be extended due to an increase in workload.



Vosta LMG's newly established office in the U.S., Vosta Inc., played a vital role in securing the order.

Vice President **Greg Holder** said "The Cottrell deal shows the need for a local presence of Vosta LMG in the U.S. market," according to Greg Holder.

Vosta LMG is also currently working on three large Trailing Suction Hopper Dredge projects:

- A 10,000 cu. m. TSHD, currently being built at Mitsubishi Heavy Industries' shipyard in Kobe, Japan for Egyptian end-user Suez Canal Authority
- A 5,000 cu. m. TSHD built in cooperation with a Chinese partner shipyard in Shanghai for Chinese Huanghua Port
- A 1,500 cu. m. TSHD built with partner shipyard Damen Hoogezand for Vietnamese Waterway Dredging and Construction Company.

Modifications on existing Trailing Suction Hopper Dredges are also ongoing for a German and a Northern European Dredge contractor.

Also, the order portfolio for components and spare parts looks healthy with large orders for among others cutter teeth and dredge pump wear parts.

Circle 28 on Reader Service Card

Senesco Marine Christens New Drydock



Senesco Marine last month christened its new dry dock and celebrated the dry dock's receipt of a key certification that has already significantly increased the company's repair business.

The certification bestowed upon the Leslie G by Heger Dry Dock, Inc. of Holliston, Mass., now allows the shipyard to compete for valuable government repair contracts.

The Leslie G is 255 ft. long with 82 ft. between the wing walls.

The pontoon depth is 9 ft. The certification by Heger Dry Dock, Inc. gives the Leslie G a rated lifting capacity of 3500 Long Tons.

"The certification of the Leslie G paves the way for Senesco Marine to actively bid for future governmental

repair contracts, all of which contain the prerequisite of a certified dry dock," said **Gary Schuler**, CEO of Senesco Marine. Other repair jobs made possible by the new dry dock's certification include the NOAA research vessel Albatross IV and

the state of Maine's Department of Environmental Protection Oil recovery barge the "Netepenaesit."

While Senesco Marine's repair business has seen steady growth, the company is best known for producing high

quality double-hulled liquid fuel barges. Last year the shipyard christened two 80,000-barrel double-hulled fuel barges and currently has two more under construction.

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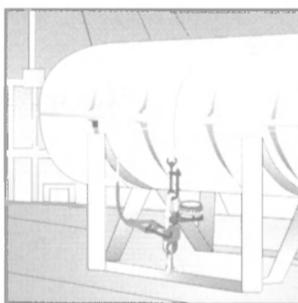
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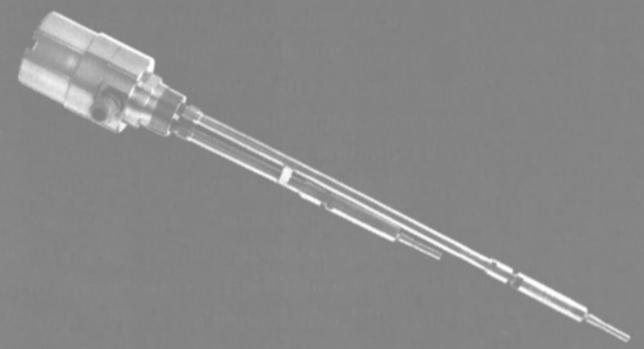
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Workboat Annual 2003 • Great Boats of 2003

Name Normand Master
Type AHTS
Yard Ulstein
Owner Solstad

Normand Master, a massive 23,500-hp anchor handling tug supply vessels

(AHTS), was delivered 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



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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 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 layers; 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. 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.

Main Particulars - Normand Master

Builder	Ulstein Verft
Owner	Solstad Shipping
Design	Ulstein Design
Design type	A101
Length, o.a.	269 ft. (82.1 m)
Length, b.p.	238 ft. (72.7 m)
Breadth, molded	66 ft. (20 m)
Depth to main deck	31 ft. (9.5 m)
Draft, max.	25 ft. (7.5 m)
Design draft	23 ft. (7 m)
Classification	DNV
Speed	19 knots
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 dimensioning	10 T/sq. m.
Deck cargo	1,550 ton
Deadweight at max draft	3,627 ton
GT	4,477
Net tonnage	1,343

Circle 320 on Reader Service Card

Name LA Fireboat 2
Type Fireboat
Yard Nichols Brothers
Owner LA Fire Dept.

The Los Angeles Fire Department (LAFD) has accepted its new fireboat, L.A. Fireboat 2, which is the largest in the U.S. according to its length of 105 ft. (32 m) and a fire-fighting capacity of more than 10,300 cu. m./hr. It was designed by Robert Allan Ltd, and constructed in 18 months by Nichols Brothers Boat Builders.

The basic principle of this ship was developed by Voith Schiffstechnik, Germany and it is based on the Voith Water Tractor. During fire fighting the pumps are running with 70 percent of the main engine power and the remaining 30% are sufficient for the vessel to maintain an exact position.

LA Fireboat 2



Propulsion and steering control are provided by twin Voith cycloidal propellers, Model 26 GII/165, provided by Voith Schiffstechnik, each driven by an MTU/Detroit Diesel Model 12V4000 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 drives two fire pumps. All machinery is resiliently mounted for minimization of noise and vibration transmission.

The fire-fighting system delivers a total of 36,000 U.S. gpm at the system operating pressures of approximately 10 bar (136,080 lpm or 8,165 cu. m. /hr.) delivered from a total of six pumps to all the monitors. The entire fire-fighting pump and monitor system was provided by Unitor AB (formerly Svenska Skum AB).

The wheelhouse is designed to provide maximum possible all around visibility, with excellent overhead visibility through large visor windows. To keep a clear view, it is outfitted with a Wynn wiping system.

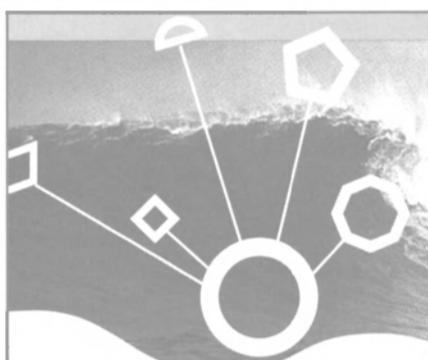
Main Particulars - L.A. Fireboat 2

Length, o.a.	105 ft. (32 m)
Beam, molded	29 ft. (8.84 m)
Depth, molded	13.3 ft. (4.06 m)
Maximum draft	15.16 ft. (4.6 m)
Propulsion	Voith
Main Engines	MTU/Detroit Diesel
Fire fighting Pump & Monitor System	Unitor
Window wiping system	Wynn
Propulsion Engine Driven Pumps	(2) @ 1,470 cu. m./hr. at 12.5 bar
Pump Engine Driven Pumps	(2) @ 1,250 cu. m./hour at 12.5 bar
	(2) @ 800 cu. m./hour at 12.5 bar
Water monitors	(1) @ 2,500 cu. m./hr., 150 m throw
	(3) @ 800 cu. m./hr., 100 m throw
Water/foam monitors	(2) @ 1,250 cu. m./hr., 135 m throw
	(2) @ 225 cu. m./hr., 75 m throw
Under-wharf monitors	(2) @ 450 cu. m./hr.
Foam storage	(2) 11,500 l tanks
Foam pumps	(2) @ 620 lpm
	(2) at 220 lpm

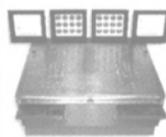
Name HOS Bluewater
Type OSV
Yard Leevac
Owner Hornbeck Offshore Services

Hornbeck Offshore Services (HOS) took delivery of the HOS Bluewater from Leevac Industries LLC. Designed by and built for Hornbeck Offshore Services.

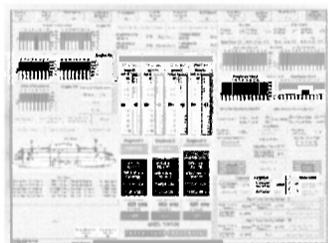
LLC, the HOS Bluewater is the company's seventh DP-2 vessel. HOS Bluewater measures 240 x 54 x 19-ft. The latest of the HOS "New Breed" has been uniquely engineered to offer numerous advantages over existing tonnage. The unique hull form assists in making the Bluewater a very DP capable and fuel-efficient vessel. The vessel is certified to both USCG Subchapter L (OSV) and I (Freight and Industrial



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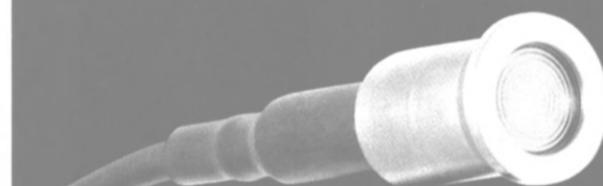
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Service) and is fully SOLAS for international operation. The American Bureau of Shipping has classed the vessel as +A1, +AMS, +ACC, DPS?2, Offshore Support, Oceans, Two (2) Caterpillar 3516 B main engines produce 4,000 bhp, which drive two 96-in. Scana Volda CP propellers. Three 800-hp CP tunnel thrusters (two forward, one aft) are pro-

vided by Brunvoll for a total of 2,400 hp. Two Van der Velden "Fishtail"-type rudders operate independently to provide superior maneuverability and vessel control. With improvements over previous OSV's, the design offers optimum deck space and load capabilities. The vessel's deadweight is 2,758 long tons that can be offloaded with state-of-

the-art pumping systems featuring positive displacement pumps. The clear deck area for cargo loading is 175 x 45-ft, with a cargo capacity of 1,725 long tons and a deck rating of 1,024 lb./sq. ft (5 mt/sq. m.). HOS Bluewater is engineered for maximum loading capabilities. Navigation equipment includes the JSPD P5000 DP system provided by

Nautronics. The electronics suite selected by Hornbeck Offshore and installed by Beier Radio offer the crew state-of-the-art tools needed to operate safely and efficiently.

Name	OJ Cenac
Type	Ocean Tug
Yard	Main Iron Works
Owner	Cenac Towing



O.J. Cenac is a big boat, at 130 x 38 ft, with a 15-ft. molded depth. The new boat marks a milestone for both Cenac and Cummins as it is the first tug into service with Cummins' new QSK60 engines. With three of these new engines, each turning its own propeller, the O.J. Cenac, will work as an 8,000-hp classed vessel. The engines turn into Twin Disc MG DR5600 marine gears with 7:1 ratios. The 90-in. props are enclosed in kort nozzles that have been faired into the hull to maintain the boat's 12-ft. working draft. The massive props are mounted on nine-in. shafts equipped with Kobelt 527A shaft brakes. Steering to the boat's three rudders was supplied by St. Rose, La.-based EMI. The electronic clutch and throttle controls were supplied by Twin Disc. There is an Alfa Laval SB104 centrifuge through which fuel is pumped. The centrifuge is also employed to circulate fuel in the tank. Accommodation for a crew of up to 12 people is provided in a traditionally styled three level deck house.

Auxiliary power employs two Cummins 6CT-powered 130 kW generator sets in addition to a Cummins QSM11 for the boat's Intercon winch. The waterfall-type winch has a capacity of 3,000 ft. of 2.5-in. wire per drum and 315,000 pounds of line pull.

The boat has a fixed onboard CO2 fire suppression system for unmanned machinery and cargo spaces and is built to an ABS load line but is not classed.

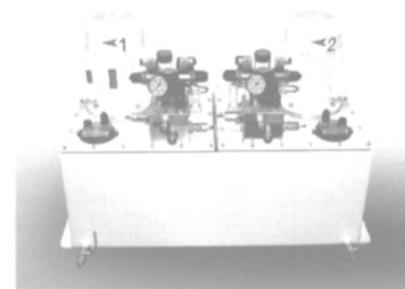
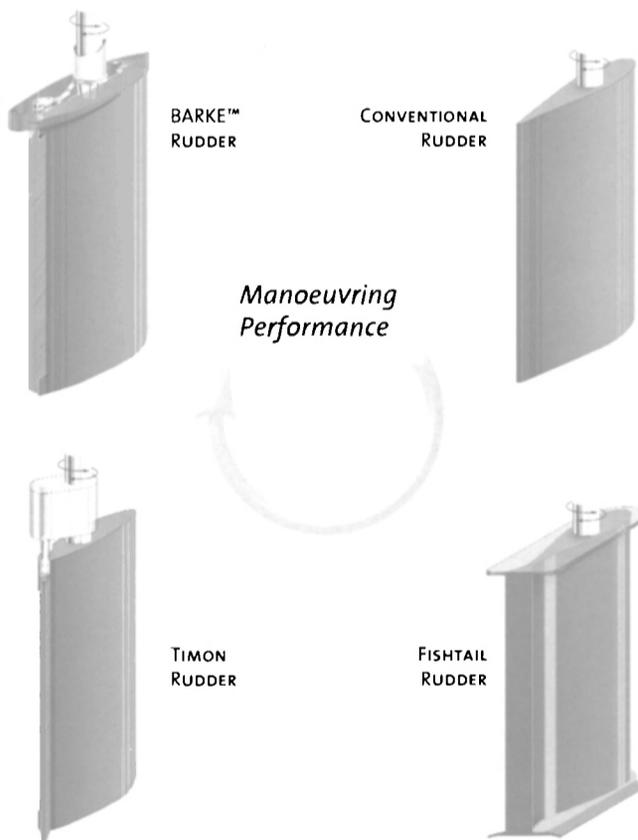
The boat will tow a 425 by 70-ft. 50,000-barrel barge in deep water Gulf of Mexico service.

Leroy Molaison, of Main Iron Works in Houma, explains that this boat is one of 20 or 25 vessels the two companies have collaborated on.

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Name Seacor Madison
Type Supply Boat
Yard Bollinger
Owner Seacor Marine

Seacor Madison



Seacor Madison, the first of three 207-ft., 4,750 bhp supply boats, was delivered to Seacor Marine, Inc., from Bollinger Shipyards, Inc. The boats are part of Bollinger's new 220 Class OSVs, vessels designed to raise versatility and cargo carrying capacity, while lowering operating costs.

Overall, Seacor Madison is 207-ft. long, 53-ft. wide and 19-ft. deep. Light draft is 6.5 ft.; loaded draft is 16.2 ft. A pair of Caterpillar 3516B diesels developing a total of 4,750 bhp at 1,600 rpm driving two Steerprop SP25 azimuthing propulsors supplied by Karl Senner, Inc. provide propulsion. Two 370 kW generators driven by two Caterpillar 3408 diesels produce electricity. The boat is also equipped with a 95 kW generator as part of its Safety of Life At Sea (SOLAS) classification. Two 1,000 hp SMI bow thrusters driven by two Caterpillar 3508B diesels aid maneuver-

Seacor Madison Main Particulars

Name	Seacor Madison
Type	Supply Vessel
Owner	Seacor Marine
Builder	Bollinger Shipyards
Delivery	July 2003
Length	207 ft.
Width	53 ft.
Depth	19 ft.
Draft, light	6.5 ft.
Draft, loaded	16.2 ft.
Main engines	(2) Caterpillar 3516B
Supplier	Louisiana Machinery
Total Power	4,750 bhp
Azimuthing Propulsors	Steerprop
	from Karl Senner Inc.
Generators	Caterpillar
Bow thrusters	SMI
Noise reduction	Sound Down
DPS	Simrad (DPS-2)
GPS	Furuno
Engine controls	SteerProp
Radars	JRC
PA System	Bogen
E-Mail	OFE Globe Offshore
VHF	Standard Horizon
Speed Log	JRC
Anchor windlass	Coastal Marine
Fire monitor	Stang
Fire pump	Crane Demming

Capacities

Cargo Deck Clear area	6,526 sq. ft.
Capacity	1,380 long tons
Gallons of drill water	169,774
Gallons of ballast water	106,129
Gallons of fuel oil	155,313
Gallons of lube oil	2,296
Gallons of hydraulic oil	1,155
Gallons of sewage	2,498

ability and station keeping. Bow thruster noise is reduced by a Sound Down noise damping system. All of the Caterpillar engines were supplied by Louisiana Machinery, Inc.

Her cargo deck has a clear area of 6,525 sq. ft., capable of carrying 1,380 long tons. Other equipment includes six

(6) 16-man inflatable life rafts; a SOLAS rigid inflatable boat (RIB) with a 50 HP motor, and a Headhunter 36-person marine sanitation device. Air-conditioned and heated accommodations are provided for 26 people in 11 cabins, all with private heads. A double bed hospital is also included and the

boat's galley can serve 12 persons at a time.

Seacor Madison is U.S. flagged and classed by the ABS Maltese Cross A1, AMS, DPS2 and documented by the U.S. Coast Guard under sub-chapter L OSV & I Misc. Vessel and carries full SOLAS certification.

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Name Viking Energy
Type OSV
Builder Kleven Verft
Owner Simon Mokstor



A landmark decision to use liquefied natural gas (LNG), instead of diesel oil, to fuel a new class of off-shore support vessel has taken operational form on the Norwegian continental shelf after a three-year development process. The platform supply ship Viking Energy is the result: a versatile, sophisticated vessel promising much reduced environmental impact. The vessel is expected to yield about 200-tons less in oxides of nitrogen (NOx) emissions every year compared to a ship burning oil. In addition, carbon dioxide release should be significantly reduced. Charterer Statoil, which has made a 10-year commitment to Viking Energy and to a second such newbuild from west Norwegian shipbuilder Kleven Verft, can use the savings in pollutant emissions as a quota to offset other operations. Under an agreement between the energy group and the Norwegian authorities, emission reductions achieved with the new vessels can be credited to Statoil-operated facilities on the Norwegian coast, where Nox curtailment measures cost much more. The Eidesvik-owned Viking Energy, and the sister new-build contracted by Simon Mokster Shipping, are based on the VS4403 design developed by consultancy Vik-Sandvik. The vessels will be deployed out of the Coast Center Base near Bergen, supplying consumables, materials and equipment to oil and gas installations in the North Sea. The ships have a deadweight of 6,013-tons at the summer draft of 26 ft. (7.9 m), and offer a large open, working deck plus a diverse under-deck storage capability within main dimensions of 308 ft. (94 m) in length with a 67 ft. (20.4-m) beam.

Each is installed with four main generator sets, individually rated at 2,010-kW, supplying electrical power for propulsion and shipboard services.

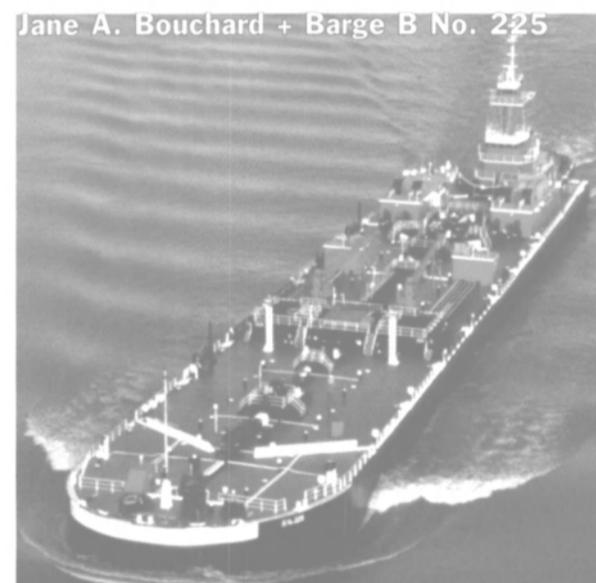
ABB was entrusted with the electrical system, and the prime movers for the gensets are six-cylinder Wärtsilä 6L32DF dual-fuel engines, conceived to ingest gas or oil in any proportion. While employing the gaseous fuel at low pressure, reliable ignition will be ensured by injecting a minute quantity of diesel oil directly into the combustion chamber as pilot fuel. For minimum emissions, the vessels will run on LNG, but should the vessels move away from an area where gas can be bunkered, the engines can operate on diesel fuel. LNG is contained in stainless steel, horizontal tank protectively located in the middle of the vessel. It comprises an inner and outer chamber, and employs a gap of 300-mm between the two, maintained under a

high vacuum to insulate the LNG at minus 162-degrees Centigrade from the surroundings. The liquid gas is vaporized for delivery to the engines at about 20-degrees C and 5-bar pressure.

The endorsement of such a system through these bold investments can be expected to stimulate interest in the uptake of the technology across a broader front in the shipping industry.

Name Jane A. Bouchard
+ Barge B No. 225
Type ATB
Builder Bollinger
Owner Bouchard

Bouchard Coastwise Management added to its fleet a double-hull articulated ocean-going tug/barge units (ATB) with the delivery from Bollinger Shipyards, Inc., Lockport, La., of the 130-ft. tug Jane A. Bouchard and the 430-ft., 110,000 barrel (BBL) class double-hull oil Barge B. No. 225 that meets the requirements of the Oil Pollution Act of 1990 (OPA '90). The Jane A. Bouchard and Barge B. No. 225 is the first of a two ATB contract between Bouchard and Bollinger. The second, planned for delivery in May 2004, will be the sister ship, Morton S. Bouchard IV and a larger, 487-ft. barge B. No. 242 capable of carrying 135,000 BBL of clean petroleum products. The Jane A. Bouchard was



Jane A. Bouchard Specifications

Length	130 ft
Beam	38 ft.
Draft, max.	22 ft.
Main engines	EMD
Total power	6,140 bhp
Propellers	Bollinger
Gears	Reintjes
Design	Guarino & Cox
Classification	ABS
Fuel 150,000	
Oil	8,000
Potable Water	11,000 gallons
Accommodation	12
NavComm Equipment	Beier & Associates, Inc.
Air Conditioning	Carrier
GMDSS	JRC
Compass	Ritchie
Radars	Furuno

Barge B. No. 225 Specifications

Design	Guarino & Cox
Length	430 ft.
Beam	79 ft.
Depth	34 ft.
Cargo Tanks	16
Cargo Tank, Pipe Coating	Ameron Amercoat 253
Connection System	Intercon

built at Bollinger's Lockport, La., shipyard and the Barge B. No. 225 was built at Bollinger Gretna, in Harvey, La.. Joined together by an Intercon coupler system, they form a 520-ft. ATB unit capable of carrying several types of petroleum products. Jane A. Bouchard is 130-ft. long with a 38-ft. beam and normal operating draft of 19-ft. Maximum draft is 22-ft. It is powered by two channel cooled GM EMD 16-645-F7BA diesel engines developing a total of 6,140 bhp. They drive two Bollinger manufactured five-blade, 140-in. diameter by 94-in., manganese/bronze propellers through Reintjes WAT 3455 reverse/reduction gears with a ratio of 4.480:1. Three Detroit Diesel 8V-71 engines driving three Baylor generators develop a total of 297 kW of electrical power. The engines are started by Quincy air compressors and monitored by an EMI 72-point system. A Sperry Marine electro/hydraulic system steers the tug. The tug's deck is outfitted with an Intercon single-drum hydraulic tow winch, forward and aft vertical electric capstans and a rescue boat and davit. The Intercon coupler system has two electric rams that lock into a rack or ladder at the notched stern section of the barge that when the tug and barge are locked together, keeps each of the two units rigidly in place.

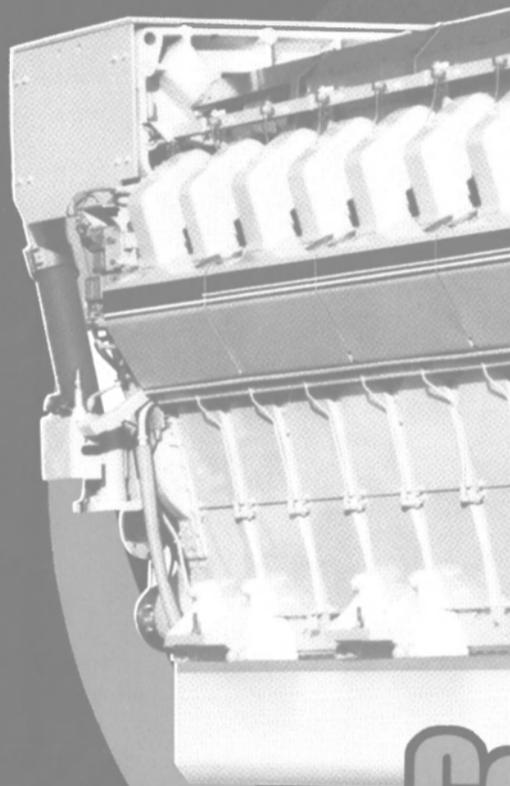
Name Laney Chouest
Type OSV
Builder North American Shipbuilding
Owner Edison Chouest Offshore

Laney Chouest at 348- x 72- x 31-ft. is an offshore supply vessel, the king of all tugs in the Gulf of Mexico. It was built by the North American Shipbuilding, a part of Edison Chouest Offshore, Galliano, La. who also owns and operates the vessel. The vessel is efficient since it is designed to do several jobs that formerly needed separate vessels. For example, the vessel will set suction piles that anchor floating oil production facilities to the seabed using the largest tow winch every built. The vessel is also a supply boat with below main deck tanks to hold 337,791 gallons of fuel oil, 663,169 gallons of rig/ballast water, 7,367 barrels of liquid mud, 42,332 gallons of potable water and 12,583 cu. ft. of dry bulk material delivered at 80 psi. The Laney Chouest also is a major cargo carrier. The rear deck measures 183.5 by 56 ft. and can hold 3,000 long tons of cargo. In addition, the vessel has an ROV to support suction pile placement and other sub sea construction work. A 42-in. diameter moon pool is included for keelhauling objects.

Two 20-ton cranes and a 2.5-ton crane assist in the suction pile placement and other subset work. The



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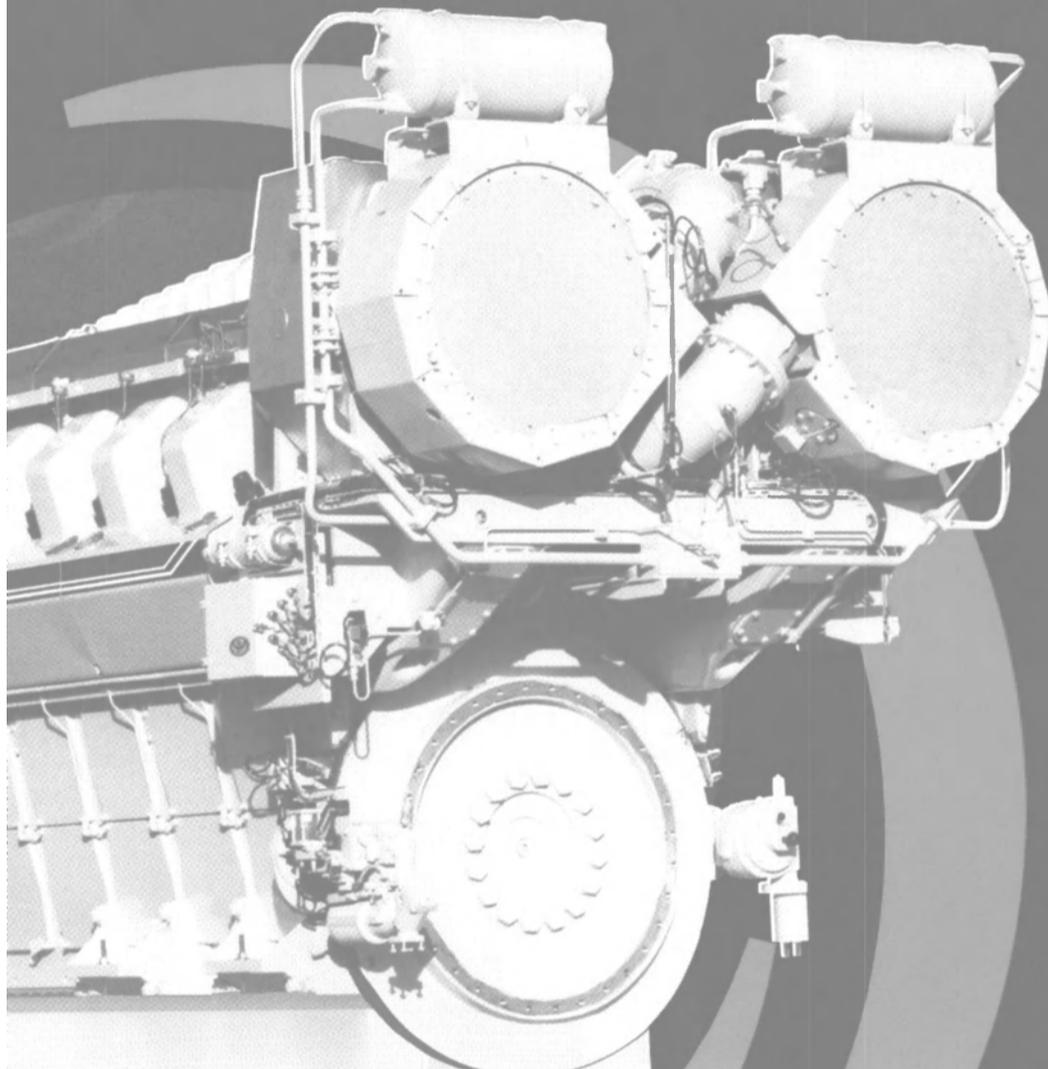
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Laney Chouest also has a 350 metric ton A-frame with a 2.0 metric ton crane attached. Power for the Laney Chouest is from a quartet of Caterpillar-MAK 6M43 diesels generating a total of 29,000 hp. Each of the engines drives a 3.5-MW shaft generator used to power the thrusters. The four engines are setup in an arrangement so that a pair of engines each power 4,700 mm pro-

PELLERS as well as two shaft generators. Three Caterpillar 3512 engines provide 1,300 kW each of ship's power and a 3406 Caterpillar engine produces 300 kW of emergency power. The 348-ft. Anchor Handling Tug Supply vessel (AHTS) Laney Chouest during final outfitting at North American Shipyard. The vessel will provide charterer Shell Oil Company with a multipurpose ves-

SEL to set suction piles, carry huge amounts of liquids in her below deck tanks and 3,000 long tons of cargo on her aft deck. Owned and operated by Edison Chouest Offshore, Galliano, La. this vessel also carries an ROV and several cranes for construction work. It is the largest offshore vessel yet built and is powered by four Caterpillar-MAK engines generating 29,000 hp.

Name Seabulk South Atlantic
Type AHTS
Builder Brevik
Owner Seabulk

Seabulk South Atlantic



The Seabulk Offshore group of companies has decided to add a new UT-710 Anchor Handling Tug Supply Vessel (AHTS) to its fleet, making the 226-ft. Seabulk South Atlantic the fifth new-build vessel in Seabulk's 2003 fleet renewal program.

Built by Norway-based Brevik Construction, the 10,050-hp Seabulk South Atlantic joins the fleet on a five-year bareboat charter agreement that includes an option to purchase at the contract's end.

Seabulk South Atlantic, which moves at speeds up to 15.5 knots, has a certified bollard pull of 133 MT, and provides a large triple-drum anchor handling/tow winch with up to 300 tons line pull and 450 tons brake load. The vessel also has a large 123 x 50-ft. deck that can handle up to 800 tons of cargo.

The UT-710, which was designed by Rolls Royce Marine, incorporates a substantial amount of that manufacturer's equipment, including the main engines, thruster, rudder, and automation and control systems. The vessel is also fitted with high Liquid Mud and Brine capability in addition to FiFi 1 class notation and Dynamic Positioning DPL. Resulting from its versatile capabilities, the vessel can therefore serve in a multiple support role assisting heavy-duty semi-submersible rigs for exploration and development drilling, as well as fulfilling the steadily growing demand for offshore terminal support work.

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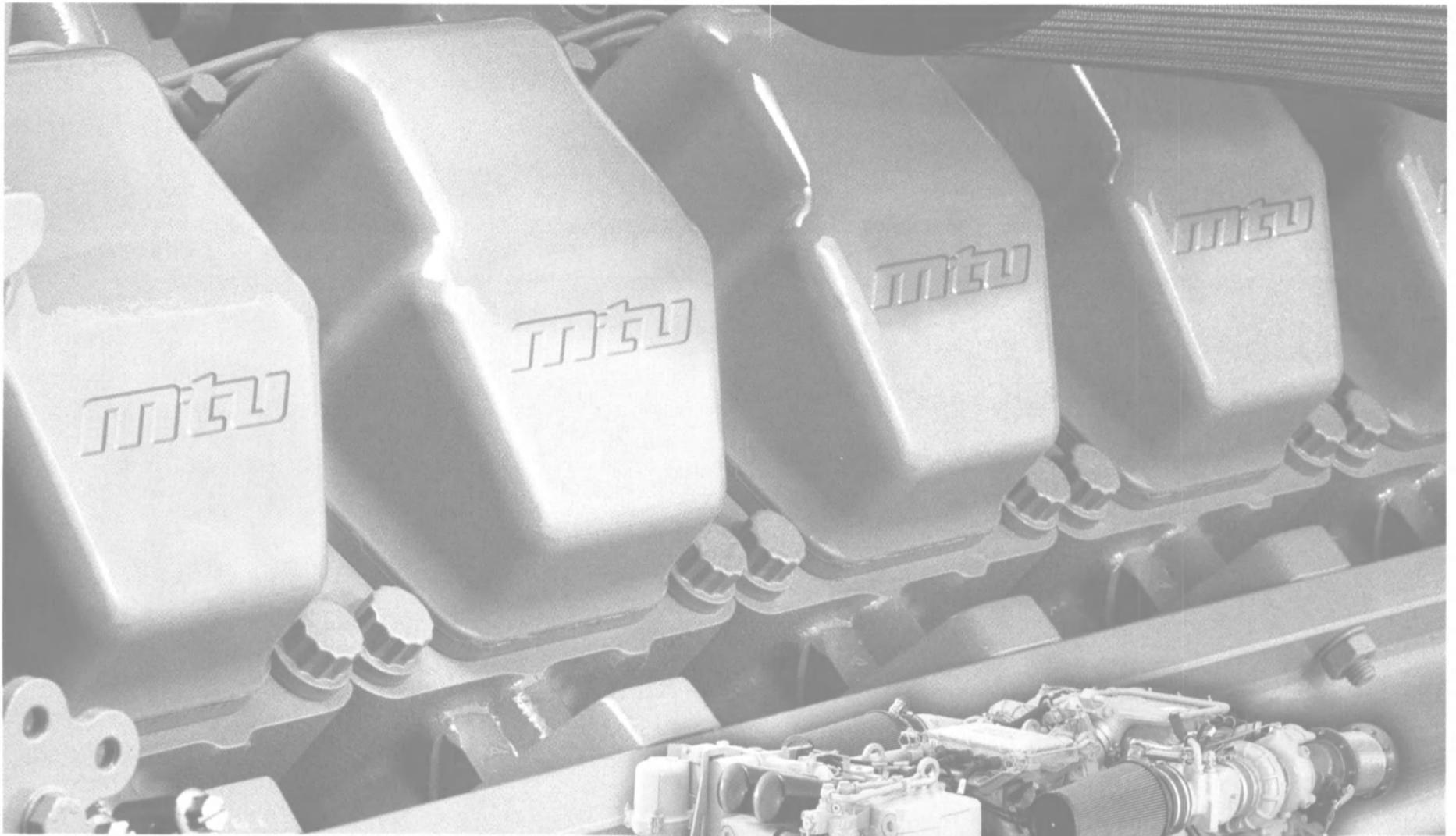


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Name Levanto Secondo
Type ASD Tug
Builder Damen
Owner SCAFI

Levanto Secondo is a Damen Azimuth Stern Drive Tug 2810 delivered in October 2002, to SCAFI, an Italian operator. The design of the Azimuth

Stern Drive 2810 has been completely prepared to comply with U.S. tonnage rules and USCG-requirements, so that it can be of interest and use to the U.S. market as well. Levanto Secondo is the second vessel of this type, ordered by SCAFI, and it will be used in the harbor of La Spezia in the northern part of Italy.

The ASD Tug 2810 has a round bilge hull with a transom stern and a rounded bow. The transom corners are well rounded and the forecastle gives sufficient bow height for severe working conditions. The hull is divided into five compartments and features 10 mm side and bottom plating, and 8mm deck plat-

Levanto Secondo



ing. Bottom plating in the thruster area is increased to 12 mm, and the sheer-strake has a plate thickness of 15 mm. A pair of nine-cylinder Wartsilä 9L20 engines (1,620 kW (2,172 bhp) at 1,000 rpm each) power Levanto Secondo, driving Schottel SRP 1212 thrusters, with CP propellers. On the fore deck and on the aft deck Kraaijeveld towing winches are fitted. The brake holding power of both winches is 130 tons, and both winches have stainless steel rims with band brakes and friction clutches. The fore winch is of the single drum type, suitable for 150 m synthetic rope of 80 mm diameter. The pull of the fore winch is 10 tons at 20 m/min., or 20 tons at 10 m/min. The aft winch can store 200 m synthetic rope of 80 mm diameter and has a pull and speed of 10 tons at 20 m/min or 20 tons at 10 m/min. The ropes used on the fore and aft winch run through stainless steel triangular fairleads integrated in the towing bitt. On the aft deck a Kraaijeveld capstan of 3.5 ton pull is arranged, and a Mampaey towing hook of 65 ton Safe Working Load is fitted.

Name June K
Type Tug
Builder A+B
Owner Kosnac

June K

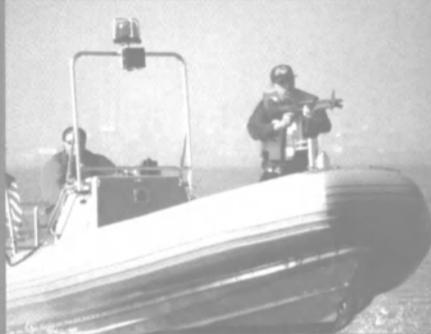


Kosnac Floating Derrick Corp. of Staten Island, NY took delivery of the 2,700 hp June K, the company's first twin-screw tug and its first new build after three generations of Kosnac family management. "We took everything we learned from 75 years of using other peoples' boats in New York waters," said Capt. Fred Kosnac, "and put it into a design specifically adapted to the wide-ranging conditions of New York harbor and the rivers that flow into it."

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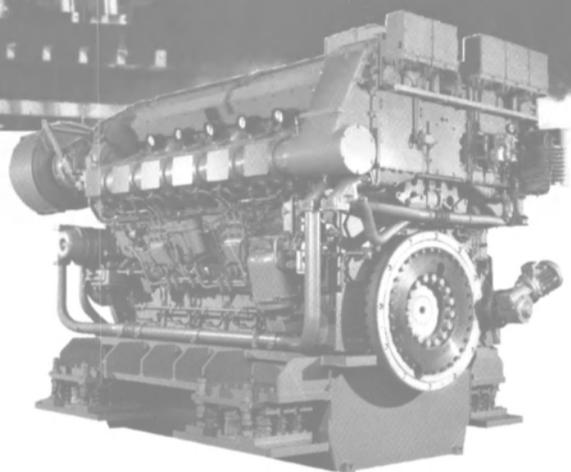
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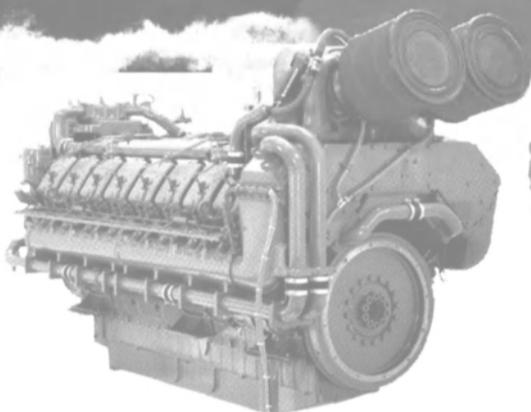
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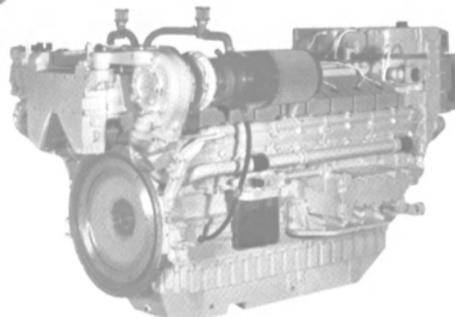
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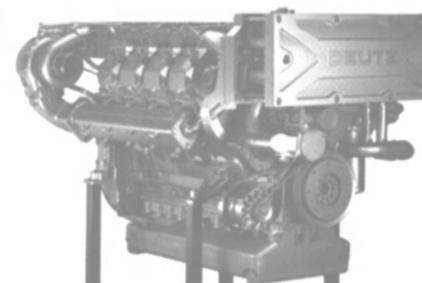
620

1197 - 3046 BHP
Speed 1500 - 1860 min⁻¹
Water-cooled V8, 12 and V16



616

418 - 1776 BHP
Speed 1500 - 2300 min⁻¹
Water-cooled V8, V12 and V16



1015

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Water-cooled V6 and V8

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The 78 x 26 x 10.5-ft. tug, with twin CAT 3512B diesels and a 9-ft. draft, was built by A&B Shipyard, Amelia, La. It is the first of three in Kosnac's current building program. Intended principally for ship handling and assist work, barge towing and dredge assist, the June K's draft is shallow enough to navigate the many creeks and estuaries throughout the Port of New York region. To meet the environmental requirements of waterways further upstate, the tug is fitted with a gray water discharge holding tank. The June K's upper pilothouse, with a maximum eye-height is 28 ft., can be folded aft to clear lower bridges around the Port of New York and further upriver. In its collapsed position, the

view is from a 19-foot eye-height. Whereas a stock tug of similar design has a normal capacity of six crew, the June K's is increased to eight for tasks requiring it. "New York can go from the near-arctic to the sub-tropical," said Capt. Kosnac, "so with crew comfort in mind we've added extra insulation against heat and cold, as well as against noise." The June K. is fitted with a 5-ton central air conditioning system.

To further control discharge, the propeller shaft glands are packed with W.L. GORE & Associates, Inc. GFO Marine Pack packing material which will leave a nearly dry bilge. "She can be completely discharge-free wherever required," said Capt. Kosnac.

Name Dixie Patriot
Type Liftboat
Builder SEMCO

Dixie Patriot is a new super capacity lift boat built by SEMCO, LLC, Lafitte, La. "This is the world's largest lift boat, anyway you measure it from leg length, total HP or size of work platform, said George Marcel, shipyard representative for SEMCO LLC, as reported in MarineNews, sister-publication to *Maritime Reporter & Engineering News*.

It measures 176.5 x 113- ft. wide with a 13- ft. deep hull. Three legs, 280 ft. long and 8.5 ft. wide can be lowered up to 200 ft. in the water. In shallower waters, (100 ft.) the hull can be lifted (or "jacked up") 100 ft. above the waterline to work on tall platforms. Propulsion is from a pair of 1,500 hp Caterpillar 3512 engines driving Twin Disc gears and spinning Kaplan stainless steel 79-in. diameter props. Dixie Patriot uses a pair of Caterpillar 831 hp 3412 DITA engines that drive six jacking pumps that power the hydraulic motors located in each leg. These motors power the motion of the 280- ft. long legs. Controls for the propulsion engines and the hydraulic lift controls is by Engine Monitor, Inc., St. Rose, La.

The engine room also contains a pair of Caterpillar 3412 engines

each producing 425 kW of electric power. Some of the electricity is used to power a 500 hp SMI bow thruster.

An emergency generator is housed in an enclosure on the 03 level. A Caterpillar 3306 genset provides 190 kW of emergency power per ABS guidelines.

The outstanding feature of the main deck is the two cranes that are installed around the two jacking legs at the bow. Each crane can lift 200 tons and have a reach of 140 ft. When the cranes are not deployed they lie on supports on each side of the super structure "pointing" at the heliport that can land a Bell 212 copter or equal.



The Dixie Patriot on her way to Port Fourchon, La. for sea trials. Her three 280-foot legs are fully raised. (Photo Credit: SEMCO LLC)

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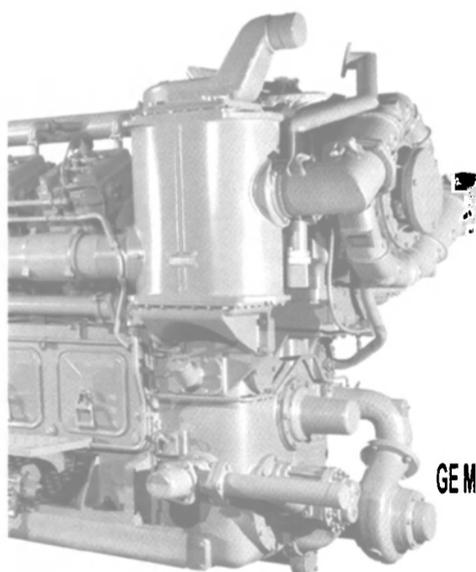
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Maritime Reporter & Engineering News

Natter Passes Command of Atlantic Fleet



Adm. **Robert J. Natter** relinquished command of the Navy's Fleet Forces Command and U.S. Atlantic Fleet to Adm. **William J. Fallon** in a ceremony to be held aboard the aircraft carrier USS Theodore Roosevelt (CVN 71) Oct. 3. Fallon comes to Norfolk from Washington, D.C., where he most recently served as the Vice Chief of Naval Operations.

As Commander, U.S. Atlantic Fleet, Natter bore the responsibility for 156 ships, nearly 1,200 aircraft, 18 major shore stations and more than 129,000 personnel during an unusually critical three-year period in naval history. Since he assumed command June 23, 2000,

the Navy was called on repeatedly to deploy in defense of the nation. The attack on USS Cole (DDG 67) in October 2000 and the events in New York and at the Pentagon, Sept. 11, 2001, tested the readiness of the Atlantic Fleet. When the majority of the Atlantic Fleet surged to fight in Operation Iraqi Freedom, Natter agreed with the Chief

of Naval Operations that the Navy needed to rethink how it deployed and maintained presence globally. Natter and his staff developed and instituted the Fleet Response Plan (FRP). FRP has revolutionized Navy planning and has been heralded as a possible training and maintenance model for adoption by all service branches. The plan calls for the

Navy to have six surge-ready carrier strike groups, and an additional two carrier strike groups ready to follow shortly thereafter. This has resulted in a new way of thinking about how the Navy mans, maintains, equips, trains and ultimately, fights, its ships. Natter enlisted as a Seaman Recruit in the U.S. Naval Reserve in 1962.

England Sworn in as Secretary of The Navy



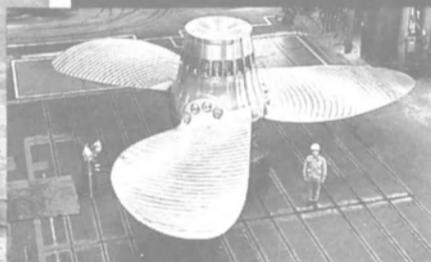
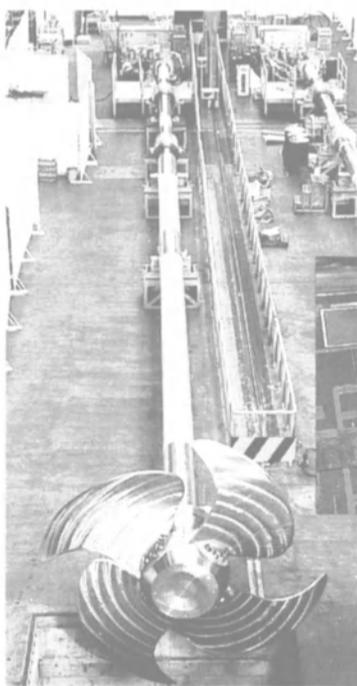
The Honorable **Gordon R. England**, right, receives the oath of office during a short swearing in ceremony as the 73rd Secretary of the Navy. Administering the oath is Mr. **John H. La Raia**, Assistant for Administration to the Under Secretary of the Navy. Secretary England becomes only the second person in history to serve twice as the leader of the Navy Marine Corps Team and the first to serve in back to back terms. U.S. Navy photo by Chief Journalist Craig P. Strawser.

Gordon England becomes only the second person in history to serve twice as the leader of the Navy Marine Corps Team and the first to serve in back to back terms. The Honorable **John Mason** served as the 16th Navy Secretary from 1844-1845 and 18th SECNAV from 1846-1849. England had served as the 72nd Secretary from May 2001 until January 2003, before President **George W. Bush** tapped him to serve as the first Deputy Secretary at the newly created Department of Homeland Security. Since January 2003, England has served as the first Deputy Secretary of the Department of Homeland Security.

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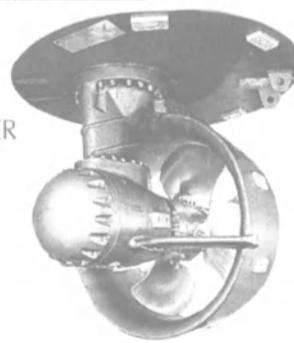
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Introducing Lean Shipbuilding to U.S. Yards

By Eugene Bradley Jr., Shaun Hunter

Lean times call for "leaner" boats and what better to employ than Lean Shipbuilding, which is known as a proven approach that shipyards can use to improve shipbuilding efficiency. It has the advantages of reducing defects while remaining responsive to change. How does this differ from the traditional method of shipbuilding? Broken down into three steps these components deal with:

- Push vs. Pull
- Batch and Queue vs. Continuous
- Top Down vs. Bottom Up.

Each element builds on the others to make Lean Shipbuilding work. Therefore, when trying to implement Lean Shipbuilding, the whole concept should be implemented rather than just a few important pieces.

The Lean Shipbuilding Model will then be introduced. This model, which helps to illustrate the key components of Lean Shipbuilding can be presented in three main categories:

- Just-In-Time
- Built in Quality
- Operational Stability.

The success of Lean Shipbuilding, through these three categories, depends on a flexible and motivated workforce. With an overall goal of 100 percent customer satisfaction.

Traditional v. Lean Shipbuilding

Push vs. Pull

Traditional shipbuilding uses push production to manufacture multiple quantities of similar products in series. Based on a detailed schedule, similar products are manufactured one after another until the required quantity has

been reached. This method, which boasts a high level of anticipation, can lead to overproduction or underproduction. During the production process parts are pushed from one workstation to the next. When delays occur, parts and subassemblies sit idle, where they can be lost or damaged - not only tying up capital - but space as well.

Lean Shipbuilding utilizes pull production. In a pull system, no part is made unless the customer requests it. Here the customer can vary from the vessel owner to the mechanic installing the equipment. Because this process is demand oriented, the system is therefore highly responsive and flexible to the customer's needs. All parts are used as soon as they are completed, thus eliminating idle time between workstations. The idle time between workstations adds no value to the part. The actual value is added at the workstation because the part is improved at each step. Each improvement makes it more valuable to the customer.

Another difference between push and pull production is raw material delivery times. In a push cycle, material is ordered and delivered well ahead of time according to a predetermined schedule. This leads to large inventories of material that may not be required for some time. Again idle material leads to higher costs in both the land required to store the material and the cost of the material, which is not recovered until the material is actually used. A pull production cycle utilizes small, more frequent, orders and deliveries. Where a push cycle may take delivery of large amounts of material weekly or monthly, a pull cycle may take delivery of small lots several times a day. This ensures

smaller lot sizes, so storage areas are not as large and materials are utilized shortly after they arrive.

Batch and Queue vs. Continuous Flow

Another instance of waste encountered in traditional shipbuilding is large batch sizes. A batch is a group of parts that is produced one after another until a pre-selected number are produced, at which time they are pushed to the next station. This is called batch and queue flow - batch because of the quantity of a part produced - queue because the parts wait until they are needed. Batch sizes vary depending on the process. Instead of releasing each part as it is produced, the part must wait until all other parts in its batch are completed and it is then moved as part of a batch to the next station. Once the part is moved to the next station it is then placed in a bin until required for production, thus wasting time. This batch process also increases the lead times on newly ordered products. A predetermined number of batches must be produced before the production line can be changed to respond to new orders. This not only adds to the amount of time required to deliver a product to the customer, but also increases the amount of time needed to implement a change order.

Lean manufacturing utilizes continuous flow. As a part is produced, it is moved to the next station, thus eliminating waiting time. It also allows the shipyard to be responsive to customer demand, delivering the right part at the right time in the right quantity. Since parts are only made when required, the production process can be changed to meet customer demand.

Continuous flow also helps to increase

the quality of the final product by reducing the number of defects through product inspection by the workforce at each station, as well as decreasing damage that may occur while waiting to be used. Any defect that might occur during continuous flow from the previous process is immediately obvious to the next operator. The process is then stopped until the problem can be fixed, preventing defective parts from moving beyond the shop and improving total quality.

Top Down vs. Bottom Up

Top Down and Bottom Up refer to the flow of suggestions to improve the production cycle. In a traditional Top Down process, improvements are initiated from managers and disseminated to the work force. This process tends to discourage valuable suggestions from the work force.

A Bottom Up managing style allows the workers to offer suggestions upward through management. This style tends to promote continuous process improvement, which is one of the most important tenants of Lean Shipbuilding. It is so important that shipyards that have adopted Lean Shipbuilding have formed a department, made up of members of the workforce, to constantly evaluate the current processes and suggest improvements. This not only pays dividends to the company, but also promotes workforce/management lines of communication and trust.

The workforce also has a different perspective on production in Lean Shipbuilding. Rather than specializing in one process, the workforce is trained in many different areas of production. This way they can be moved around as required. Individuals gain an under-

Fig. 1: LSM-Lean Shipbuilding Model

Fig. 2: Flat Plate Subassembly

Fig. 3: Curved Plate Subassembly

Fig. 4: IHI's Yokohama Shipyard, depicts how one-piece production line shops can be integrated in the ship production system.

Fig. 1



Fig. 2

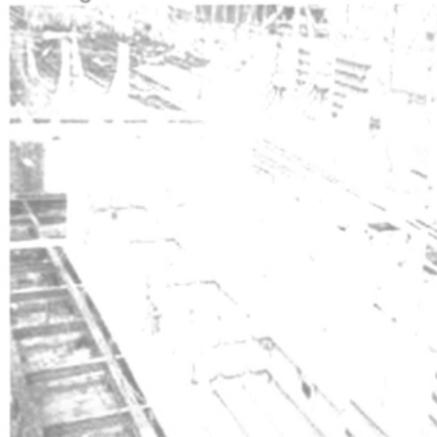


Fig. 3



Fig. 4



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Successfully implementing Lean principles in any manufacturing process is a daunting task. Given the current slump of the U.S. shipbuilding industry, the potential benefits of Lean Shipbuilding should be given serious consideration by managers, designers, and members of the workforce. Implementing Lean Shipbuilding constitutes an investment for the future of shipbuilding. With this in mind, the overarching goal of Lean Shipbuilding is 100 percent customer satisfaction through the elimination of waste. The five elements of the Lean Shipbuilding model are outlined as follows.

Just In Time

The first of the five Lean Shipbuilding components, Just-In-Time (JIT), is defined as the right quantity and part, at the right time and place. JIT is essential to three areas of lean manufacturing, which will be discussed below: One-piece or continuous flow, takt time, and the pull system.

One-piece/Continuous Flow

One-piece flow involves identifying subassembly, unit, and part families that move through the same set of processes and creating assembly procedures for their production. Japanese shipbuilders who implemented lean principles such as this increased their productivity by 150 percent from 1965 to 1995.

First, planners define hull divisions, then subdivide them into parts or blocks,

which in turn are divided into sub-blocks or subassemblies and so on. Defining zones that are one-piece producible completes the zoning processes. Intricate detail design simplifies one-piece construction along the production line. One-piece flow requires master scheduling execution for complete sub-assembly integration, as shown per Figures 2 and 3.

Takt Time

Lean Shipbuilding processes introduce a pacing mechanism, called takt time, to help regulate production flow. "Customer Demand Rate" essentially defines this takt time. The concept of takt time can be expressed as follows:

$$\begin{aligned} \text{Where:} &= \text{Available time} \\ &= \text{Customer Demand Rate} \\ &= \text{Takt time} \end{aligned}$$

Ship production requires a six-month to one-year duration. Although integrating takt time may be difficult, once in place, takt time simplifies monitoring of production-flow uniformity and forecasting of work packages. It also serves the planning department as a tool to evaluate how well the production process is going.

The Pull System

Although Lean Shipbuilding discourages it, certain aspects of shipbuilding find large batch processing applicable. When such an applicable occasion arises, Lean Shipbuilding utilizes The Pull System as described above.

Utilizing the pull system, the accessibility and organization of "stamped" parts are increased. Periodically, a signal will indicate that personnel need to re-supply the parts in order to keep up with the production line demand. This way the production line "pulls" parts versus receiving "pushed" and unwanted parts.

Built In Quality

Built-in quality represents the second component of the Lean Shipbuilding model. Built-in quality in a one-piece flow or continuous flow shipbuilding system is achieved through closely controlled accuracy. Each piece is inspected as it is passed to the next process, so inaccurate interim products will not flow downstream processes.

Operational Stability

Operational stability is vital to achieve a continuous-flow system such as Lean Shipbuilding. Standardized work and the 5Ss are two approaches that help to achieve this operational stability.

Standardized Work

According to Storch (Storch, 1995), "Standardization is the principle of design-for-production that is likely to lead to significant improvements in productivity." This is also true in Lean Shipbuilding. Standardization occurs in a manufacturing process as well as design. Standardization in shipbuilding can be applied in several stages, from

elementary components and assembled units to a complete ship design. Since the shipbuilding market is likely to continue to be characterized by varying and individual product requirements, a standard ship series may not be feasible. Consequently, efforts at design standardization should be concentrated at the component, subassembly, block, and outfit unit levels. Standardization, as described here, is what will most likely lead to significant improvements for productivity. Standards achieve repeatability, and repeatability, along with continuous improvement, achieves higher efficiency.

Five Ss

The 5Ss aim to achieve organization in Lean Shipbuilding. The 5Ss are:

1. **Sort** — Identify value added and non-value added procedures. Non-value added procedures should be eliminated.
2. **Stabilize** (orderliness) - "A place for everything and everything in its place."
3. **Shine** (cleanliness) - Inspection, which exposes abnormal and pre-failure conditions.
4. **Standardize** (create rules) - Maintain and monitor the first three Ss.
5. **Sustain** (self-discipline) - Maintaining a stabilized workplace is an ongoing process of continuous improvement.

Conclusion

The American Shipbuilding industry is in need of change to become competitive in the international shipbuilding market. While some shipyards in the international market are able to dominate through relatively low labor rates, other yards can develop competitive niches through implementation of new methods such as Lean Shipbuilding. Implementing modern manufacturing processes as well as management systems can help to shrink the competitive gap between the U.S. shipbuilders and the rest of the world. Lean shipbuilding offers both of these improvement opportunities.

References

- Liker J, Lamb T. *Lean Shipbuilding*. Paper presented at the 2001 Ship Production Symposium: SNAME. 2001 June 13-15. 24 p.
- Liker J, Lamb T. *Lean Manufacturing Principles Guide, Version 0.5*. Deliverable 2.2. Maritech ASE project #10: NSRP. 2000 June 25. 46 p.
- Lang S, Datta N, Hellesoy A, Daniels T, Liess D, Chew S, Canhetti A. *Shipbuilding and Lean Manufacturing - A Case Study*. Paper presented at the 2001 Ship Production Symposium: SNAME. 2001 June 13-15. 18 p.
- Storch RL, Hammon CP, Bunch HM, Moore RC. *Ship Production*. 2nd Edition. Centerville, Maryland: Cornell Maritime Press. 1995
- Hirano H. *5 Pillars of the Visual Workplace*: Productivity Press. 1990
- Munro & Associates, Inc. *Design Profit*, course notebook: Munro & Associates, Inc. 1989
- Standard C, Davis D. *Running Today's Factory, A Proven Strategy for Lean Manufacturing*. Cincinnati, Ohio: Hanser Gardner Publications. 1999
- Womack JP, Jones DT. *Lean Thinking*. New York: Simon & Schuster. 1996
- The University of Michigan. *Shipbuilding Pictures Database*. <http://www.Nsnet.com>. 1998-2000.

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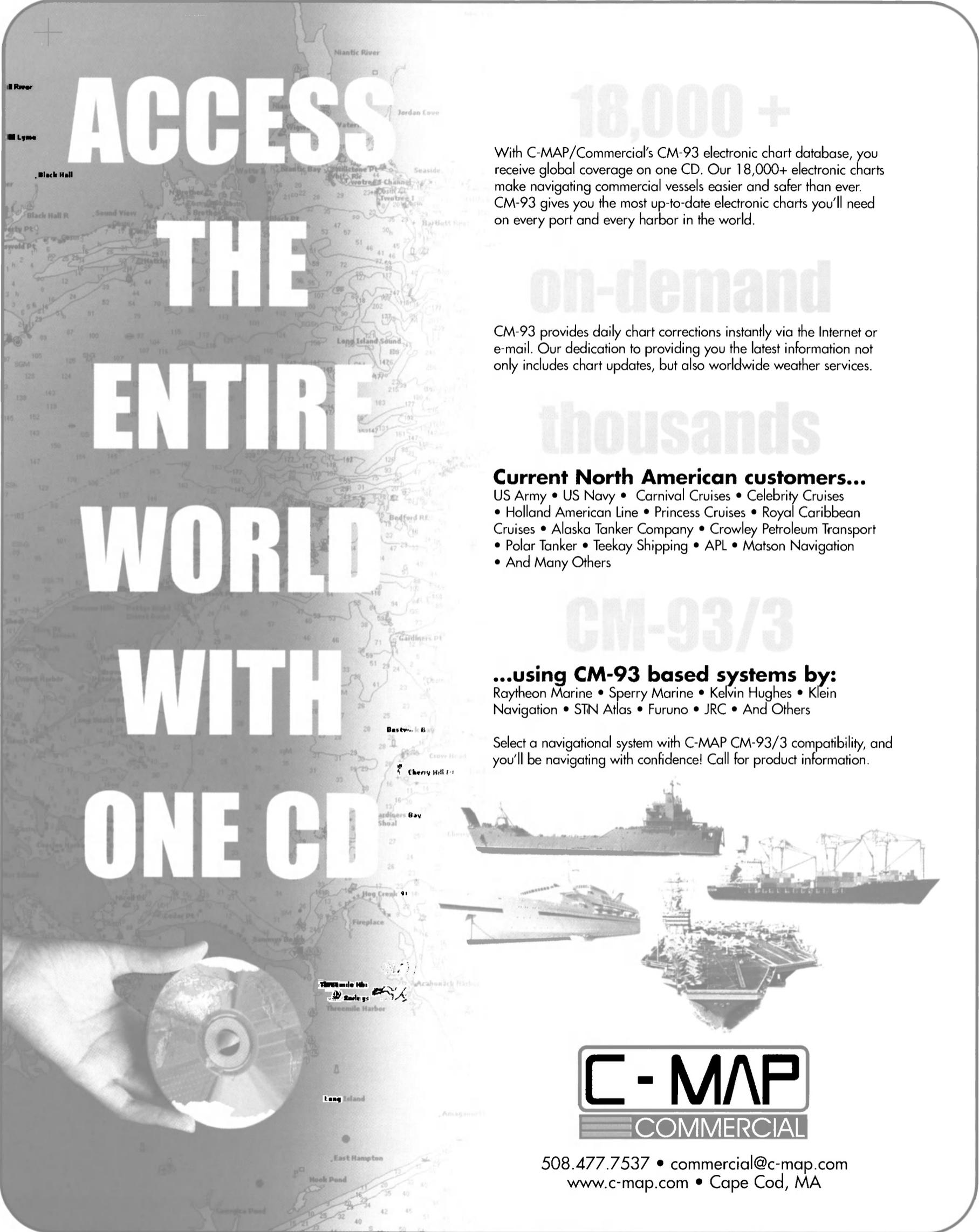
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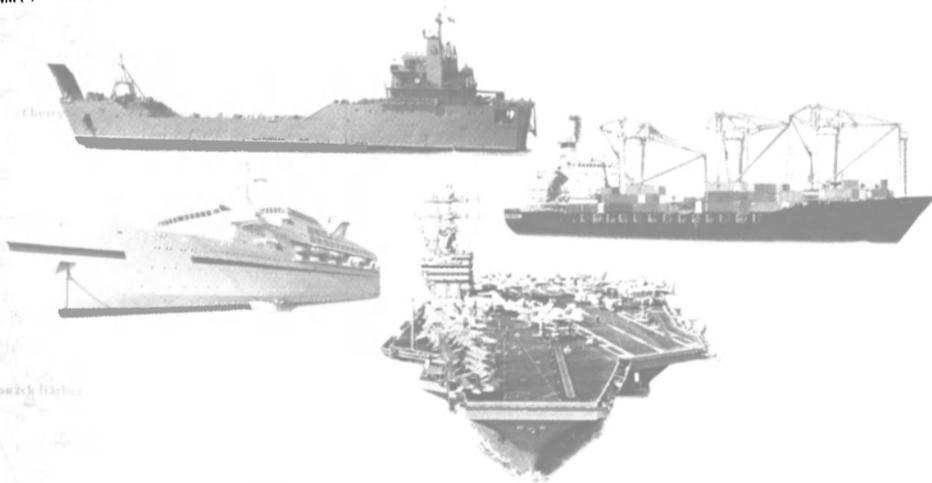
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IBM PLM Offers New Shipbuilding Solutions

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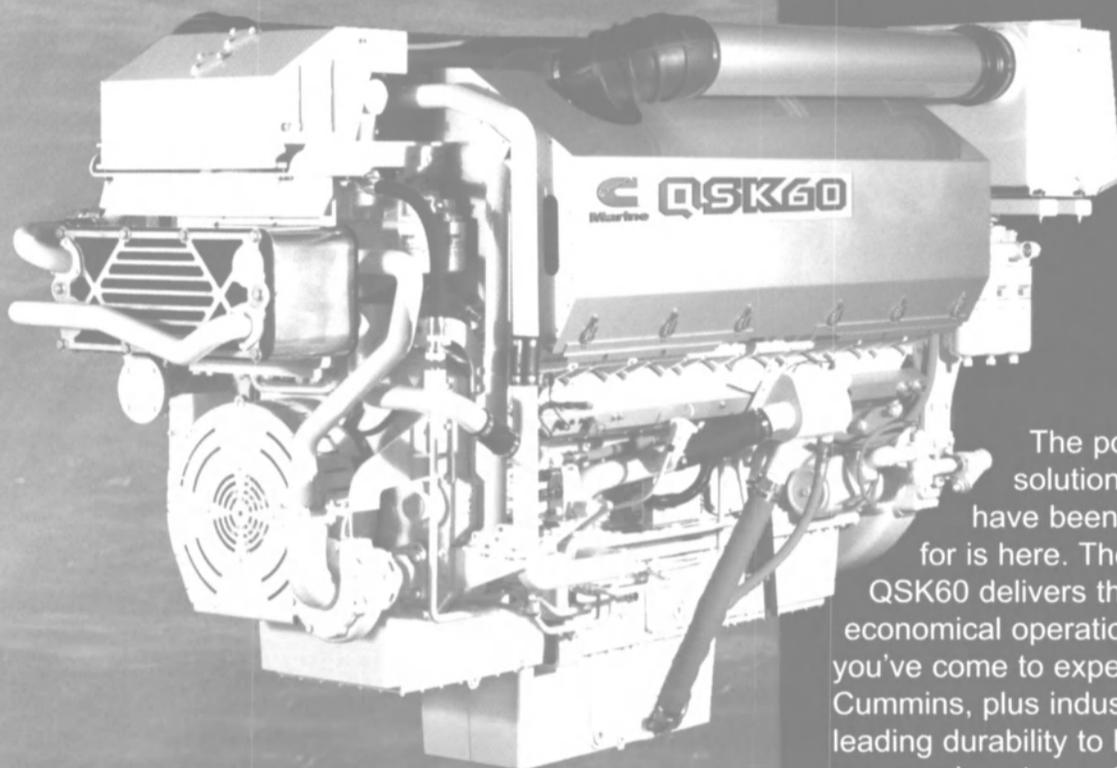
CATIA Version 5, which continues to expand outfitting/machinery design and now fully integrates piping, tubing, HVAC, raceway/conduit, waveguide, electrical/instrumentation and hanger design. The latest version also provides new tools for detailing steel piece parts,

as well as the layout and detailing of entire structural systems like decks, reinforced panels, bulkheads, etc. With Release 12, IBM and Dassault Systemes deliver 21 new applications for shipbuilding.

CATIA Compartments and Access

CATIA - Compartment and Access (CNA) is dedicated to the definition of compartment and access objects within a ship design. It is dedicated to defining the limits of compartment and access forms (doors, hatches, windows, port-holes etc.) within a ship design. CNA provides the user with the ability to define a compartment's boundary sur-

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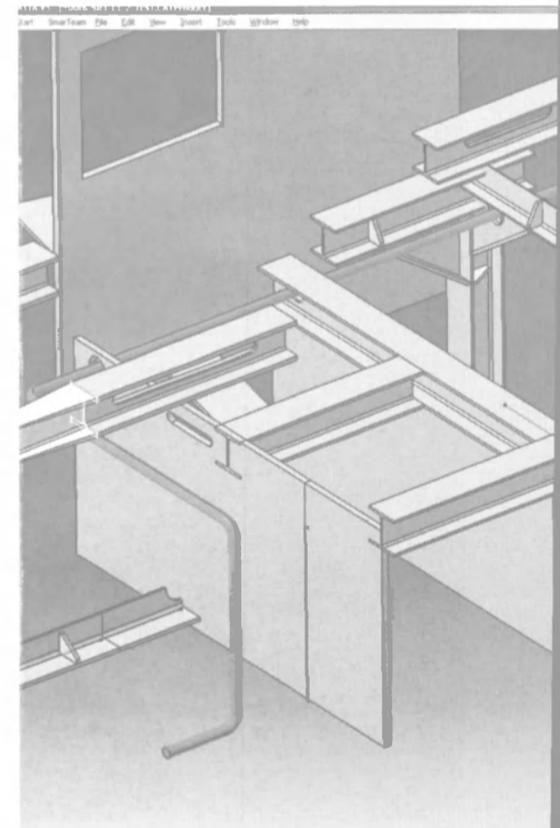
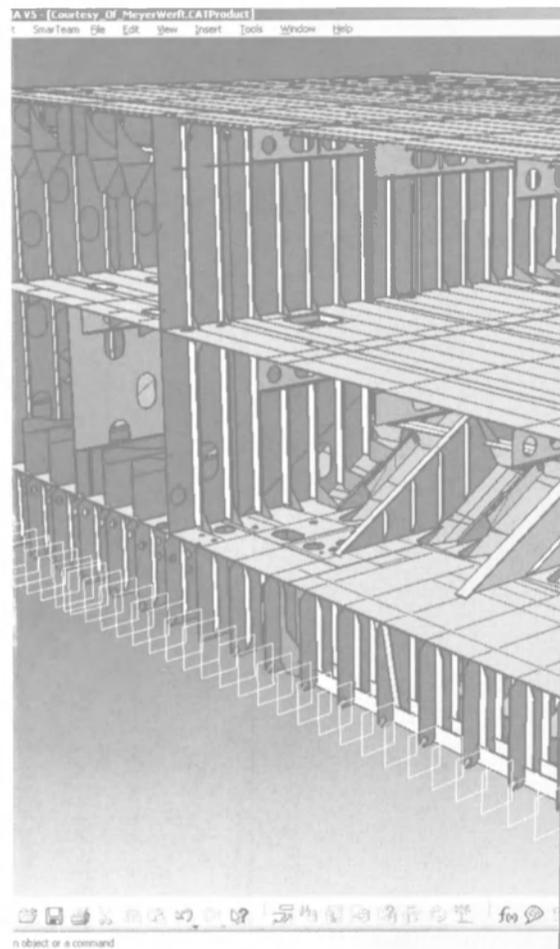


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faces, to place access objects such as doors, windows and stairs into compartments, and generate unique drawings and reports. The compartment created in CNA can be used to organize downstream system design processes, set the specifications for machinery and support systems (piping, HVAC, cable trays etc.) passing through the compartment and generate unique bills of material (BOMs). Among other things, it can:

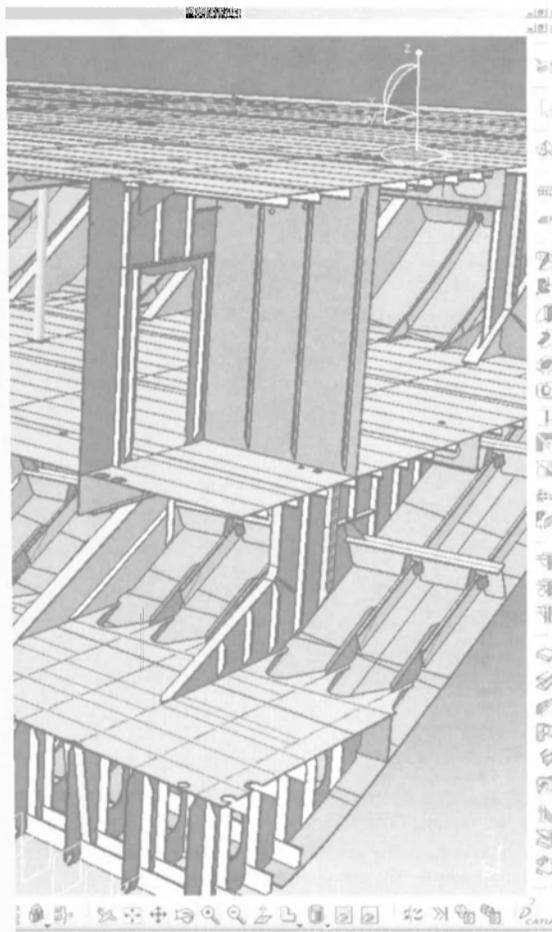
- Define wall systems within a deck. Starting with a simple sketch over the

deck, wall systems are bounded by decks or molded forms. Associated with the hull surface and structural bulkheads, CNA gives the user the ability to generate multiple wall surfaces very quickly and easily their design.

- Define compartments and their

boundary surfaces within a ship. Wall systems are generated in one step and the user is provided with a compartment preview before generation. When the compartments are generated, a geometric definition of the compartment is created. The definition, in turn, can be used

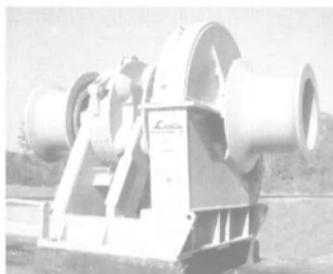
to generate other compartments. Intelligent boundary objects are also automatically created for each wall surface of a compartment definition. Compartment boundaries can be exploited in down stream production when production sub-assemblies are defined.



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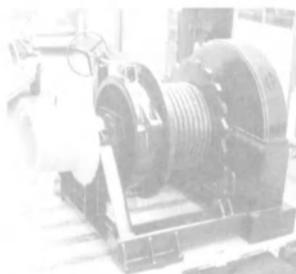
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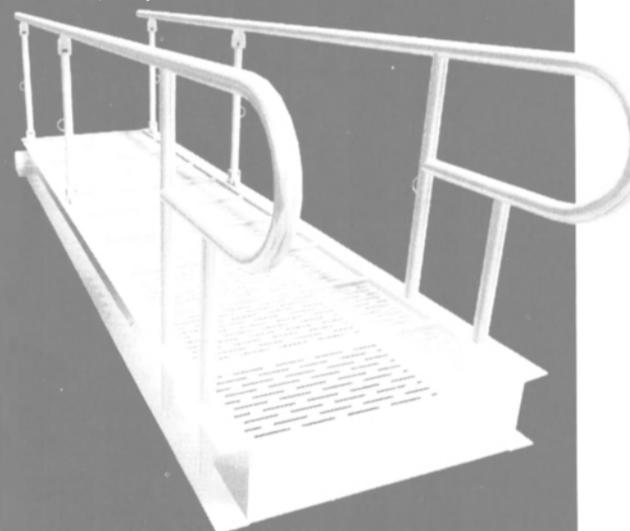
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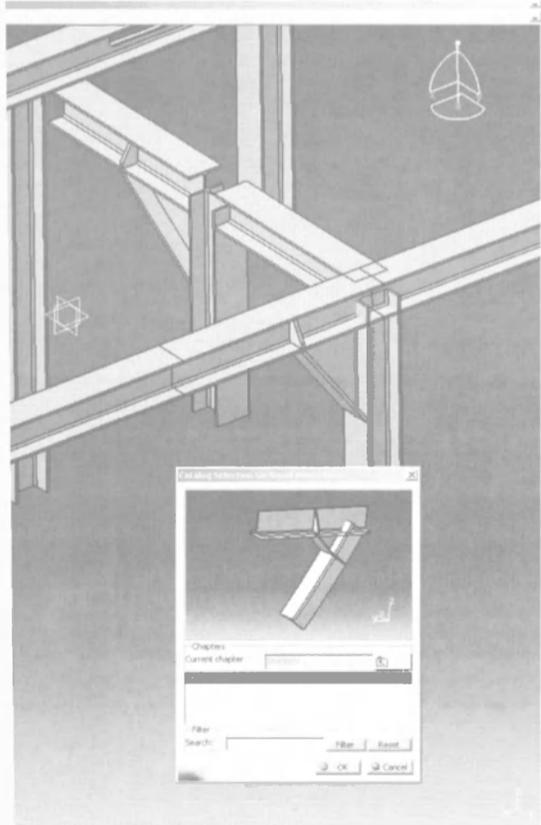
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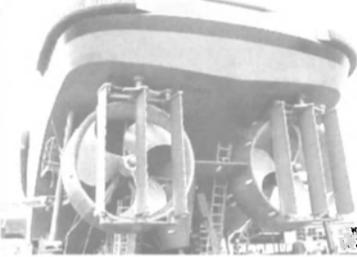
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GMDSS	No	No	Yes

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Smart Communication Solutions



China

Cosco Dalian Leads China Ship Repair Business

China's Cosco Dalian is ranked as the leading Chinese repair yard, the yard's facilities including three floating docks (one, at 180,000 dwt capacity - the largest in China) and Panamax size docks, and six berths of approximately

2,000 m in length plus two repair buoys inside its confines. Cosco Dalian is able to accommodate 15 vessels at the same time for drydocking and afloat repairs, with shore cranes reachable, making the yard's normal turnover - some 180 vessels annually.

So far this year the yard has repaired some 164 vessels, including two large

projects involving Osprey Shipmanagement's 52,092 dwt semi-submersible heavy lift vessel American Cormorant, (1,998 tons of steel renewal in the ballast tanks) and V Ships' 74,974 dwt self unloading bulk carrier Nelvana (1,400 tons of additional steel in the cargo holds). The vessel is owned by Canada's CSL Group. The yard also car-

ried out additional car deck installation on-board three car carriers from Korea's Hyundai Merchant Marine (HMM) - the 33,369 grt Hual Troubador, 30,024 grt Hyundai No. 108, and the 31,367 grt Hyundai No. 203.

HRDD Acquires Second Floating Dock

HRDD is obtaining a new floating dock, a dock which will reportedly be the biggest in China, capable of Cape size bulk carriers and post panamax containerships. The new floating dock will be ready for operation by July 2004.

The main particulars are:

LOA	340.9 m
Inner breadth	52 m
Lifting capacity	48,000 Tons
Crane	20 Ton x 2 Sets
Max. docking draft	9 m

This floating will be converted from a VLCC by HRDD itself, the same as they did to the existing floating dock Hua Dong about nine years ago.

This new floating dock will mainly focus on the cape size vessel including the latest model and the post panamax containers.

Moreover, the latest upgrade to yard facilities is almost completed: the extension of repair wharf to a total length of 750 m with two new cranes one is 25 tons, the other 15 tons.

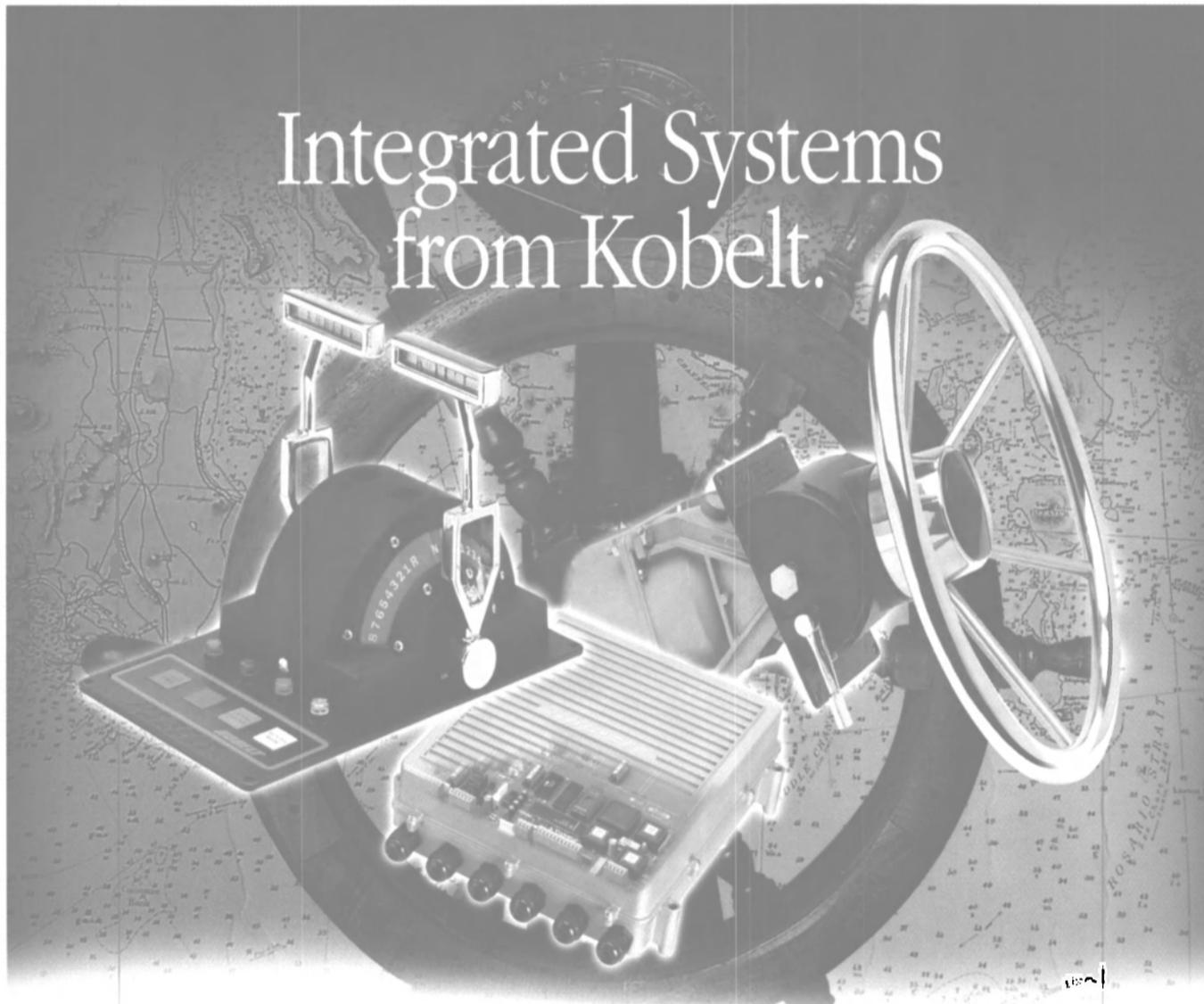
HRDD, by the end of this year will be in possession of a repair berth of 750 m in length with five cranes (one 32 tons, one 25 tons, and 3 15 tons).

HRDD also has plans to add a third floating dock, a unit targeting the Handy Panamax size. Mid-2005 is the target date for this installation.

TORM Orders Two Ships from Dalian

Dampskibsselskabet TORM (TORM), a shipping company specializing in the worldwide commercial operation of a fleet of tankers and bulk carriers, signed a contract with Dalian New Shipbuilding Ltd. in the People's Republic of China for construction of two high specification 110,000 dwt Aframax (LR2) product tankers. This order is based on the two options granted when TORM placed the initial order for two vessels in June 2003.

TORM has an option for a further two vessels. The two vessels are due to be delivered in 1Q and 2Q 2007, and represent the latest additions to the substantial newbuilding program initiated in 1999. The seven remaining newbuildings will be delivered in 2003-7 and represent an investment of more than \$250 million.

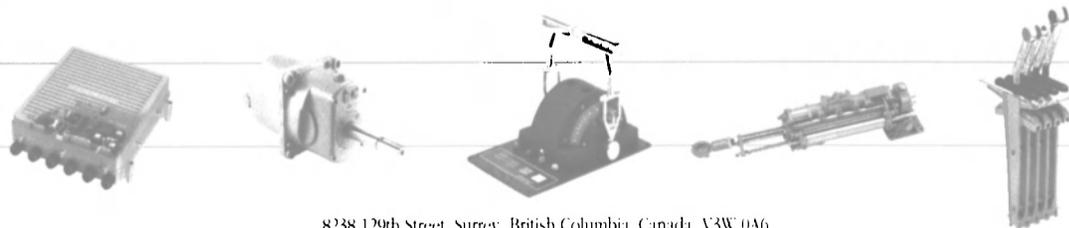


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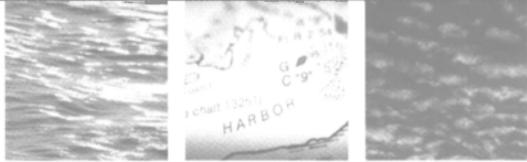


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China: Growing Influence in All Matters Maritime

China's importance in the world maritime market has accelerated rapidly over the past decade, but it appears that current and near future growth will prove even more prolific.

Chinese shipyards for 10 years have continued to dent the market share numbers of major shipbuilders in Japan, Korea and Europe, and it appears that the shipyards will continue to scoop up ship repair and new ship construction business. It emerged this year as the third largest shipbuilding country in the world, with about seven percent of worldwide business as measured by compensated gross tonnage (cgt). According to a recent report from Drewry Shipping Consultants, China's shipbuilding capacity is set to increase threefold, to 3.5 million cgt, by 2005/2006.

As is the case with China in many other respects, the sheer magnitude of the market is staggering. The Drewry Report found more than 1,200 shipyards, building everything from river boats to ULCCs. But the report, dubbed "Chinese Shipyards," focuses on the 70 shipyards that handle much of the country's oceangoing international business.

While its shipyards continue to grow rapidly, so does the country's shipowning side. China shipowners currently (as



Rickmers Hamburg is an innovative Multipurpose Container Carrier. Built at Xiamen Shipyard, this was the first of a series of nine of the Superflex Heavy MPC type (the series to be built by three Chinese shipyards), and is a shining example of the direction of Chinese Shipyards.

of July 1, 2003) rank number five in the world in terms of Tonnage Owned (1,000 gt and greater), with 2078 ships totaling 44,915,000 gt, according to statistics from the U.S. Maritime Administration. (See chart p. 99)

The biennial Marintec China is the largest and arguably the most important maritime trade exhibition in China. Since its inception in 1981, Marintec China has developed into an important forum at which senior executives from

across the global maritime industry gather. Scheduled from December 2-5, 2003 at the new Shanghai New International Expo Centre (SNIEC) in the Pudong district.

Marintec China 2003 will be the largest event ever in all its 22 years history, with an exhibition spanning more than 17,000 sq. m., a 30% increase from the last event in 2001.

The exhibition is organized by CMP/Seatrade and the Shanghai Society

of Naval Architects & Marine Engineers (SSNAME).

This year's event will feature exhibitors from 28 countries and regions. To date, more than 100 Chinese companies from 16 provinces and cities have confirmed to exhibit, including Jiangnan Shipyard (Group), Hudong-Zhonghua Shipbuilding (Group) and Shanghai Waigaoqiao Shipbuilding, just to name a few.

China's flourishing economic and export businesses have prompted the demands for better maritime services in all dimensions.

Shipbuilding giant Germany, one of the world's largest exporter of high-tech marine equipment, has confirmed 57 companies in its national pavilion, the largest ever. As in the past, Germany will present the largest national group to demonstrate their technical know-how to the maritime community in China.

Once again Port China will be incorporated into Marintec China 2003. The port industry in China has developed in an unprecedented pace in past few years in tandem with the escalating traffic generated by trading activities both within the country and with other parts of the world. In 2002, Shanghai port, the busiest port in China, has become the world's third largest container port for the first time. The port's momentum runs through into 2003 and its container throughput for the first half of this year exceeded 5,200,000 TEUs, representing a 35.6% increase on the same period of 2002. Shanghai port will well overtake Pusan to become the third busiest port in the world this year. The remarkable performance of Shanghai port is just the manifestation of the robust increase of the cargo throughputs of the various ports of China that saw the throughput of seven of its ports exceeding 100 million tons. Port China will feature various port services and products that help enhance operation efficiency.

Chinese Growth:

Is it too fast, too soon?

Staggering trade and industrial output figures from booming China are for the first time hinting at excessive rates of growth that could threaten the country's future economic stability. Industrial output increased by 17.1 percent in August, figures show, up from 16.5 percent in July and 16.9 percent in June. Meanwhile, despite the effects of the SARS virus, China's economy - now

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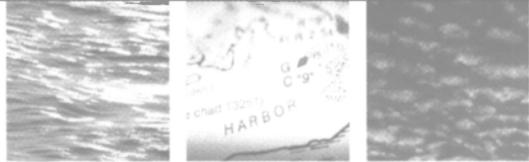
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AKZO NOBEL

China

number six in the world - grew by more than eight percent in the first half of the year. Forecasts for full-year GDP indicate growth of nine percent. Concern that the country's economy could be on a heading to overheat is a worry for the shipping industry because Chinese demand is the principal factor that is fueling the buoyant shipping markets. Indeed, there appears to be no let-up in

demand. Chinese requirements have underpinned the tanker market in recent months and, despite a temporary blip during July and first-half August as the market adjusted to large delivery volumes, rates have now recovered substantially as charterers hurry to fix the limited supply of large, long-haul tonnage that is still available.

Asia generally is of increasing impor-

tance in the VLCC trades but cargoes bound for China are an important individual factor in this dynamic trade. According to International Energy Agency figures, Chinese oil demand hit 5.59m barrels a day (b/d) in July, up almost a fifth year on year. And, according to U.S. government figures, China will overtake Japan this year to become the world's second largest oil consumer.

Demand for iron ore, meanwhile, is a key catalyst in the current dry bulk market boom. Chinese iron ore imports rose last year by a quarter, following a staggering rise of 32% in 2001. Reports from the Far East describe highly-stressed, over-worked but commission-happy Capesize brokers working round the clock to meet demands from the mainland. Spot Capesize rates are exceeding \$30,000 a day on some routes but, brokers say, there is no mere temporary blip - the market is expected to continue its bull run for months yet. A Capesize owner was recently overheard in a smart London hotel describing his six-month Capesize fixture at \$26,000, while a modern 170,000 dwt unit was reported fixed for three years, at \$23,500. Other owners are believed to be negotiating with Far Eastern builders to switch newbuilding contracts from tankers to bulkers.

According to Frontline vice president **Tor Olav Trøim**, speaking at the recent Lehman Energy Conference, seven of the company's eight Suezmax OBOs are now working the dry bulk market which, he said, had reached historic highs. Grain demand and China were the two principal reasons for the booming market, he said, pointing out that the one-year timecharter rate was sufficient to repay debts on the OBOs in just two years. Not only is China the principal fueling factor for the freight markets, it has been steadily muscling in on the shipbuilding sector recently too. Now, latest news is that China has become a source of competitively priced ship spares and, we are told, Hong Kong-based shipping companies are investing time and money to develop supply sources on the mainland. Other shipbuilders have an eye on that market too; one such is Japanese builder Tsuneishi which has announced that it plans to source more parts in China. According to a company statement, Tsuneishi is constructing ships' components in China "to make our productivity more competitive". The shipyard is reported to have 97 ships on order, including 88 bulk carriers in the 52,000 - 82,000 dwt range and eight Aframax tankers.

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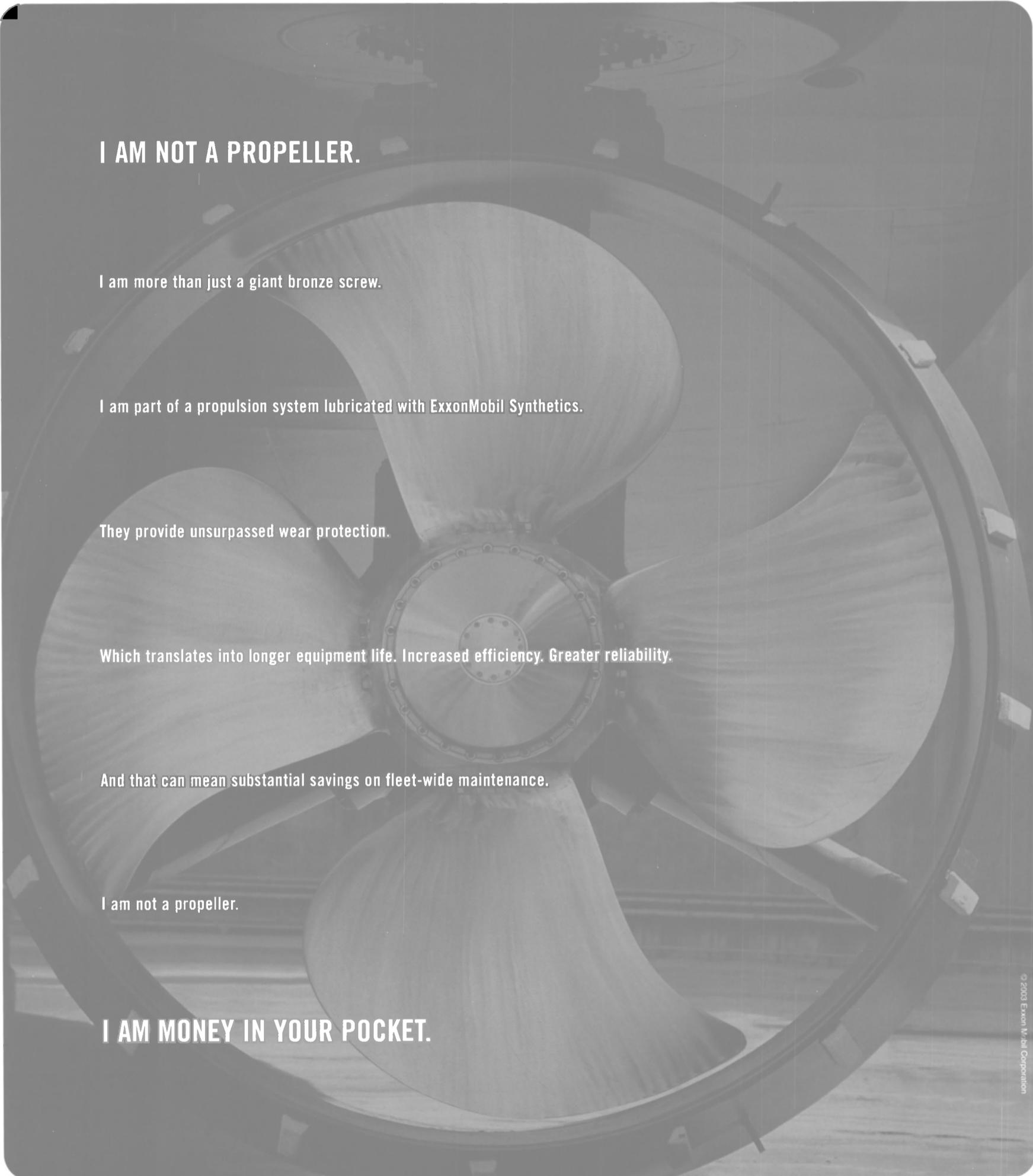
Marintec Details

When December 2 - 5, 2003 (Tuesday - Friday)

Hours
December 2 10:15 - 17:30
December 3-4 9:30 - 17:30
December 5 9:30 - 16:00

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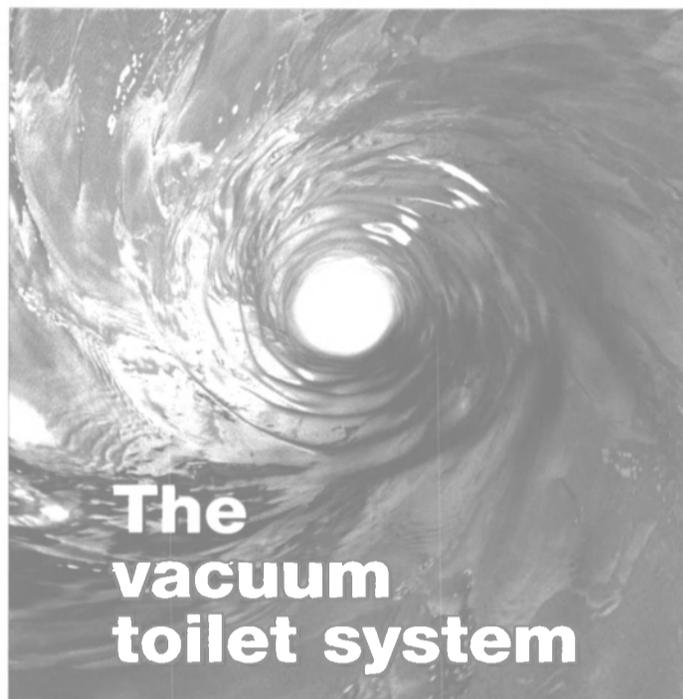
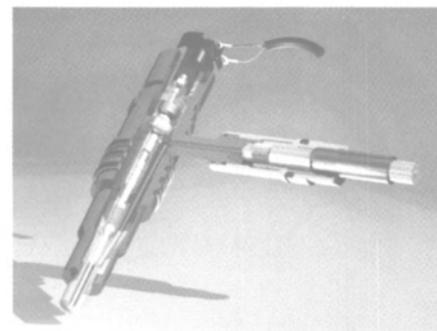
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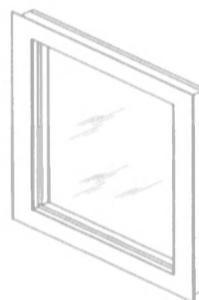
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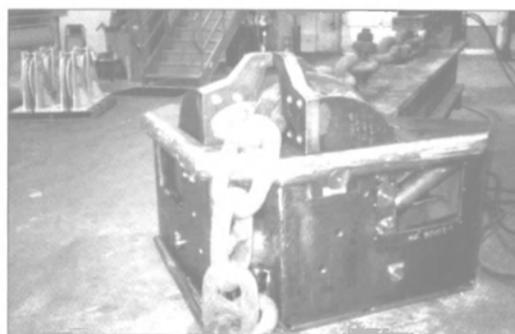
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Autoship Extends Presence in China

Autoship Systems has formed a partnership with China-Singapore Marine Technology in order to increase its market share in Asia, particularly China. CSMT's capabilities are highly leveraged by both CAD/CAM and stowage information management systems from Autoship, while sales of Autoship products within the Chinese market have already increased significantly.

Circle 33 on Reader Service Card

SAM Electronics to Exhibit at Marintec

Hamburg-based SAM Electronics will exhibit in the German Pavilion (Stand IC31) in association with its local Shanghai office and its Chinese joint-venture company, SAM Taihang Electronics of Taizhou, a comprehensive range of advanced navigation, propulsion, power management and distribution, and ship automation systems.

Among other navigation products will be the new European wheelmark-accredited Debeg 3400 UAIS together with its companion Debeg 3401 Display Control Unit (DCU).

Circle 47 on Reader Service Card

Vacon, Scanfil Agree on China Production

Vacon Plc has signed a memorandum of understanding with Scanfil Plc on production of the Vacon NXL low-power (under 3 kW) frequency converters in Suzhou, China, during the first year-quarter of 2004. The signed contract aims for a long-term cooperation in production and development of Vacon's logistics process. This contract has no impact on employment of Vacon personnel in Finland.

Shipport China 2004: Set in Tune with the Shipbuilding Industry



German manufacturers such as Schottel have found the Chinese market to their liking.

Shipport China 2004, the 4th International Ship Building, Port and Marine Technology and Transportation Equipment Exhibition for China, is scheduled for June 22-25, 2004 at the Dalian Xinghai Convention & Exhibition Centre, Dalian. Anticipated to draw more than 30,000 quality buyers, the event will showcase a full array of state-of-the-art technologies covering shipbuilding, ship repairing, marine, port, transportation, and navy. Shipport China 2004 will demonstrate a full array of maritime technology in China and the world, including the newest development in the shipbuilding sector.

In 2002, the total commercial ship completion of China reached 4.61 million dwt, a rise of 18.2% compared with 2001. Among them the export vessels took over 70%, a record in the Chinese shipbuilding industry. Experts forecast that China's shipbuilding industry will continue to grow, from 6.5 million dwt in 2005 to 9-10 million dwt in 2010, making up a quarter of the global output.

Anticipated to draw more than 30,000 quality buyers from China and world-

Kotug Plans for Growth

Kotug International B.V, a provider of harbor towage services in Rotterdam, Hamburg and Bremerhaven, announced two appointments. **Dorus Knegt**, a director of the company will be responsible for strategic issues and Business Development. Quality and safety of the operations will also fall under his direction. **Kommer Tanis**, as a member of the management team, will coordinate the salvage and offshore operations of the group and give nautical/technical and operational support in Business Development. The present Kotug fleet of more than 20 tugboats is predominantly dedicated to harbor towage. They also maintain an active position in the offshore market.

wide, Shipport China is recognized as the flagship event in North China. The Exhibition is presented by the China Association of the Shipbuilding Trade, Dalian Municipal Government; co-organized by the Dalian Shipbuilding

Industry Corp. (Group), Port of Dalian Authority, Liaoning Province Society of Naval Architects & Marine Engineers, Dalian Xinghai Convention & Exhibition Centre, and Business & Industrial Trade Fairs Ltd. Supporting

Organizers are the Dalian Municipal Bureau of Communications and Dalian Shipbuilding Technology Centre.

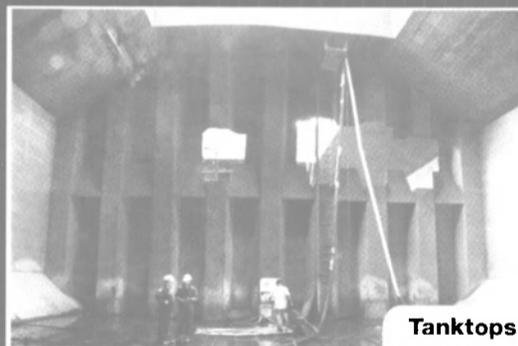
The exhibition booths are now available for reservation. For details, please click to www.shipport.com

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Marine Materials

New Aluminum Marine Alloy Specification Developed

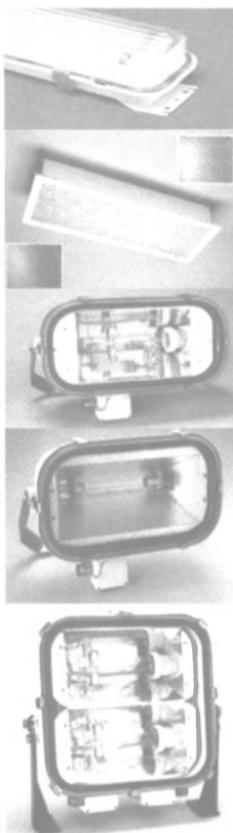
ASTM B 928 "High Magnesium Aluminum-Alloy Sheet & Plate for Marine Service"

By
Michael Skillingberg, VP, Technology
 The Aluminum Association, Inc. &

Marc Cruder, Traveling Senior Marine
 Inspector, Quality Assurance and
 Traveling Inspection Staff, USCG

The recent publication of the new specification - ASTM B928 High Magnesium Aluminum-Alloy Sheet &

Plate for Marine Service - is the culmination of a cooperative effort between numerous parties involved in the marine industry including aluminum producers, boat builders, the Coast Guard and



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marine classification societies. The combined work of these groups will help to address the communication gap between marine end users and distributors of aluminum that became apparent in late 2001/early 2002 in the Pacific Northwest.

As has been reported in various marine industry publications, the performance of some 5083-H321 supplied to Pacific Northwest boat manufacturers indicated that the existing material specifications were insufficient to ensure that the materials used had adequate resistance to all intergranular forms of corrosion. (Please see "Aluminum Gone Bad," *Maritime Reporter*, May 2003, pg. 44).

There was clearly a need/desire by those impacted, specifically builders of unclassed vessels in domestic service, for a new specification aimed specifically at aluminum sheet and plate products for the marine market. While the impetus for this activity was based largely on material supplied by one mill during an identified time period, it was clear to the aluminum industry and the Coast Guard that this was an issue that was important to all producers of aluminum products for the marine market as well as to the marine industry and the marine classification societies world wide.

While the Aluminum Boat Solutions Team (consisting of aluminum producers, metal service center representatives, the Coast Guard and other representatives from the naval architecture/marine engineering discipline) was created to address the investigate and remediate the specific 5083-H321 problems in the Pacific Northwest, a parallel effort was needed to address the perceived shortcomings in the existing materials specifications. (Note: A paper discussing the problems experienced by certain Pacific Northwest boat builders and an historical perspective on the development of high Mg aluminum alloys for the marine industry was presented at the SNAME annual meeting in San Francisco in October 2003.)

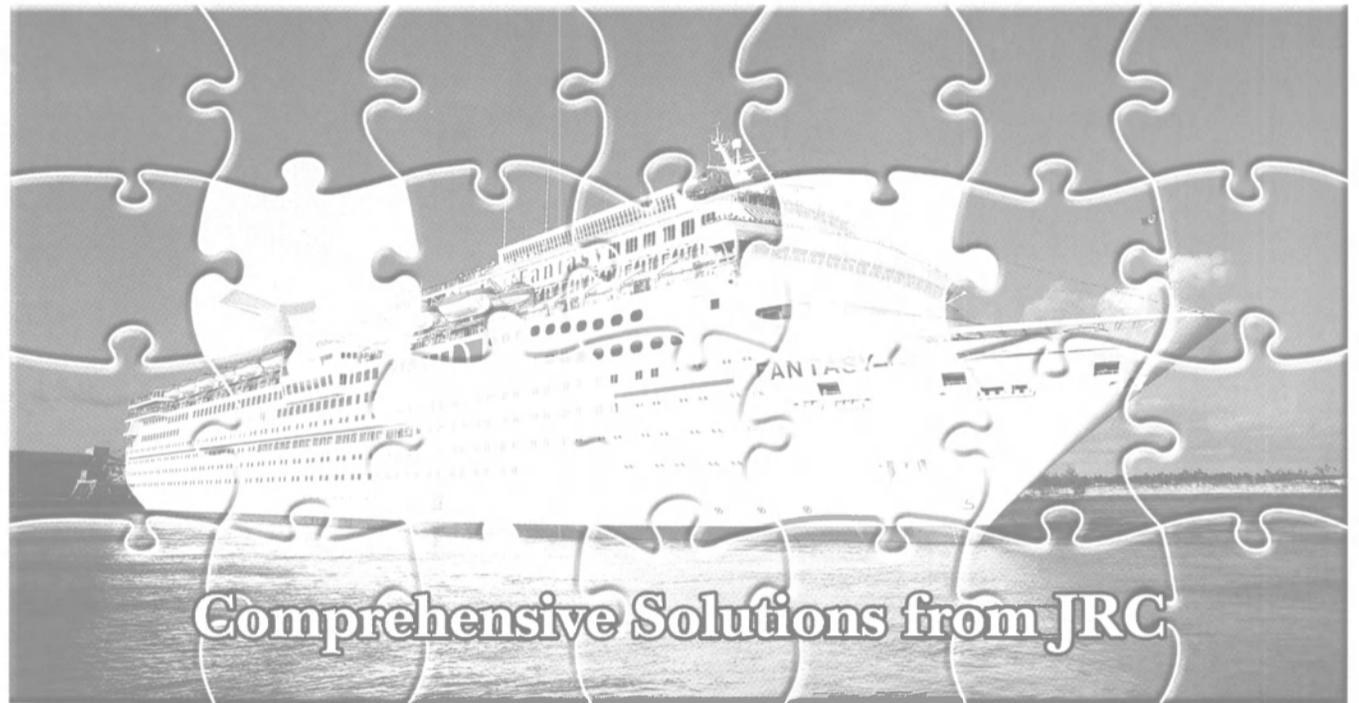
At the request of the Aluminum Boat Solutions Team and with the support of representatives of the U.S. Coast Guard, The Task Group on Marine Alloys was formed in late April of 2002 under the auspices of The Aluminum Association's Technical Committee on Product Standards. The task group's mission was to create a draft document that would expedite the development of a new ASTM material specification - (New ASTM Specifications can frequently take up to two years or more to develop and publish.) This task group consisted of representatives of major

aluminum producers that supply products to the global marine industry and was chaired by Michael Skillingberg, VP Technology for The Aluminum Association.

In August of 2002 a draft specification was delivered to ASTM B 07.03, which is the Subcommittee for Aluminum

Alloy Wrought Products. While the Task Group at the Aluminum Association had solicited input from classification societies and boat builders during the creation of the draft specification, the ASTM was the appropriate venue for more active participation by the broader community in the develop-

ment of the new specification. With the help and encouragement of the Coast Guard, additional input was solicited from the marine industry and the classification societies to ensure that the new document would be of practical use and would complement the requirements of the classification societies.



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Marine Materials

Representatives of aluminum producers, boat builders and classification societies actively participated in the ASTM specification development process, which in addition to electronic distribution and balloting, included two ASTM task group meetings held in conjunction with

ASTM committee weeks in November 2002 and May 2003.

Key elements of this new specification (ASTM B 928 "High Magnesium Aluminum-Alloy Sheet & Plate for Marine Service") are the requirements that the referenced materials be capable

of meeting the corrosion requirements of both ASTM G 66 (Test Method for Visual Assessment of Exfoliation Corrosion Susceptibility of 5xxx Series Aluminum Alloys (Asset Test)) and ASTM G 67 (Test Method for Determining the Susceptibility to

Intergranular Corrosion of 5xxx Series Aluminum Alloys by Mass Loss After Exposure to Nitric Acid (NAMLT Test)). Another significant aspect of the specification is that the requirement applies to both the H116 and H321 temper designations for high magnesium aluminum alloys.

Concurrent with the ASTM activities, the Aluminum Association task group continued to meet to supply input on the draft specification as well as to address additional alloy-temper product registrations that will be included in future revisions to ASTM B 928, which are already underway. In addition The Aluminum Association's Technical Committee on Product Standards, which is the North American registrar of alloy-temper product registrations, will restrict the assignment of the H116 and H321 temper designations to 5xxx alloys with a nominal magnesium content equal to or greater than 3% and which have the capability of meeting the corrosion requirements of both ASTM G66 and ASTM G67. In the near future, the alloys and tempers covered by ASTM B 928 will be removed from ASTM B 209 making ASTM B 928 the sole ASTM material specification for Marine Sheet and Plate.

At this time, the introduction of this new material specification is for the information of aluminum end-users in

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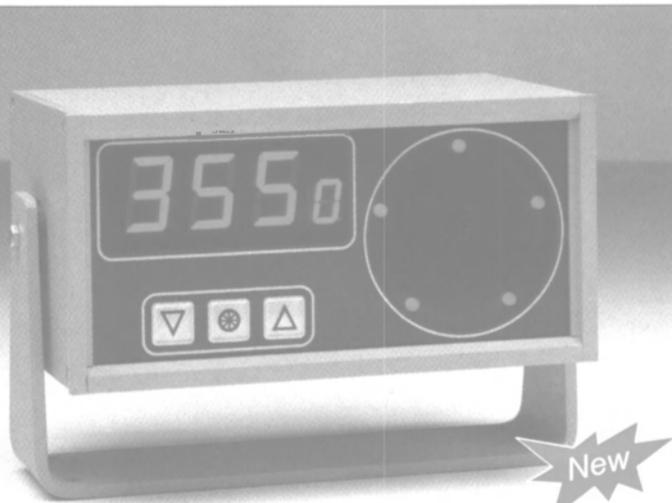
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Maritime Reporter & Engineering News

the marine industry. It is particularly critical for those building or repairing U.S. Coast Guard certificated commercial vessels in the un-classed domestic market where the Coast Guard does not explicitly regulate either the grade or temper of aluminum, and independent oversight by classification societies rarely is requested. In creating the new specification, it was noted that:

- the production of high magnesium aluminum is sensitive to process changes that can have an impact on the corrosion resistance of the particular temper of the aluminum alloy being produced;
- not all major classification societies allow the use of 5083 H321. Others that do, had further requirements, such as ensuring the material was coated, when used in salt water applications;
- the current and widely used industry practice of specifying aluminum in accordance with ASTM B209 may be insufficient. Further, the commonly accepted H116 temper with ASTM G66 testing only, may not be absolute in guarding against intergranular corrosion, despite its apparent problem free service record over the last 30 or so years.

The Coast Guard intends to review its regulatory scheme and current policy directives to determine the applicability of this new specification. Specifically,

comments and information on the domestic industry's experience with aluminum in the marine environment outside the Pacific Northwest, in areas of high activity such as the Gulf Coast, will be solicited to assist the Coast Guard in the evaluation and appropriate application of this specification.

Please contact **Marc Cruder** mcrunder@comdt.uscg.mil of the Coast Guard's Quality Assurance and Traveling Inspection Staff at Coast Guard Headquarters if you have questions or comments about the regulatory impact of this specification or you would be interested in participating in a working

group to review the Coast Guard's current policy guidance regarding aluminum and its use in the construction of inspected small passenger vessels.

Note - The new specification will be available from ASTM International by mid-October at: <http://www.astm.org/>.

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InspecTech Launches Line of "Smart" Windows

New window products are now available from InspecTech Inc. that allow vessel operators to instantly and precisely control the amount of light, glare and heat entering their interior spaces. According to **Jim Lang**, President of InspecTech: "InspecTech has served the

aerospace market for 10 years with a range of high-quality products and services, and our line of light control windows has been very well received by aircraft owners and jet manufacturers. InspecTech's line of marine windows uses patented SPD-Smart light control film technology licensed from Research Frontiers Incorporated.

Light, glare and heat control are achieved when a very small amount of electrical power is applied to the window. Customers interested in total privacy can obtain InspecTech's SPD I-Shade windows. InspecTech's line of marine windows is available now in standard and custom sizes.

Circle 59 on Reader Service Card

New CEO at Kvaerner Philadelphia

David E. Meehan was appointed President & CEO of the Kvaerner Philadelphia Shipyard, replacing **Gunnar Skjelbred**, who has headed the yard since 2002. The Philadelphia yard recently delivered its first newbuild ship, Matson's container vessel Manukai.

"Key priorities will be to continue to improve the cost base and productivity, while at the same time working closely with potential customers to secure new shipbuilding contracts," Meehan said. Other changes in the senior management have recently taken place to further emphasize the new focus at the yard.

Meehan has 24 years experience from hands-on installation, supervision and management of heavy industrial projects in the United States and overseas. With a Bachelor of Science in Civil Engineering from Pennsylvania State University, Meehan was vice president and general manager of Aker Kvaerner Pittsburgh's business unit until he joined Kvaerner Philadelphia.

Skjelbred will return to Norway to take on another management position within Aker Kvaerner Yards.

Asheim Takes Helm of Høegh Fleet

Yngvil Asheim has been named fleet manager in HFS responsible for the management of Leif Hoegh & Co and HUAL's car carrier fleet, starting January 1, 2004. She came to HFS from DNV in 2002, where she was manager of DNV's Machinery Ship in Operation division. Asheim has a degree (Master of Science) in mechanical engineering from the Norwegian Institute of Technology, NTH (NTNU) and has further education from management programs under DNV's direction and from IMD in Switzerland. She started as a trainee at DNV in 1993.

HFS is a management company responsible for the technical management and crewing of vessels owned by Leif Hoegh & Co. (LHC), comprising 22 car carriers, four LNG carriers, 10 specialized open hatch carriers and two large bulk carriers. Asheim will succeed **Johannes Tvedte** who has been President of HFS since 1990. Tvedte was appointed to this position when HFS was established as a separate company in 1995. He will continue to work for LHC with newbuilding projects.

In addition, **Sebjørn Dahl** (40) is appointed Executive Vice President and will continue to be responsible for Crewing. **Øistein Dahl** (42) is appointed fleet manager for the LNG carriers from November 1, 2003.

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ABS, NAVSEA Sign Agreement

ABS has signed a formal Cooperative Agreement with the Naval Sea Systems Command (NAVSEA) calling for joint development of ABS Naval Vessel Rules (NVR) to support the design and acquisition of Naval Combatant Ships and Craft. The agreement signed by VADM Phillip M. Balisle, U.S. Navy and ABS Americas President Robert E. Kramek lays the groundwork for ABS participation in Naval Combatant Ship Programs, in a similar fashion to ABS' traditional role in the construction of Military Sealift Command (MSC) operated ships.

Cascade Completes NOAA Job

In the past year, Cascade General Inc., a Portland, Ore., shipyard, has completed refurbishing one research ship for the National Oceanic and Atmospheric Administration (NOAA) and begun work on a second ship. NOAA's Fairweather is a hydrographic survey ship first commissioned in 1968, but has been inactive for more than 12 years. Cascade General began modernizing the ship on Feb. 10, 2003. The \$15.5 million contract is expected to be completed in Feb. 2004. Fairweather will operate from its new homeport in Ketchikan, Alaska, conducting hydrographic surveys for NOAA's nautical charting program. A contract for renovation and conversion of the NOAA ship Nancy Foster, a former Navy yard torpedo test craft, was awarded to Cascade General on Nov. 20, 2001. After being refurbished at a total cost of \$7.7 million, the ship departed the shipyard on Dec. 23, 2002. Since becoming operational, Nancy Foster has been conducting coastal oceanographic research along the East Coast.

New KMY Board Member Appointed

Ilkka Niemi has been appointed Member of the Board of Directors of Kvaerner Masa-Yards Inc. Niemi, a Finnish citizen, has broad Finnish and international industry experience.

TEN Agrees to Suezmax Time Charters

Tsakos Energy Navigation Limited (TEN) announced new time-charter contracts for the Suezmaxes Decathlon and Pentathlon with Petrobras. Each contract commences in October of 2003 extending for three years at a fixed rate for the first contract and a min-max rate for the second contract, with the opportunity for profit sharing if the prevailing

spot market dictates. Overall TEN has 18 vessels operating with medium or long-term employment contracts which account for 74 percent of estimated operating days or \$37 million gross revenues for the remainder of 2003 and 57 percent for 2004 or \$124 million in revenues, positively impacting earnings and enhancing shareholder value.

Telaurus Wins Tidewater Contract

Telaurus Communications LLC of Cedar Knolls, N.J., has been awarded a two-year contract to provide Tidewater Inc. with Telaurus Communications' se@COMM family of communications solutions software, voice and data services for Tidewater's worldwide fleet of

offshore oilfield supply vessels.

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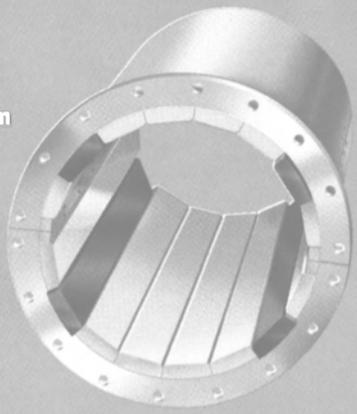
Dreyfus Supply Acquires Cortney Co.

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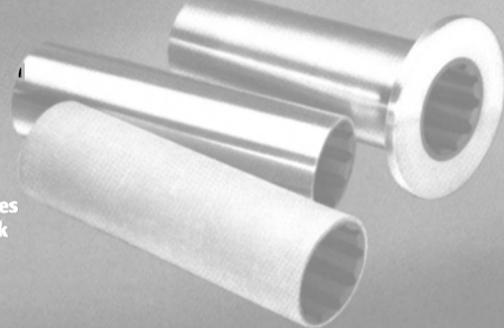
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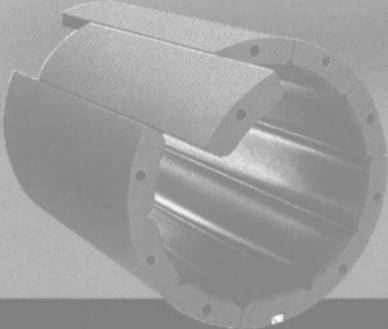
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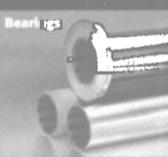
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Voith Streamlines

The business areas of Voith Schiffstechnik GmbH & Co. KG have been incorporated into the Corporate Division "Power Transmission" of Voith AG — Voith Turbo GmbH & Co. KG, Heidenheim. In future, the company will be trading under the name Voith Turbo Marine GmbH & Co. KG. Within the Corporate Division "Power Transmission" Voith Turbo Marine GmbH & Co. KG stands as a separate Market Area "Marine" among the established Market Areas Industry, Rail and Road. The Executive Vice Presidents of Voith Turbo Marine GmbH & Co. KG are Dr. Jens-Erk Bartels and Christoph W. Stegmaier.

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Trelleborg Acquires Seal Business

Trelleborg, based in Sweden, completed the acquisition of Smiths precision seal business on October 1, 2003. Smiths precision seal business is comprised of several companies operating under the umbrella of Polymer Sealing Solutions group (PSS). PSS develops, manufactures and markets security-critical polymer-based precision seals and systems. PSS operates primarily within four market segments: industrial applications (Busak+Shamban), the automotive industry (Dowty Auto), the aerospace industry (Shamban) and pipe seals (Forsheda).

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Xantic, HSE Global Sign Agreement

Xantic signed of a Software Cooperation Agreement with HSE Global, a move designed to help marine operators with the efficient control of chemicals and hazardous materials onboard vessels. HSE Global of Norway has developed a new module for Xantic's AMOS M&P (Maintenance & Purchasing) tool, which actively integrates the operation and maintenance of onboard chemicals.

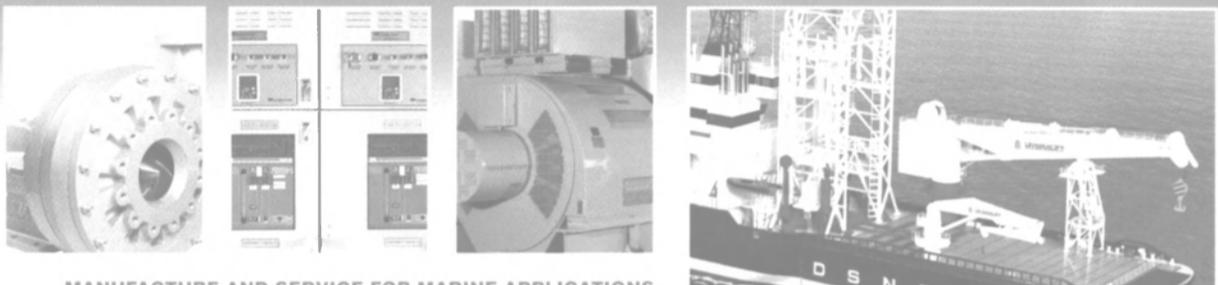
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MTN Signs Deal with Oceania

Maritime Telecommunications Network (MTN), of Miramar, Florida, a provider of satellite-based communications, networking and other services to the cruise and offshore oil and gas industries, signed a three-year lease agreement with Oceania Cruises to install MTN's satellite technology aboard the luxury vessels Regatta and Insignia.

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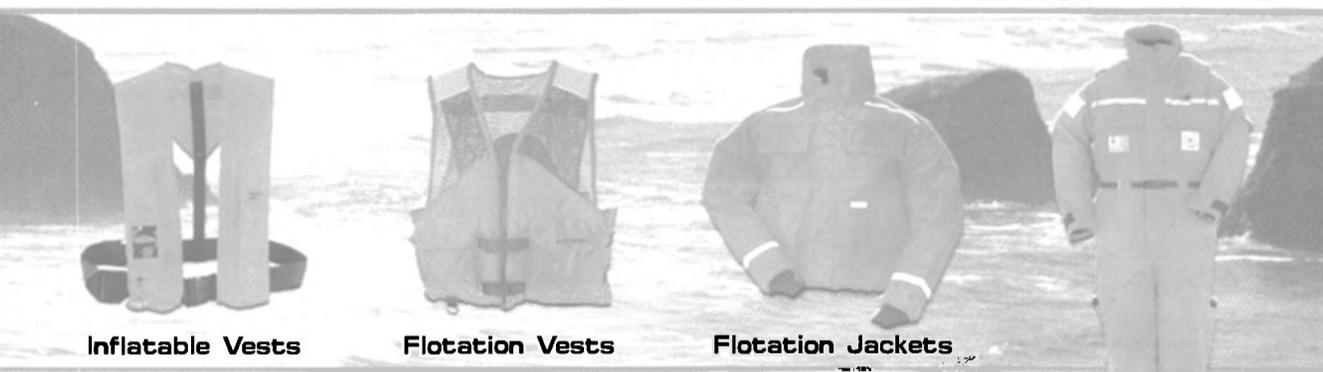
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Everett is ABS Certified for Propeller Shaft Repair

Following two years of intensive effort in both building the specially modified Oerlikon gun lathe shown here, and conducting the regulatory procedures required under the supervision of the American Bureau of Shipping, Everett Engineering, Inc., is fully certified to conduct both carbon steel and stainless propeller shaft weld repair. The control system for its automated wirefeed welding array was designed and built in-shop by its team of control technicians for repairing scoured, gouged and cracked shafts. Everett Engineering's capabilities for straightening bent shafts is unique to the facility.

The main propulsion shaft being machined here is from the U.S. Navy submarine "Ethan Allen" (SSBN-608). It is 16 in. diameter by 36 ft. long. Maximum capacity of Everett Engineering's shaft repair lathe is 16 in. diameter by 45 ft. long.

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Austal HSV Registered, Flagged in U.S.

Having completed two years of service supporting the operations of the U.S. Marine Corps' Third Marine Expeditionary Force (III MEF) in the Western Pacific theatre, the 101 meter Austal catamaran "WestPac Express" has become the first large high speed vessel to be registered and flagged as a commercial ship in the U.S. "The USCG had never previously surveyed a lightweight, high-speed vehicle-carrying vessel before and to its credit was extremely thorough in its approach. For example, every one of the ship's drawings were scrutinized in detail and on numerous occasions it was necessary for Austal to justify certain aspects to the USCG, even though the ship is classed by one of the world's leading classification societies and built to the IMO's HSC Code," Jim Black, Austal Service Manager, said. The new port of registry for "WestPac Express" is Mobile, Ala., where Austal has a modern shipyard that specializes in the construction of high performance aluminum vessels.

Port of Tacoma Awards Largest Contract

The Port of Tacoma has awarded the largest single capital improvement contract in its history.

ICON Materials of Kent, Wash., the low bidder, will manage construction of a new container terminal for Evergreen America Inc. The contract awards ICON \$46.2 million to build the terminal and a dedicated intermodal yard.

ABS Provides Dockendale Security Certification

ABS has secured a contract with Dockendale Shipping Company to certify 33 of its vessels to the requirements of the ISPS. Dockendale has also requested that it be audited to the addi-

tional ABS security criteria for the award of the relevant class notation.

Premuda Achieves ISO And ABS Certification

Premuda, founded in 1907, and the first Italian shipping company to be pub-

licly listed on the stock exchange, has achieved certification to the quality and environmental standards of ISO 9001-2000 and ISO 14001-1996. The Genoa based operator of tankers, bulk carriers and an offshore production unit has also achieved certification to the voluntary Safety, Quality and Environmental

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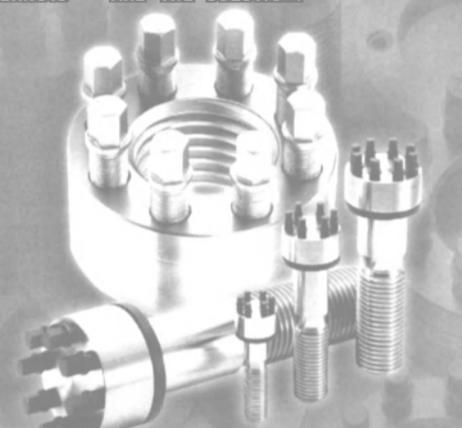
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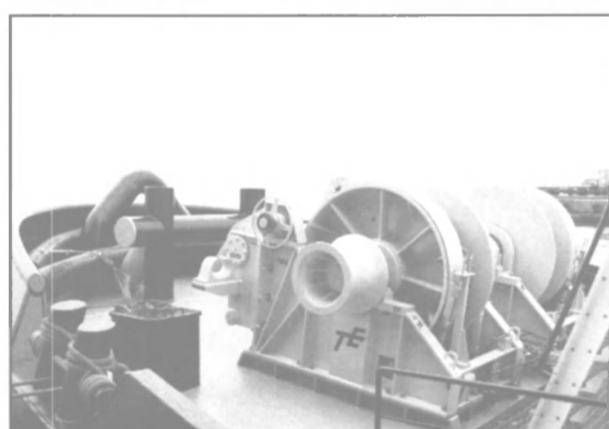
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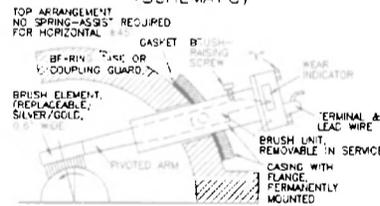
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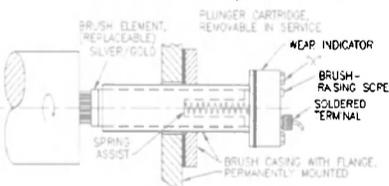
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(SQE) management standards of ABS.

Bath Iron Works Awarded \$40M Navy Contract

The U.S. Navy has awarded Bath Iron Works, a subsidiary of General Dynamics, a \$40 million modification to a previously awarded contract for DDG 51 and FFG 7 Class planning yard services. Bath Iron Works will provide engineering and design services and logistics support for maintenance, modernization and repair of DDG 51 and FFG 7 Class ships. Work will be performed in Bath, Maine, and is expected to be completed by September 2004.

CSC Wins \$27M Navy Training Order

Computer Sciences Corporation has received a task order from the Navy Program Executive Officer for Integrated Warfare Systems (PEO IWS) to develop shiphandling simulators and provide enhanced instructional support. The task order, which has one base year and four one-year options, has an estimated value to CSC exceeding \$27 million if all options are exercised.

BP Exercises Option for Leiv Eiriksson

Ocean Rig announces that BP Exploration (Angola) Limited has exercised the fourth option well under the present contract in Angola for Leiv Eiriksson. This well, which will last for an estimated 50 days, will be drilled in a sequence with the previously announced third option under the contract, together estimated to employ the rig until early December 2003. Ocean Rig owns and operates two of the worlds largest and most modern drilling-rigs, built for ultra deep waters and extreme weather conditions. The units are currently operating in Angola and off the east coast of Canada.

GlobalSantaFe Announces 3Q Earnings

GlobalSantaFe Corp. reported net income for the third quarter ended September 30, 2003, of \$15.1 million, or \$0.06 per diluted share, on revenues of \$458.1 million, as compared to net income of \$75.0 million, or \$0.32 per diluted share, on revenues of \$514.4 million for the same quarter in 2002. Revenues for the third quarter of 2003 were down by \$56.3 million compared to the third quarter of the previous year as a result of a \$73.4 million decline in revenues from the contract drilling segment, offset by a \$17.1 million increase in revenues from the drilling management services and the oil and gas seg-

ments. The decrease in contract drilling revenues was due primarily to lower dayrates and utilization for the company's North Sea and deepwater rigs, and lower utilization for its West Africa jackups and land rigs, partially offset by improved utilization and dayrates for the U.S. Gulf of Mexico jackups.

Resurgence Signs Deal with Northrop Grumman

Resurgence Software, Inc. signed an agreement to provide its Wave Equipment Optimization System and related support services to Northrop Grumman Ship Systems (NGSS). This comprehensive license agreement, with the Integrated Logistics Support group of NGSS' Full Service Operations, includes installation and use of the Wave system by NGSS along with their subcontractors during the construction phase of U.S. Navy ships being built in the company's LPD 17 Program.

Circle 48 on Reader Service Card

Brostrom Ship Launched

At a ceremony on October 4 at the Shipyard Ferus Smit in the Netherlands, another product tanker was launched and named. The vessel was given the name Bro Gratitude, the seventh in a series of eight similar 6,900/7,600 dwt double-hulled product tankers. It will be delivered later this year and join the Broström fleet of product tankers serv-

ing under cargo contract that Brostrom has with major oil companies.

CapRock Wins Contract

CapRock has added Subsea 7, a major operator of energy support vessels, to its customer list. The long-term multi-million dollar agreement with Subsea 7 provides for worldwide data and voice communications services on CapRock's global network. The latest win is a milestone in CapRock's multi-year plan to expand its presence beyond the Gulf of Mexico. Under the terms of the agreement, CapRock will provide global interconnectivity via satellite for the Subsea 7 fleet of ships, which offer construction, diving, ROV/survey and pipelay services to customers who operate in harsh and remote environments.

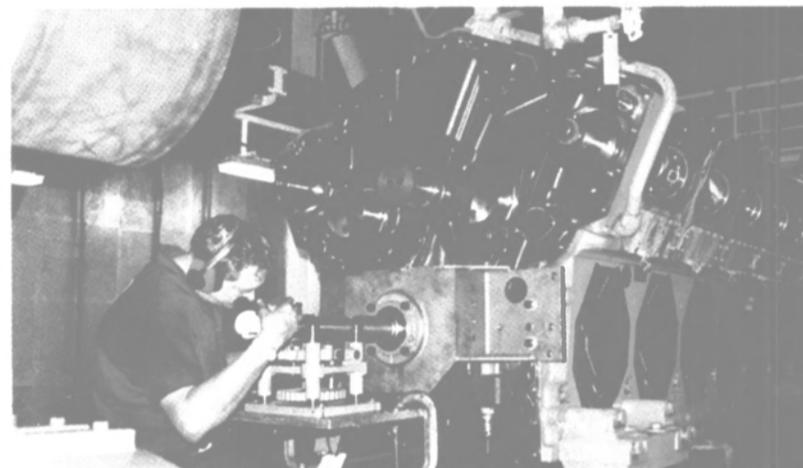
Unitor, BP Marine Dissolve Marine Alliance

Unitor ASA and BP Marine, who co-founded The Marine Alliance B.V. joint venture three years ago, have now decided to dissolve this partnership and focus individually on their respective customers' requirements. The transition will commence early October and will be completed by January 1, 2004.

The Marine Alliance was established to deliver improved customer services (order processing, sales support, technical support and credit management services) to its founders.

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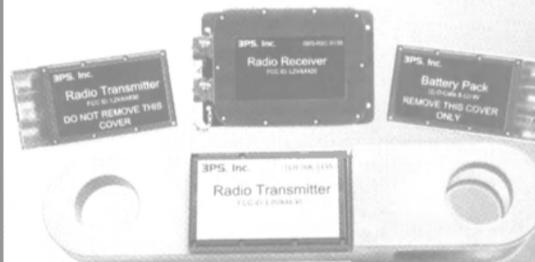
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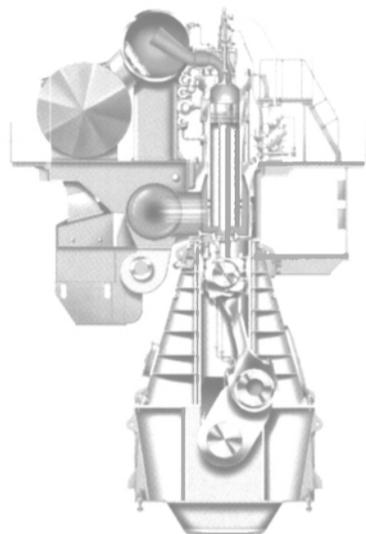
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Circle 200 on Reader Service Card

New Potency in Electronic Control



By David Tinsley, technical editor



German predilection for technological advance permeates all areas of primary business and industrial activity, to the undoubted benefit of the competitive standing of its international market players. In the maritime domain, a clear appreciation of the long-term operating benefits promised by the application of electronic regulation to massively powerful, two-stroke propulsion engines is denoted by Hapag-Lloyd's selection of K98ME diesels for its next generation of linehaul vessels.

In explaining some of the rationale in opting for electronically controlled,

'cathedral' engines of the largest size produced to date, an article in a recent edition of the in-house publication Hapag-Lloyd News illustrated the pragmatic approach to state-of-the-art technology. The group's endorsement of a step change in engine design acknowledged the gains achievable through increased plant efficiency and performance level, all of which has a signal bearing on unit cost competitiveness and service dependability in the rigorous business of liner shipping.

Each of three 8,145-TEU boxship newbuilds at the Hyundai yard will be

powered by a single, 12-cylinder K98ME engine, for a maximum output of 93,360-bhp (68,640-kW). With the ME design, MAN B&W's Copenhagen two-stroke technicians have eschewed

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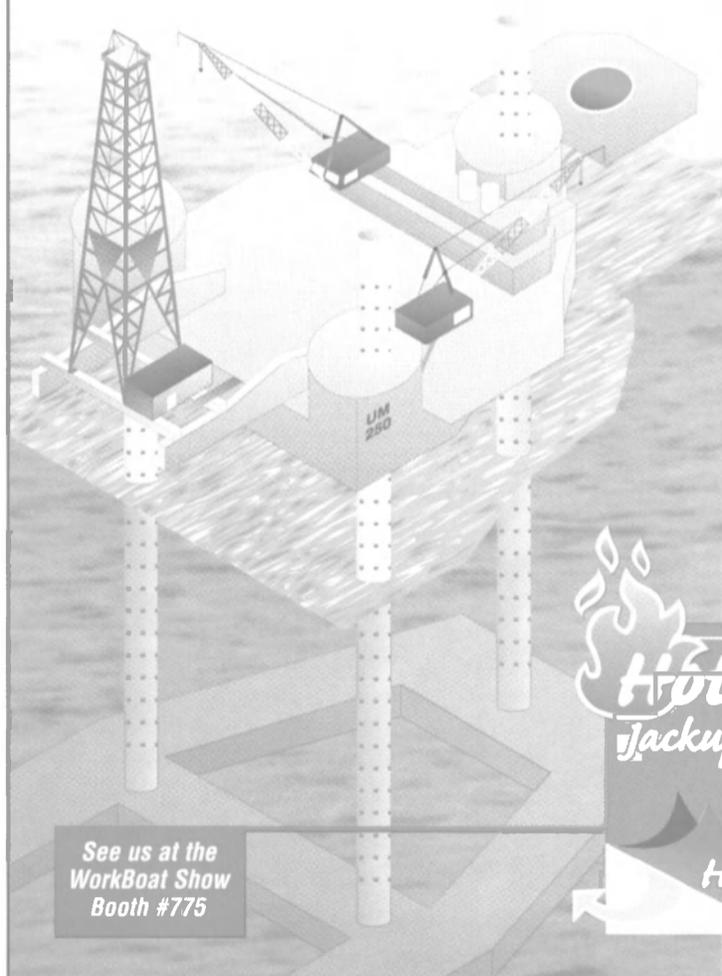
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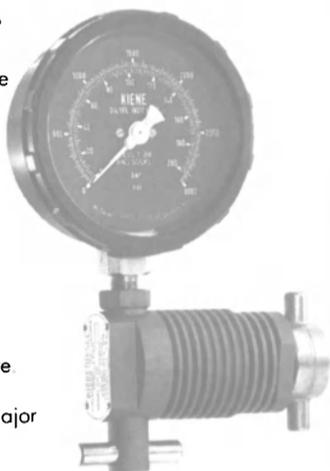
One benefit will be the lower sailing speeds obtainable for restricted water transits as a consequence of the possibility to safely run the engine at extremely

low crankshaft speeds. "As little as four knots are possible, and precisely this will mean greater maneuverability in the Suez Canal," pointed out **Klaus Marek**, head of Hapag-Lloyd's ship technology and inspection department. By comparison, the company's four 7,500-TEU

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Hamburg Express-class vessels, fitted with conventional camshaft 12K98MC engines, have a minimum speed of six knots.

"The special plus of the electronically regulated main engine is that it uses two-percent less fuel," observed Marek. The report in Hapag-Lloyd News indicated a potential annual saving for the nascent trio of 8,145-TEU container-ships as around 3,000-tons, or \$360,000. More conservant use of heavy fuel oil, both in absolute terms and per unit of cargo volume, obviously has environmental as well as economic benefits, and Nox (oxides of nitrogen) engine exhaust emissions are expected to come down to 12.3 grams per kW-h (kilowatt-hour) as a result of the nomination of 12K98ME plant. "We have opted for diesel engines with electronic control systems because, in the future, we want to be able to react more flexibly to environmental requirements," Marek added.

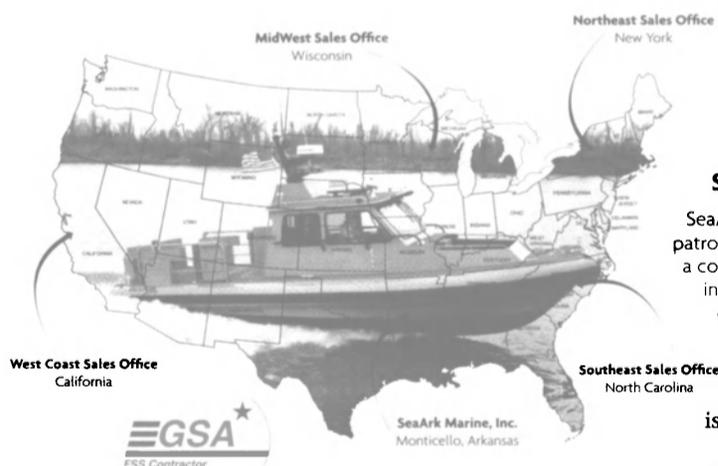
MAN B&W's recent inclusion of a still wider-bore, new engine design in its ME program, in the shape of the mighty K108ME-C type, provides liner operators with an electronic, single-engine option for unit power requirements up to an astonishing 132,300-bhp.

Research as the Building Block

An absence of complacency over its position as the global market leader in newbuild construction is demonstrated by Hyundai Heavy Industries' increasing plough-back of earnings into research and technological development. The raised level of annual expenditure on R&D, coupled with the group's strengthening of its network of research institutes, express a belief in the fundamental link between applied research, innovation, competitive position and market

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reach.

HHI's investment in R&D activities is set to rise to about \$102.4-billion in 2003, equating to 1.4-percent of projected sales revenues, up from \$85.7-billion, or 1.2-percent of sales, in 2002.

The scale of the endeavor, which relates not only to the group's shipbuilding activities, but also to its role as a producer of marine engines, offshore and industrial plant, electrical systems and construction equipment, is implicit in its maintenance of four in-house research centers, including the Hyundai Maritime Research Institute.

In a shipbuilding and engineering context, expansion of the research budget is driven by market requirements, by a desire to increase technological and product self-reliance and competitiveness, and by a bid for increased business in the higher value-added category. The rise of China as an industrial powerhouse with a low labor-cost base is one of the spurs to technological advance.

The disposition towards a long-term strategy was earlier underscored by the \$35-billion, 10-year R&D program, which resulted in the home-grown, Himsen medium-speed diesel engine class. At the time of this writing, the Himsen series had attracted orders for over 200 engines in shipboard and land-side generator applications, and the first unit for marine propulsion duties is set to be installed in a patrol vessel new-build.

Over the 2003 first-half, HHI's shipbuilding division secured contracts for 64 vessels worth \$3.2-billion, exceeding the target for the whole year. By the end of July, the orderbook stood at an astonishing level of 172 newbuilds, with a combined value of about \$9-billion.

Knowledge Interchange

The increasing interplay of commercial marine and naval disciplines has found new expression in the appointment of Registro Italiano Navale (RINA) to class the largest, and most complex ship ordered to date by the Italian Navy. RINA introduced special rules for naval vessels at the end of 2002, and the society will now apply its expertise to the newbuild project for the 26,700-ton displacement aircraft carrier Andrea Doria, ordered from Fincantieri for commissioning in 2007. Construction of the carrier has been assigned to the group's Riva Trigoso yard.

Measuring 776 ft. (236.5 m) the vessel will be built from high-tensile, anti-ballistic steel, and will have a maximum speed of 28-knots. RINA's selection to class the vessel reflected its experience with state-of-the-art, high capacity

cruiseships and fast craft.

The society's CEO, Ugo Salerno said, "RINA has established a reputation for project management skills, safety, quality and service in classing highly complex commercial ships, and looks forward to bringing those standards of excellence to such a major project in the warship sector."

"We also expect the commercial sector to benefit from the high technology we can transfer from the military newbuilding program," he stated, adding that "This is a win-win situation for the navy and for our cruiseship clients."

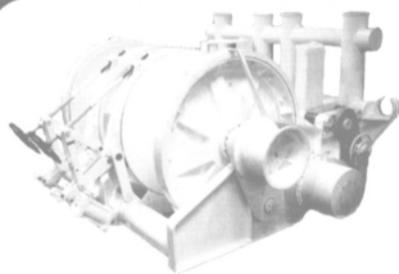
The orderbook of Fincantieri's naval vessel business unit is currently worth around \$2 billion, and includes a series of Horizon-class frigates and two U212A-type submarines for the Italian Navy, besides the Andrea Doria. A follow-on, large batch of multipurpose frigates are envisioned for construction at Fincantieri's shipyards in Liguria for service entry between 2008 and 2017.

Thales Seeks to Simplify Security

The TracsShips' Security Alert System (SSAS) launched by Thales Navigation Ltd is designed to overcome a problem being faced by port authorities worldwide. The unit is based on a Thales Inmarsat-C tracking unit that has been refined to exceed the IMO specifications for SSAS units. As a result, the Tracs-SSAS introduces a unique feature that can provide land-based security organizations with ship movement information that has been unobtainable until now. The SSAS specifications have been created by the IMO to help protect seafarers and their vessels against piracy and acts of terrorism. Between July and December 2004 all SOLAS registered vessels must be fitted with a SSAS unit that automatically transmits an alarm message via Inmarsat-C from anywhere in the world when a button is pressed. Once activated, the Thales SSAS unit will continue to transmit the vessel's GPS location so that it can be tracked and, hopefully, intercepted by the security authorities.

The Thales Tracs-SSAS exceeds these capabilities by tracking and storing the vessel's location continuously regardless of whether an alarm button has been pressed. As with conventional SSAS units, the vessel location information will only be transmitted to the designated authority when it has been activated. However, the stored information can be called-up and made available to the shipping company for its own management purposes and, more significantly, it can also be called-up by a Coast Guard or security organization wanting to verify the ship's port of origin. The Tracs-SSAS unit functions continuously without any operator input and maintains a continuous record of the ship's position and speed for up to two years.

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Coatings & Corrosion Control • Marine Paint Buyer's Guide

The following directory was compiled via an e-mail survey of Marine Coatings and Corrosion Control suppliers to the marine industry, conducted in October 2003. To have your company's information included in the next Guide, please send details to info@marinelink.com. Publisher is not responsible for errors or omissions.

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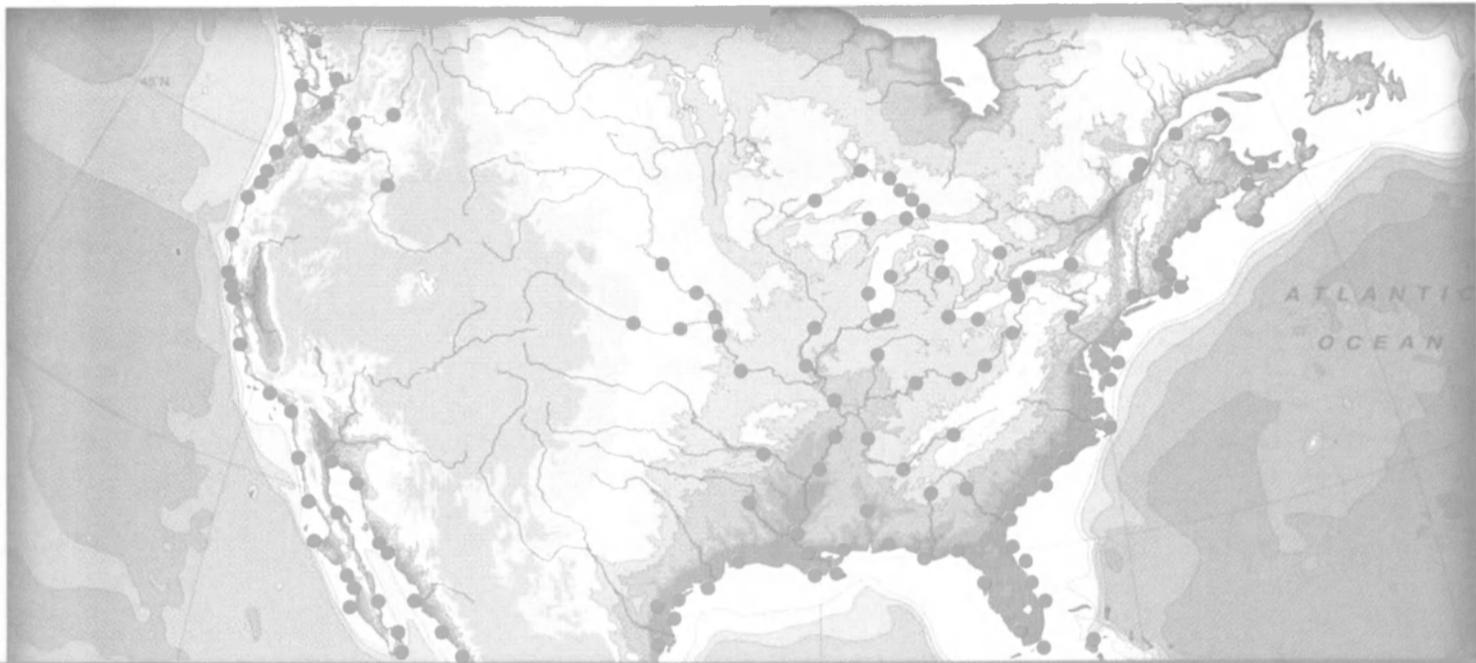
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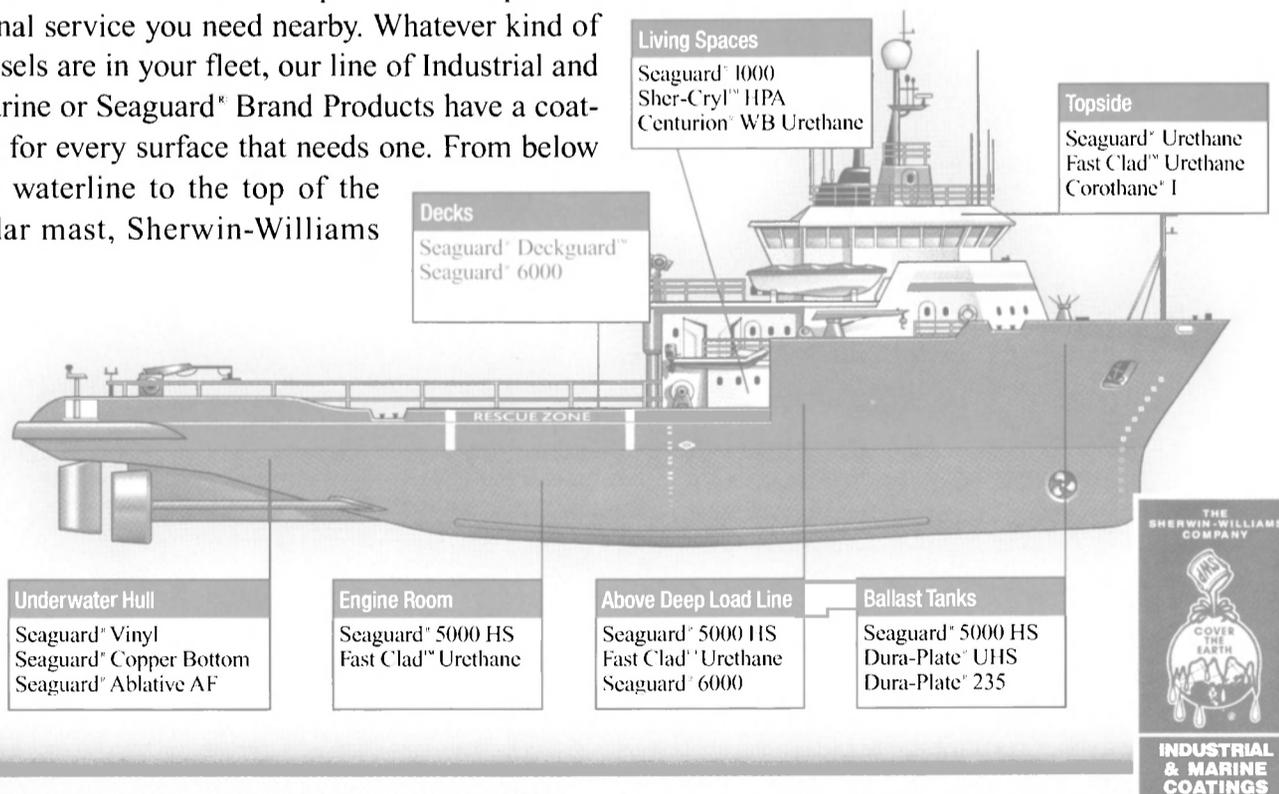


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Coatings & Corrosion Control • Marine Paint Buyer's Guide

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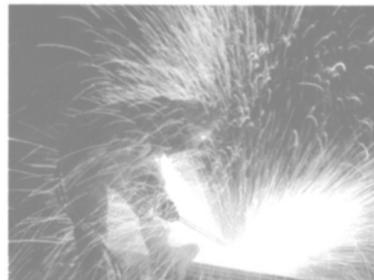
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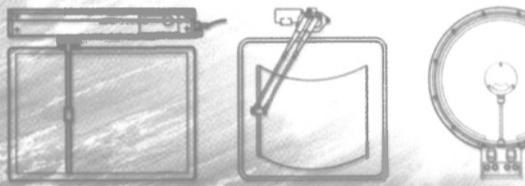



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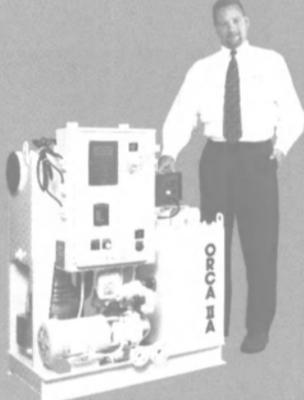
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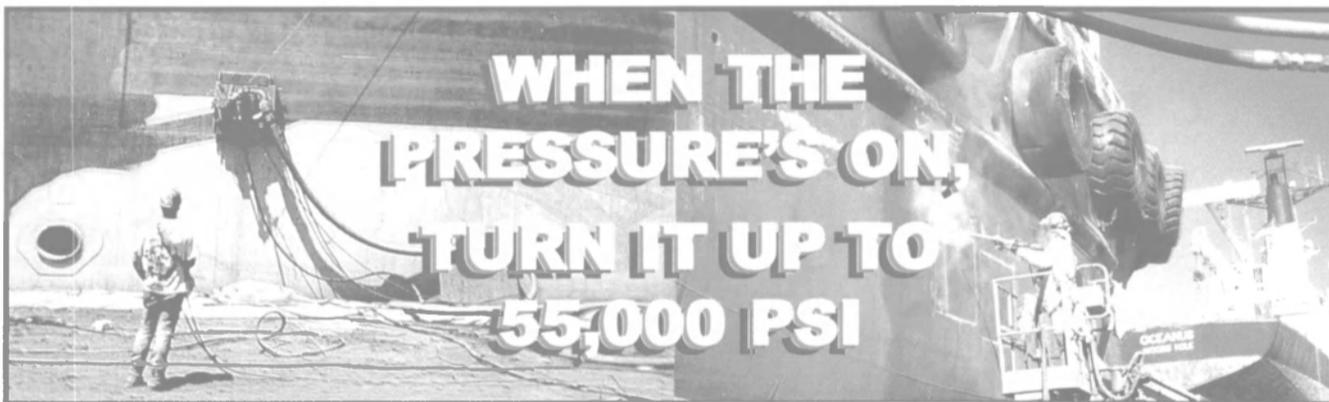
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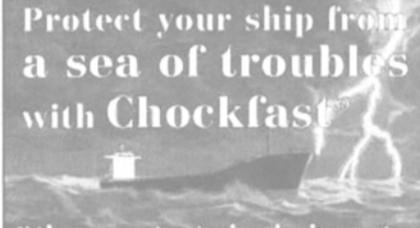


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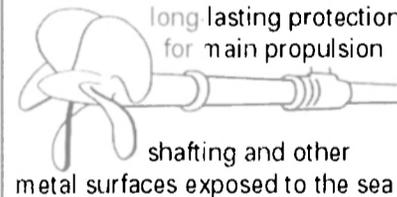
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Surface-Protection Symposium Set for Lübeck

Corrosion causes damages amounting to billions each year. The existence of chlorides makes the maritime climate particularly aggressive, whereas the ballast tanks of seagoing vessels are endangered the most. The most recent accidents — such as those of the Erika and the Prestige — have made us all the more aware that the professional surface protection of ships and other maritime constructions made of steel are vital for safe and profitable operation.

Under the auspices of Germanischer Lloyd, the Second Surface-Protection Symposium is taking place on the 23rd and 24th of October 2003 at the Hotel Radisson SAS Senator in Lübeck, Germany. Shipyards, ships' financiers, expert consultants, coating-material suppliers and applicator firms are going to be additionally included within this specialists' conference.

The abbreviated titles for the conference topics are

"The new IMO regulations from the viewpoint of classification societies."
Dr. B. Richter and D. Harms, Germanischer Lloyd

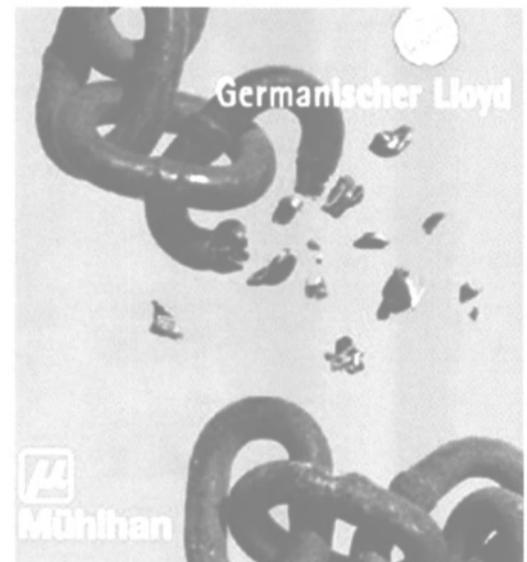
"Corrosion damage to ships due to insufficient coating."
Dr. H.-J. Dittmers, Corroconsult

"Importance and technological development of surface protection for ships."
Dr. W.-D. Greverath, Mühlhan

"How the revolutionary UHPAB blasting process works: an invention from the aviation industry."
Dr. J. Popplau, Caitec

"Introduction of a surface standard developed to match shipowners' needs."
Dr. A. Momber, RWTH Aachen

"Health, safety and environment, as well as legal aspects of the UHPAB blasting process."
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Xybernaut Gets Patent for Detecting Corrosion on Maritime Vessels

Xybernaut Corporation has been granted a patent by the U.S. Patent and Trademark Office related to a system that detects corrosion on maritime vessels.

This patent, U.S. 6,633,820, describes a broad array of potential military, commercial and recreational applications.

Called "System for assessing metal deterioration on maritime vessels," the patent essentially describes a system or apparatus for on-site testing and inspecting of metal structures and their deterioration using non-destructive testing (NDT) devices and computing technologies. Under this patent, the inspector wears both the NDT device and a

mobile/wearable computer. This configuration affords immediate access to inspection and test results. In the marine industry, ships of all kinds are inspected and gauged for hull thickness and deterioration. This activity typically takes place at specified intervals and at predetermined locations. In particular, chemical and oil tankers and bulk carriers are subject to metal deterioration, because of corrosion, at a faster rate than other types of ships. Significant metal loss places the vessel at risk of severe casualty and/or loss. "Current inspection/gauging practices typically require the inspector to obtain data while on the vessel, however, the infor-

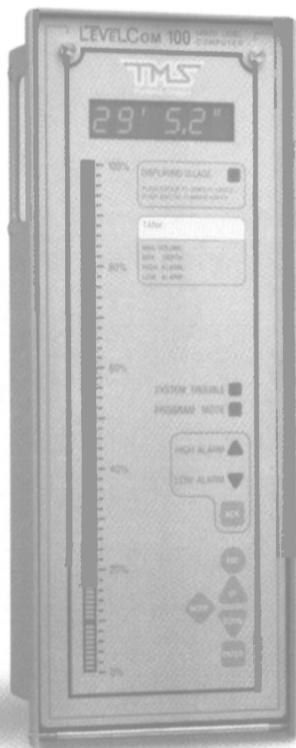
mation must then be transferred from a paper checklist or a hand-held device to a more powerful computer for comparison with a stored database of past data," said Richard Bizar, vice president for Xybernaut Corporation. "This activity takes time and the vessel, in most cases, is underway -- engaged in numerous operations when actual hull condition is determined. Decisions made at this time can mean the difference between life and death and considerable costs, as in the case of vessels or cargo lost in heavy weather because of deteriorated hull strength." **Richard Bizar**, inventor for this patent, is a retired U.S. Coast Guard Officer who specialized in Marine

Safety and Environmental Protection during his USCG career of over 20 years. During his USCG tenure, Richard had many assignments in shipyards, including resident USCG Inspector at Todd Seattle and St Louis Ship. At Xybernaut, where he has been for the past four years, Bizar currently directs special projects related to various technologies and market sectors. Specifically related to this patent, he has analyzed how mobile/wearable technologies can be utilized for on-site testing and inspection of ships and metal structures to determine deterioration as well as to identify defects.

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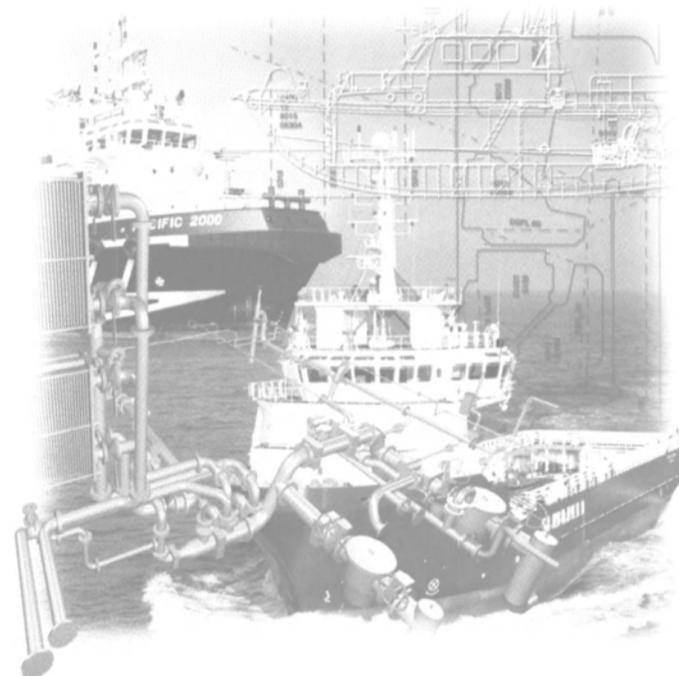
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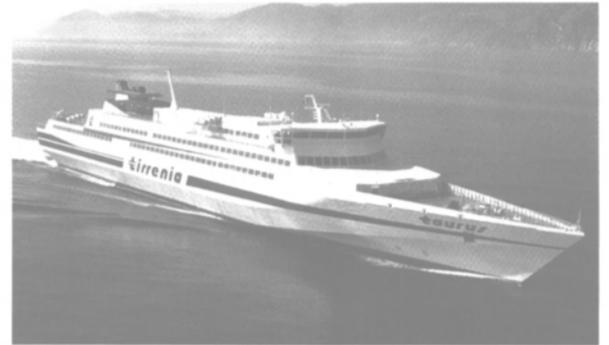
LCS Hull Concept Tests Move Ahead

The Lockheed Martin-led Littoral Combat Ship team is continuing the development of its semi-planing seaframe design through a new series of tank tests that will prove the efficacy of several significant design improvements. The scaled hull model test program underway at the Naval Surface Warfare Center,

Carderock Division in Bethesda, MD, will validate the improvements in the resistance, stability and sea keeping characteristics of the team's design.

Working closely with naval architect Gibbs & Cox, and core team member Fincantieri, the Lockheed Martin team will optimize the LCS hull design. The design strives to be low cost, low risk, high speed, shallow draft, maneuverability and a capacity to accommodate the full range of focused mission packages to defeat enemy mines, swarming small boats, diesel-electric submarines and other shallow-water threats.

"The hull tests represent a significant milestone that will confirm performance predictions for our semi-planing seaframe," said Carol Hulgus, vice president of programs for Lockheed Martin's Maritime Systems & Sensors business. "Not only will the hull form



The inclusion of Fincantieri on the Lockheed Martin-led LCS team means the delivery of high-level commercial success in the realm of big, fast craft. Pictured here is Taurus, a ferry powered by a pair of MTU diesel engines and a pair of General Electric gas turbines.

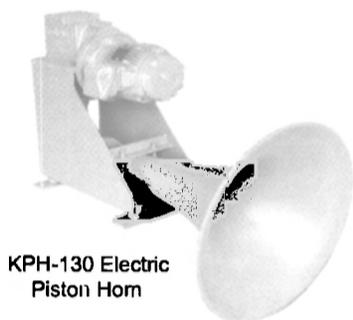
deliver all the necessary speed, sea keeping and other performance characteristics for the LCS mission, but it also provides ample volume and flexibility to incorporate future focused mission packages."

"We are also fortunate to have Fincantieri as one of the international partners on our team. They have significant experience in these types of platforms having engineered and built both the record setting ship Destriero and larger fast ferries that incorporate technologies similar to those we are using for LCS," said Hulgus. "Having our basic hull form already in service, with our LCS design scaled between Destriero and the Jupiter class ferries, provides a proven baseline for our low risk, low cost approach." Fincantieri is a large, diversified shipbuilding group, headquartered in Trieste, Italy. Its eight shipyards have produced more than 7,000 vessels over its 200-year history. The company is active in cruise, merchant, and naval shipbuilding.

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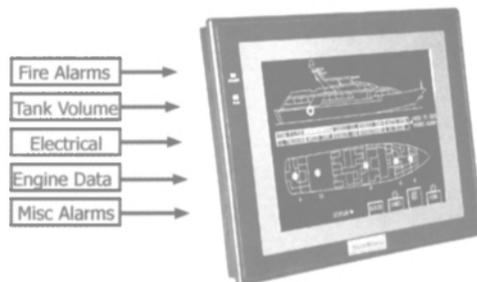
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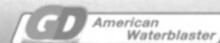
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Hypertherm Enters Laser Cutting Market

FAST Laser (Flow Accelerated Screen Technology) from Hypertherm, Inc. is a new plate-laser cutting technology from Hypertherm, a company that has been a leader in the advancement of plasma cutting technology for over 35 years. FAST Laser technology broadens the company's technology leadership position and product offering into the field of plate-laser cutting with a new line of laser cutting heads and controllers.

FAST Laser uses a patent-pending design to create a dual-flow zone that allows significantly higher oxygen assist-gas pressures in the tightly defined cut

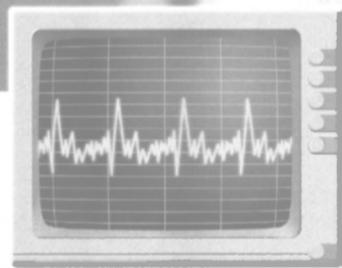
zone established by beam geometry. It eliminates the uncontrolled burning in the surrounding zone. FAST Laser's accelerated high-velocity oxygen flow along the beam path is designed to increase cut speed by fueling the exothermic reaction. It also reduces sensitivity to common plate fabricating conditions and variables, most notably plate chemistry and condition.

The company said that FAST Laser cutting heads deliver up to a 20 percent increase in cut speed over standard CO2 laser heads on plate steel.

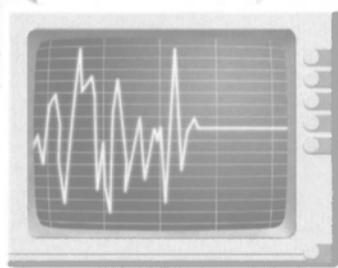
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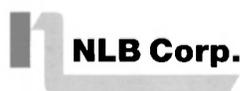
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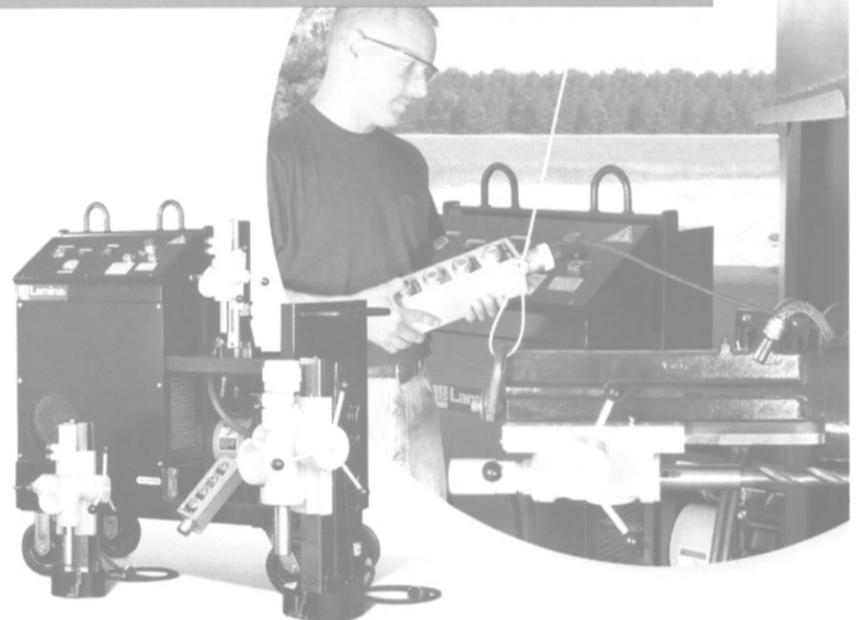


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E-Ship: The Paperless Trail

By Steve Harding BSc (Hons) MSc MRIN

Paperwork is, and always has been a necessary and essential aspect of ship operation. Indeed, the Barcelona Maritime Code of 1258 required ships carry clerks specifically for this purpose releasing the master to concentrate on his primary duty, safely navigating the vessel.

Unfortunately, such is the way of things few ships now carry clerks. Indeed, notwithstanding a mushrooming in documentation shipping is required to carry and use in recent years, notably at the behest of the International Maritime Organization (IMO), the number of crew available to manage the workload continues to reduce, the burden increasingly falling on the bridge watchkeepers.

To what extent this has an impact on safety is moot. Certainly it would take too long to detail the individual forms navigators are supposed to complete prior to arrival in port, or how many times identical information must be

reported to authorities using the bridge VHF as the ship passes from one state's waters to another.

And what is the added value of all this red tape?

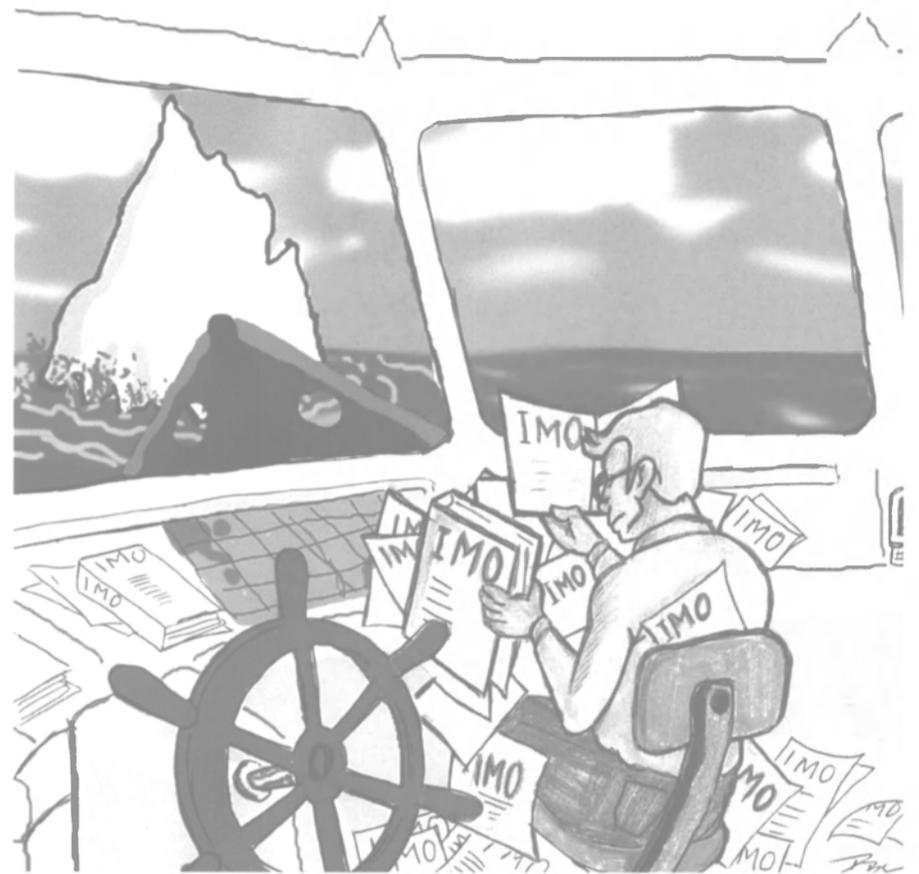
Who knows? Who cares!

Providing officialdom is appeased: a tick in the box on yet another form, would anyone really notice if the script of a daytime TV soap opera bore more resemblance to reality than some of the information data normally supplied by ships?

There is a document, however, that has traditionally been treated with the utmost respect by all ships' navigators: the logbook, a contemporaneous record of events of significance that took place during a voyage.

Although the logbook performs a number of functions, arguably it primarily provides the principal reference source for the information necessary to arbitrate any dispute between stakeholders involved in the shipping adventure.

Amongst other things, the logbook



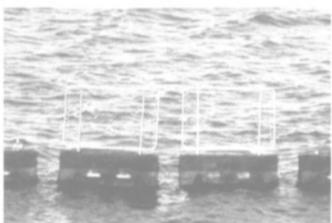
Do mountains of paperwork designed to keep ships safe and compliant actually compromise safety?

protects the interests of the ship's navigator meaning, without any form of external pressure or interference, there should be no issue here in relation to its completeness, accuracy and integrity of any logbook, the master's own record

traditionally considered to be the sole judge of fact in relation to an event.

Not that this was always so. The Barcelona Code's requirement for clerks on ships had nothing to do with any philanthropy towards the master or any

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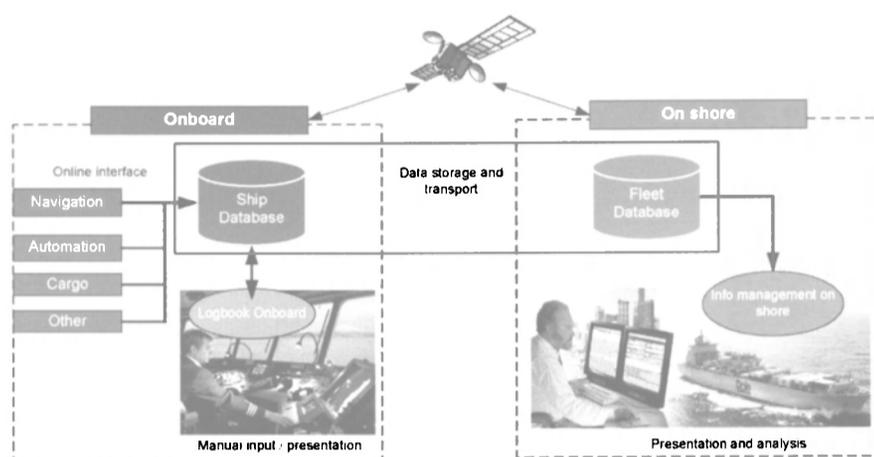
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other member of the crew employed by the owner. Those involved with the drafting of this regulation were clearly of the opinion, or had learned through hard experience that ships' masters were subject to the temptations of falsehood, fabrication and tampering, spinning or otherwise embellishing the logbook to ensure it enhanced one perspective to the exclusion of all others.

Now it appears history is repeating itself with confidence being lost in the efficacy and veracity of logbooks completed by ships' navigators. Presumably this is why IMO has recently determined the need to intervene; the latest amendments to SOLAS requiring each ship maintain a logbook, in English (SOLAS Chapter V, Regulation 28).

For a well-run shipping company, the IMO issuing instruction on how its navigators should complete a logbook is



Above: The fleetmaster system. Right: Using the system onboard the Berge Clipper.

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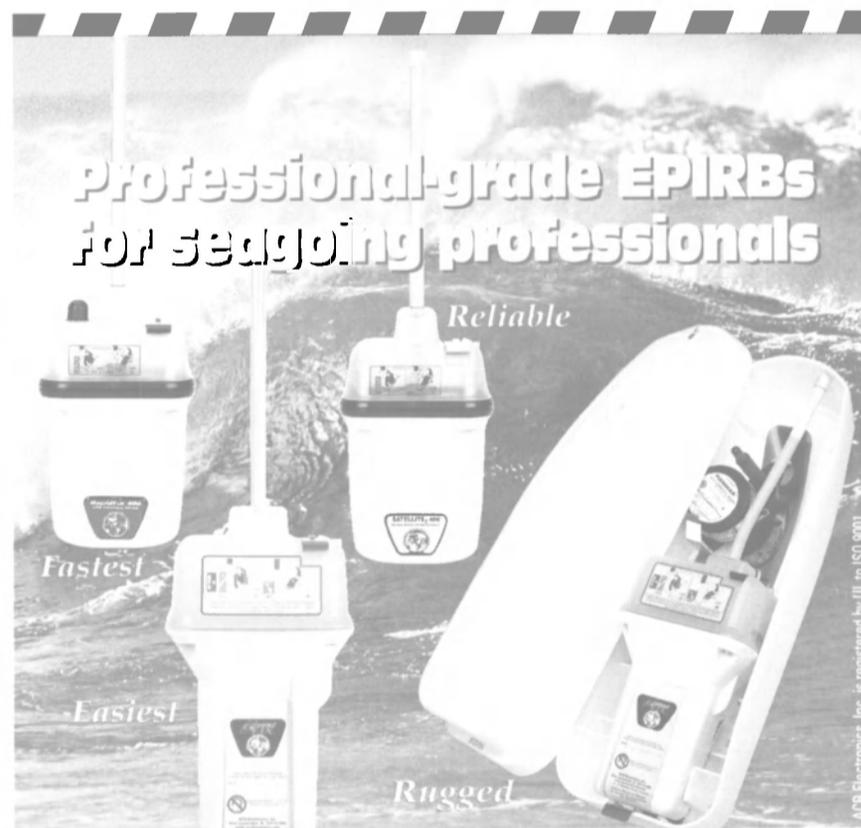
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Ocean Sky was the first vessel to 'go solo' with FleetMaster - it does not use paper Logbooks any longer.
Inset: Karsten Hoyland.

well into the realms of teaching granny to suck eggs. Nonetheless, even for the blue-chip operator there is always scope to take advantage of new technology that improves record keeping, reduces navigators' workload and assists those whose first language may not be English to correctly complete a logbook in accordance with the IMO prescribed format. That is, replace the traditional, paper document with an Electronic Log Book or ELB.

One of the first companies to develop an ELB is Marine IT Company AS (MARITCO). Based in Horten, Norway, MARITCO is a wholly owned subsidiary of Kongsberg. As its name suggests, the company provides specialist IT solutions to shipping. Recently, MARITCO's product development manager, Bjarne Bjørkan, discussed in detail the ELB and the philosophy underpinning the concept.

As a former seafarer (he was an Engineer with Bergesens) Bjørkan fully appreciated the key to producing any successful IT-based system for use in navigation is ensuring it adequately addresses the needs of users while taking full account of the constraints that normally do not apply in an office environment.

Some of these constraints are obvious: ships are hardly stable platforms and there are no maintenance engineers in the middle of the Pacific, others less so; a ship's crew is invariably multi-cultural with mixed age and IT skill profiles. The ELB therefore needed to be robust and, as far as was practicable, aligned with existing and familiar practice, evolution without revolution. After comprehensive consultation with seafarers, owners and regulators, although the ELB could be configured to support any data entry format, MARITCO adopted a style based on the long-established structure of the Norwegian Maritime Directorate's paper logbook, i.e., with free text entry as well as standard tables.

In developing the ELB display structure, MARITCO paid particular attention to the role of the logbook, electronic or otherwise in enhancing human factors in ship operations. For example, although many of the ELB data fields could readily be automated, notably ship's position, the user is prompted and required to make a manual entry. Bjørkan said a concern raised by all those consulted was ensuring navigators retained ownership over the logbook. And while it was clearly a simple matter to use GPS or similar to update the logbook, ensuring the navigator acted and confirmed the veracity of all data entries provided, amongst other things, some assurance of his or her cognizance.

Indeed, this underlines one of the fundamental differences between a logbook and a voyage data recorder (VDR). That is, the ELB fulfils the principle that it is a record reflecting the navigator's interpretation of events, what he or she thought was happening, as opposed to (just) the largely deterministic readings from sensors recorded in a VDR. Furthermore, and often overlooked, a well-designed logbook provides an exceptionally powerful aide-memoir reducing the risk of the navigator, or any other crew member overlooking key, safety-related tasks. Thus, while all ELB displays would broadly have a common structure, Bjarne stressed how important it would be for owners to work with their supplier and conduct a detailed task analysis in line with the International Ship Management (ISM) Code, implementing bespoke enhancements and modifications to the logbook as need be relevant to the

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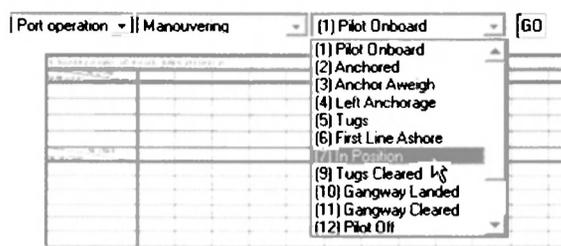
risks impacting on an individual ship, or to the individual. Unlike paper, this is readily achievable with an ELB and, as outlined later, any modifications required can be made remotely from the ship at, depending on the communications system available, any time.

With this freedom to amend the ELB's design, Bjarne was questioned whether this technology could be regarded to be any improvement on traditional paper, i.e., in addressing the paradigm of whether the record completed by the navigator could be believed not least by the authorities. As he explained, with any IT-based system numerous checks and balances can be applied to the information recorded. This would include, for example, the actual time a logbook entry was made, who by and where. However, with judicious use of 'drop down' menus in data fields to reduce the workload and provide quick access to information, and assisting those whose English is limited, on the basis of trials conducted Bjørkan was confident navigators would learn to routinely use the ELB as part of their operations rather than, as now, tending to scribble notes on paper to complete the logbook at some later time particularly as the display is designed to be accessed using Microsoft's Internet Explorer from any bridge workstation.

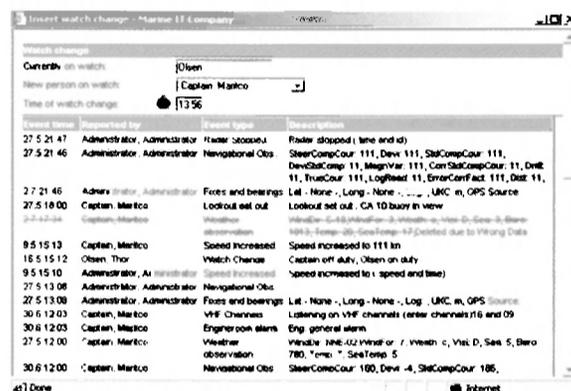
This does not preclude navigators making post-dated entries, including corrections; and they would be encouraged to do so if this added colour to the log. Nonetheless, once the master has conducted his or her inspection of the logbook, made whatever comments are considered necessary and signed for the record, even the most experienced computer 'hacker' would have no success trying to tamper or destroy the data not least because it will no longer just be on the ship!

To ensure robustness in the ELB, the technology is designed to operate within MARITCO's FleetMaster ship-shore communications system. FleetMaster provides seamless integration between the ship's online data systems and those onshore facilitating the uploading of data from ship-to-shore for remote diagnosis and fault finding, with configuration change; e.g., log data field amendments, patches and updates for the ELB going in the opposite direction.

However, this integration of the ELB with the owner's IT network can provide far greater benefits than were available with a paper logbook. The owner can exercise complete and controlled access to any part of the ship's logbook at any time. Bjørkan suggested, with the attention paid to the design in the communi-



21:46	Fixes and bearings	Lat: None -, Long: None -, Log: UKC: m, GPS Source:
07:04	Weather observation	WindDir: 5-10, WindFor: 3, Weather: Var-D, Sea: 3, Baro: 1013, Temp: 20, SeaTemp: 17, Deleted due to Wrong Data
08:29	Navigational Obs	Steer To Pilots Advice and Captains Command
08:29	Fixes and bearings	To Pilots Advice -
08:28	Weather observation	WindDir: NNE-02, WindFor: 2, Weather: c, Vis: D, Sea: 3, Baro: 1013, Temp: 20, SeaTemp: 17,



cations links, all data collated in a ship's ELB during a twenty-four hour period can typically be compressed into a 20 kilobyte data packet for transmission to shore using any suitable technology; INMARSAT's latest generation of FLEET terminals being particularly well suited.

Nor need it stop there.

With all the ship's logbook data mirrored in near real time in the owners office, there is no technical reason precluding any port state or other official inspecting a ship's logbook at any time without actually having to visit the ship, with all that implies in improving the efficiency of the ship inspection service and reducing the burden and stress on navigators in port. Furthermore, no longer would it be necessary for a coastal state authority to specifically and directly contact or otherwise require a ship use radio to relay voyage related information to shore. It could all be provided via the Internet.

The ELB is not a technological revolution. It simply

pulls together various, mainly off-the-shelf tools and expertise to provide an effective enhancement, if not replacement for one of the key prerequisites of efficient and safe ship operation, completion of a diary. Operational experience with the ELB to date has been positive and a number of flag state authorities have already formally indicated their willingness to accept the technology as fulfilling SOLAS log keeping requirements.

But perhaps the most exciting feature of the ELB is where it potentially takes the science of data recording to understand the risks impacting on shipping. Although the ELB has been designed for manual completion, with a modicum of assistance and guidance from technology, with the exception of audio due to the bandwidth required, there is no reason why the data presently being gathered on a VDR could not be included in the background of the ELB. In other words, if the transmission of updates from a ship's servers to servers onshore was increased to, say, once an hour, or even once a minute; the costs are trivial with INMARSAT Fleet, not only would those onshore know in near real-time what the navigators are entering into the logbook, they would also know what was going into the VDR. Whether the IMO would be prepared to take advantage of these developments, taking the view that the recording and secure storing of data relevant to accident investigation onshore has distinct advantages over trying to find it floating somewhere in the ocean, presuming it leaves the ship in the first place, is a debate for another occasion.

About the Author

Steve Harding served at sea as an Electro-Technical Officer with Shell Tankers for seven years. Thereafter he spent time with the UK Radiocommunications Agency before being appointed as a specialist surveyor with the Maritime & Coastguard Agency in 1991 to deal with navigation and communications technology, including the implementation of the GMDSS. In 2000 he left the MCA to establish his own consultancy, SUVAN Marine. Steve was awarded a Masters Degree in Navigation Technology from the University of Nottingham and elected a full member of the Royal Institute of Navigation in 1998. He can be contacted on steve@3gmarine.co.uk

San Francisco, California - May 2nd

The SS "Jacob Luckenbach", a C-3 ocean freight vessel built in 1944 sank in the environmentally sensitive California waters on July 14, 1953 as a result of a collision with the SS "Hawaiian Pilot". The "Luckenbach" now rests in 176 feet of water broken into 3 pieces.

Response & Results:

The USCG hired Titan to provide an assessment, removal, and disposal of oil from the vessel. Titan recovered 85,000 gallons of heavy bunker C oil from the wreck.

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Circle 338 on Reader Service Card

Cradle Tweendecks Patent for Langh Ship

In the invention devised by Langh Ship, steel coils are transported on tweendecks that are equipped with integrated cradles. The method was granted a Finnish patent in 2001 and it has now passed the European Patent Office's inspection, which ascertained that the innovation's novelty, inventiveness and industrial applicability meet the requirements of the European Patent Convention. The invention thus received a European patent, which can be registered in all countries signatory to the European Patent Agreement.

Cradle tweendecks facilitate steel coil loading, shipment and unloading at the port of destination. The system even enables fully automated cargo handling in the port and it can be used to optimize vessel stability, reduce cargo damage and fuel consumption. Heeling in rough seas - usually extreme in vessels carrying cargoes of steel coil - decreases considerably, which not only reduces cargo damage but also improves the working conditions of the crew. Besides the cradle tweendecks, Managing Director Hans Langh has, together with the personnel, developed and patented specialized containers and plate transportation cassettes. These new containers speed up the handling of steel products and reduce cargo damage. The containers are classed by Germanischer Lloyd, and the so-called "high container" has previously received an EPO patent for its cargo securing mechanism. "The patented special-purpose containers and transport solutions are eminently suitable for intermodal shipments, and perhaps this is precisely why the international attention received by Langh Ship Cargo Solutions has increased," says the shipping company's Managing Director **Hans Langh**.

Circle 39 on Reader Service Card



Above In Langh Ship's high container the load is secured with easily moveable stanchions fastened with a mechanism that has received a European patent.



Top Right Pictured is Langh Ship's 20-foot container, whose load securing mechanism also has a European patent.



Bottom Right Pictured are heavy steel coils both in the traditional location at the bottom of the hold and higher up on the European patented cradle tween-decks.

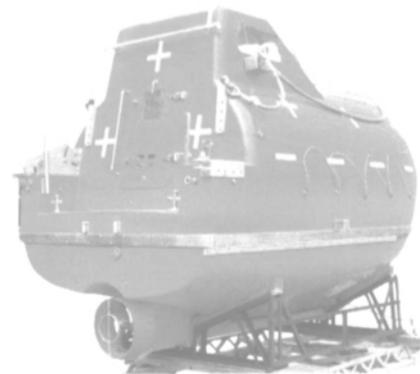
Eliminate Electrical Connection Problems

There are literally thousands of electrical connections in marine vessels, and safety depends on proper maintenance. The evolution of marine systems has created a substantial dependence on electrical and electronic equipment. Internal circuit board connections; coax cables (plugs & sockets); onboard instrument connections as well as fixed mount and handheld GPS and VHF devices all rely on properly functioning contacts and connectors. Even brief exposure to moisture, pollution and other contaminants present in the marine environment causes oxidation and corrosion on contacts and connectors, subsequently compromising their reliability. CAIG's DeoxIT Power Booster unique formula, chemically dissolves these contaminants, without harming metal surfaces, and in the process, enhances the flow of electricity and leaves a long-lasting protective barrier.

Circle 40 on Reader Service Card

New Lifeboat to Debut at Europort

Norwegian Maritime Equipment (NME) has developed a new free-fall system - with a drop height of 16 m - which measures just 4.9 m and has a capacity for up to 19 persons. In standard configuration, it is equipped with davits by Ned Deck Marine and powered by a Danish Bukh engine, while also other propulsion alternatives are



available. The new small free-fall system is especially designed for modern vessels with smaller crews. It is designed to save substantial deck space and weight. On the other hand, interestingly enough, also the world's largest enclosed lifeboat launched by NME last year has become very popular. This 102 person lifeboat has been sold to projects such as FPSO Exxon A, FPSO Brazil, FPSO Zafiro, FPSO Zikomba, FPSO Mystra. The market response has been so positive, that NME is now considering developing an ever-bigger lifeboat.

Circle 23 on Reader Service Card

Raytheon to Unveil New Tech at Europort

With the Gyro Compass Standard 22, Raytheon Marine launched the successor of the Gyro Compass Std 20, which is in operation on over 5,300 ships worldwide.

Latest technologies (e.g. inductive, slip ring-free power transmission; smallest dynamic error through patented

course-reading) increase operational safety and ensure a high accuracy of the north-seeking function combined with excellent reliability and with reduced lifecycle cost.

The Gyro Compass Standard 22 has been designed with a Rate-of-Turn Signal Output to meet the IMO requirements for RoT information and to provide the AIS with the Rate-of-Turn data. The redundant CANopen bus system meets maritime standard and allows the Standard 22 to be easily integrated into a system.

It is compatible with all Anschütz gyro compasses and steering systems and complies with the latest international approval requirements. The Raytheon NSC 18 Radar, an X-Band Radar System with a transmitting power of 10 kW in combination with the 6 ft. Array Antenna, has been designed for ships up to 1,000 grt. The systems of the new NSC 25 series are, of course, compatible with the previous Pathfinder radar series.

Circle 24 on Reader Service Card

New Lever Hoist Line Debuts

Columbus McKinnon Corporation (CM) has expanded its Series 653 Lever Hoist line. CM's Series 653 hoist line offers lifting capability from .75 to 3 tons (750 to 3000 kilograms) and a standard lift from 5 to 20 ft. (1.5 to 6 m). "Our confidence in the quality of the Series 653 was behind our decision to offer a five-year warranty period on this product, the best warranty of any lever hoist in the value-priced category and four years longer than our 637 series, the product the 653 is replacing," said **Timothy Tevens**, CM President and CEO.

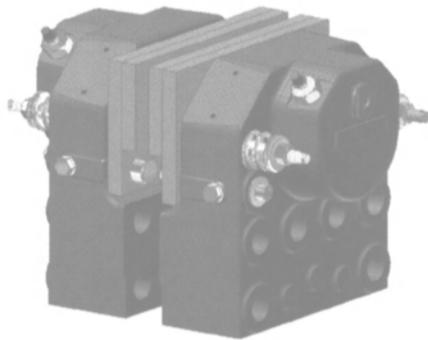
"Its short handle, along with minimal lever pull effort, make the 653 an ideal tool for a number of construction and industrial applications in addition to hoisting, including pulling in confined spaces and stretching. The chain guide rollers on the 653 also reduce slippage over comparable products."

Circle 25 on Reader Service Card



New Disc Brake Unveiled

Dellner Brakes model SKD 100 disc brake is a direct acting, hydraulic or pressure applied, spring released unit. The braking force achieved is directly proportional to the applied pressure. The brake consists of two symmetrical halves between which spacers can be mounted to accommodate different brake disc thicknesses. Each brake half has two cylindrical guide pins that transmit the tangential braking force from the brake lining to the brake housing and mounting stand. As a result, the brake pistons are not subject to any radial forces, which contribute to longer brake



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life. Two springs on each brake half retract the brake pads from the disc when pressure is released. Brake lining wear is automatically compensated with increased cylinder stroke.

Circle 26 on Reader Service Card

Kittiwakes Launched Economical Viscotube

The new Kittiwake Viscotube is designed to test for viscosity. Many factors can adversely affect the viscosity of oil. For example, water can reduce it, whereas soot or carbon deposits can increase it. Either way it can damage the machine, reduce the efficiency of the operation. The standard unit of measure for oil is in centistokes at 40 degrees C and with Kittiwakes new Viscotube the samples can be tested on site for later inputting into the software giving accu-

rate results to this standard. At 0.5kgs in weight, the Viscotube can be carried to the sample points throughout the ship. It comes complete, comprising of a falling ball tube with a clear screw cap at each end, a tripod support stand, mirror base plate, three sizes of ball, a digital thermometer and a CD with the instructions plus the downloadable viscosity calculation software.

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Optimizing Feed Rates For Crosshead Diesels

New program analyzes scrapedown oil as way to detect changes in the condition of an engine's cylinders

ExxonMobil introduced a program to optimize cylinder oil feed rates in low-speed (crosshead) diesel engines. The "Feed Rate Optimization" program is designed to help minimize operating expenses by analyzing scrapedown oil as a way to detect changes in the condition of an engine's cylinders. The program, which is designed to help customers find a balance between the cost of cylinder oil and the expense of wear-related cylinder maintenance, analyzes scrapedown oil collected from the engine's scavenge space, a technique pioneered by ExxonMobil. It is designed to provide comprehensive laboratory testing and analysis of the oil sample, and offers onboard testing tools that enable ship's engineers to quickly detect substantive changes in cylinder condition.

The new program features:

- **Signum Oil Analysis:** ExxonMobil has extended its existing Signum Oil Analysis program, which can help forecast potential mechanical problems before they occur, to include scrapedown testing. This extensive laboratory analysis provides insight into engine wear via the condition of a vessel's scrapedown oil.
- **Onboard testing:** Onboard testing tools include a proprietary Mobilgard Scrapedown Analyzer (pictured), a portable unit that enables a ship's engineer to quickly analyze the current wear rate of each cylinder. For customers who do not want to wait for a comprehensive lab report, onboard testing provides real-time readouts on the oil's most important properties relative to the engine's operating condition.
- **Quality oil:** ExxonMobil recommends Mobilgard 570, a cylinder oil formulated at an optimized viscosity level with high quality base oil to provide excellent thermal and oxidation stability, and protection against engine deposit and wear. It is proven to provide low-speed, two-cycle crosshead diesel engines with these performance features even as lower feed rates are adopted.

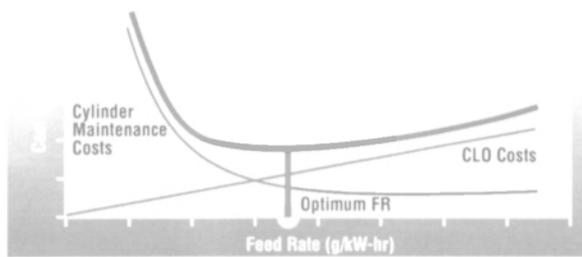
The new Feed Rate Optimization program was developed with the support of the major engine manufacturers, including MAN B&W and Wärtsila.

"Changes in cylinder wear due to engine operation, ambient conditions and fuel sulfur levels can be detected as they are occurring, particularly if onboard sample analysis is employed," says **Kjeld E. Aabo**, senior manager engineering services, MAN B&W Diesel A/S. "Advanced warning of cylinder condition, as seen through scrapedown oil analysis results, allows the operator to optimize feed rates while ensuring optimum engine performance."

Following are some answers to common questions regarding the new system.

Q: Why did ExxonMobil Marine Lubricants introduce a "Feed Rate Optimization" program?

A: The trend toward increased size and speed of general cargo ships and container vessels mandates the continued domination of this segment by low-speed (crosshead) diesel engines, which can burn less-expensive residual fuel oil more efficiently and reliably than



The Mobilgard Scrapedown Analyzer



can other types of engines. At the same time, manufacturers have changed their engines dramatically over the past 20 years, and the new higher output designs for greater efficiency have greatly increased stress on the cylinder oil. Reduced cylinder oil consumption rates made possible by new feed system designs have further stressed the oil.

Environmental regulations and variations in HFO (heavy fuel oil) characteristics around the world have resulted in increasing numbers of engines operating on low-sulfur-content HFO. This can result in sudden wear if feed rates and lubricant selection are not properly balanced. A program to safely optimize cylinder oil feed rates against these variables while monitoring the condition of the engine's cylinders can help ship owners find an acceptable balance between the cost of the cylinder oil and the expense of wear-related cylinder maintenance. Identifying that balance can reduce total operating costs.

Q: Why is analyzing scrapedown oil so important?

A: With the use of cylinder scrapedown oil analysis (the analysis involves various tests of used oil as a way to monitor the condition of the engine and the lubricant), it is possible to reduce cylinder oil feed rates to provide the optimum balance of cylinder oil and engine component replacement cost. Shipboard personnel can monitor the condition of an engine's cylinders and detect changes as they occur.

Q: What kind of laboratory tests does ExxonMobil perform?

A: For many years, ExxonMobil has been using Signum Oil Analysis to help customers monitor the performance and condition of lubricants, engines and equipment. The Signum program has been expanded to include analysis of scrapedown cylinder oil. A comprehensive slate of laboratory tests includes:

Inductively Coupled Plasma Emission Spectroscopy (which monitors wear metals - including iron, a primary wear indicator, and phosphorus, an indicator of system oil contamination); Physical and/or Chemical Analysis (which measures the total base number, viscosity and water as indicators of oil degradation and contamination); Particle Quantifier (which monitors abrasive wear); and Ferrography (which helps identify wear type and cause). Oil samples are sent from shipboard to an ExxonMobil laboratory. The program automatically reports trends and compares variables such as iron, base number, load, fuel sulfur and humidity. Findings can help identify wear indicators before problems occur. And they can be used to optimize cylinder oil feed rate, minimizing the overall cost of operations.

Q: What kind of testing can take place aboard ship?

A: The Feed Rate Optimization program includes an option for onboard testing that is particularly useful for customers who do not want to wait for a comprehensive lab report. ExxonMobil provides the onboard tools for ship personnel to test the most important properties relative to wear and optimizing feed rates. A Mobilgard Scrapedown Analyzer (MSA) instantly measures and displays the iron content of a used cylinder oil sample. A Signum Onboard Test Kit monitors lubricants for alkalinity retention (TBN), water contamination and changes in viscosity. A MSA Logbook enables crewmembers aboard ship to store results, graph trends and analyze relationships between variables. The tools are designed to be easy to use.

Q: What is the advantage of onboard testing?

A: Speed is the primary advantage. Onboard testing augments and complements the more comprehensive Signum laboratory testing with supplementary reports that are especially useful because they provide key results in a matter of seconds. Speedy access to technical data means that shipboard personnel can make feed rate adjustment decisions quickly. If the testing equipment alerts a ship's engineer to substantive changes in cylinders, he can take immediate corrective action before any problems become serious. Speed in detecting changes is important because wear can occur rapidly in two-stroke engines.

Q: What was the involvement of major engine manufacturers?

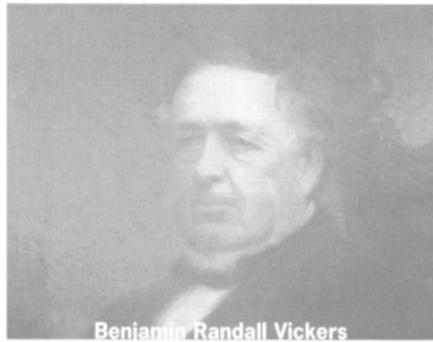
A: The new program was developed after cooperative testing with the major engine manufacturers. Says **Matthias Amoser**, manager Tribology and Material Technology, Wartsila Switzerland, Ltd. "Our experience has shown that the analysis of scrapedown cylinder oil can provide many clues regarding the operation of the engine, the impact of varying fuel sulfur levels, the effect of feed rate, and also, can serve as an early warning to potential undesirable wear situations. A frequent onboard analysis program supplemented by land-based laboratory analysis provides key information for monitoring piston running experience."

Circle 60 on Reader Service Card

Benjamin Vickers: 175 Years & Counting

One wonders if, when **Benjamin Randall Vickers** went into business in 1828 as an agent selling oils and soaps, he had the prescience to see the ever growing need for specialized lubricants as the Industrial Revolution gathered pace. He didn't have an easy ride. But he did have the guts, acumen and integrity to build on his successes and overcome his setbacks. The business he handed down to his sons, and sons of sons, is today a highly focused organization with a respected range of marine lubricants widely used in sterntubes and thrusters, and an equally impressive range of specialized lubricants for the textile industry.

As early as 1887, before sail had finally given way to steam, Vickers realized



Benjamin Randall Vickers

that mineral oils significantly outperformed vegetable oils for the lubrication of engines. Following studies of hot bearings on the main engines of ships in the Red Sea and Suez Canal, the company introduced its 'Non-Corrosive Engine Oil', forerunner of the 'Neox' brand that lives on today.



The founder's son, **Benjamin Threlfall Vickers**, was aboard the Goole & Hull Towing Company's Tug No 10 when the company's policy of 'walking the shop floor' next paid dividends. The tug used 'Neox' but, before Benjamin's eyes, the skipper did something very odd: he poured a quantity of

the oil into the 'tail shaft' or, as we know it today, the sterntube. As every shipowner and marine engineer knows to this day, it is one thing to put lubricant into a sterntube and quite another to keep it there. The first move Vickers made, therefore, was to design the Stern Tube Gland, forerunner of today's sterntube seals. In 1901 the T.S.S. 'Ibex' was the first vessel commissioned with the gland installed and the birthright of today's 'Hydrox' specialized lubricants was in the making.

Although Vickers were principally involved in developing and blending specialized lubricants, the Stern Tube Gland continued to form part of their business for over half a century. Some vessels were poorly constructed and



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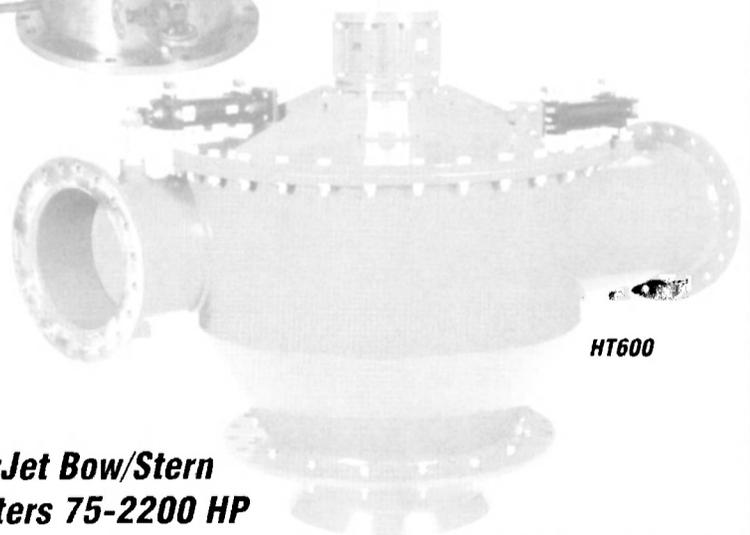
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were running through bearings in the propulsion system faster than they could be replaced.

A modified version of the Vickers Stern Tube Gland was designed and installed and, combined with the appropriate Vickers lubricant, solved the

problem and enabled the vessels to remain in service between scheduled maintenance intervals.

In that fundamental sense, nothing has changed today, though the lubricants are far more refined and Vickers have left the business of making sterntube seals.

Another significant step was devising a lubricant that would be compatible with rubber materials used in modern 'lip' seals, while continuing to be effective if water ingress occurred in the sterntube, and the formulation of Hydrox 550 was a defining moment.

Hydrox 550 forms a stable emulsion with water, even at a rate of ingress up to 20%. Vessels can continue to operate if sterntube leakage occurs, without damage to the shaft, seals and bearings that may well result from the use of a conventional engine oil.

A further refinement, Hydrox 21, significantly reduces leakage, reportedly by at least 70%, even in the event of quite serious damage to the sterntube seals, again permitting vessels to remain in revenue operation until the next scheduled maintenance stop. Many ships carry a stock of Hydrox 21 on board in case such leakage occurs.

Most recently, Hydrox Bio 68 provides an environmentally friendly, biodegradable sterntube lubricant that is innocuous to marine life but offers the same performance advantages as Hydrox 550 in case of water ingress.

If, back in 1828, Benjamin Randall Vickers felt that he had identified a significant growth market, he could hardly have imagined that, 175 years later, the company would have developed such a significant worldwide market. Still less could he have imagined that the business would remain under the safe, unbroken stewardship of his direct descendants, but that is the case.

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Lang to Celebrate 100 Years

Lang Manufacturing — a major supplier of premium cooking equipment to the marine industry — will soon celebrate its 100th anniversary. The Everett, Wash.-based company offers a full spectrum of gas and electric foodservice solutions, including convection ovens, combi ovens, fryers griddles, ranges and rack ovens. Established in 1904 by Frank S. Lang, who built his first wood-burning stove in 1880 for the Alaskan Gold Rush camps, the company by 1907 had manufactured its first patented stove to serve the U.S. Navy transporter, SS Dix. Lang has enjoyed many firsts over the years, including the first electric convection oven in the 1960s. One of Lang's newest lines is the advanced BakerSeries Bakery System.

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Life Boats by Ernst Hatecke Make the Plunge

One hundred years ago, German master boat builder Wilhelm Hatecke founded a shipyard in Dornbusch on the banks of Germany's Elbe River. In the early days, work focused on repairing and building wooden boats. Today, Ernst Hatecke's freefall lifeboats are saving lives on ships and off-shore oil plat-

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forms, and the wood has been replaced by reinforced plastic or composites, becoming one of the leading manufacturers of lifeboats and davit (crane) systems in Europe. Survival craft must withstand extreme strains, especially when hitting the surface of the water from heights of almost 100 feet and plunging far below the water when escorting passengers to safety. A Hatecke freefall survival craft can vary in weight up to nine tons, depending on the size of the model, and can hold a capacity of up to 60 passengers.

Ernst Hatecke's freefall lifeboats provide a rapid and safe means of emergency escape for all on board. The boats vary in length between four and nine meters, with widths over 2.5 m constructed of glass fiber laminate with an inside duplicate wall made out of foam. Hatecke uses Reichhold's NORPOL 420-M880 and NORPOL 850-M851 resins to create these life-saving vessels.

Circle 29 on Reader Service Card

Clean Seal Celebrates 25 Years

Clean Seal recently celebrated its 25th year. Started in 1978 by Juanita Moore, the company has seen continuous growth in the marketing of extruded rubber sealant products. Although Mrs. Moore passed away in 1997, the company has continued to grow.

"The growth has required us to move into larger facilities three times since 1978, according to Vice President, General Manager **Bill Dawson**. "And we've added warehouse and office space at each of the locations until we ran out of space," Dawson continued. Dawson has been with the company since its organization. In the Fall of 2000, the family owned business moved into a large 72,000 sq. ft. facility located at 20900 West Ireland Road in South Bend. The Moore family continues to operate

the business. Clean Seal, Inc. is a national manufacturer and distributor of weather stripping materials to the transportation, appliance, boating and recreational vehicle industries. Clean Seal custom manufacturers a variety of shapes and sizes of sealants for cus-

tomers.

They stock EPDM, Neoprene, Silicone, Nitrile and Dual Durometer extrusions for Just in Time Delivery. The company also offers vulcanizing services, custom cutting, die cutting, and the application of heat activated adhesive

tapes to the extruded rubber and foam seals. They recently entered a strategic partnership with EPHA of Hermiston, Oregon to market products designed to protect hydraulic hoses against damaging abrasion.

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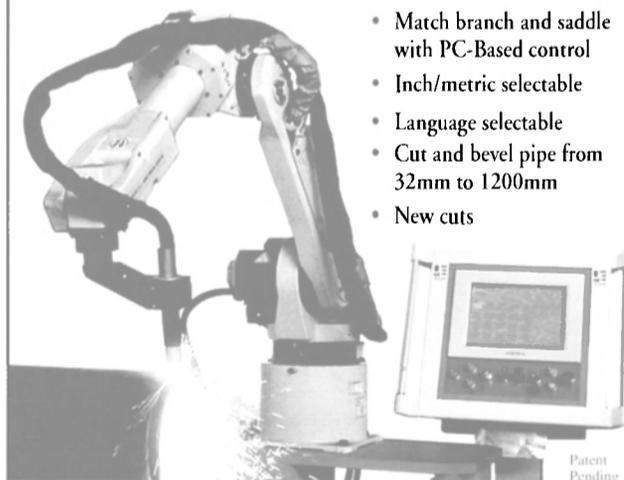
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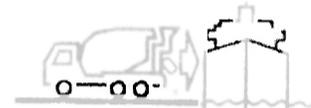
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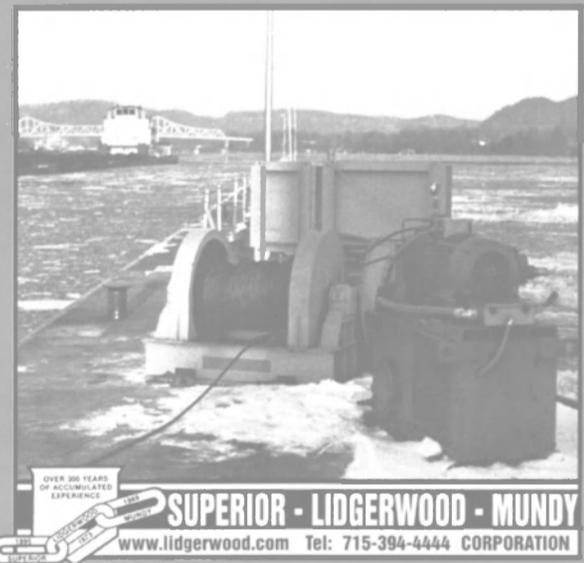


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Netherlands Vessel First With New Engine

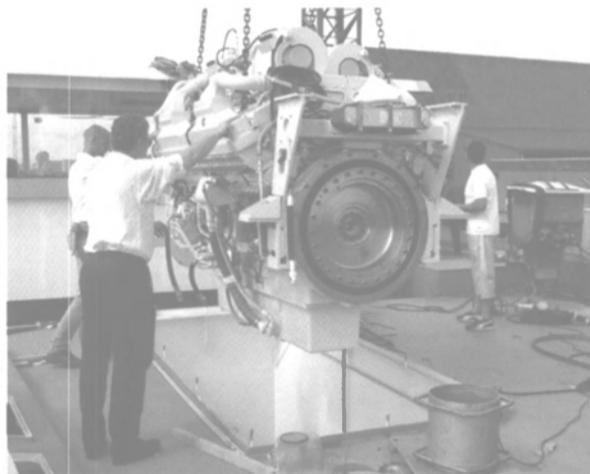
Dutch owner V.O.F. Scheepvaartbedrijf van de Guchte & zn is having the finishing touches put on a new 110-m double-hulled tanker at the Veka Shipyards in the Netherlands. With an 11.45 m beam and a 3.5-m molded depth, the vessel's hull was built in two parts at the Centromost Shipyard in Poland.

After launching, the fore and aft sections were joined to form a hull with 10 holds and having a total volume of 3,785 cu. m. capable of holding about 2,900 tons of cargo. The hull, known as a Maxcube type, was then

towed to the Veka Shipyards in Holland for completion. The interiors of the 10 cargo holds are coated for the transport of light chemicals and each is equipped with a Marflex deep-well pump. Propulsion power will be provided by one of the new Cummins QSK60-M engines with ratings in excess of 2,000 hp at 1,800 rpm. The gear is a Manson ZF. While a number of these engines have been installed in vessels in the U.S., this is the first installation in a European river vessel. Three Cummins-powered generator sets were also supplied by the Cummins distributor for the Netherlands located at Dordrecht. Navigational elec-

tronics were provided by Radio Holland. Delivery of the new vessel, to be named MTS Rosette is scheduled for November 15 of this year. Two four person crews will work the vessel in 14 day rotations. She will operate from the harbors of Rotterdam, Antwerp, Amsterdam and on the Rhine River east to Germany, France and Switzerland. Her home port will be Hansweert, Netherlands.

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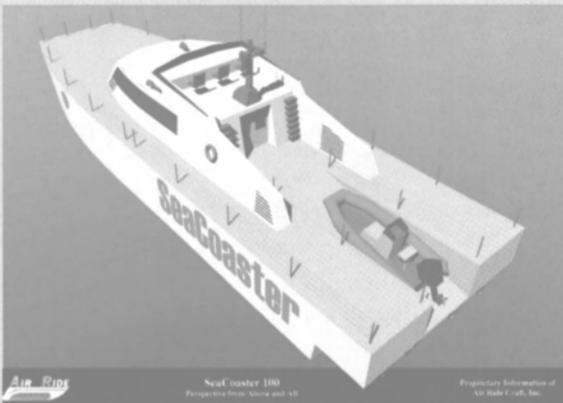


The Cummins QSK60 M main engine being lowered into the MTS Rosette.



The MTS Rosette alongside the fitting out dock at the shipyard.

ONR To Evaluate SeaCoaster



American Marine Holdings, builders of Donzi and Pro-Line Boats, signed an agreement with the U.S. Office of Naval Research to build and test a 103 ft., hi-speed, air-induced vessel under their government sales division's new aluminum catamaran line, SeaCoaster.

The construction of this vessel will take place at the Austal USA shipyard in Mobile, Ala.

The agreement for Hull #1 is valued at just under \$4.5 million dollars and calls for the design, construction and demonstration of SeaCoaster's advanced hull form technology. Upon its successful evaluation, this technology will be offered to various departments of the U.S. Military for potential applications requiring a high speed, shallow draft, and highly efficient hull form.

American Marine Holdings President, **Mike Collins**, said, "While we have sold Donzi's and Pro-Line's for military and government applications in the past, this new boat takes us to another level in terms of what we can offer to government customers. We have high expectations for our SeaCoaster boats and this contract is just the tip of the iceberg."

SeaCoaster's Surface Effect Catamarans range in size from 50 to 230 ft. and are designed for use as patrol and fire-rescue boats, as well as a wide variety of commercial uses. The vessel characteristics are hi-speed (50+ knots), low wake, shallow draft, stable platform, handles heavy loads at hi-speeds, reduced underwater magnetic signature and are less susceptible to damage from underwater explosions.

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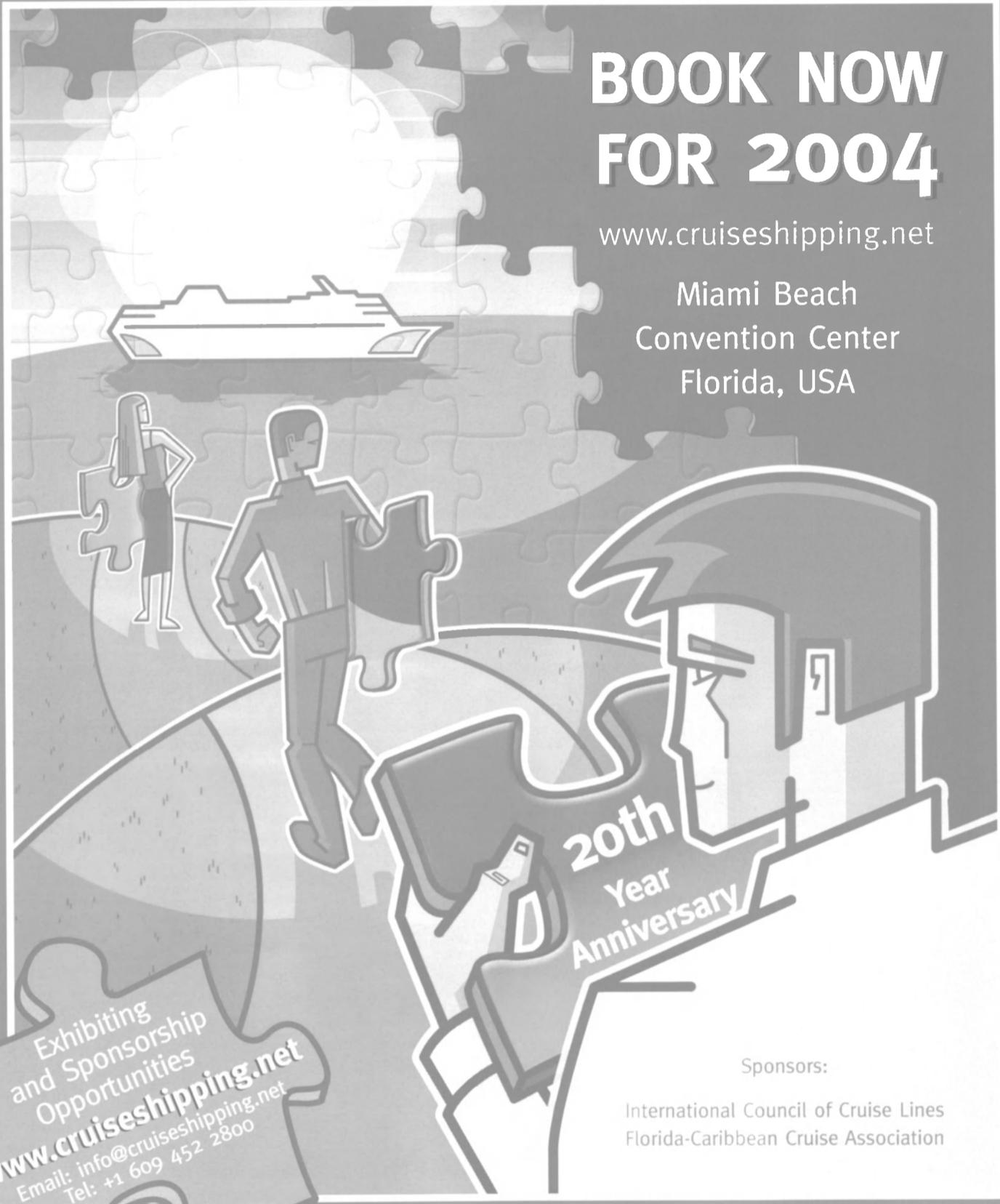
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At Sea with U.S. Maritime Security

(Continued from page 23)

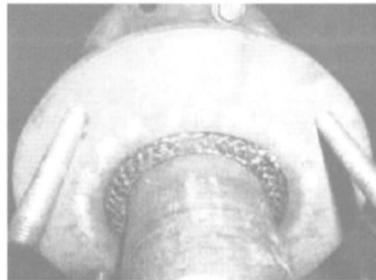
If anyone thinks this scenario is too fanciful to merit consideration, I suggest you look not at the terrorist attack on the French tanker LIMBURG in Yemen on October 6, 2002, but at the bombing of Pan Am flight 103 over Lockerbie, Scotland on December 21, 1988. In subsequent civil litigation, Pan American Airlines was found liable for the wrongful death of the passengers and was not allowed to limit its liability. The airline, which subsequently went into bankruptcy and ceased operations, was found to have had an inadequate system for examining luggage at designated 'extraordinary security' airports. In other words, it failed to meet the regulatory and industry standards prevailing at that time. Massive civil liability and, ultimately, bankruptcy ensued.

This result was avoidable then and is avoidable now. Ship owners and operators should pay heed and comply with the requirements of both the MTSA and the U.S. Coast Guard maritime security regulations. International ship security plans should be supplemented to meet the MTSA requirements and then submitted to the Coast Guard - despite the fact that the agency has

said it does not want them.

Finally, and most importantly in the long run, the U.S. Coast Guard should belatedly return to Congress and seek an amendment to the MTSA to make it fully consistent with the SOLAS Convention and the ISPS

Code. After all, maritime transportation is an international venture and terrorism knows no boundaries. A unilateral approach, such as that adopted in the MTSA, is inadequate to resolve this problem.



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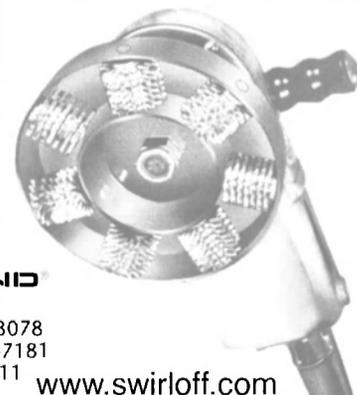
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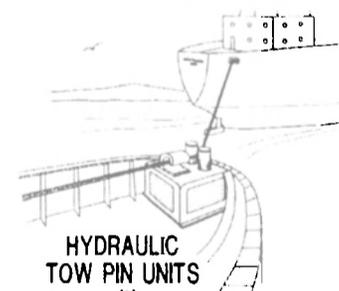
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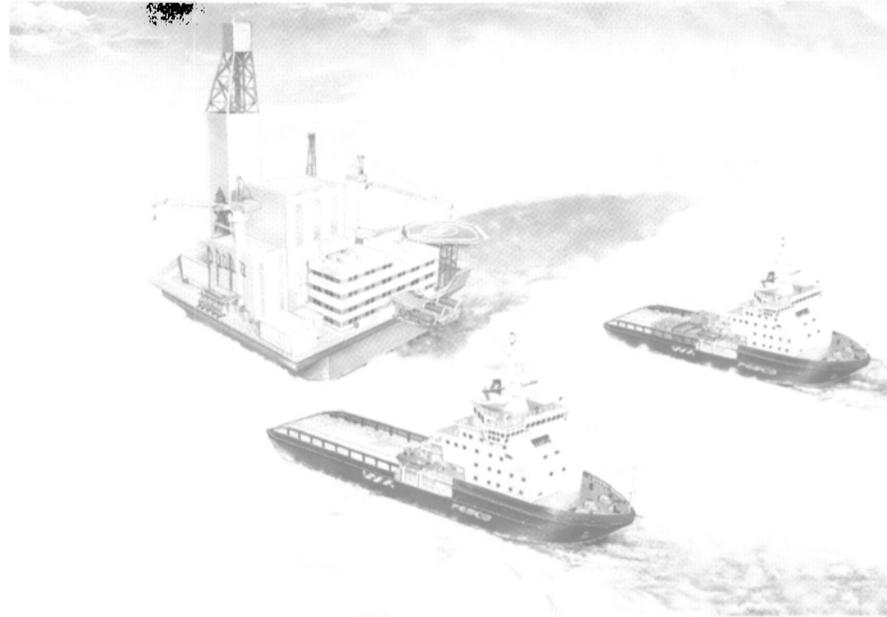
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TIDEWATER	AHTS	2		04/05		NAVIGATOR INTERNATIONAL	PRODUCTS TANKER	2	5,600	04					
ZODIAC MARITIME (OFER GROUP)	BULK CARRIER	2	180,000	06	77	STOC TANKERS	PRODUCTS TANKER	1	4,320	04	9				
SANTOKU SENPAKU	BULK CARRIER	1	178,000	04		SAMHO SHIPPING	PRODUCTS TANKER	1	3,400	04					
SINCERE NAVIGATION	BULK CARRIER	1	175,100	05		BP SHIPPING	PRODUCTS TANKER	5	3,000	04/05					
CIDO SHIPPING	BULK CARRIER	2	175,000	06	70	HALUL OFFSHORE SERVICES	SUPPORT VESSEL	1		04					
OAK MARITIME	BULK CARRIER	1	175,000	05		NIPPON YUSEN KAISA (NYK)	TANKER	1	300,000	05					
JINHUI SHIPPING & TRANSP.	BULK CARRIER	1	76,000	05	22	NIPPON YUSEN KAISA (NYK)	TANKER	1	300,000	05					
SHINYO	BULK CARRIER	1	75,000	05		CHINA SHIPPING GROUP (CSG)	TANKER	1	298,000	05	66				
CIDO SHIPPING	BULK CARRIER	1	75,000	06	22	TSAKOS SHIPPING & TRADING	TANKER	2	165,000	05					
REPUBLIC OF IRAN SHIPPING LINES (IRISL)	BULK CARRIER	4	74,000	06	88	UNKNOWN	TANKER	2	160,000	05					
DIANA SHIPPING	BULK CARRIER	2	73,100	05		CTGM	TANKER	1	155,000	05					
CHINA SHIPPING GROUP (CSG)	BULK CARRIER	2	57,000	06	37	SOPONATA	TANKER	2	155,000	05	93				
YASA SHIPPING	BULK CARRIER	2	56,000	06		DYNACOM	TANKER	3	153,000	06					
RESTIS	BULK CARRIER	4	53,000	05/06	74	BP SHIPPING	TANKER	4	114,800	06					
NORDEN AS	BULK CARRIER	1	48,600	05		STENA BULK	TANKER	3	112,000	05	147				
INTERSHIP NAVIGATION	BULK CARRIER	2	38,000	05/06		MITSUI O.S.K. LINES (MOL)	TANKER	1	110,000	06					
JEBSENS SHIP MGMT	BULK CARRIER	2	33,500	05	33	VALLES STEAMSHIP CO	TANKER	1	110,000	05	37				
JAPANESE INTERESTS	BULK CARRIER	1	19,000	04		OATAR SHIPPING CO	TANKER	2	110,000	05/06	73				
PETER DOHLE SCHIFFAHRTS	BULK CARRIER	4	7,600	05/06	28	JAPANESE INTERESTS	TANKER	1	107,000	04					
KOWA KISEN	BULK CARRIER / CEMENT CARRIER	1	7,133	04		NIPPON YUSEN KAISA (NYK)	TANKER	1	106,800	06					
JAPANESE INTERESTS	BULK CARRIER / ORE CARRIER	4	82,800	06		JAPANESE INTERESTS	TANKER	2	106,000	04/05					
TRANSOCEAN MARITIME	BULK CARRIER / ORE CARRIER	2	76,500	06		NOVOSHIP	TANKER	4	105,400	04/05					
JAPANESE INTERESTS	BULK CARRIER / ORE CARRIER	5	75,500	05/06		DRYTANK	TANKER	1	105,000	05	37				
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SOUTH AFRICAN MARINE	BULK CARRIER / ORE CARRIER	2	53,700	05		VALLES STEAMSHIP CO	TANKER	1	105,000	05	36				
AKTIE DENIZCILIK	BULK CARRIER / ORE CARRIER	1	53,500	05	19	PRIMORSK SHIPPING CORPORATION	TANKER	1	105,000	05					
SATO KISEN	BULK CARRIER / ORE CARRIER	1	51,900	04		UNKNOWN	TANKER	2	93,230	06					
PACIFIC BASIN BULK SHIPPING	BULK CARRIER / ORE CARRIER	2	43,800	04/05		DIAMANTIS LEMOS	TANKER	2	75,000	05/06					
JAPANESE INTERESTS	BULK CARRIER / ORE CARRIER	1	35,000	05		EMIRATES NATIONAL OIL CO.	TANKER	2	75,000	05	70				
JAPANESE INTERESTS	BULK CARRIER / ORE CARRIER	3	33,300	05/06		UNKNOWN	TANKER	2	74,500	07					
ROYAL ARCTIC LINE	CONTAINER	2	8,800	04		PLEIADES	TANKER	2	61,000	05	16				
COSTAMARE SHIPPING CO	CONTAINER	3		06	248	CONCORDIA MARITIME	TANKER	4	49,900	05/06	140				
CMA CGM	CONTAINER	4		06	320	DAIWA KISEN	TANKER	1	4,998	04					
ORIENT OVERSEAS CONTAINER LINE - OOLC	CONTAINER	2		06/07	146	COGEMA	TANKER	1	4,500	04					
OFFEN	CONTAINER	3		06		SUARDIAZ	TANKER	1	3,000	04					
CLAUS-PETER OFFEN	CONTAINER	5		06		KOMENAKA KAIUN	TANKER	1	2,400	04					
P & O NEDLLOYD	CONTAINER	2		06	142	JAPANESE INTERESTS	TANKER	1	2,000	03					
EVERGREEN	CONTAINER	8		06/07		JAPANESE INTERESTS	TANKER	1	1,740	04					
COSCO	CONTAINER	2		05		SOUTH KOREAN GOVT	TRAINING VESSEL	1		05					
OSKAR WEHR	CONTAINER	2		06	100	UNKNOWN	TUG	2		03					
UNKNOWN	CONTAINER	2		05		HADI AL HAMMAN	TUG	1		04					
SEASPAR INTER.	CONTAINER	4		06	160	SINGAPORE INTERESTS	TUG	2		04					
CP SHIPS	CONTAINER	9		06/07	360										
PETER DOHLE SCHIFFAHRTS	CONTAINER	2		06											
NORDEUTSCHE REEDEREI	CONTAINER	2		06											
PETER DOHLE SCHIFFAHRTS	CONTAINER	2		05/06											
HANSA TREUHAND	CONTAINER	1		06											
WAN HAI LINES	CONTAINER	1		05	31										
RCL	CONTAINER	2		05	60										
BOCKSTIEGEL REEDEREI	CONTAINER	2		05	30										
NAMSUNG SHIPPING CO	CONTAINER	2		06	27										
SHANDONG YANTAI	CONTAINER	2		04											
SINGAPORE INTERESTS	CONTAINER	4		05/06											
PACIFIC INTERNATIONAL LINES	CONTAINER	2		06											
GERMAN INTERESTS	CONTAINER	4		04											
GERMAN INTERESTS	CONTAINER	2		04											
UNKNOWN	CONTAINER	3		04/05											
NAT SHG CO SAUDI ARABIA (NSCSA)	CHEMICAL TANKER	2	46,200	05/06	67	Andhika Loreto	bu ke	74,000	97	17	Asian Progress	tanke	238,000	87	16.9
BROSTROM RIGEL SCHIFFAHRTS	CHEMICAL TANKER	2	37,000	05	60	Anwerpia	bu ke	68,000	90	12	Allantic Ruby	tanke	260,000	93	24.4
SEYCHELLES PETROLEUM	CHEMICAL TANKER	1	32,230	05		Arizona Dream	bu ke	27,000	80	2.8	Bauska	tanke	22,000	87	12.5
MEDITERRANEA DI NAVIGAZIONE	CHEMICAL TANKER	1	25,000	05	25	Atlantic Sovereign	bu ke	68,641	86	9.1	Berge Banker	tanke	323,000	79	14
KYOKUHO CHEMICAL TANKER	CHEMICAL TANKER	1	25,000	05		Brave Success	bu ke	42,000	94	12.2	Berge Nisa	tanke	322,000	83	18
DONSOTANK	CHEMICAL TANKER	1	19,500	05	27	China Merchant	bu ke	38,888	86	7.3	Eastern Honor	tanke	134,430	87	10.75
LOTUS SHIPPING	CHEMICAL TANKER	3	12,800	04/05	42	Chrismir	bu ke	159,829	97	36	Evelyn Moersk	tanke	299,000	95	48.5
SCHOELLER	CHEMICAL TANKER	2	12,400	04	28	Cic Hope	bu ke	149,735	95	26	Evrus	tanke	39,990	84	6.4
JAPANESE INTERESTS	CHEMICAL TANKER	1	12,000	03		Courageous	bu ke	149,190	95	26	Galp Sines	tanke	18,000	82	2.8
JAPANESE INTERESTS	CHEMICAL TANKER	1	8,800	04		Darya Shubh	bu ke	33,000	82	3.75	Kersaint	tanke	37,000	01	27.5
NEPTUNE SHIPPING AGENCIES	CHEMICAL TANKER	1	8,800	05		Diamond Halo	bu ke	45,000	96	15.5	Pro Victor	tanke	29,900	92	10.8
SCHOELLER HOLDING	CHEMICAL TANKER	4	8,500	04/05		Evoikos	bu ke	24,000	82	3.4	Samco Europe	tanke	259,999	88	17.1
BESIKTAS SHIPPING	CHEMICAL TANKER	1	7,100	04		Glorious Success	bu ke	26,441	94	10.5	Singapore Spirit	tanke	96,967	87	12
SPANISH INTERESTS	CHEMICAL TANKER	1	7,100	04		Harstad	bu ke	27,000	81	3.1	Suaong Spirit	tanke	98,215	87	12
PALMALI	CHEMICAL TANKER	2	6,150	04/05		Iman	bu ke	49,228	82	5	Tsukubasan	tanke	261	90	24.3
TURKISH INTERESTS	CHEMICAL TANKER	2	3,500	04		Ialcos Garnel	bu ke	31,000	82	3.4	Varg	tanke	68,000	92	22.5
WOOLINM SHIPPING	CHEMICAL TANKER	1	3,400	04		Iron Chieftain	bu ke	50,000	93	18.5					
KALYON DENIZCILIK	CHEMICAL TANKER	1	3,200	04	9	Katendrecht	bu ke	33,230	89	8.1					
SAMUDERA	CHEMICAL TANKER	1	2,850	04		Kieldrecht	bu ke	33,230	89	8.1					
UNKNOWN	CHEMICAL TANKER	1	1,700	04	5	Magna Energy	bu ke	19,410	84	3.6					
MOBY LINES	FERRY	1		05	100	Male	bu ke	37,428	79	3					
SEAFRANCE	FERRY	1		04		Matilde	bu ke	160,013	97	36					
KROSSBREKKA PF	FISHING	1		04		Noganita	bu ke	42,156	84	6					
WOODSIDE PERTH	FPSO	1	150,000			Navios Pioneer	bu ke	38,888	85	6.3					
JAPANESE INTERESTS	GENERAL CARGO	1	10,650	04		Pacific Governor	bu ke	43,222	95	13.25					
KANSAI KISEN	GENERAL CARGO	2	10,000	04/05		Pacific Hero	bu ke	27,836	95	11					
US NAVY	GENERAL CARGO	1	8,500	05		Papendrecht	bu ke	40,908	89	9					
BRIESE SCHIFFAHRGT GMBH	GENERAL CARGO	1	7,000	04		Pendrecht	bu ke	40,908	89	9					
NOMA KAIUN	GENERAL CARGO	2	6,390	04		Safflower	bu ke	69,000	95	15.2					
NOMA KAIUN	GENERAL CARGO	1	6,300	04	7	Sea Orion	bu ke	47,260	97	15.8					
WAGENBORG SHIPPING BV	GENERAL CARGO	1	4,500	04		Sea Wisdom	bu ke	24,279	97	9.75					
UNKNOWN	GENERAL CARGO	1	3,800	05		Shun Kim	bu ke	149,722	90	18.5					
MASTER DENIZ ACENATLIGI	GENERAL CARGO	1	2,750	03		Sibulk Premier	bu ke	53,609	03	20.5					
GAZ DE FRANCE (GDF)	LNG	1		05	232	Silria	bu ke	41,000	85	6.5					
OMAN GOVERNMENT	LNG	1		05	150	Star Sirius	bu ke	38,099	85	6.5					
UNKNOWN	LNG	1		05	150	Susan S	bu ke	65,716	86	8					
CMA	LNG	1		05	152	Tranquility	bu ke	34,681	82	2.2					
ANGELICOUSSIS	LNG	1		04		United Purpose	bu ke	43,991	95	13.6					
TABUCHI KAIUN KAISHA	LPG	1	1,970	05		United Sage	bu ke	74,000	98	18.8					
NORSK HYDRO	LPG	1		05	48	United Support	bu ke	74,000	99	19.8					
TOM WORDEN	MULTI-FUNCTION SERVICE	2	7,500	05	8	Westwind	bu ke	24,900	83	4.08					
NIPPON YUSEN KAISA (NYK)	MULTI-PURPOSE	4	20,000	04/05	31	World Ribbon	bu ke	74,000	98	19.3					
JORG KOPPING	MULTI-PURPOSE	2	10,500	04/05		World Rye	bu ke	74,000	99	20.25					
NIPPON YUSEN KAISA (NYK)	MULTI-PURPOSE	4		04/05											
FOSEN TRAFIKLAG	PASSENGER / VEHICLE/FERRY	1		04	65										
FRED OLSEN & CO.	PASSENGER / VEHICLE/FERRY	1		04											
JAPANESE INTERESTS	PASSENGER / VEHICLE/FERRY	1		04											
SHENCSI SHIPPING	PASSENGER / VEHICLE/FERRY	1		04											
TRACETTI POZZUOLI	PASSENGER / VEHICLE/FERRY	3		04/05	51										
NIPPON YUSEN KAISA (NYK)	PTC	1		06	40										
NIPPON YUSEN KAISA (NYK)	PTC	1		06	40										
GREAT EASTERN SHIPPING CO. GESCO	PLATFORM SUPPLY VESSEL	1		04											
TORM A/S	PRODUCTS TANKER	2	105,000	06											
RUSSIAN INTEREST	PRODUCTS TANKER	1	95,000	04											
BARCLAY SHIPPING	PRODUCTS TANKER	2	73,000	06/07	60										
JINHUI SH-PPING & TRANSP	PRODUCTS TANKER	1	55,300	05	19										
JAPANESE INTERESTS	PRODUCTS TANKER	2	48,000	05											
MITSUI O.S.K. LINES (MOL)	PRODUCTS TANKER	1	48,000	05											
STARGAS	PRODUCTS TANKER	1	47,000	05	28										
FULLSHIP SRL	PRODUCTS TANKER	2	47,000	05/06	60										
JAPANESE INTERESTS	PRODUCTS TANKER														

KMY Helps Breaks the Ice in Russia

Following evaluation by ExxonMobil, operator of the Sakhalin-1 project in Russia, Kvaerner Masa-Yards Inc., Finland, and Far-Eastern Shipping Company PLC (FESCO), Russia, signed contracts for the design and construction of two icebreaking stand-by and supply vessels for the Sakhalin-1 project. The contracts are still subject to approval by the Central Bank of Russia and to issues related to post-delivery financing.

With the contract for the second ship to be confirmed by early November 2003, both Kvaerner Masa-Yards and FESCO have agreed not to publish the value of either of the contracts at this stage. The contracts will not be recorded to Kvaerner Masa-Yards' order reserve until all approvals and financing have been confirmed. The vessels, which will measure 328 ft. (100 m) overall and a



4,000 dwt, are due for delivery in 2005 and will be operating in the harsh Okhotsk Sea environment in the Sakhalin area in Far-East Russia. Their

shaft power is 13 MW and they will each be fitted with two azimuthing rudder propellers. These ships are based on the "double-acting" concept for icebreakers, which was developed by the Arctic Technology Center (MARC), part of Kvaerner Masa-Yards Inc.

In this concept the vessel meets the most difficult ice conditions moving with the ship's stern first, using azimuthing electric propulsion. By this, less power is needed and the ship's bow can be optimized for efficient open water operation. The operating conditions in the Sakhalin area are demanding with freezing temperatures down to -40°C and difficult ice conditions with ice ridges up to 20 m deep and solid ice exceeding 1.5 m in thickness.

Circle 55 on Reader Service Card

Astander Completes CSO Deep Pioneer Upgrade

The work carried out on the 11,564 grt multipurpose subsea installation vessel CSO Deep Pioneer included the installation of two new ROV Launch & Recovery Systems and eight new two-cabin modular accommodation modules to take in the new crew requirements. Three new 1,360 kW generators were also installed to support the new power demand onboard as a result of all the new equipment in a new purpose-built generator room. All new installations were located aft of the existing accommodation block, the ship structure being strengthened previously. The whole program was completed after a 67-day stay of the vessel at the yard only. This contract for Technip, follows another successful upgrading project completed at Astander last winter for another U.K.-based customer: Global Marine Systems on its cable layer Wave Sentinel on which, another new ROV system was fitted.

Circle 56 on Reader Service Card



A major upgrading project has been recently completed by Astilleros de Santander, S.A. (Astander) for Aberdeen-based Technip.

Rickmers Singapore Christened

Rickmers Singapore, one of nine new Superflex Heavy Multi-Purpose Container (MPC) vessels being built in China for Rickmers-Linie, Hamburg, was christened in its namesake city. Rickmers Singapore is employed on Rickmers' Round-The-World Pearl String Service having been delivered to the company in March 2003. The ship has since proven its reliability and is now performing its second circumnavigation.

On its christening call, the vessel discharged among other cargo 12 modules, each of which had a unit weight between 130 and 145 tons. Karin Ganger, wife of Ulf Ganger, former Director of the Hamburgische Landesbank (now HSH Nordbank), acted as the vessel's godmother. Subsequent to the ceremony, guests hopped aboard for a closer look at the latest technology in ship design and, in particular, heavy cargo handling equipment. Rickmers Singapore and sisterships boast adjustable tweendecks, a heavy-lift capacity of up to 640 tons and dehumidifying devices in all holds. All told, Rickmers-Linie ordered nine vessels, of which the seventh — Rickmers New Orleans — was just delivered in July 2003.

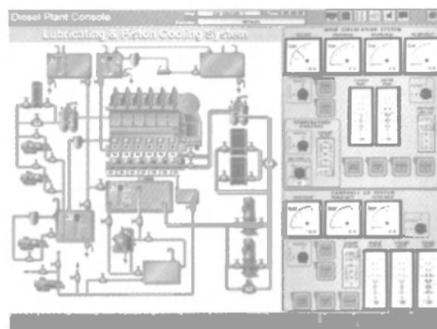
The new fleet will be complete when the deliveries of Rickmers Jakarta and Rickmers Genoa occur in November 2003 and early 2004, respectively.

Transas Releases New Version of Engine Room Simulator

Transas commercially launched the latest version of its Engine Room Simulator, ERS 4000. The new simulator is enhanced with a number of new significant capabilities aimed at satisfying the increasing demands of users of this kind of simulation product.

The modified ERS 4000 simulator features a modern design for the dedicated hardware set with new control panels, and some essential improvements have been made to the simulator's functionality.

One of these is the new configuration for the Electric Power Plant, which now includes Steam Turbo-generator and the updated Steam Plant. The accurate mathematical ship models incorporated in the simulator have been improved and extended by the new vessel types, Tanker LCC and Trawler. The modular structure of the ERS 4000 software allows the number of the high-quality models to easily be enlarged according to customer needs. The Instructor's module of the ERS 4000 simulator has been



completely revised and enhanced with additional functionality, which makes the operation easier and more effective. The Trainee workstations have been given a more realistic and ship-like look.

Another major improvement implemented in this new version of simulator is the 'virtual reality' engine room. The innovative 3-D Engine Room module inserted in the ERS 4000 helps users to solve such training tasks as equipment familiarization, system mnemonic diagrams and local control positions, standard operation and advanced operation including troubleshooting.

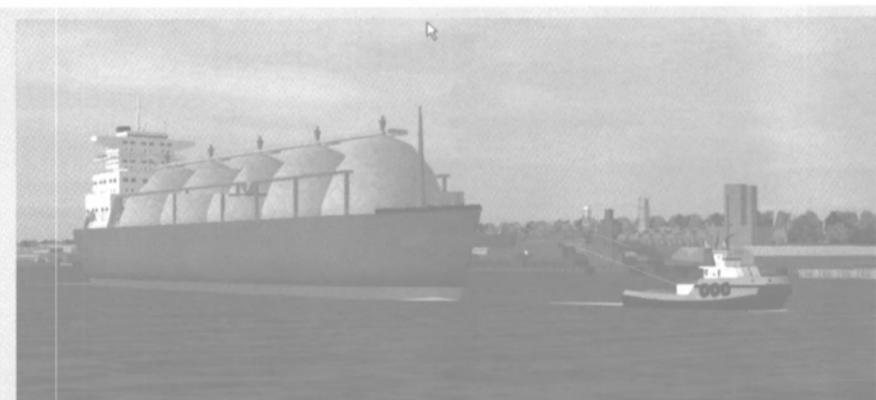
The open architecture and modular



design structure of the ERS 4000 simulator has allowed for its integration with the Navi-Trainer 4000 shiphandling simulator into a single interactive train-

ing environment, which opens more opportunities for different types of training, in particular for team-training.

Circle 62 on Reader Service Card



Merseyside gets first UK escort tug simulator

The UK's first full active escort tug simulator is to be installed on Merseyside. The Polaris System, manufactured by Kongsberg Maritime Ship Systems AS, allows tug captains to learn how to escort large ships in a completely safe, simulated environment.

The escort tug simulator-training facility is an enhancement of the 360-degree ship's bridge simulator at Birkenhead-based Lairdside Maritime Centre, which is the only one of its kind in the UK. It is expected to be fully in service by November.

It will see the introduction of a 120-degree full mission ship's bridge simulator fitted with Z-Drive controllers and detailed tug models that will link to two further bridge simulators. This will allow complete communication and interaction between the tug, pilot and ship team and will enable tug captains to rehearse active escort towage and berthing of oil tankers in total safety.

Phil Davies, Director of the Lairdside Maritime Centre says, "We are delighted to be working on this project, which will offer safe and intensive training for pilots and tug captains. Not only will it raise the profile of the center here on Merseyside, but it will also allow us to attract further delegates from around the UK and from overseas."

The enhanced simulator training will allow the center to further develop its bridge team management training by creating a completely realistic experience for the captain of the tug, the port control center and the ship's master and pilot. The addition of the tug bridge will allow simultaneous training of ship/pilot and tug personnel complete with ship/tug human interaction/team work factors. In particular this will make escort towing training, including emergency response maneuvers, available in the UK for the first time. Up to now this particular aspect of simulator training has only been available in the Netherlands.

Initially the simulator tug model will be a twin azimuth stern drive tug with towing winch forward and bollard pull of 120 tons. Dimensions of the tug are; length 42.7m, beam 12.5m and draught 4.9m. Over time the center will be able to create new models of differing powers and sizes.

ISPS Code Workshop

SUNY Maritime College is offering a three day workshop, "Preparing For the International Ship and Port Security Code" to be held November 19 through 21, 2003 and January 28 - 30, 2004 on the Maritime College campus. This interactive workshop will bring maritime industry professionals up-to-date with the specific requirements of the ISPS Code as well as discuss risk assessment, ship/facility security assessments and security plans. This workshop is designed to cover training requirements for Company Security Officers and Shipboard Security Officers as well as those individuals in an organization who will be responsible for Code compliance. The workshop will provide attendees with information and guidelines that will assist them in developing their own corporate security plans and procedures. SUNY Maritime College offers a wide range of professional training opportunities to the maritime industry. For further information concerning the ISPS Code workshop or any program offered by the Maritime College contact apalmiotti@sunymaritime.edu.

from the UK MCA recently, the company reports. Applications are likely to grow again now that the course has received official approval from the Liberian Registry. The course has also been approved by Kuwait and the Isle of Man. Applications for the course have doubled over the three weeks since it received approval from the UK MCA. Over 500 candidates from 20 countries have enrolled since the course was launched. The Shipboard Security course consists of an interactive CD-ROM based training package or a video and printed course book. It covers all aspects of the role of Ship Security Officer, including threat and vulnerability assessment, communications, defensive and preventive measures and contingency planning. The candidate's course work is returned to Videotel for assessment by independent third-party assessors. The course takes about 21 hours in total, and can be completed while at sea.

Circle 43 on Reader Service Card

Shipboard Security Courses in High Demand

Videotel Marine International's Shipboard Security course has been in high demand since it received approval

ABS Completes Review of Seagull CBT

ABS has reviewed and indicated that Seagull's CBT distance learning solution covers the requirements for ship security training, a move that underscores the growing movement in the Maritime industry towards the efficiencies offered

by distance learning and computer-based training.

Upon successful submission of the course work Ship Security Officers receive an official classification society certificate, records that the company can use to indicate compliance with training requirements. Seagull's Ship Security Course Package allows all crew, including Ship Security Officers, to be trained onboard in compliance with the US Coast Guard and ISPS Security Code regulations taking effect in 2004. All training activities can be managed onboard or on shore through the Seagull Training Administrator.

The full Seagull training course package includes three CBT courses and the SSO course workbook: Security Awareness (CBT #115); Ship Security Officer (CBT #121); Ship Security Officer Workbook; Automatic Identification System (CBT #109).

Circle 45 on Reader Service Card

ECDIS Onboard Training

As electronic chart systems fast become the standard for commercial

vessels, authorities are soon expected to require mandatory training for ECDIS, similar to the ARPA certification.

Knowledge and skill in using electronic chart systems is a safety priority for ECDIS equipped vessels. Seagull now makes ECDIS training accessible and cost effective through the onboard course package. Previously available only through classroom training, this course package covers all theoretical subjects in the IMO model course 1.27 and successful participants will receive a course certificate of competence. Seagull's ECDIS Onboard Course Package provides knowledge, theoretical and practical skills to navigators who use Electronic Navigation Chart systems (ENC) and/or Electronic Chart Display Systems (ECDIS). The onboard course package includes: (CBT #26) Voyage Planning; (CBT #50) Satellite navigation GPS; (CBT #64) ECDIS and a workbook of questions and practical exercises relating to 7 different makes of equipment (additional makers to be added shortly). The topics covered are an introduction to ECDIS, chart accuracy, route planning programming and

evaluation and practical use of ECDIS.

To receive a Certificate of Competence the participants must submit to Seagull the CBT training reports and answers to the practical questions and exercises upon completion of the training.

MMA Restructures Loeb-Sullivan School

Dr. John Barlow, vice president for academic affairs and academic dean at Maine Maritime Academy (MMA), announced that the college's Loeb-Sullivan School of International Business and Logistics has been restructured.

The Loeb-Sullivan School offers graduate and undergraduate degrees in business. According to Barlow, the restructuring is intended primarily for administrative efficiency so as to position the graduate division of the business school as a global leader in its area of expertise. Accordingly, M.S. degree options of the school have been expanded and the curriculum and graduation requirements

have been revisited to meet changing industry needs. In conjunction with the change, Barlow announced the appointment of Dr. Shashi Kumar, a long-time faculty member of the school, to the post of associate dean to oversee the new expansion efforts and future development of the business school.

The Loeb-Sullivan School's new menu of graduate offerings includes Global Supply Chain Management, Defense Logistics, International Business, and Maritime Management. "These new programming options are market driven and are intended to meet the needs of contemporary global business," said Kumar.

"Maine Maritime Academy has always been a specialty college and has remained flexible and responsive to changing technologies and requirements of global business. We've listened to our corporate clients and students in light of the dramatic effects of Sept. 11 on global supply chain management in particular, and offer these new programs in an effort to provide highly-skilled, international business managers."

Top 20 World Merchant Fleets by Country of Owner

Self-Propelled Ocea-going Vessels 1,000 Gross Tons and Greater
As of July 1, 2003
(Tonnage in Thousands)

Country	Tanker		Dry Bulk		Full Container		Other		Total	
	No.	DWT	No.	DWT	No.	DWT	No.	DWT	No.	DWT
1 Greece	780	61,995	1,329	74,967	150	5,089	650	6,687	2,909	148,738
2 Japan	768	37,137	855	51,726	215	7,221	837	7,801	2,675	103,886
3 Norway	479	33,361	179	11,078	18	534	473	6,430	1,149	51,403
4 UnitedStates	417	33,271	114	6,010	83	2,850	376	4,722	990	46,853
5 China	316	7,501	595	24,868	218	4,718	949	7,828	2,078	44,915
6 Germany	196	7,388	157	6,710	830	22,575	887	6,207	2,070	42,880
7 HongKong	137	16,042	225	16,612	36	1,287	117	1,732	515	35,673
8 Korea(South)	223	8,242	180	13,157	96	2,290	261	1,541	760	25,230
9 Taiwan	42	3,232	174	11,413	191	6,720	109	850	516	22,215
10 UnitedKingdom	159	7,648	77	6,819	124	5,295	246	2,145	606	21,907
11 Singapore	309	11,662	119	4,981	142	3,044	128	1,113	698	20,800
12 Denmark	149	7,122	22	1,414	130	6,525	226	1,243	527	16,304
13 Russia	386	7,564	116	1,873	32	746	1,109	4,391	1,643	14,574
14 SaudiArabia	77	11,024	1	2	1	68	16	304	95	11,398
15 Italy	227	4,883	54	3,585	12	298	151	2,193	444	10,959
16 India	113	6,340	100	4,076	3	87	50	254	266	10,757
17 Turkey	93	1,318	140	5,349	35	384	272	1,731	540	8,782
18 Iran	35	5,459	44	2,008	7	179	38	682	124	8,329
19 Switzerland	36	1,313	32	1,429	89	3,403	74	888	231	7,033
20 Malaysia	94	2,809	58	2,541	36	784	88	531	276	6,664
All Other Countries	2,286	66,099	1,226	51,009	538	13,272	5,523	32,922	9,573	163,302
Total	7,322	341,409	5,797	301,628	2,986	87,369	12,580	92,195	28,685	822,601

Based on parent company nationality.

Other = Roll-on/Roll-off, passenger, breakbulk ships, partial containerships, refrigerated cargo, barge carriers, and specialized cargo ships.

Source: U.S. Maritime Administration (www.marad.dot.gov)

Products



ABS

ABS is authorized by the leading flag states as a Recognized Security Organization, including Marshall Islands and Liberia. ABS has 150 trained auditors in key shipping centers around the world able to respond quickly. ABS offers pre-assessments to help you identify short-comings in your plans. ABS' Guide for Ship Security is comprehensive, yet practical and includes a sample ship security plan.

Circle 101



Agfa

Agfa's Ultrasonic Systems CI400 Ultrasonic Precision Thickness Gauge is able to quickly read, display a solid value that provides assurance of the measurements accuracy while minimizing test time. The gauge tests a variety of materials including thin gauge metals, plastics, glass, ceramics, etc. from one side only.

Circle 102



AMOT

The AMOT 47702X range of electric actuators has been developed for quarter-turn operating applications such as valves, dampers or similar uses and features an extended range of output torques and control options allowing effective tailoring to a wide variety of specific requirements. The actuator is available in a range of torques and is self-locking with minimum backlash in the transmission.

Circle 103



Draeger

Draeger Safety has introduced the microPac

Plus Oxygen Monitor an ultra-compact gas measuring and warning device for oxygen in the 0-25% volume range. The two-year maintenance-free instrument features a fully functional LCD concentration display with audible, visual, and vibrating alarms.

Circle 104



Electroswitch

Electroswitch introduces its new Control Indicator Module with serial networking capability. Allowing connection to a multidrop network, this powerful new substation automation product allows multiple users complete access to monitoring and control functions for up to three breaker trip coils while providing a local manual failsafe switch.

Circle No. 105



Fender Care

World-wide distributor/operator of the Yokohama pneumatic fender including Naval grey fenders (sales, rental, refurbishment). Manufacturer of deck mooring equipment, quayside bollards, navigation and safety buoys, marine hardware (anchors, chain). World-wide bases (UK, Europe, ME, Africa, SE Asia, USA) carry stock. Full ship-to-ship transfer service world-wide.

Circle 106



Ferrostaal

Eighty thousand major companies located in one hundred and ninety two countries and active in forty major sectors. - They all want to do business. They all want to do business with each other. Making the world into a market: Supply. Demand. New technologies. Technological transformation. Initial investment. Finalized facilities. Ferrostaal. The link.

Circle 107



FloScan

FloScan's new Series K Diesel Fuel Flow Monitoring System represents a major technical breakthrough in diesel fuel management. The Series K model cuts the installation time and cost in half over previous diesel models. Separately mounted fuel pulsation dampers are no longer required. New fuel flow sensor design also enhances system performance and accuracy.

Circle 108



Honeywell

The new 1600 Series rotary torque sensor literally clamps onto the drive train and, within 15 minutes, converts that shaft into a rotary torque transducer ready to take horsepower measurement data. The 1600 Series provides diagnostic capability to monitor hull fouling, balance twin screw loads, and guard against over torque.

Circle No. 109



International Coatings

International Marine Coatings' "Cargo Hold Coatings" brochure details abrasion and corrosion mechanisms, introduces a new test method for cargo hold coatings and offers advice on coatings selection.

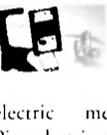
Circle 110



Kiene

The Kiene Cylinder Pressure Indicator attaches quickly and conveniently to any standard indicator valve. By utilizing the indicator, over and underloaded cylinders can be identified and the necessary corrective action initiated to maximize engine and/or cylinder operation.

Circle 111



Kistler

The Charge Meter Type 5015A is intended for use in electric measuring techniques. Piezoelectric sensors yield an electric charge which changes in direct proportion to the load that is affecting the sensors. The Charge Meter converts this charge into voltage. Quantities such as Pressure, Force and Acceleration are easily measured and are immediately displayed on the appropriate mechanical unit.

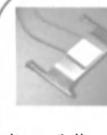
Circle 112



Ludeca

Ludeca's smartSCANNER is the first ever joystick operated combination tool for corrective and predictive maintenance tasks. It offers data collection, machine analysis and correction in one instrument and one maintenance database. Drastically reduced maintenance personnel accentuates the need for multi-functional tools that are easy to use.

Circle 113



Lytron

Lytron, the Total Thermal Solutions company, introduces a line of all-copper cold plates designed for contact cooling of high watt-density electronic components such as IGBTs, MOSFETs, resistors, diodes, etc. The new Ascent™ series is an ultra-low thermal resistance, low cost, copper cold plate.

Circle 114



Magtrol

Magtrol's new Tension-Torque brochure shows reliable devices for tension and torque control. The brochure features Magtrol's extensive hysteresis product offering including standard brakes and clutches, forced air-cooled brakes, large bore brakes, matched brakes and permanent magnet brakes and clutches.

Circle 115



Solar Solve

Solar Solve Marine - custom made sunshades for all ships window locations. Choose from the Type Approved SOLASOLV™ range of anti-glare, heat rejecting solar shades for bridge windows, or the ROIASOLV™ range of fabric roller shades and blackout shades for cabins and public areas.

Circle 116



MSA

The Ultima XE Gas Monitor from MSA Instrument Division now features an integral XP push button switch that enables easy resetting of latching alarms. The switch has earned cUL approval for Class 1, Div 1, Groups B, C and D. The monitors provide continuous monitoring of combustible and toxic gases and oxygen deficiency, using catalytic and electrochemical technologies.

Circle 117



Van Der Velden

A. van der Velden has announced to celebrate 4 decennia of international success with a name-change. A leader in inland shipping maneuvering equipment is joining the other companies in the Van der Velden Group in operating under the trade name Van der Velden Marine Systems.

Circle 118



Kittiwakes

Kittiwakes announces the launch of the economical Viscotube. Suitable for hydraulic, lubrication systems and fuel oils, it is light, easy to use and demonstrates a high degree of accuracy for an unlimited number of tests. Its market competitive price offers a return of investment that will pay back after the first few tests.

Circle 119



Pinpoint

Pinpoint Laser Systems is introducing the Laser Microgage 2000- the newest advancement in factory alignment. The MG-2000 can be used by manufacturing employees right on their own production lines for checking alignment, improving manufacturing efficiency, reducing costly downtimes and ultimately, saving money.

Circle 120



SPS

SPS replaces conventional stiffened metal plates in maritime, offshore and civil engineering structures. SPS provides benefits in fabrication, performance, cost and safety for both civilian and military applications.

Circle 121



Seastate

Seastate combines the intelligent use of leading edge technology with experience in motion control to deliver the ultimate in system integration. From feasibility study to complete modular systems ready for installation, new projects or retrofit, call Seastate- the people who really know motion.

Circle 122



Rotor

Since 1958 Rotor b.v. has been supplying the industry with standardized squirrel cage induction motors which are in accordance with the IEC- and DIN standards. To guarantee a long service life and a fault-free operation, the electrical and mechanical execution of rotor induction motors can be adjusted to specific working conditions and special applications.

Circle 123



Acorn

Acorn Marine's toilets are high quality, from design and materials. The range comes in a large variety of fit and finish, from basic

to luxurious.
Circle 124



Xantic

Xantic is a satellite communication providers, offering ICT and CAT (Content, Applications and Transactions) oriented solutions. Xantic was formed by the merger between Station 12, Telstra Global Satellite, SpecTec and KPN Broadcast. It operates three Land Earth Stations (Netherlands/Australia).

Circle 125

BUYER'S DIRECTORY

This directory section is an editorial feature published in every issue for the convenience of the readers of MARITIME REPORTER. A quick-reference readers' guide, it includes the names and addresses of the world's leading manufacturers and suppliers of all types of marine machinery, equipment, supplies and services. A listing is provided, at no cost for one year in all issues, only to companies with continuing advertising programs in this publication, whether an advertisement appears in every issue or not. Because it is an editorial service, unpaid and not part of the advertisers contract, MR assumes no responsibility for errors. If you are interested in having your company listed in this Buyer's Directory Section, contact Mike Lowe at Lowe@marinelink.com

AIR CONDITIONING & REFRIGERATION
Adrick Marine Corp., P.O. Box 1549, N.Massapequa, NY 11758, 631-491-9475, 631-491-9478, adrick1976@aol.com
Bailey Refrigeration, 4986-1 Euclid Road, Virginia Beach, VA 23462
Cospolich Refrigeration, 14695 Highway 61, Norco, LA 70079
Flagship Marine, Inc. 2427 SE Dixie Hwy, Stuart, FL 34996, 800-316-6426, 772-283-4611, saies@flagshipmarine.com, Contact: Tom Martland, www.flagshipmarine.com
Port-A-Cool, PO Box 2108, Center, TX 75935
Stork Bronswerk Inc., 3755 C Boul. Matte, Brossard, Quebec J4Y 2P4, Canada
Taylor Made Environmental, P.O. Box 15299, Richmond, VA 23227

AIRHORNS/SIGNALING EQUIPMENT
Airchime Manufacturing Co., 5478 267th St., Gloucester Industrial Estate., Langley, BC V4W 3S8, Canada
Kahlenberg Brothers Co., P.O. Box 358, Two Rivers, WI 54241

ALARMS, FACTORY-MUTUAL APPROVED
NREC Power Systems, 5222 Hwy 311, Houma, LA 70360
Selco USA Inc., 2508 Lakebrook Ct, Atlanta, GA 30360-1715

ALUMINUM BOATS
Island Boats, 6806 Highway 90 East, New Iberia, LA 70560
Metal Craft Marine Inc., 347 Wellington St., Kingston, Ontario K7K 6N7, Canada
Sea Ark Marine, P.O. Box 210, Monticello, AR 71655-0210
William E. Munson Co., 18130 Sunset Way, Edmonds, WA 98026

ALUMINUM SUPPLIER
Aluminum & Stainless Inc, 101 Thru-Way Park, Brossard, LA 70518, 800-252-9074, 337-837-5439, saies@aluminumandstainless.com

ANCHORS & CHAINS
CS Controls Inc, 101 Dickon Road, Houma, LA 70363, 985-876-6040, 985-876-0751, info@cscontrols.com, Contact: Paul Srigley, www.cscontrols.com
Edgewater Machine & Fabricators, 400 Megan Z Ave. EDGEWATER, FL 32132
G.J. Wortelboer Jr. B.V., P.O. Box 5003, 3008 AA Rotterdam, Netherlands
Washington Chain & Supply, P.O. Box 3645, Seattle, WA 98124

ANTIPOULING
Flexdel Corp./Aquaquard, 1969 Rutgers University Blvd., Lakewood, NJ 08701, 888-353-9335, 732-901-6504, flexabar@sprintmail.com, Contact: Joe, Andy, or Rick, www.aquagard-boatpaint.com
Jotun Paints USA, 9203 Highway 23, Belle Chasse, LA 70037

AUTOPILOT SYSTEMS
Beier Radio, 1990 Industrial Ave, Harvey, LA 70058
ComNav Marine Ltd., 13511 Crestwood Pl., Ste 15 15, Richmond, BC V6V 2G1, Canada
Mackay Communications, 2721 Discovery Dr., Raleigh, NC 27616-1851

BALLAST
Ballast Technologies, 4620 S. Coach Dr., Tuscan, AZ 85714
Redland Genstar Inc., Executive Plaza IV, Hunt Valley, MD 10912-1031

BATTERY CHARGERS
BEARING- RUBBER, METALLIC, NON-METALLIC
Cooper Bearing, 5795 Thurston Ave., Virginia Beach, VA 23455
Craft Bearing, 5000 Chestnut Ave., Newport News, VA 23605
Duramax Marine LLC, 17990 Great Lakes Parkway, Hiram, OH 44234
Orkot Composites, 2535 Prairie Rd, Unit D., Eugene, OR 97402, 541-688-5529, 541-688-2079, mscott@poijmersealing.com, Contact: Mike Scott, www.orkotmarine.us
Thordon Bearings Inc., 3225 Mainway, Burlington, Ontario L7M 1A6, Canada

BILGE SYSTEMS
Fast Systems, 14040 Santa Fe Drive, Lenexa, KS 66215-1284
Westfalia Separator, Inc., 100 Fairway Court, Northvale, NJ 07647, (201) 767-3900, (201) 784-4399, brown.courtney@wsus.com, Contact: Courtney Brown

BLOCKS & RIGGING
Skookum, P.O. Box 280, Hubbard, OR 97032

BOATBUILDER
Sea Ark Marine, P.O. Box 210, Monticello, AR 71655-0210
Washburn Doughty, P.O. Box 296, E. Boothbay, ME 04544

BOLLARDS
Maritime International, 100 E. Vermilion St. #212, Lafayette, LA 70501

BRIDGE SUNSCREENS
Martek Marine Blinds, Unit 46, Century Business Centre, Maversway, Rotherham, South Yorkshire S63 5DA, UK

BROKERS
Maroon International, P.O. Box 1170, Coupeville, WA 98239

BULKHEAD SEALS/PANELS
CSD North America, 880 Candia Rd., Unit 10, Manchester, NH 03109
Thermax, 3115 Range Rd, Temple, TX 76501

BUOYS
Datex, P.O. Box 1150, Kinder, LA 70648

CAD/CAM SYSTEMS
Albacore Research, 4196 Kashtan Place, Victoria, BC V8X 4L7, Canada
Autoshop Systems Corp., Suite 312-611 Alexander Street, Vancouver, BC V6A 1E1, Canada
Cadmatic, Ostra Strandgatan 72 (Vita Huset), FI-20810 Turku, Finland
Creative Systems Inc., P.O. Box 1910, Port Townsend, WA 98368

CAPSTANS
CS Controls Inc, 101 Dickon Road, Houma, LA 70363, 985-876-6040, 985-876-0751, info@cscontrols.com, Contact: Paul Srigley, www.cscontrols.com
Superior Lidgerwood Mundy, 1101 John Ave., Superior, WI 54880

CARGO MONITORING & CONTROL SYSTEM
Hermatic Inc., 4522 Center St., Deepark, TX 77536

CAST IRON REPAIR
In-Place Machning, 1929 N. Buffum St, Milwaukee, WI 53212

CHAINS
Crandall Drydock Engineers, PO Box 505804, Chelsea, MA 02150
G.J. Wortelboer, Postbus 5003, 3008 AA Rotterdam, Netherlands
Washington Chain & Supply, P.O. Box 3645, Seattle, WA 98124

CHEMICALS/ CHEMICAL CLEANERS
Uniservice Americas, 57174 Hardin Rd., Slidell, LA 70461

CLASSIFICATION SOCIETY
American Bureau of Shipping, 16855 N. Chase Drive, Houston, TX 77060

CLOSED CIRCUIT TELEVISION
Hermis Scan Systems A/S, Postboks 619, NO 4809 Arendal, Norway

CNC PLATE CUTTING
Advanced Fabricating Inc, PO Box 3721, Galveston, TX 77552

COATINGS/ CORROSION CONTROL/ PAINT
Chugoku Marine Paints, P.O. Box 73, 4793, Netherlands
DeFelsko Corp, 802 Proctor Ave., P.O. Box 676, Ogdensburg, NY 13669

Ferro Corp., 1301 North Flora St., Plymouth, IN 46563
Flow International Corp., 23500 64th Ave., South Kent, WA 98059
Hempel Coatings, 10-3511 Viking Way, Richmond, BC V6V 1W1, Canada
Jotun Paints USA, 9203 Highway 23, Belle Chasse, LA 70037
MK Production Resources Inc., 1610 Reynolds Street, Brunswick, GA 31520
Nace International, 140 South Creek Dr., Houston, TX 77084
NAPASCO Inc., 213 Main Project Road, Shriever, LA 70395, 985-449-0730, 985-449-0740, napasco@napasco.com, Contact: Pam Bartell, www.napasco.com
Resto Motive Laboratories, P.O. Box 1335, Morristown, NJ 07962-1235
Sherwin Williams, 101 Prospect Ave., Cleveland, OH 44115
Sigma USA, P.O. Box 816, Harvey, LA 70059

COMMUNICATIONS
Inmarsat Ltd, 99 City Rd., London EUY 1AX, UK
L-3 Communications, 6000 Fruitville Road, Sarasota, FL 34232
Mackay Communications, 2721 Discovery Dr., Raleigh, NC 27616-1851
Seawave, 76 Hammarlund Way, Middletown, RI 02842
World-Link Communications, 74 Main St., Framingham, MA 01701

COMMUNICATIONS SERVICE
Maritel Marine Communications, 16 E. 41st Street, NY, NY 10017

COMPOSITE SHAFTS
Centa Corp., 815 Black Hawk Drive, Westmont, IL 60559

COMPOUNDS
Philadelphia Resins, P.O. Box 309, Montgomeryville, PA 18936

COMPUTER SOFTWARE MONITORING SYSTEMS
Azonix Corp., 900 Middlesex Turnpike, Bldg 6, Billerica, MA 01821, (978) 670-670-6300, (978) 670-8855, ProPanel-Mariner@azonix.com
COMPUTER/ COMPUTER SOFTWARE
Autoshop Systems Corp., Suite 312-611 Alexander Street, Vancouver, BC V6A 1E1, Canada
Creative Systems Inc., P.O. Box 1910, Port Townsend, WA 98368
Spec Tec., Professor Koth's Vey, 1366 Lysaker, Norway

CONSOLE- GMDSS
Mackay Communications, 2721 Discovery Dr., Raleigh, NC 27616-1851

CONSULTANTS
Captain R.J. Underhill & Associates, P.O. Box 1030, Groves, TX 77619
Elliot Bay Design Group, 5301 Shishole Ave. NW, Ste. 200, Seattle, WA 98107
Homblower Marine Services, P.O. Box 112476, Campbell, CA 95011-2476

CONTROL SYSTEM- MONITORING/STEERING
Beier Radio, 1990 Industrial Ave, Harvey, LA 70058
Electronic Marine Systems, 800 Fernale Pl., Rahway, NJ 07065
Electrowave U.S.A., 6125 W. Sam Houston Pkwy., Ste 406, Houston, TX 77041
G.R. Bowler, 2261 Lake Rd., Ontario, NY 14519
Kobelt Manufacturing Co., Ltd., 8238-129 Street, Surrey, BC V3W0A6, Canada

L-3 Communications Westwood Corp;Tano Div., 5700 Citrus Blvd, Ste E, New Orleans, LA 70123, 504-733-4777/ 1-800-229-TANO, 504-734-2127, guy.hardwick@i-3com.com
MMC International, 60 Inip Dr, Inwood, NY 11096
Prime Mover Controls, 3600 Gilmore Way, Burnaby, BC V5G 4R8, Canada
Tano Corp., 57017 Citrus Blvd., Ste. E, New Orleans, LA 70123

CORROSION CONTROL
Furuno USA Inc., 4400 NW Pacific Rim Blvd, Camas, WA 98607
Gardner Denver Water Jetting Systems, 8807 Emmett Rd., Ste 100, Houston, TX 77040
Ultra Strip, 3515 SE Lionel Terrace, Stuart, FL 34996

COUPLERS- TUG & BARGE
Intercontinental Engineering, PO Box 9055, Kansas City, MO 64168

COUPLINGS
American Vulkan, 2525 Dundee Rd, Winter Haven, FL 33884
Centa Corp., 815 Black Hawk Drive, Westmont, IL 60559
Geislinger Corporation, 200 Geislinger Drive, Battle Creek, MI 49015

Interexpo Ltd Couplings In Stock, Plateia Theatrou 4, Athens 105 52, Greece. +30 210 3245666. +30 210 3248666, +30 210 3249666, interexpo@interexpo-itd.gr, Contact: Marie Helene Charon, www.coupling.gr

Mapeco Products, 91 Willenbrock Rd., Unit B, Oxford, CT 06478
MMC International, 60 Inip Dr, Inwood, NY 11096

CRANE - HOIST - DERRICK - WHIRLEYS
Bisso Marine Co., P.O. Box 4113, New Orleans, LA 70178
CS Controls Inc, 101 Dickon Road, Houma, LA 70363, 985-876-6040, 985-876-0751, info@cscontrols.com, Contact: Paul Srigley, www.cscontrols.com
E. Crane, 241 Executive Dr., #3, Marion, OH 43302

Edgewater Machine & Fabricators, 400 Megan Z Ave. EDGEWATER, FL 32132
Holly Hoist Corp, P.O. Box 86, St. Clair Shores, MI 48080
Liebherr Werk Nenzing GMBH, P.O. Box 10, A-6710, Nenzing, Austria

CRANKSHAFT GRINDING
Goltens Marine, 160 Van Brunt St., Brooklyn, NY 11231

CRANKSHAFT REPAIR
Goltens Marine, 160 Van Brunt St., Brooklyn, NY 11231
In-Place Machning, 1929 N. Buffum St, Milwaukee, WI 53212
Waltz & Krezner, 91 Willenbrock Rd., Oxford, CT 06478

CUTTING & WELDING MACHINES
Bug-O Systems, 3001 W. Carson St., Pittsburgh, PA 15204
ESAB Cutting Systems, 411 South Ebenezer Road, Florence, SC 29501

DECK MACHINERY- CARGO HANDLING EQUIPMENT
Coastal Marine Equipment, Bldg 9114 MISAAP Ind. Complex, Stennis Space Center, MS 39529

CS Controls Inc, 101 Dickon Road, Houma, LA 70363, 985-876-6040, 985-876-0751, info@cscontrols.com, Contact: Paul Srigley, www.cscontrols.com
Edgewater Machine & Fabricators, 400 Megan Z Ave. EDGEWATER, FL 32132
ntercontinental Engineering, PO Box 9055, Kansas City, MO 64168
Markey Machinery, P.O. Box 24788, Seattle, WA 98124
McElroy/Catchot Winch Company, Inc., P.O. Box 4632, Bloxi, MS 39535-4632
Rapp Hydema, 4433 27th Ave. West, Seattle, WA 98199
Smith Berger Marine, 7915 10th Ave. S., Seattle, WA 98108
Superior Lidgerwood Mundy, 1101 John Ave., Superior, WI 54880
W.W. Patterson, 3 Riverside Road, Pittsburgh, PA 15223

DEHUMIDIFIERS
EBAC Industrial Products, 704 Middle Ground Blvd, Newport News, VA 23606, 800-433-9011, 757-873-3632, saies@ebacusa.com, Contact: Gray Coughlan, www.ebacusa.com

DESALINATION- REVERSE OSMOSIS
G.E.T. Inc., 3135 Golden Ave., Long Beach, CA 90806
Reverse Osmosis of South Florida, Inc., 150 S.E. 29th St., Fort Lauderdale, FL 33316

DIESEL CYLINDER INDICATORS
Kiene Diesel, 325 S. Fairbanks St., Addison, IL 60101

DIESEL ENGINE OVERHAUL
Detroit Diesel Corporation, 13400 Outer Drive West, Detroit, MI 48329-4001

Goltens Marine, 160 Van Brunt St., Brooklyn, NY 11231
Motor-Services Hugo Stamp, 3101 S.W. 3rd Ave., Ft. Lauderdale, FL 33315

DIESEL ENGINE- SPARE PARTS & REPAIR
Aquamarine Engineering, P.O. BOX 83495, San Diego, CA 92138
Caterpillar, Inc., P.O. Box 610, Mossville, IL 61552-0610
Chris Marine AB, Box 9025, 200 39 Malmo, Sweden
Cummins Marine, 4500 Leeds Ave., Ste 301, Charleston, SC 29405
GE Marine Engines, 1 Neuman Way, Cincinatti, OH 45215
Giro Engineering Limited, Talisman Duncan Road, Park Gate, Southampton, Hants SO31 7GA, UK
Goltens Marine, 160 Van Brunt St., Brooklyn, NY 11231
Man B&W Diesel, 17 State St., NY, NY 10004
Man B&W Diesel A/S, Telgholmsgade 41, Copenhagen SV DK-2450, Denmark
Man B&W Diesel AG, Stadtbachstrasse 1, Augsburg D-86153, Germany
Marine Exhaust Systems of Alabama, P.O. Box 698, 757 Nichols Ave., Fairhope, AL 36533
Marine Turbo & Diesel Inc., 1090 7th St., Richmond, CA 94801
Mariso USA, Inc., 100 Davidson Ave., Somerset, NJ 08873
Motor-Services AB, Box 2115, Ronninge S- 144 04, Sweden
Motor-Services Hugo Stamp, 3101 S.W. 3rd Ave., Ft. Lauderdale, FL 33315

NREC Power Systems, 5222 Hwy 311, Houma, LA 70360, 985-872-5480, 985-872-0611
Reagan Equipment, 2550 BelleChase Hwy, Gretna, LA 70054
Scardana Americas Bkg., 502 Empire St., Greenfield Park J4V 1V7, Canada
Wartsila Diesel, 201 Defense Hwy, Annapolis, MD 21401

DIESEL FUEL DECONTAMINATION
Algae X International, P.O. Box 4011, Fort Myers Beach, FL 33932

DIGITAL TORQUE METER SYSTEMS
Instruments, Computers & Controls, 78 Londonderry Tpke, Hookset, NH 03106

DISPLAY TECHNOLOGY
Kent Modular Electronics Ltd., 611 Maidstone Road, Rochester, Kent, UK

DIVING & SALVAGE
Bisso Marine Co., P.O. Box 4113, New Orleans, LA 70178

DOCK FENDERING SYSTEMS
Plastic Pilings Inc., 1485 South Willow Ave., Rialto, CA 92376

DOCUMENTATION/DATABASES
Zaetric Business Solutions, LLC, 24800 i-45 North, Suite 324, Houston, TX 77386, 713-824-1654, 713-621-4885, inquiries@zaetric.com, Contact: David Woody, www.zaetric.com

DOOR LOCKS
The Brass Works Inc., P.O. BOX 566, DeLand, FL 32721, 386-943-8857, 386-943-8810, info@marinedoorandcabinethardware.com

DOORS- MARINE & INDUSTRIAL
Deanstee Mfg., 111 Merchant St., San Antonio, TX 78204
Joiner Systems, 1925 52nd Avenue, Lacine, Quebec H8T 3C3, Canada
Juniper Industries Inc, 72-15 Metropolitan Avenue, Middle Village, NY 11379, 718-326-2546, 718-326-3786, marinesales@juniperindustries.com, Contact: Sales, www.juniperindustries.com

Juniper International, 72-15 Metropolitan Ave., Middle Village, NY 11379
Manly Marine, P.O. Box 86788, N. Vancouver, BC V7L 4L3, Canada
Mapeco Products, 91 Willenbrock Rd., Unit B, Oxford, CT 06478

USA Sliding Doors, Inc., 801 Hosmer Road, Churchville, NY 14428, 585-538-4160, 585-538-2806, info@usasiidingdoors.com, Contact: Mr. Robert Weiland, www.usasiidingdoors.com
Waltz & Krezner, 91 Willenbrock Rd., Oxford, CT 06478

DRIVES
Allied Systems, 2300 Oregon St., Sherwood, OR

DRIVESHAFTS
The Cline Company, 600 Buncombe St., Greenville, SC 29602

DRUG TEST KITS
Sun State Specialty K-9s, 1500 Beville Road, Daytona Beach, FL 32114

DRY DOCKS- DESIGN
Crandall Drydock Engineers, PO Box 505804, Chelsea, MA 02150

ELASTOMER PIPING PRODUCTS
Elasto Valve Rubber, 1691 Pioneer Road, Sudbury, ON PG3 1R2, Canada

ELECTRICAL EQUIPMENT
MMC International, 60 Inip Dr, Inwood, NY 11096
Olson Electronics Corporation, 10901 Commercial Street, Richmond IL 60071 0001

ELECTRONIC CHARTS
C-Map Commercial, 133 Falmouth Rd, Mashpee, MA 02649
Navionics, 6 Thatcher Lane, Wareham, MA 02571, 800-848-5896/508-291-6000, 508-291-6006, saies@navionics.com

EMERGENCY DISTRESS SIGNAL
Greatland Laser, LLC., 4001 West International Airport RD, Anchorage, AK 99502, 907-245-4475, 907-245-4599, iaser@aiaska.net, Contact: Jim O' Meara, www.greatlandiaser.com

EMPLOYMENT
All American Marine, P.O. Box 191237, Tillman's Corner, AL 33619

ENGINE ROOM LIGHTING/ MONITORING & CONTROL
GMT Electronics, 171 Main St., South River, NJ 08882

ENGINES
BTMC, 5810 Columbus Pike, Lewis Center, OH 43035, 740-548-4282, 740-548-5756, davemiller@btmccorp.com, Contact: Dave Miller, www.btmccorp.com
Fairbanks Morse, 701 White Avenue, Beloit, WI 53111
GE Marine Engines, 1 Neuman Way, Cincinatti, OH 45215
Power Research Inc., 6970 Portwest Drive, #180, Houston, TX 77063

EVAPORATORS
Alfa -Laval Separation, Inc., 955 Meams Rd., Warmnster, PA 18974
Beard Industries, 601 Benton Kelly St., Shreveport, LA 71106
Sasakura Engineering, 7-32 Takeshima, 4-Chome, Nishiyodogawa KY Osaka555, Japan

EXHAUST
Marine Exhaust Systems of Alabama, P.O. Box 698, 757 Nichols Ave., Fairhope, AL 36533

EXPANSION JOINTS
Elasto Valve Rubber, 1691 Pioneer Road, Sudbury, ON PG3 1R2, Canada
Silex Inc., 6659 Ordan Dr., Mississauga, ON L5T 1K6, Canada

EXTRUDED RUBBER PRODUCTS
Clean Seal Inc., PO Box 2919, South Bend, IN 46880

FASTNERS
Superbolt, PO Box 683, Carnegie, PA 15106

FENDERING SYSTEMS/ BUOYS - DOCK & VESSEL
Duramax Marine LLC, 17990 Great Lakes Parkway, Hiram, OH 44234
Fender Care Americas Inc C/OBC Shipping Inc., 7611 Lake Road South Mobile, Mobile, Middle Bay Port Building 305, AL 36605, +44 78029 65765, wendy.stephan@fendercare.com, Contact: Wendy Stephan, www.tendercare.com

Maritime International, 100 E. Vermilion St. #212, Lafayette, LA 70501
Plastic Pilings Inc., 1485 South Willow Ave., Rialto, CA 92376
Poly-Hi-Solidur, 2710 American Way, Ft. Wayne, IN 46899
Schuyler Rubber Co., 16901 Woodred Rd., Woodinville, WA 98072
Seaward International, P.O. Box 98, Clearbrook, VA 22624
Urethane Products, 9076 Rosecrans Ave, Bellflower, CA 90706
Viking Fender Co., 1160 State St., Perth Amboy, NJ 08861

FILTER INSERTS
CC Jensen Inc, 1557 NW Ballard Way, Seattle, WA 98107, 206-789-1710, 206-789-1747, ccjensen@ccjensen.com, Contact: Sales, www.ccjensen.com

FILTERS/FILTER SYSTEMS
AAF International, 10300 Ormsby Park Pl, STE 600, Louisville, KY 40223, 888-388-0529, 888-398-0529, mbragg@aafinti.com, Contact: Myles Bragg, www.aafinti.com

Algae X International, P.O. Box 4011, Fort Myers Beach, FL 33932
Boll Filter, 9822 General Drive, Ste. 180, Plymouth, MI 48170
G.E.T. Inc., 3135 Golden Ave., Long Beach, CA 90806
Hellan Strainer, 3249 East 80th St., Cleveland, OH 44104
US Filter, 2 Milltown Ct, Union, NJ 07083

FIRE & SAFETY PRODUCTS
Brookdale International, 1-8755 Ash St., Vancouver, BC V6P 6T3, Canada
DBC Marine Safety Systems, 101-3760 Jacobms Rd., Richmond, BC V6V 6T3, Canada
IFSTA/Fire Services Program, 9030 N. Willis, Stillwater, OK 74078-8045
IMSSCO Corporation, 2040 Harbor Island Drive, Ste. 201 A, San Diego, CA 92101
Pt. Canaveral Marine Fire Fighter Academy, P.O. Box 267, Cape Canaveral, FL 32920

FLANGES
Jesse Engineering, 5225 7th St., E. Tacoma, WA 98424

FLOW CONTROLS
Hoffer Flow Controls, 107 Kitty Hawk Lane, Elizabeth City, NJ 27906

FLUID SEALING & PACKING

The Deimar Company, Highway 60 Rte 4, Dilwyn, VA 23426

FUEL ADDITIVES

Power Research Inc., 6970 Portwest Drive, #180, Houston, TX 77063

GALLEY EQUIPMENT

AR Larsen Co., 15040 NE 95th St., Redmond, WA 98052
Cospolich Refrigeration, 14695 Highway 61, Norco, LA 70079
Jamestown Metal Marine Sales, Inc., 4710 Northwest 2nd Ave., Boca Raton, FL 33431

GANGING & SAMPLING

Hermatic Inc., 4522 Center St., Deerpark, TX 77536

GAS GENERATION SYSTEMS

Air Products AS, Box 8100, Vagsbygd, NO-4675 Kristiansand S, Norway

GAS TURBINES

GE Marine Engines, 1 Neuman Way, Cincinnati, OH 45215

GEARS & GEAR REPAIR

Karl Senner Inc., 25 W Third, Kenner, LA 70062

GENERATOR CONTROLS

Detroit Diesel Corporation, 13400 Outer Drive West, Detroit, MI 48329-4001

GMDSS- GEAR BOXES & BEARINGS

Beie Radio, 1990 Industrial Ave., Harvey, LA 70058

GOVERNORS

Governor Control Systems, 3101 SW 3rd Avenue, Ft. Lauderdale, FL 33315

GPS

Leica Navigation, 23868 Hawthorne Blvd., Torrance, CA 90505-5908

Standard Horizon, 10900 Walker St., Cypress, CA 90630

GROUNDINGS

Sohre Turbomachinery, 132 Gilbertville Rd., P.O. Box 889, Ware, MA 01082-0889

HATCHES & DOORS

Juniper International, 72-15 Metropolitan Ave., Middle Village, NY 11379

Manly Marine, P.O. Box 86788, N. Vancouver, BC V7L 4L3, Canada

HEAT EXCHANGERS

Alla -Laval Separation, Inc., 955 Meams Rd., Warminster, PA 18974

Aquamarine Engineering, P.O. BOX 83495, San Diego, CA 92138

Duramax Marine LLC, 17990 Great Lakes Parkway, Hiram, OH 44234

Tranter, Inc., P.O. Box 2289, Wichita Falls, TX 76307, 940-723-7125, 940-723-1131, www.tranterphe.com

HEAVY FUEL TREATMENT

Algae X International, P.O. Box 4011, Fort Myers Beach, FL 33932

HIGH SPEED FERRY BUILDERS

Incat Australia Pty. Ltd., 18 Bender Marine, Hobart 7009, Australia

HMI CONTROLS DISPLAY

Azonix-Dynalco, 3690 NW 53rd St., Ft. Lauderdale, FL 33309

HOISTS

Coastal Marine Equipment, Bldg 9114 MISAAP Ind. Complex

Stennis Space Center, MS 39529

HORNS/WHISTLES

Airchime Manufacturing Co., 5478 267th St., Gloucester Industrial Estate., Langley, BC V4W 3S8, Canada

Kahlenberg Brothers Co., P.O. Box 358, Two Rivers, WI 54241

Kockum Sonics LLC, 933 Industry Road, Suite 105, Kenner, LA 70062

HOSES/HOSE FITTINGS

JGB Enterprises, Inc., 115 Metropolitan Dr., Liverpool, NY 13088

HYDRAULIC SYSTEMS

Allied Systems, 2300 Oregon St., Sherwood, OR

Anchor Lamina, 38565 Country Club Drive, Farmington Hills, MI 48331

INCINERATORS

Therm-Tec Inc., P.O. Box 1105, Tualatin, OR 97062

INFRARED IMAGING EQUIPMENT

Fir Systems, 16505 SW 72ND AVE, Portland, OR 97224

INSPECTION EQUIPMENT

Staveley Instrument, 421 N. Quay St., Kennewick, WA 99336

INSTRUMENTATION

Hotter Flow Controls, 107 Kitty Hawk Lane, Elizabeth City, NJ 27906

Thermo Electron, 6801 Cochran Rd., Solon, OH 44139

INSULATION

M & A Supply LLC, 150 North Plains Industrial Rd., Wallingford, CT 06492, 203-294-9431, 203-294-1697, sales@ma-supply.com, Contact: Jeff Blake, www.ma-supply.com

Mascoat Products, 10890 Alcott, Unit 12, Houston, TX 77043

Pacor, Inc., P.O. Box 107, Westville, NJ 08093

Superior Energies Inc., 3115 Main Ave., Groves, TX 77619

INSURANCE SERVICES

WQIS, 80 Broad St., 21st Floor, New York, NY 10004

INTERIOR DESIGN

Global Interior Group, 2426 Dennis Street, Jacksonville, FL 32204

INTERIORS

Custom Ship Interiors, Inc., P.O. Box 882, Solomons, MD 20688

Directions In Design, Inc., 1849 Craig Road, St. Louis, MO 63146, 314 205-2010, 314 205-0889, May-Zinsers@didinc.com, Contact: Sharon May-Zinser, www.didinc.com

Global Interior Group, 2426 Dennis Street, Jacksonville, FL 32204

Hopeman Brothers, P.O. Box 820, 435 Essex Ave., Waynesboro VA 22980

Jamestown Metal Marine Sales, Inc., 4710 Northwest 2nd Ave., Boca Raton, FL 33431

Lit Industries, 516 Costner School Rd., Bessemer City, NC 28016-9801

Panel Specialists Inc./Therma N.A., 3115 Range Road, Temple, TX 76504-1240, 254-774-9800, 254-774-7222, thermax@erois.com, Contact: John Hutchison, www.panelspec.com

JOINER- WATERTIGHT DOOR-PANELING- CEILING SYSTEM

Custom Ship Interiors, Inc., P.O. Box 882, Solomons, MD 20688

Hopeman Brothers, P.O. Box 820, 435 Essex Ave., Waynesboro, VA 22980

Joiner Systems, 1925 52nd Avenue, Lacine, Quebec H8T 3C3, Canada

Waltz & Krezner, 91 Willenbrock Rd., Oxford, CT 06478

K-9 DETECTION

Sun State Specialty K-9s, 1500 Beville Road, Daytona Beach, FL 32114

KEEL COOLERS

Duramax Marine LLC, 17990 Great Lakes Parkway, Hiram, OH 44234

LASER ALIGNMENT

Ludeca, Inc., 1425 NW 88th Ave., Miami, FL 33172

LAUNDRY EQUIPMENT

Richard Galley Supply, PO Box 4035, Houma, LA 70361

LEAK REPAIR

ndumar Products Inc., 2500 Tanglewilde, Suite 260, Houston, TX 77063

LIFEBOAT TESTING

Water Weights, Inc., 5139 Brook St., Suite E, Mont Clare, CA 91763

LIFEBOATS/RAFTS

DBC Marine Safety Systems, 101-3760 Jacombs Rd., Richmond BC V6V 6T3, Canada

Edgewater Machine & Fabricators, 400 Megan Z Ave., EDGEWATER, FL 32132

Survival Systems International, P.O. Box 1567, 931 Industry Rd., Kenner, LA 70062, 504-469-4545, 504-466-1884, service@ssinoia.com

Viking Life Saving Equipment, 1625 N. Miami Ave., Miami, FL 33136

Willard Marine Inc., 1250 N. Grove St., Anaheim, CA 92806

Wolong International, 151 Chin Swee Road #03-14, Manhattan House, 169876, Singapore

LIFESAING EQUIPMENT

C.M. Hammar AB, August Barks Gatan 15, 421 32 Vastra Frolunda, Sweden

Viking Life Saving Equipment, 1625 N. Miami Ave., Miami, FL 33136

LIFT EQUIPMENT

Mi-Jack Products, 3111 West 167th St., Hazel Crest, IL 60429

LIFT EQUIPMENT TESTING

Water Weights, Inc., 5139 Brook St., Suite E, Mont Clare, CA 91763

LIGHTING SYSTEMS/ EQUIPMENT

ACR Electronics Inc., 5757 Ravenswood Rd., Ft. Lauderdale, FL 33310-5247

Archway Marine Lighting, 4501 Swan Ave., St. Louis, MO 63110

Gollens Marine, 160 Van Brunt St., Brooklyn, NY 11231

L.C. Doane, P.O. Box 975, Essex, CT 06426

Manning Electric Inc., 154 27th Street, Brooklyn, NY 11232, 718-832-2488, 718-832-2493, info@manning-electric.com, Contact: Anthony Menditto, www.manning-electric.com

LINE & NET CUTTERS

Spurs Marine, 201 S.W. 33rd St., Ft. Lauderdale, FL 33315

LUBRICANTS

Exxon Mobil Marine Lubricants, 3225 Gallows Road, Fairfax, VA 22037, 1-609-409-2741, 1+609-409-5699, unknown, Contact: unknown, www.exxonmobil.com

Power Research Inc., 6970 Portwest Drive, #180, Houston, TX 77063

LUBRICANTS/LUBRICATION SYSTEMS

Benjamin R. Vickers & Sons Ltd., Airedale Mills, 6 Clarence Road, Leeds, W. Yorkshire LS10 1ND, UK

Companion Products, Inc., 2040 Johnson Ct., Unit A, Kingston, IL 60145-0009

MACHINERY MAINTENANCE, REPAIR & TESTING

Gollens Marine, 160 Van Brunt St., Brooklyn, NY 11231

Mackay Communications, 2721 Discovery Dr., Raleigh, NC 27616-1851

MANOEUVRING EQUIPMENT

A. Van der Velden Marine Systems, Birkenweg 11, D-214465, Reinbek, Germany

MARINE CONSTRUCTION/REPAIR

Sundial Marine, 5605 N.E. Sundial Road, Troutdale, OR 97060

MARINE CONSULTANTS

Hall Associates of Washington, P.O. Box 1554, Mukiteo, WA 98275

MARINE DECKING & FLOORING

Hopeman Brothers, P.O. Box 820, 435 Essex Ave., Waynesboro VA 22980

SipNOT Metal Safety Floorings (Div. of W.S. Molnar Company), 2545 Beaufort St., Detroit, MI 48207

MARINE DIESEL ENGINES

MAN Engines & Componets Inc., 591 SW 13th Terrace, Pompano Beach, FL 33069, 800-MAN-2842, 954-946-9098, www.man-mec.com

MARINE ELECTRONICS

ACR Electronics Inc., 5757 Ravenswood Rd., Ft. Lauderdale, FL 33310-5247

Beier Radio, 1990 Industrial Ave., Harvey, LA 70058

Comark Marine, 93 West Street, Medfield, MA 02052

GMT Electronics, 171 Main St., South River, NJ 08882

Hatteland Display, Bogstadveien 19, N-0355 Oslo, Norway

Jotron Electronics, Box 85, NO-3280T Jodalyng Norge, Norway

Leica Navigation, 23868 Hawthorne Blvd., Torrance, CA 90505-5908

Marine Electronic Solutions, 1522 Crabapple Cove, Jacksonville, FL 32225

Saab Marine Electronics, Box 13045, 402 5Goteborg, Sweden

Standard Horizon, 10900 Walker St., Cypress, CA 90630

MARINE ENGINEERING

Elliot Bay Design Group, 5301 Shishole Ave, NW, Ste. 200, Seattle, WA 98107

MARINE EQUIPMENT

Plastic Pilings Inc., 1485 South Willow Ave., Rialto, CA 92376

Scardana Americas Bkg., 502 Empire St., Greenfield Park J4V 1V7, Canada

Waterman Supply, P.O. Box 596, Wilmington, CA 90748

MARINE GLASS

ProCurve, 3535 Davisville Rd., Halbro, PA 19040

MARINE HARDWARE

HMS Marine Hardware, 333 W. Merrick Road, Valley Stream, NY 11580-5219

MARINE MANAGEMENT

Hornblower Marine Services, P.O. Box 112476, Campbell, CA 95011-2476

MARINE POWER PLANT SYSTEMS

Auramarine Ltd., Box 849, FI-20101 Turku, Finland

MARINE RADIOS

Standard Horizon, 10900 Walker St., Cypress, CA 90630

MARINE SENSORS

Airmar Technology Corp., 35 Meadowbrook Drive, Milford, NH 03055, 603-673-9570, 603-673-4624, sales@airmar.com, Contact: Peter Braffitt, www.airmar.com

MARINE SERVICES

Conam Inspection, 192 International Blvd., Glendale Heights, IL 60139

MARINE THERMAL IMAGING

Arion International, 720 Glen Eagle Drive #100, Winter Springs, FL 32708

MARITIME TRAINING & SCHOOLS

Marine Safety International, Marine Terminal, Laguardia Airport, NY 11371

METERS

Selco USA, Inc., 2508 Lakebrook Court, Atlanta, GA 30360-1715, 1-877-selcous (1-877-735-2687) 770-455-9110, 770-455-3754, info@seicous.com

MONITORING ALARM/CONTROL

Marine Electric Systems, Inc., 33 Route 17 South, East Rutherford, NJ 07073, 201 531-8600 Ext 231, 201 531-8606, info@marineelectricitysystems.com, Contact: Gary Mandell, www.marineelectricitysystems.com

MONITORING SYSTEMS

G.R. Bowler, Inc. Marine Controls, 2261 Lake Rd, Ontario, NY 14519, 800-524-9570, 315-524-8753, gary@grbowler.com, Contact: Gary R Bowler, www.grbowler.com

Mackay Communications, 2721 Discovery Dr., Raleigh, NC 27616-1851

Prime Mover Controls, 3600 Gilmore Way, Burnaby, BC V5G 4R8, Canada

MOORAGE FACILITY

Sea Ark Marine, P.O. Box 210, Monticello, AR 71655-0210

MOTOR PROTECTION

Marine Safe Electronics, 261 Miway Ave., #12, Concord, Ontario L4K 4K9, Canada

NAV/COMM EQUIPMENT

Beier Radio, 1990 Industrial Ave., Harvey, LA 70058

C. Map Commercial, 133 Falmouth Rd., Mashpee, MA 02649

Chartco, New North Road, Hainault, Ilford Essex 166 2UR, UK

Electronic Marine Systems, 800 Ferndale Pl., Rahway, NJ 07065

Furuno USA Inc., 4400 NW Pacific Rim Blvd., Camas, WA 98607

Hose-McCann Telephone Company, 1241 W. Newport Center Drive, Deerfield Beach, FL 33442, 954-429-1110, 954-429-1130, mchip@hosemccann.com

Mackay Communications, 2721 Discovery Dr., Raleigh, NC 27616-1851

Transas Marine USA, 19105 36th Ave. W., Ste. 101, Lynwood, WA 98036-5760

NAVAL ARCHITECTS, MARINE ENGINEERS

A K. Suda, Inc., 3004 19th St., Metairie, LA 70002-4989

Alan C. McClure Associates, Inc., 2600 South Gessner, Houston TX 77063

Band, Lavis, & Associates, Inc., 900 Ritchie Hwy, Suite 203, Severna park, MD 21146

Bay Engineering, 253 N. First Ave., Sturgeon Bay, WI 54235

C. Baxter & Associates, P.O. Box 9006, Mobile, AL 36609

CDI Marine Co., 9550 Regency Square Blvd., Ste 400, Jacksonville FL 32222

Computer Sciences Corporation-Advance Marine Center, 1201 M St, SE, Washington, DC 20003

CT Marine, 56 Crooked Trail, Rowayton, CT 06853

Cunningham & Walker, 1762 Providence Hollow Lane, Jacksonville, FL 32223

Dejong & Lebet, Inc., 1734 Emerson St., Jacksonville, FL 32207

Elliott Bay Design Group, 5301 Shishole Ave, NW, Ste. 200, Seattle, WA 98107

George G. Sharp, 100 Church St., New York, NY 10007

GTR Campbell Marine, 24 Lambton Street, Ormstown, Quebec J0S 1A0, Canada

Guido Perla & Associates, 4300 King St., Ste 1200, Seattle, WA 98104

Jamestown Marine Service, 1084 Shennecossett Rd., Groton, CT 06340

John J. McMullen Associates, 4300 King St., Suite 400, Alexander, VA 22302

John W. Gilbert & Assoc., 199 State St., Boston, MA 02109

Kvaerner Masa Marine Inc., 201 Defense Highway, Ste 202, Annapolis, MD 21401

M. Rosenblatt & Son, Inc., 2341 Jefferson Davis Hwy, Arlington, VA 22202

Maritech, Seaciff, Bay Road, Newmarket, NH 03857

MC Engineers, Inc., 2960 Airway Ave., #A-103, Costa Mesa, CA 92626

McElroy Machine & Mfg Co., Inc., P.O. Box 4454, Biloxi, MS 39535-4454

MIL Systems, 200-1150 Morrison Drive, Ottawa, Ontario K2H 8S9, Canada

Nautical Designs, Inc., 2101 S. Andrews Ave., Ste 202, Fort Lauderdale, FL 33316

R.J. Mellusi & Co., 71 Hudson St., New York, NY 10013

Sargent & Herkes, 225 Baronne St., Ste 1

PUMP-REPAIR-DRIVES

Fybroc Div. of Met-Pro, P.O. Box 144, Harleysville, PA 19438
Reagan Equipment, 2550 BelleChase Hwy, Gretna, LA 70054
Scardana Americas Bkg., 502 Empire St., Greenfield Park J4V 1V7, Canada

RADARS-ARPAS

Ampco Pumps Co., 4424 West Mitchell St., Milwaukee, WI 53214
Beier Radio, 1990 Industrial Ave., Harvey, LA 70058
Furuno USA Inc., 4400 NW Pacific Rim Blvd., Camas, WA 98607

RADIATION DETECTION

Thermo Electron, 6801 Cochran Rd., Solon, OH 44139

REMOTELY OPERATED VEHICLES

VideoRay LLC, 415 Engleview Blvd., Exton, PA 19341

REVERSE OSMOSIS

G.E.T. Inc., 3135 Golden Ave., Long Beach, CA 90806

RH PROPULSION

Goltens Marine, 160 Van Brunt St., Brooklyn, NY 11231

RIGID INFLATABLE BOATS

Willard Marine Inc., 1250 N. Grove St., Anaheim, CA 92806
Wing Inflatables, P.O. Box 279, 1132 Samco Blvd., Arcata, CA 99521

ROPE-MANILA-NYLON-HAWSERS-FIBERS

Marlow Ropes, South Road, Halesham, East Sussex BN27 3JS UK
Puget Sound Rope, 1012 Second Ave., Anacortes, WA 98221

ROTATING EQUIPMENT

FCS, Inc., 22 Main Street, Centerbrook, CT 06409

RUDDER BEARINGS & BUSHES

Duramax Marine LLC, 17990 Great Lakes Parkway, Hiram, OH 44234
Orkot Composites, 2535 Prairie Rd., Unit D., Eugene, OR 97402

SAFETY MANAGEMENT CONSULTANTS

Modern Maritme, 67 Bow St., Ste. 3, Portsmouth, NH 03801

SAFETY PRODUCTS

Brookdale International, 1-8755 Ash St., Vancouver, BC V6P 6T3, Canada

D & B Technologies, 1458 OCEAN SHORE BLVD

#132, ORMOND BEACH, FL 32176-3613, 407-647-7500,

407-647-7505, HOTEYE@HOTEYENOW.COM

DBC Marine Safety Systems, 101-3760 Jacombs Rd., Richmond, BC V6V 6T3, Canada

FabEn Co., Inc., 2012 Karbach, Houston, TX 77092

Lalizas SA, 21 Haidariou St., 545 Piraeus, Greece

SIPNOT Metal Safety Floorings (Div. of W.S. Molnar Company),

2545 Beaulait St., Detroit, MI 48207

Stearns Mfg. Co., PO Box 1498, St. Cloud, GA 56302-1498

Thordon Bearings Inc., 3225 Mainway, Burlington, Ontario L7M 1A6, Canada

Viking Life Saving Equipment, 1625 N. Miami Ave., Miami, FL 33136

Walport USA, 39-5A Dover Rd South, Toms River, NJ 08757

SALVAGE

Titan Maritime Industries Inc., P.O. Box 350485, Ft. Lauderdale, FL 33004

SANITATION DEVICE- POLLUTION CONTROL

Envirovac Inc, 1260 Turret Dr., Rockford, IL 61111

EVAC Environmental Solutions, 1260 Turret Dr., Rockford, IL 61111

FAST@Systems, 8229 Brentwood Industrial Drive,

Brentwood, MO 63144, 314-645-6540, 314-645-6131,

sales@marinefast.com, Contact: Alan Fleischer,

www.marinefast.com

Headhunter Inc., 3380 SW 11th Ave., Ft. Lauderdale, FL 33315

Hydroxi Systems, 9800 McDonald Park Rd, Sidney, BC V8L 3S8, Canada

Microphor, 452 E. Hill Rd., Willits, CA 95490

Research Products-INCINOLET, 2639 Andjon Drive,

Dallas, TX 75220, 800-527-5551, 214-350-7919,

sales@incinolet.com

Sanitary For All, Inc., 3909 Witmer Rd., PMB 472, Niagra Falls, NY 14305

SATELLITE COMMUNICATIONS

Beier Radio, 1990 Industrial Ave., Harvey, LA 70058

Eurocom Industries AB, Box 7071, DK-9200 Aalborg SV, Denmark

Furuno USA Inc., 4400 NW Pacific Rim Blvd., Camas, WA 98607

KVH Industries Inc., 50 Enterprise Center, Middletown, RI 02842

Land Sea Systems, 509 Viking Drive, Suites K,L,M, Virginia Beach, VA 23452

Nera Satcom AS, Box 91, NO-1375 Billingstad, Norway

Stratos, 1501 Metcalfe St. Ste 1900, Ottawa, Ontario K2P 1P1, Canada

Thrane & Thrane A/S, Lundtoftegardsvej 93D, DK-2800 Lyngby, Denmark

SCARIFIERS

Desmond-Stephan, P.O. Box 30, Urbana, OH 43078

SEALS

Duramax Marine LLC, 17990 Great Lakes Parkway, Hiram, OH 44234

Kobelco Marine, Inc., 366 Fifth Avenue, Suite 312, NY, NY 10001, 212-967-5575, 212-967-6966,

hawkins@kobelcomarine.com

Orkot Composites, 2535 Prairie Rd., Unit D., Eugene, OR 97402

SEATING

H.O. Bostrom, 818 Progress Ave., Waukesha, WI 53186

SECURITY BARRIERS

Seaward International, P.O. Box 98, Clearbrook, VA 22624

SENSORS

Electronic Marine Systems, 800 Ferndale Pl., Rahway, NJ 07065

SHAFT SEALS

Duramax Marine LLC, 17990 Great Lakes Parkway, Hiram, OH 44234

SHAFT/BORE ALIGNMENT TOOLS

Ludeca, Inc., 1425 NW 88th Ave, Miami, FL 33172

SHAFTS

Geislinger Corporation, 200 Geislinger Drive, Battle Creek, MI 49015

SHEAVES

Skookum, P.O. Box 280, Hubbard, OR 97032

SHIP DISPLAYS

Data Modul, 1767-46 Vets Memorial Highway, Islandia, NY 11749

SHIP LIFTS

Synchrolift Inc., Two Datran Center, 9130 S. Dadeland Blvd., Miami, FL 33156-7850

SHIP MANAGEMENT

Eurasia Group, 22A Floor Chinachem Exchange Sq., 1 Hoi Wan St., Quarry Bay, Hong Kong

SHIP REPAIR

Dubai Drydocks, P.O. Box 8988, Dubai, United Arab Emirates

GMD Shipyard, 360 Front St., Staten Island, NY 10304

GS-Hydro U.S., 1395 Bluehills Ave., Bloomfield, CT 06002

United Marine Enterprises Inc., P.O. Box 22077, Beaumont, TX 77720

SHIP SIMULATORS

Kongsberg Maritime Ship Systems AS, PO Box 1009, 3194 Horten, Norway

SHIPBUILDING-REPAIRS, MAINTENANCE, DRYDOCKING

Allen Marine, P.O. Box 1049, Sitka, AK 99835

Atlantic Marine, Inc., P.O. Box 3202, mobile, AL 36652

Alias Metal Sales, 1401 Umattilla St., Denver, CO 80204

Austal USA, 100 Dunlap Dr., Mobile, AL 36633

Blount Marine, 461 Water St., Warren, RI 02885

Bollinger Lockport & Larose, P.O. Box 250, Lockport, LA 70374

Curacao Drydock Co., Box 9012, Willemstad, Curacao, Netherlands Antilles

Damen Shipyards, P.O. Box 1 Gorincherr, 4200AA Holland, Netherlands

Detyens Shipyards Inc., 1670 Drydock Ave., Bldg 236, North Charleston, SC 29450

Eastern Shipbuilding Group, 2200 Nelson St., Panama City, FL 32402

Fincantieri Cantierieri Navali Italiani Spa, Merchant Shipbuilding Div., 34123 Trieste, Italy

Gladding Hearn, 1 Riverside Ave., Somerset, MA 02725

Goltens Marine, 160 Van Brunt St., Brooklyn, NY 11231

GTR Campbell Marine, 24 Lambton Street, Ormstown, Quebec J0S 1A0, Canada

Horizon Shipbuilding Inc., 13980 Shell Belt Rd., Bayou La Batre, AL 36509

In-Place Machining, 1929 N. Buffum St, Milwaukee, WI 53212

Leevac Industries, LLC, P.O. Box 1190, Jennings, LA 70546

Maniso USA, Inc., 100 Davidson Ave., Somerset, NJ 08873

Motor-Services AB, Box 2115, Ronninge S-144 04, Sweden

Newport News Shipbuilding, 4101 Washington Ave., Newport News, VA 23607

United Defense, 1525 Wilson Blvd., Ste 700, Arlington, VA 22209-2444

United Marine Enterprises Inc., P.O. Box 22077, Beaumont, TX 77720

VT Haller, PO Box 3029, Gullport, MS 39505

Washburn Doughty, P.O. Box 296, E. Boothbay, ME 04544

Willard Marine Inc., 1250 N. Grove St., Anaheim, CA 92806

SHIPYARDS

Alabama Shipyard, P.O. Box 3202, Mobile, AL 36652

Allen Marine, P.O. Box 1049, Sitka, AK 99835

Atlantic Marine, Inc., P.O. Box 3202, mobile, AL 36652

Derektor Shipyard, 311 E. Boston Post Rd., Mamaroneck, NY 10543

Detyens Shipyards Inc., 1670 Drydock Ave., Bldg 236, North Charleston, SC 29450

GMD Shipyard, 360 Front St., Staten Island, NY 10304

Leevac Industries, LLC, P.O. Box 1190, Jennings, LA 70546

Offshore Inland, 3521 Brookdale Dr. S., Mobile, AL 36618

United Defense, 1525 Wilson Blvd., Ste 700, Arlington, VA 22209-2444

SILENCERS

EM Products, 5380 Cottonwood Lane, Prior Lake, MN 55372, (952) 440-9200, (952) 440-3400,

sales@zerostart.com

Silex Inc., 6659 Ordan Dr., Mississauga, ON L5T 1K6, Canada

SIMULATION TRAINING

Marine Safety International, Marine Terminal, Laguardia Airport, NY 11371

Maritime Institute of Technology, 5700 Hammonds Ferry Rd, Linthicum Heights, MD 21090

Poseidon Simulation AS, Box 89, NO-8370 Leknes, Norway

Transas Marine Overseas Ltd., 12 Obukhovskoy, Oboron. St. Petersburg 193019, Russian Federation

SKILLED LABORERS

Ameri-Force Inc., 3266 Talleyrand Ave., Jacksonville, FL 32206

MK Production Resources Inc., 1610 Reynolds Street, Brunswick, GA 31520

SLIDING DOORS

Waltz & Krezner, 91 Willenbrock Rd., Oxford, CT 06478

SOFTWARE

Autoship Systems Corp., Suite 312-611 Alexander Street, Vancouver, BC V6A 1E1, Canada, 604-254-4171, 604-254-5171, sales@autoship.com, Contact: Brigden Henry, www.autoship.com

Creative Systems Inc., P.O. Box 1910, Port Townsend, WA 98368

Loadmaster International, St. Varvsgraten 11B SE, 211 19 Malme, Sweden

Resurgence Software Inc., 2021 Lakeshore Dr., Ste 21D, New Orleans, LA 70122

STEERING GEARS/ STEERING SYSTEMS

A. Van der Velden B.V., Dorpsstraat 67a, PO Box 2061, 2930 AB Krimpen a/d Lek, Netherlands

CS Controls Inc, 101 Dickon Road, Houma, LA 70363, 985-876-6040, 985-876-0751, info@cscontrols.com,

Contact: Paul Srigley, www.cscontrols.com

Kobelit Manufacturing Co., Ltd., 8238-129 Street, Surrey, BC V3W0A6, Canada

Offshore Inland, 3521 Brookdale Dr. S., Mobile, AL 36618

STERN TUBE BEARINGS/ BUSHES

Duramax Marine LLC, 17990 Great Lakes Parkway, Hiram, OH 44234

Orkot Composites, 2535 Prairie Rd., Unit D., Eugene, OR 97402

Thordon Bearings Inc., 3225 Mainway, Burlington, Ontario L7M 1A6, Canada

STERN TUBE SEALS

Superbolt, PO Box 683, Carnegie, PA 15106

STRAINERS

Hellan Strainer, 3249 East 80th St., Cleveland, OH 44104

SUN PROTECTION SYSTEMS

Solar Solve Marine, 7 St. Hilda Industrial Estate, South Shields NE33 1RA, UK, +44 191 454 8595, +44 191 454 8692, info@solvasolv.com, Contact: Paul Hopkins, www.solvasolv.com

SURFACE PREP TOOLS

Aurand Mfg., 1210 Ellis St., Cincinnati, OH 45223

Flow International Corp., 23500 64th Ave., South Kent, WA 98059, 800-446-3569, 253-813-9377, mbest@flowcorp.com

Flow International Corp., 23500 64th Ave., South Kent, WA 98059

NLB Corp., 29830 Beck Road, Wixom, MI 48383, 248-624-5555, 248-624-0908, nlbmtg@nlbusa.com,

Contact: Jenna Eads, www.nlbcorp.com

Schmidt, PO Box 37, Fresno, TX 77545

Ultrastrip Systems Inc., 3515 SE Lionel Terrace, Stuart, FL 34997, 772-287-4846, 772-781-4778, sales@ultrastrip.com, Contact: John Odwazny, www.ultrastrip.com

SURVIVAL EQUIPMENT

Brookdale International, 1-8755 Ash St., Vancouver, BC V6P 6T3, Canada

TANK LEVELING INDICATORS

Ian Conrad Bergan, 3119 North Davis Highway, Pensacola, FL 32503, 850-434-1286, 850-434-1246, sales@icbergan.com, Contact: Ron Monell, www.icbergan.com

King Engineering Co, PO Box 1228, Ann Arbor, MI 48106

Kockum Sonics LLC, 933 Industry Road, Suite 105, Kenner, LA 70062

Saab Marine Electronics, Box 13045, 402 5Goleborg, Sweden

Technical Marine Services, 6040 North Cutter Circle, Portland, OR 97217

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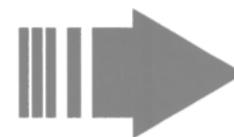
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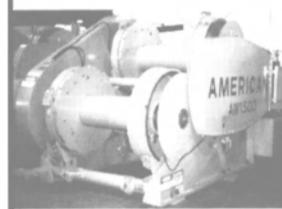
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*Los Angeles	(310) 324-4814	Fax: (310) 324-5102
*Miami	(954) 450-9544	Fax: (954) 450-8957
*New York	(732) 932-6103	Fax: (732) 932-6378
*Seattle	(253) 383-1806	Fax: (253) 383-1270



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