

Previews: Ship Repair & Conversion, Fish Expo/WorkBoat Atlantic and SSPC 2000

October 2000

MARITIME REPORTER AND ENGINEERING NEWS

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- Coatings & Corrosion Control
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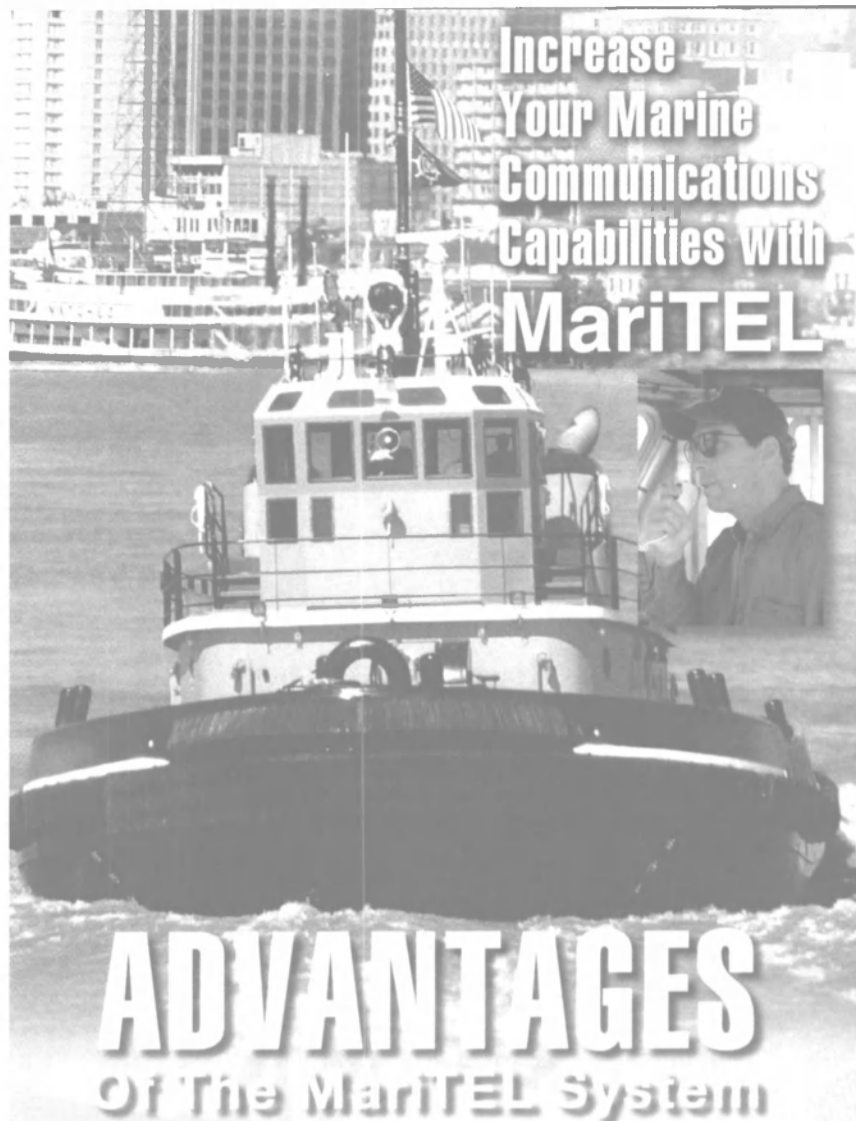
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On the Cover: Newport News Shipbuilding recently welcomed Carnival Paradise into its mammoth facilities for work on the ship's Azipod units. Coverage of this month's main feature — Ship Repair & Conversion — begins on page 44.

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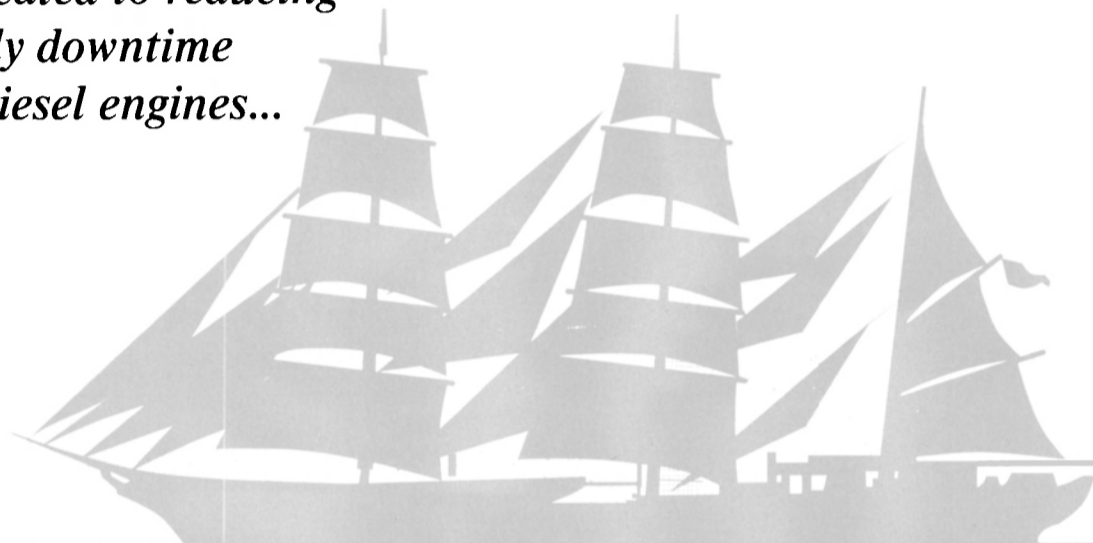
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118 E. 25th St., New York, NY 10010
Tel: (212) 477-6700; Fax: (212) 254-6271
e-mail: mren@marinelink.com
Internet: www.marinelink.com

PUBLISHERS

Charles P. O'Malley
John E. O'Malley
John C. O'Malley
jomalley@marinelink.com

Vice President/Editorial Director

Gregory R. Trauthwein
trauthwein@marinelink.com

EDITORIAL

Associate Editor
Regina P. Ciardiello
ciardiello@marinelink.com

Technical Editor

David Tinsley
Editorial Consultant

James R. McCaul, president, International Maritime Associates

Manager of Information Systems

Susan Cosme
cosme@marinelink.com

MARKETING

Marketing Assistant
Angelica Rivera
arivera@marinelink.com

PRODUCTION

Production Manager
Sharon Griffin
griffin@marinelink.com

Asst. Production Manager

Oksana Martemy
martemy@marinelink.com

CIRCULATION

Circulation Manager
Dale L. Barnett
barnett@marinelink.com

ADVERTISING SALES

Vice President of Sales
Lucia M. Annunziata
annunziata@marinelink.com

National Sales Manager

Robert C. Howard
Tel: (561) 732-3001
howard@marinelink.com

Regional Sales Manager

Jennifer Truman
truman@marinelink.com

Regional Sales Manager

Brett Keil
Tel: (561) 732-1185
bkeil@marinelink.com

Assistant to the Vice President of Sales

Tina Angelino
angelino@marinelink.com

Classified Sales

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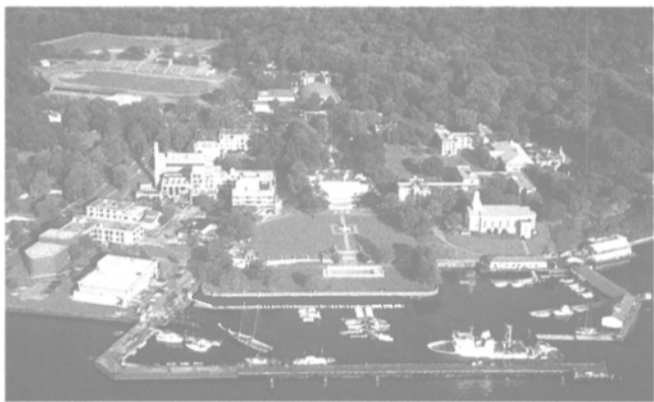
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Editor's Note

“Heading into this autumn’s traditionally busy exhibition season, there is a noticeable change in the air regarding the marine industry and its future.

Fueled by years of corporate consolidation, today’s marine equipment, system and service companies are, in general, larger, better positioned to deliver integrated, turnkey solutions.

But as the “urge to merge” has undoubtedly created some efficiencies, particularly in the capital intensive Research and Development and customer service and support operations, medium and smaller companies should not be ignored, for it is here that a good deal of innovation takes place.

A prime example of small company innovation swept up into the corporate fold is last month’s announcement that Spectec had been acquired by Station 12.

Little more than a decade ago, the term “software solutions” as applied to the marine industry was not much of a topic. Companies such as Spectec were little more than an embryonic notion found on some forward thinkers’ legal pads. With a relatively short time, however, Spectec not only carved its niche, it helped to create a product category and redefine the way in which vessels were operated and maintained efficiently.

Vessel maintenance and repair is a major theme of this edition, in accordance with the Ship Repair & Conversion exhibition scheduled for mid-November in London. More than ever, the issues surrounding proper maintenance and repair of vessels in a timely, efficient and technically correct manner is helping to define which companies will prosper and which will wither. Spurred by the Erika disaster as well as a number of high profile failures in the past — international, national and regional authorities are demanding that vessels of all type, shape and size adhere to increasingly rigorous standards. It is the job of the suppliers, naval architects and marine engineers, as well as the vessel builders and repairers to deliver continually superior solutions to meet these needs.



Greg R. Trauthwein

www.marinelink.com

trauthwein@marinelink.com

International Representatives

International Operations

CHARLES E. KEIL, Vice President
215 NW Third Street
Boynton Beach, FL 33435
Telephone: +561-732-0312; Fax: +561-732-8065
24-hr Tel/Fax: +561-998-0313; Mobile Tel: +561-716-0338

TONY STEIN, International Sales Manager
12, Braehead, Bo'ness, West Lothian EH51 0BZ, Scotland, U.K.
Telephone: +44 (0) 1506 822240; Fax: +44 (0) 1506 828085

AustralAsia

TONY STEIN
12, Braehead, Bo'ness, West Lothian EH51 0BZ, Scotland, U.K.
Tel: +44 (0) 1506 822240;
Fax: +44 (0) 1506 828085

Argentina

R. LESLIE RAMSAY
Calle Pellegrini 173
Primer Piso, Departamento C
1009 Buenos Aires, Argentina
Tel: +54 1 394 8821; Fax: +54 1 326 4377

Benelux

PAULA TACQ
Maritime Media ML
Otweg 18 2771 VX Boskoop, Netherlands
Tel: +31 172 230707;
Fax: +31 172 230708

Brazil

JOSE DUARTE DOS SANTOS
Multipla Agencial Mortimo, Ltda.
Rua Carolino Rodrigues 28
Cuarto Andar, CEP-11055-070
Santos, Sao Paulo, Brazil
Tel/Fax: +55 1 32 32 74 74

Central America

EDUARDO F. LOPEZ/ISELA BAZAN
Transmarine Media Services, P.O. Box 8579,
Balboa Ave., Panama 5, Panama
Tel: +507 617 1469;
Fax: +507 251 4794

China

TED GREEN
Zhejiang International Advertising Corp.
596 Tiyuchang Road
Hangzhou, Zhejiang 31007
Tel: +86 571 5150937; Fax: +86 571 5150444

Egypt

CAPTAIN TARIQ M. OSMAN
Osman Marine Media Co.
Algamhoria Street, P.O. Box 1248, Alkeej Bldg.
Port Said, Egypt
Tel: +20 66 323858; Fax: +20 66 323858

Germany/Switzerland

HANSJORG BRANS
Maritime Media
Freiherr v. Stein Str. 24, D-63303
Dreieich, Germany
Tel: +49 6103 697745; Fax: +49 6103 697743

Italy

VITTORIO NEGRONE
Ediconsult Internazionale
Piazza Fontane Marose, 3-16123 Genoa, Italy
Tel: +390 10 583684;
Fax: +390 10 566578

Japan

AKIO ISHII
Ace Media Service Inc.
12-6, 4-chome, Nishiike
Adachi-ku, Tokyo 121, Japan
Tel: +81 3 5691 3335;
Fax: +81 3 5691 3336

Korea

JO, YOUNG SANG
Business Communications, Inc.
Kwangwhamun P.O. Box 1916, Seoul, Korea
Tel: +82 2 739 7840;
Fax: +82 2 732 3662

Portugal/Gibraltar

PAULO BREHM
AZ Publicidade Lda., Rua Almirante Barroso, 52-
1 D, P-1000 Lisbon, Portugal
Tel: +351 21 3142256;
Fax: +351 21 3525157

Scandinavia

STEPHAN R.G. ORN/LEON SCHULZ
AB Stephan R.G. Orn, Box 184
S-271 24 Ystad, Sweden
Tel: +46 411-184 00;
Fax: +46 411 105 31

South Africa

FINN KVAMSDAHL
Finn's Enterprises, Media Marketing Division
P.O. Box 99, 2250,
Blinkpan, Republic of South Africa
Tel/Fax: +27 13 2953 023

Spain

JOSE LUIS SEVA
Via Exclusivas S.L., C/ Viriato, 69 SC
28010, Madrid, Spain
Tel: +34 91 448 76 22;
Fax: +34 91 446 0214

Turkey

NIHAT BOYTUZUN
Kamera Corp., Cumhuriyet Cad. 257/3,
Harbiye 80230, Istanbul, Turkey
Tel: +90 212 248 48 64;
Fax: +90 212 230 36 97

United Kingdom

TONY STEIN
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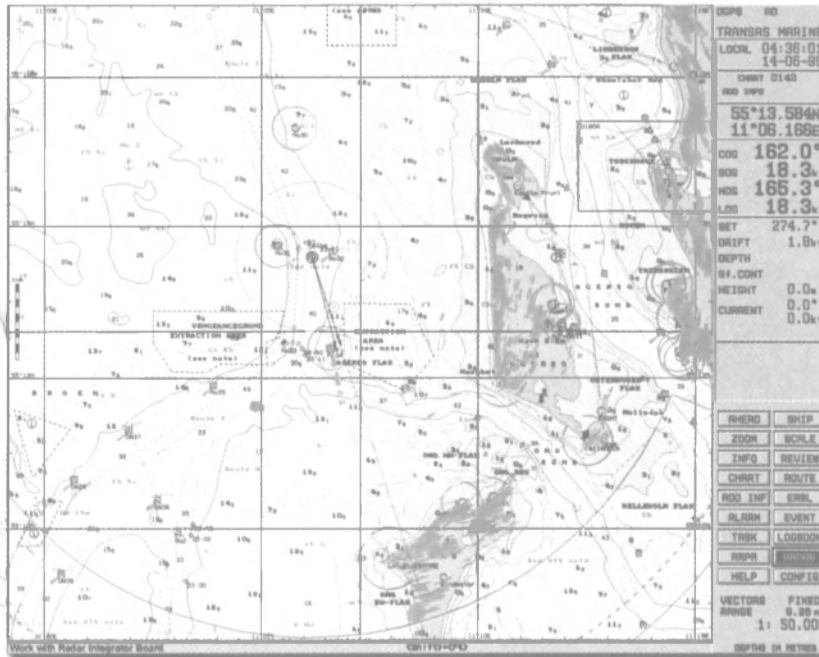


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Danish Two-Stroke Bastion



by David Tinsley, technical editor

As part of the drift of heavy industrial activity from Europe to the Far East, production of two-stroke diesel propulsion machinery has become the province of the leading national players in new-build construction. However, close to the northern tip of Jutland, MAN B&W's Alpha Diesel division has restored a substantial Danish capability for low-speed engine manufacturing, to the extent that its Frederikshavn works has emerged as a bastion of European two-stroke production.

The extension in the market reach of the already diversified plant, renowned for its integrated propulsion packages based on four-stroke drives, is a clear endorsement of the substantial investments made by MAN B&W in dedicated facilities in recent years. It is no less an expression of industrial and commercial will.

Since the preponderance of MC-series low-speed machinery designed by MAN

B&W's Danish arm is constructed by licensees, and predominantly those in the Far East, the Alpha operation has added value in providing a group-owned window into the production-related aspects of engine design. Moreover, it provides a basis for better honing practical skills associated with the after-sales support function, an ever-more important aspect of business for engine licensors and makers.

After some years of building the mini-bore models in the MAN B&W two-stroke range, the Alpha factory made its debut in the 500 mm-bore category in July 1998, when the first 6L50MC unit was rolled-out of the extended production facilities in Frederikshavn. The plant investment effectively raised the scope of the works to meet the propulsion needs of vessels of Panamax size, in the case of single-engine installations, and larger tonnage where twin-engine layouts are involved. In fact, within the

past two years, Alpha Diesel's deliveries have included the twin propulsion engines for two of the first three Millennium-class crude carriers under construction at Avondale. Each 30,030-bhp installation for the milestone tanker program comprises a pair of 7S50MC-C low-speed units.

Another link with the U.S. shipbuilding industry has now been established through an order for the same type of engine, a seven-cylinder S50MC-C, to be supplied to Friede Goldman Halter's Pascagoula yard. This will provide the propulsive power for a 13,000-dwt pure car/truck carrier (PCTC) destined to operate in the U.S. West Coast/Hawaii trade under the banner of Pasha Hawaii Transport Lines.

The S50MC-C also figures prominently in a clutch of new orders from the Turkish market, where Alpha claims to be the leading supplier of two-stroke propulsion plant. Significantly, most of

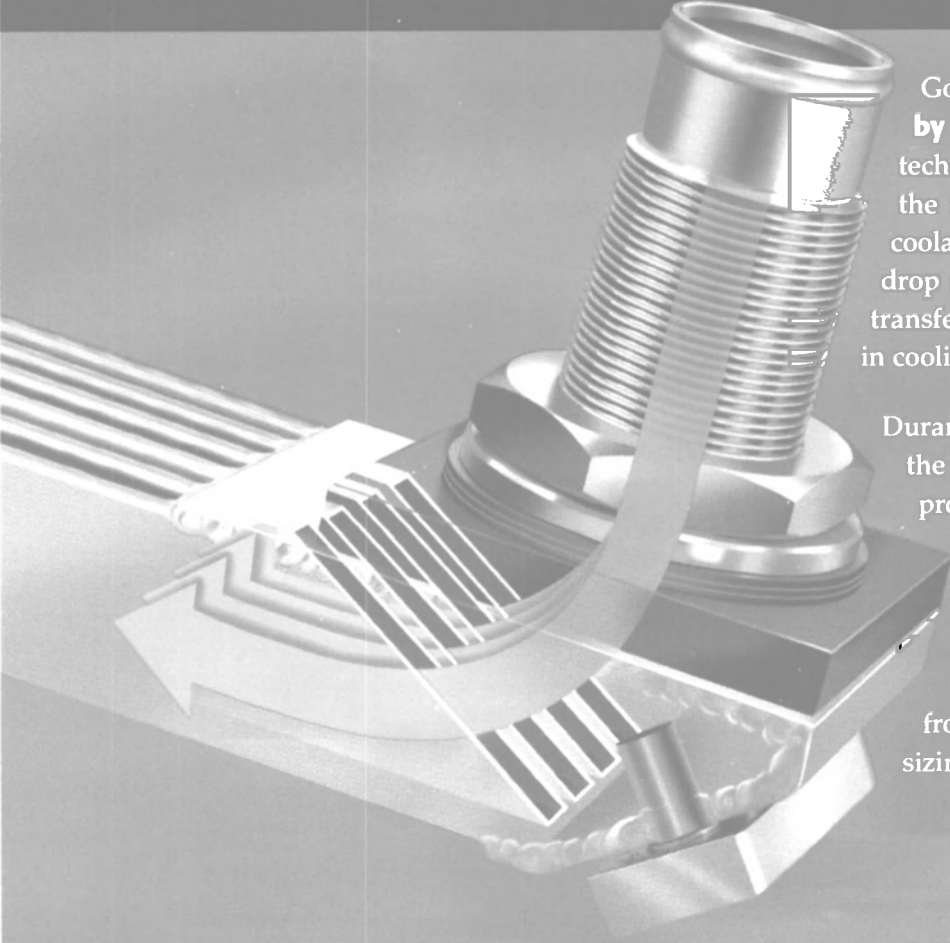
the engines figure as part of complete propulsion package contracts. While other areas of the European diesel engine building industry have rationalized the product flow from individual factories, MAN B&W has invested in a broader offering from Alpha, as concerns both its integrated propulsion systems supply capability, as well as four-stroke and two-stroke engine lines.

Accordingly, the future for engineering production at Frederikshavn clearly rests in a wide remit of engines, gearboxes, controllable pitch propellers and monitoring systems.

Underscoring its growing international profile as a two-stroke producer, some 186,000-bhp of MAN B&W Alpha's total order intake of approximately 237,000-bhp of new engines between January and August this year entailed two-stroke models.

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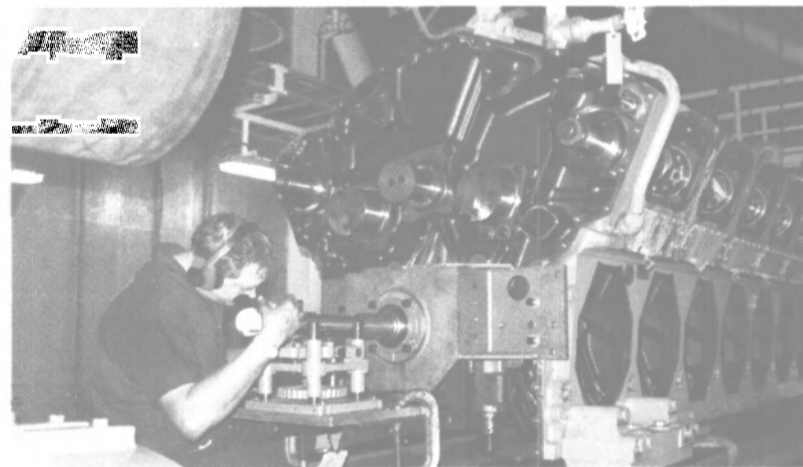
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Investment in Design

Powering-Up the Finnish Range

Costa Crociere's impressive new Costa Atlantica gives first form to the so-called Panamax-Max generation from Kvaerner Masa-Yards, embodying the 8000-class design concept developed in conjunction with the Italian operator and its parent Carnival group.

While providing a further, prestigious reference for the diesel-electric mode in conjunction with podded outboard drives, encapsulated in two 17.6-MW Azipod propulsors, Costa Atlantica also ushers-in a new power rating for the popular Wartsila 46 medium-speed diesel.

The vessel's six diesel engines mark the seagoing debut of the D version of the Wartsila 46 design in a key sector of the market. The new model yields a 10 percent power increase over the 46C series, already one of the industry's most competitive designs. The cumulative effect of the uprating amounts to 5,670



KMY's Costa Atlantica

kW in the case of the multi-engine installation employed in Costa Atlantica.

Making for a 62,370 kW powerhouse, each of the 9L46D units develops 10,395 kW at 514 rev/min, and is connected to an ABB alternator delivering electricity into the main 11 kV system. An important aspect of the machinery installation aboard Costa Atlantica is its division into two, completely independent systems, conferring full redundancy. Each 'half plant' incorporates three main diesel gensets plus fuel and ancillary systems, main electrical distribution, control and automation.

Wartsila NSD's 460 mm-bore engine series, which has become a popular propulsion selection for large cruise vessels and passenger ferries in addition to mercantile tonnage, is produced at the extensively modernized Turku factory in Finland. Surging business for the Wartsila 46 series this year has included the engine's nomination for a high proportion of the RoPax ferry projects implemented by European operators. The design is also central to Wartsila NSD's continuing, large-scale endeavors to provide new solutions to the market's increasing expectations as regards diesel engine environmental performance at large.

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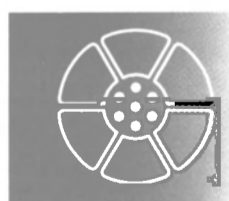
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SpecTec Acquired By Station 12

SpecTec's parent company Visma ASA has signed an agreement to sell its marine division — SpecTec Group — to Netherlands-based Station 12 for about \$85 million. Station 12, which is 65 percent owned by Dutch telecommunications operator KPN and 35 percent by Australian telecommunications operator Telstra, is a world market leader in mobile satellite communications.

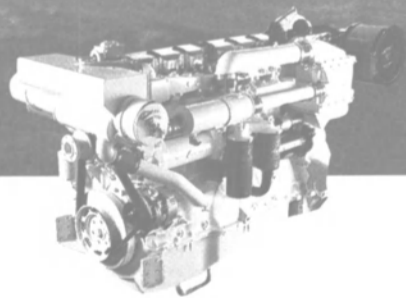
SpecTec is a leading supplier of management software to the shipping industry. In 1999, the company increased net sales by 19 percent to about \$23 million, while operating profits increased by 83 percent to \$3 million.

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Maritime Reporter/Engineering News



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Marine Employment Resource Debuts



Last month marked the debut of one of the marine industry's more exciting new e-commerce offerings — **www.MaritimeJobs.com** — which, as its name suggests, is positioned to provide all marine industry companies with a venue to find and hire the best talent available.

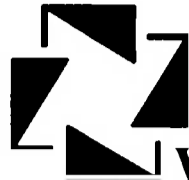
As the world, and particularly the U.S., economy continues to surge, it has become increasingly difficult for companies to hire and retain talented individuals, both onboard and shoreside. Couple with that the continued movement of younger workers from traditional industrial positions to the technology sector, and the result is a projected worker shortage, which is already starting to take hold. Particularly hard hit have been the vessel owners and operators, which could in the next decade face a worker crisis as it is becoming increasingly difficult to find individuals willing to endure the rigors and time away inherent in this work. Ship and boatyards, too, must balance work force during wide ranging business cycles, often resulting in the layoff and rehire of a good portion of the work force. Increasingly, particularly during the latest upswing in Gulf of Mexico business, facilities are finding it difficult to find, let alone hire back, qualified workers.

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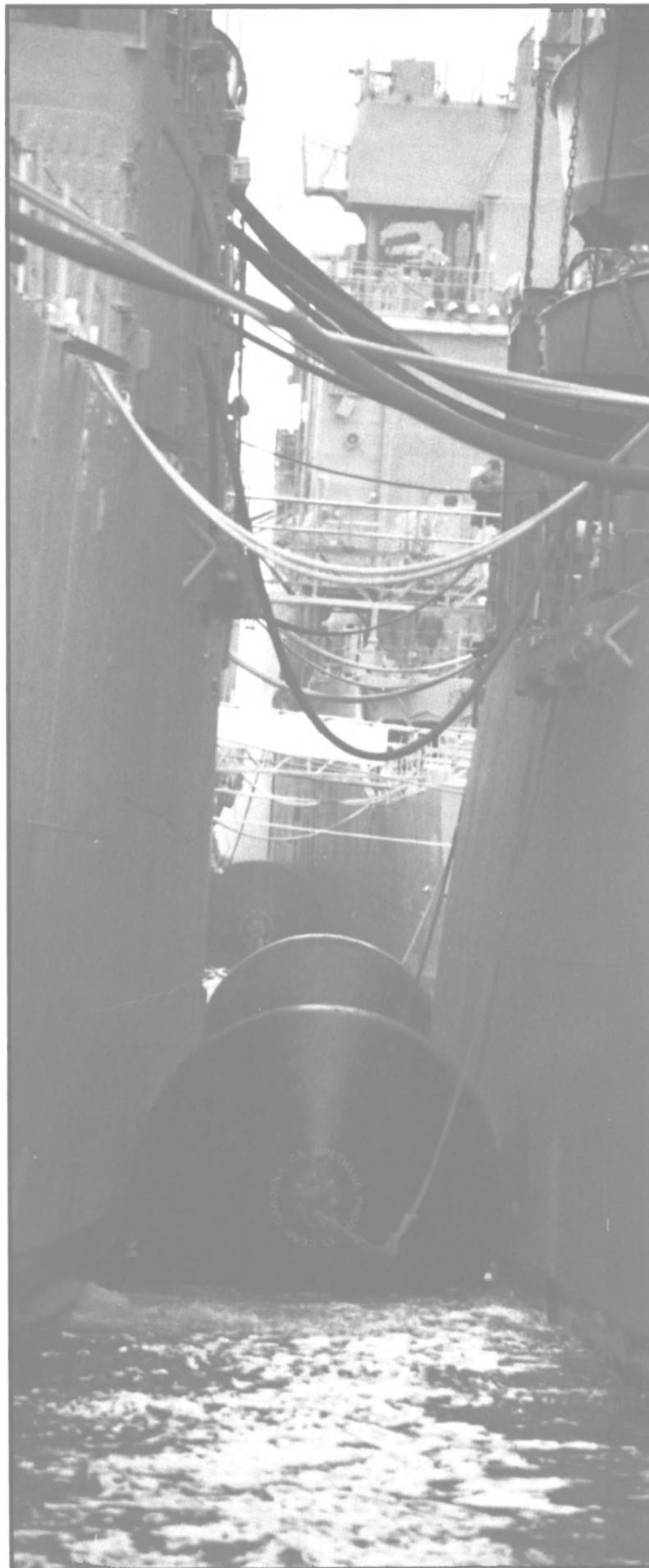
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E-Commerce

From E-Biz to E-Bust: Is Online Chartering and Sale and Purchase Possible?

The failure rate for new ventures in cyberspace is very high, and there is no reason to believe that maritime "dot coms" will fare differently. When e-biz companies fail, the reasons often given are lack of invest-

ment ("the money ran out") or failure to find a market ("lots of hits on the site, but few buyers"). But those are not causes of failure, those are effects of failure.

Most failing e-businesses fail for the same basic reasons that have sunk non-e-businesses for centuries, such as overestimation of market share, lack of differentiation from competitors and failure to manage vendors and consultants effectively.

But there are two areas, at the heart of maritime business, that have attracted the attention of e-biz entrepreneurs that may well give rise to a new category of failure - failure due to lack of knowledge. Those two areas are chartering and sale and purchase, or to give them their full titles "on-line chartering" and "on-line S&P."

It may seem bizarre to claim lack of knowledge about chartering and S&P when those activities are practiced daily around the world. But no one, including the brokers, knows exactly how successful chartering and S&P practitioners do what they do, and unless those processes can be analyzed and translated into algorithmic frameworks for computer processing, there will be no true online chartering or S&P. There may be lists of ship for sale or charter that will be accessible over the Internet, but that is certainly the smallest part of the negotiating process that results in sales or fixtures.

Further complicating the situation, a large part of the negotiating process has nothing to do with ships or markets. It has, rather, a great deal to do with the psychology and personalities of the parties involved.

So the task of the e-biz developer in these cases is a daunting one. Although the problem is solved every day by people, using intuitive methods that are both complex and little understood, there is no easy way to transfer that ability into cyberspace.

It may turn out that on-line chartering and S&P will never be accomplished, or perhaps more likely, will only be accomplished after a lengthy period of expensive research and development.

But the announced plans of several e-businesses in on-line chartering and on-line S&P indicate that the attempt is being made. To those entrepreneurs, the case of IBM and computerized chess may be an eye-opener. About 40 years ago a small group was formed at IBM to devise a computer program to play chess at the championship level. The group included both highly skilled programmers and world-class chess players. At the time it was estimated that the problem would be solved in about five years

with the computers then available. The estimates were wildly wrong. The problems encountered were almost intractable, and it took about 35 years before a computer could in fact beat the world champion, and the

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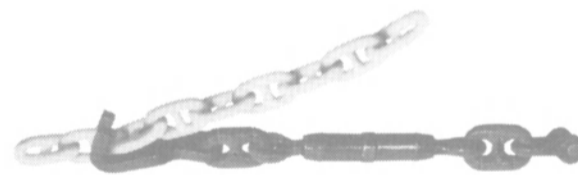
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total cost of the effort was astronomical. Whether any of the developers who have announced online chartering and S&P have the stomach or deep pockets for even a scaled back effort of this type is not clear.

Perhaps the question to be asked about on-line chartering and S&P is not "how

do we do it?", but rather "why are we trying to do it?" The case for on-line chartering and S&P is not strong; the people involved in day to day chartering and S&P are not struggling to keep up with the work load, nor are they being inundated by more data each day than they can possibly process. While they

are certainly being helped by modern communications systems and helpful software to do the job that they do best, it is hard to see how an expensive and time-consuming development process will either help them substantially or, as some have suggested, replace them.

If the people involved in chartering

and S&P are not calling for on-line help, who is doing it for them? The answer, of course, is to look to the vendors, the people who sell hardware and software and consulting services. They have solutions to sell and they are very adept at identifying problems, sometimes previously unrecognized, for which they can sell solutions.

There is a long history of high-tech solutions that have been advertised as the ultimate answer, and "on-line" is the latest in the series.

There were innovations, such as linear programming; robotics; artificial intelligence; and many others too numerous to mention. Each of these was hailed at first, and then discarded and finally left to assume its proper place as a useful but not universal tool — so it will be with "online."

The preceding was authored by Sydney P. Levine, president, Shipping Intelligence, Inc., New York, N.Y.

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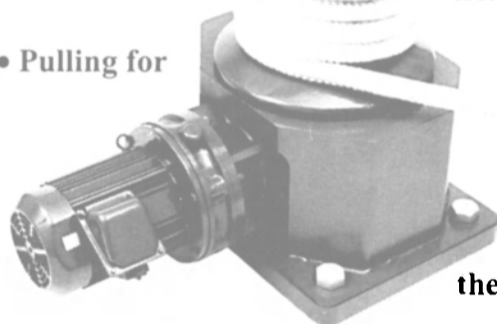
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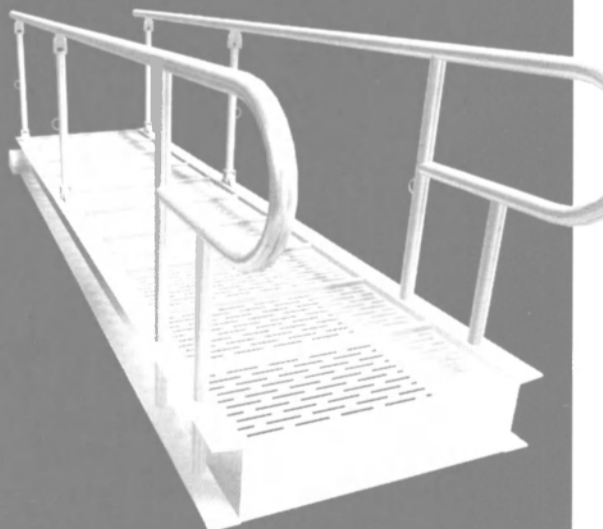
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MaritimeDirect Strengthens Its E-Commerce Team

MaritimeDirect, an online information and e-commerce marketplace for the maritime shipping industry, has added new executives to its e-commerce team and expanded its global presence, supplementing its existing New York and Tokyo offices with a new office in Hong Kong.

Martin Taylor joins MaritimeDirect as the director of e-commerce with responsibilities for the strategic direction of the company's e-procurement system as well as manager of the new Hong Kong office. Most

recently, Taylor led the global sales and marketing effort to promote Arena's e-commerce marine procurement system to ship owners, managers and strategic partners.

The company also appointed **Doug Kowalchuk** as vice president of e-commerce and operations, bringing more than 15 years of e-commerce, supply-chain management and logistics experience to MaritimeDirect.

Prior to joining the company, Kowalchuk was senior vice president, logistics for WorldSpy Corporation, an e-commerce micro-portal, and vice president, logistics for Copera, a provider of warehouse operations management services for e-commerce marketplaces.

Robert Peterson, who has significant e-commerce experience, also joins the MaritimeDirect team in New York, to work with Kowalchuk, in e-commerce and operations.

Maritime Reporter/Engineering News

E-Commerce

Maritime Records and Contracts: Electronically Signed, Sealed, Delivered and Maintained?

Is there an electronic Oil Record Book in the future of the maritime industry? There could be. Will charters be negotiated and signed electronically? They can be, but they do not have to be. Will the new rules of electronic signatures and electronic record keeping change the maritime industry? Most certainly. Are the new rules simple to apply? Not at all.

The rapidly accelerating use of electronic commerce in all industries demands changes in the traditional "paper and pen" foundation of legal documents. The "high tech" community has been a strong proponent of the need for change for several years. Initially their efforts focused solely on electronic signatures. More recently, the acceptance of electronic records was added to the list of demands, a change that brought an explosion in the scope and potential impact of this proposal.

Electronic Signatures Are Now Valid

Thanks to the recently enacted Electronic Signatures in Global and National Commerce Act ("E-SIGN"), electronic signatures can be considered valid and binding evidence of commitment to a legal obligation. E-SIGN creates a legal "floor" for the recognition of electronic signatures. States can no longer require that contracts and other legal documents be written, signed, or in non-electronic form.

The use of electronic signatures is not mandatory, but state law can no longer discriminate against them. Notarization and acknowledgement of a signature can also be satisfied electronically.

Only the method of signing a document and forming a contract is affected. All other rights and obligations under any applicable Federal or state law remain the same, including the Federal and state laws that prohibit unfair and deceptive acts and practices.

E-SIGN affects contracts and other legal documents between consumers, between businesses, and between businesses and consumers. It does not affect "governmental" transactions, such as an application for benefits, enforcement actions, etc.

Does This Mean A Paperless Future for the Maritime Industry?

No. First and foremost, the use of electronic signatures is not mandatory. No party can be forced to accept an electronic signature.

Likewise, no party can be forced to insure a paperless transaction. The P&I Clubs have already expressed considerable reservations about insuring such

transactions by excluding from coverage participation in electronic trading and the carriage of goods pursuant to a paperless contract of carriage.

Many people may take a "wait and

see" attitude because of the many questions raised by E-SIGN that remain unresolved. For example, the pre-emption of state law relating to signatures can be avoided by a state that enacts,

without change, the Uniform Electronic Transactions Act ("UETA") adopted by the National Conference of Commissioners on Uniform State Laws. If a state adopts a statute, regulation or rule



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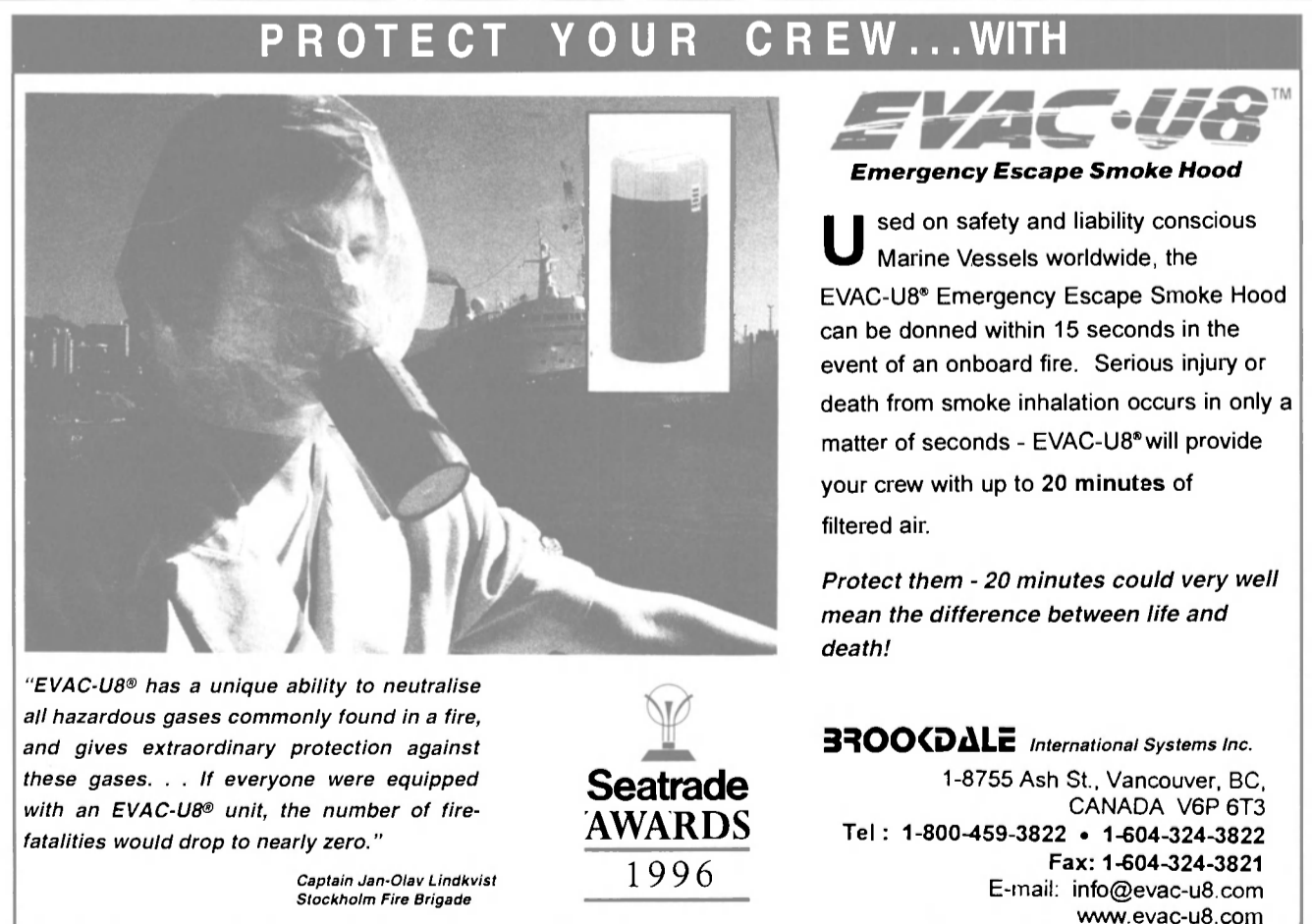
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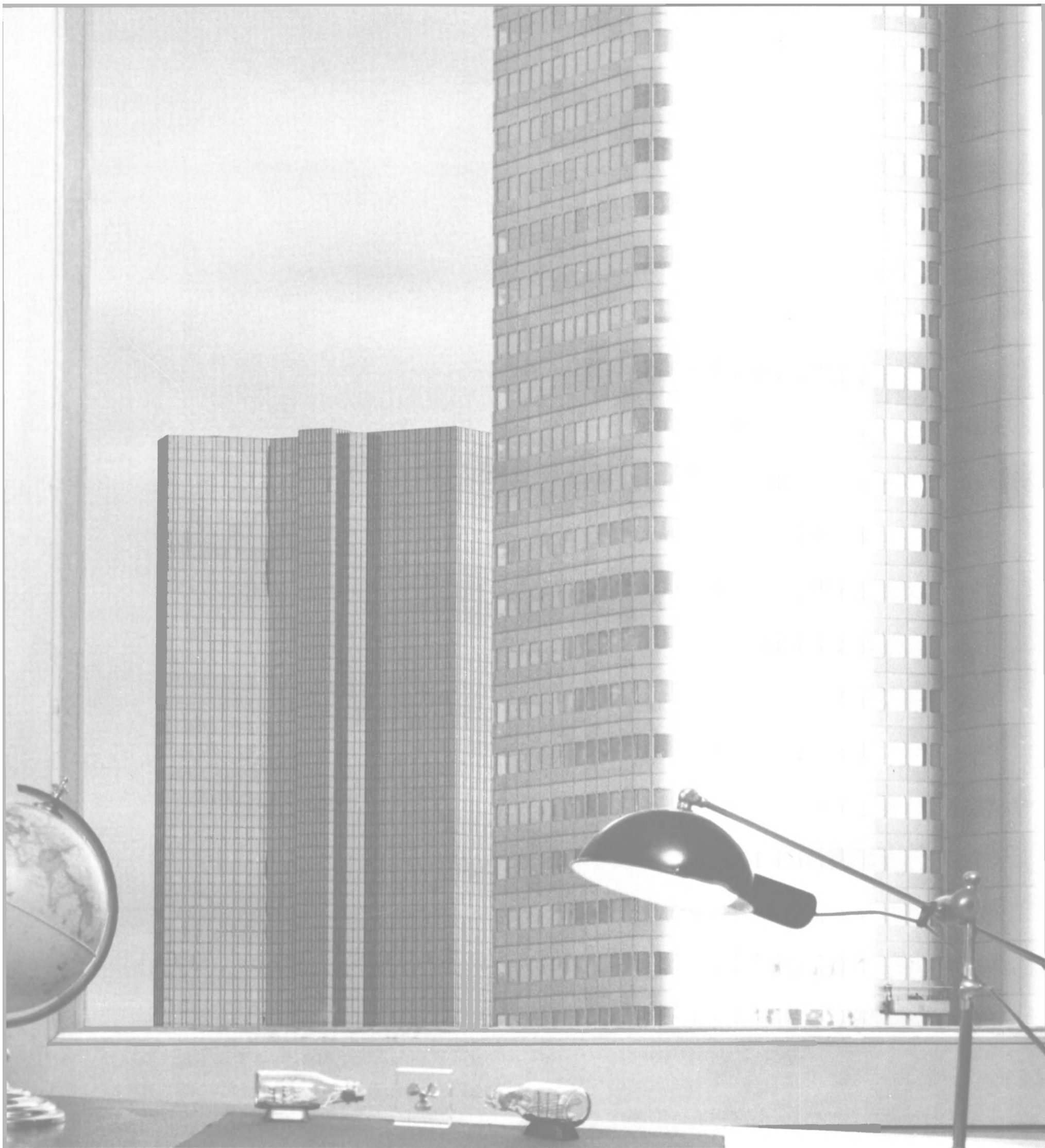
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of law that changes the scope of UETA in a manner is inconsistent with or not permitted by E-SIGN, then the provisions of E-SIGN prevail. Even if a state has adopted UETA without modification, there are provisions of E-SIGN that are not included in UETA (such as certain consumer protection provisions). In the absence of similar state law provisions, the E-SIGN provisions would apply even if the state has adopted UETA.

Adding another layer of complexity to this already complicated scenario is the fact that more than 30 states adopted UETA before E-SIGN was enacted.

Therefore, each state law will have to be assessed for whether it is "consistent" or modified as permitted with E-SIGN before a decision can be made as to which law applies. Because E-SIGN creates a whole new area of federal contract law, there are no precedents to guide or help make those determinations. Legal disputes that trigger these issues will be operating in new, uncharted territory.

Electronic Record Keeping and Reporting Could Bring Major Regulatory Changes

Central to all regulatory programs,

including those that govern the maritime industry, is the requirement to keep records and to report information to the regulator. E-SIGN now makes it possible for such records to be kept and reported electronically. Contracts and other legal documents can also be prepared and maintained electronically.

E-SIGN requires records to be in a form that is capable of being retained and accurately reproduced for later reference by all parties entitled to retain the contract or record. If this standard is not met, the legal effect, validity or enforceability of the electronic record may be denied.

Government agencies can still require the submission of records with specified standards or formats. Federal and state regulatory agencies may also require retention of a record in a tangible printed or paper form if there is a compelling governmental interest relating to law enforcement or national security. Otherwise, a federal or state regulatory agency has no authority to impose such a requirement.

Regulatory agencies can, however, use their rulemaking authority to establish "performance" standards for retention of contracts and records to assure their accuracy, integrity, and accessibility.

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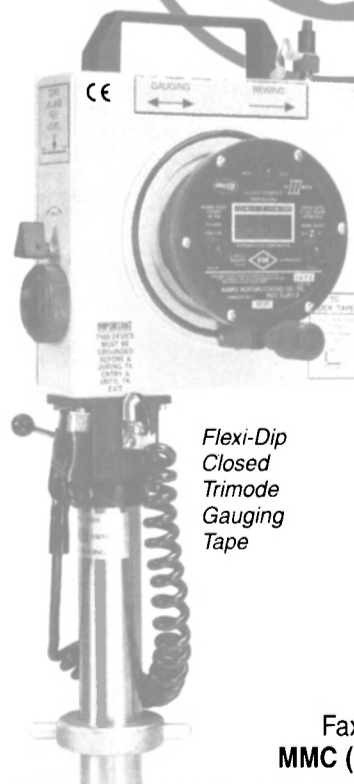
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An electronic Oil Record Book could, therefore, be on the horizon. Instead of having to go to the location of the Oil Record Book to make an entry, a Chief Engineer or a Chief Mate could enter required information from any computer, hand-held or desktop, around the vessel and then electronically sign the entry. The Master could then review and sign each page electronically, with the Oil Record Book and its entries sent electronically to shore and to Coast Guard at periodic intervals. The possibilities continue with Port State authorities requiring electronic access to the Book to review, search and track its contents. This possible future world for the Oil Record Book replicates itself with every record keeping and reporting requirement, from crew injury reports, to International Safety Management documentation, to financial reports.

What Will Constitute an Acceptable Signature?

E-SIGN is aggressively "technology neutral." Neither the Federal nor a state government can enact statutory or regulatory requirements dictating a specific technology or technical specification for performing the functions of creating, storing, generating, receiving, communicating, or authenticating electronic signatures or records. Regulations can be adopted that provide for the acceptance and use of electronic records and signatures, as long as the provisions are consistent with E-SIGN, do not give greater legal status or effect to a specific technology used to create or store the document, and do not impose unreasonable costs on the acceptance and use of electronic records.

When Will E-SIGN Become Effective?

E-SIGN becomes effective on October 1, 2000, except with respect to any requirement for retention of a record imposed by either Federal or state statute or regulation, in which case the date is delayed until March 1, 2001. The effective date can be delayed further to June 1, 2001 if, on March 1, 2001, a Federal or state regulatory agency has taken any action to begin, even if not completed, a rulemaking to promulgate performance standards to govern the documents and record keeping requirements governed by its rulemaking authority. Therefore, if, prior to March 1, 2001,

Coast Guard initiates a rulemaking to determine performance standards to govern maintaining in electronic form various reports and documents required by its regulatory programs, the effective date for implementation of E-SIGN for those reports and documents would be delayed until June 1, 2001.

Special Effective Date Provisions

Affecting Title XI Loan Guarantee Documents. Federal credit programs are governed by their own effective date. E-SIGN applies only to transactions entered into and to any loan or mortgage made, insured or guaranteed on and after one year after the date of enactment of E-SIGN, June ____, 2001.

Much Work Remains to Be Done

No matter when it becomes effective, E-SIGN is likely to have a major impact on the future of the maritime industry. But before any electronic commerce is undertaken or electronic records kept as the "official" copies for regulators, a careful assessment of that action should be undertaken. Government agencies will also have to decide how and under what circumstances reporting to regulators is done electronically.

The preceding was authored by Susan Geiger, Partner, Preston Gates Ellis & Rouvelas Meeds LLP, Washington, D.C.



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Maritime Industry Mourns Congressman Bateman

Virginia Republican Rep. **Herbert Bateman**, 72, a nine-term congressman and strong military supporter who planned to retire at the end the year, died in his sleep, reportedly of natural causes on Monday, September 11, according to a spokesman.

He had battled a series of health problems in recent years including lung and prostate cancer.

First elected in 1982, Congressman Bateman had dominated his heavily Republican district in the Tidewater region of Virginia. He used his seat on

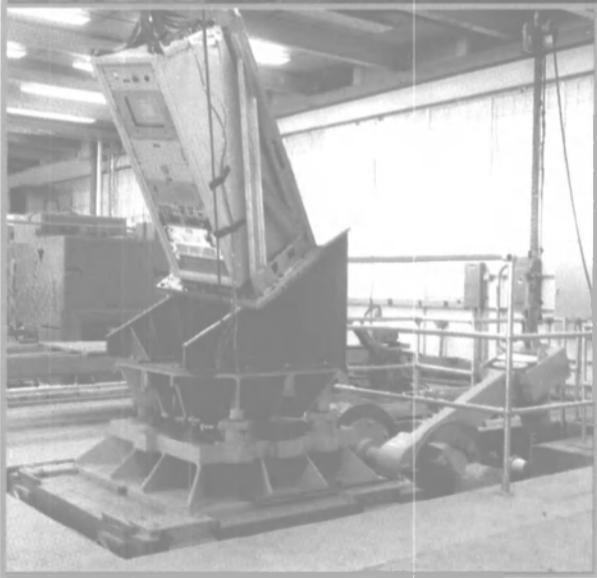
the House Armed Services Committee to support the military and the area's heavy concentration of defense contractors while building a moderate voting record.

Prior to joining congress, Bateman served in the Virginia Senate for 15



Rep. **Herbert Bateman**

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years, where he was recognized for his leadership and committee work in areas focusing on agriculture, energy, education and the budget.

The congressman was noted for his steadfast knowledge and experience in dealing with the various challenges that are constantly faced by the U.S. shipbuilding industry today.

An avid supporter of U.S. shipbuilding, both on the Naval and commercial fronts, the Congressman once cited Title XI as "a crucial move for shipowners to secure commercial financing."

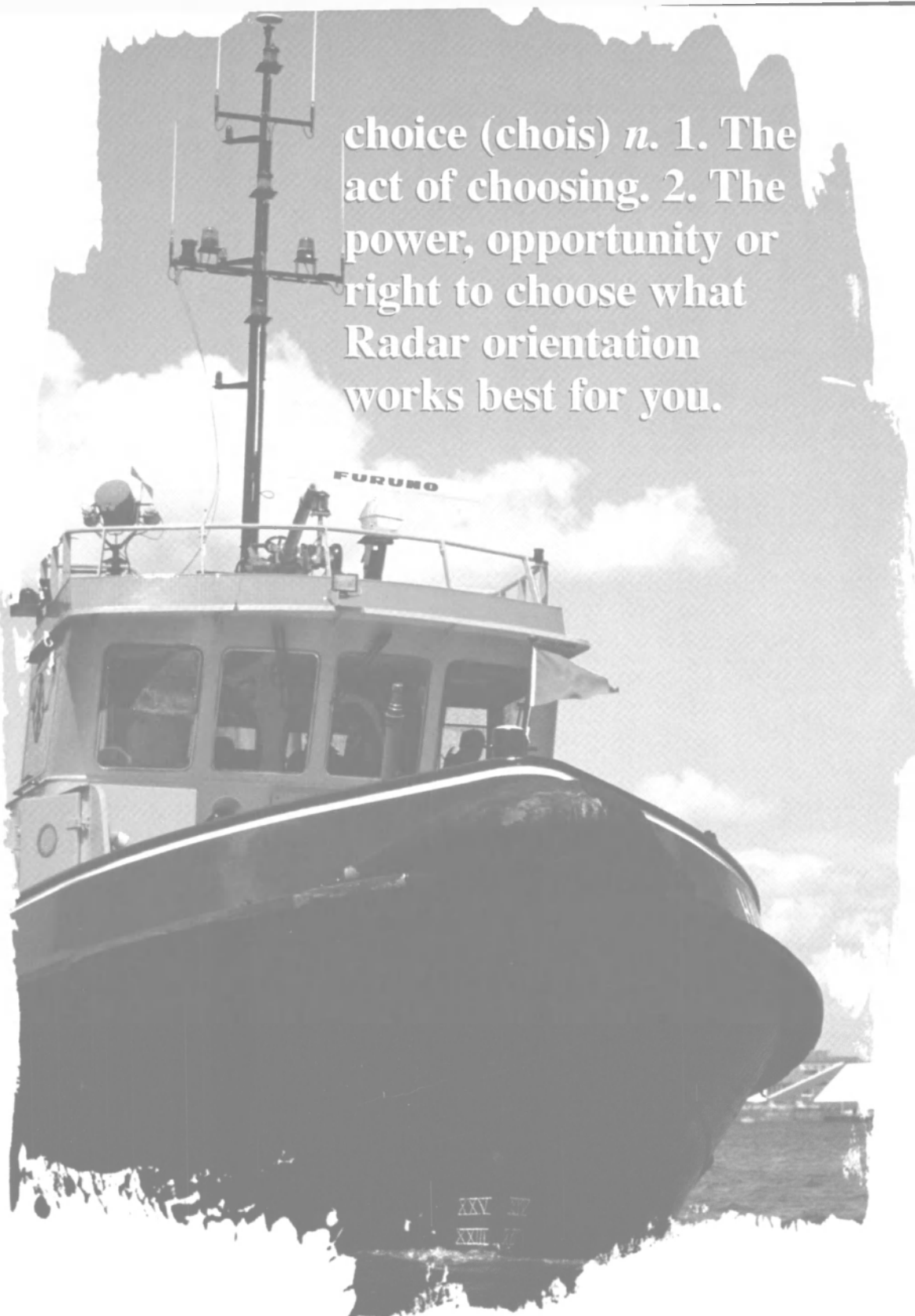
He successfully supported the authorization and funding for the construction of three Nimitz-class aircraft carriers, most recently the U.S.S. Ronald Reagan, which is now under construction at Newport News Shipbuilding. In addition, he has secured funding for the first four Virginia-Class new attack submarines and 12 Los Angeles-Class submarines.

This past June, Congressman Bateman was honored by the American Shipbuilding Association (ASA) with an award named in his honor. Established as The Herbert H. Bateman Award, it will be given to a Member of Congress, Administration official, or industry leader who exemplifies the Congressman's years of consistent leadership in strengthening America's shipbuilding industry.

Born in Elizabeth City, N.C. Bateman planted his Virginian roots at an early age and graduated from Newport News High School. He received his B.A. from the College of William and Mary in 1949 and taught at Hampton High School from 1949-51. He enlisted in the U.S. Air Force during the Korean War and was discharged a 1st Lieutenant in 1953. Congressman Bateman earned his law degree from the Georgetown University Law Center in 1956. Following a clerkship with the United States Court of Appeals in Washington, D.C., he joined a Newport News law firm, where he practiced for 25 years.

Beginning his career in public service as a Democrat, the Congressman later switched to the Republican Party in 1976 while serving in the Virginia Senate.

The Congressman is survived by his wife, **Laura Yacobi**, two children and three grandchildren.



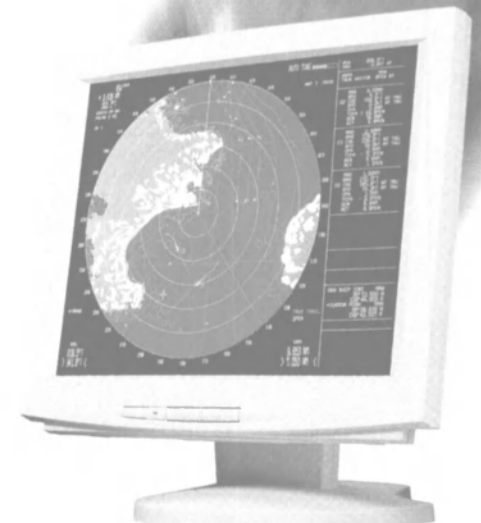
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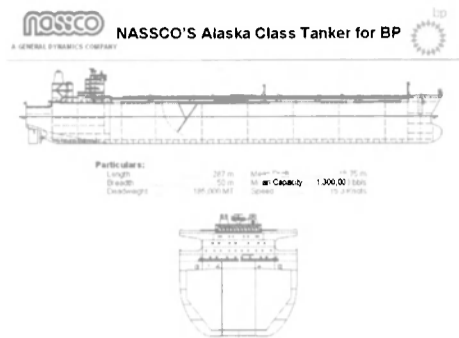
BP Takes Three DH Tankers From NASSCO

Mid last month, General Dynamics divulged that its National Steel and Shipbuilding Co. (NASSCO) unit had won a lucrative and much sought after contract to build three double hull tankers for BP. The deal, worth approx-

imately \$630 million, calls for a tanker trio which will carry crude from Valdez, Alaska, to U.S. West Coast ports. The contract includes options for three additional vessels, driving the potential price-tag for the project to well more

than \$1 billion.

The design will put strong emphasis on environmental safety, including redundant diesel-electric propulsion systems in independent engine rooms, two propellers, and twin rudders. The



ship will incorporate the latest, proven technology in environmental protection, ship navigation, and cargo control systems.

The new 185,000-dwt double-hull design will have a length of 941 ft. (287 m), and a beam of 164 ft. (50 m). Capacity will be approximately 1.3 million barrels at a design draft of 61.5 ft. (18.75 m)

"NASSCO has a long, successful history of building commercial tankers, and we are extremely pleased to have been awarded this construction contract for Jones Act-qualified ships from one of the world's leading oil producers," said NASSCO president **Richard Vortmann**. "It reflects NASSCO's growing reputation for producing technically creative, cost-effective designs for both Navy and commercial customers. It also is a great tribute to the exceptional gains in quality and productivity our employees have made in recent years," he added.

This new contract will keep approximately 1,000 NASSCO workers employed over the life of the contract. Design work is underway and construction on the first ship will begin in early 2002 with the first delivery in the fourth quarter of 2003, and subsequent deliveries in late 2004 and 2005.

"These ships have been designed for exceptional environmental performance and cost effective transportation of North Slope oil to market," said **Anne Drinkwater**, business unit leader for Alaska Pipelines & Marine. In addition to double hulls, BP's new "Alaska Class" tankers will be built with redundant propulsion and steering systems which include twin diesel electric power systems in segregated engine rooms, twin propellers and twin rudders. Use of diesel electric propulsion systems will also reduce air emissions at sea and in port while reducing maintenance down time. To eliminate accidental oil leaks, the propeller shafts will be cooled and lubricated with seawater instead of lubricating oil. Cargo piping will be installed in the cargo tanks, instead of on deck, to reduce the risk of small spills. The ships will be fitted with state-

(Continued on page 83)

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H E A T E X C H A N G E R S

Focus on Fishing Industry

New Technology on Display at Fish Expo/WorkBoat Atlantic

The topic of new technology is the bait being thrown out to potential attendees of this year's Fish Expo and WorkBoat Atlantic show, which is scheduled to take place from October 12-14 at the Rhode Island Convention Center in Providence, R.I.

Both groups have joined forces to produce the latest innovations that are being applied in the Northeast, leaving attendees with many questions, such as: "How quickly will tractor tugs take over in the northeast ports and what advantages do they really offer?"; "How has SENESCO returned Quonset Point to its

former glory as a leader in marine technology?"; and "What advantages do electronic charts offer and how do you decide what's right for your boat?"

More than 350 exhibiting companies will be presenting a broad range of products and services, including bearings, coatings and preservatives, engines,

fishing gear, jet propulsion, government agencies and shipbuilding and repairs. In addition, the conference boasts a full schedule of seminars that will be conducted throughout its three-day span, beginning with "Vessel Financing: Capital Construction Fund Basics," on Thursday, October 12 at 10:30 a.m., and

concluding with "Electronic Charts: What You Need to Know When Buying or Using," on Saturday, October 14.

Those interested in attending can register by telephone: (800) 261-8925; fax: (800) 454-3002, or online at www.fish-expoatlantic.com or www.workboatatlantic.com

South America Gets "Kit" Trawlers

Wales-based, high-tech boat building company, Steel-Kit (U.K.) Ltd. is working with South American prawn fishing companies and repairers to provide "state-of-the-art" computer generated steel and aluminium building kits for on board processing, prawn fishing vessels.



A recent project has been the development of prototype kits, hulls and finished vessels for two 75 ft. (23-m) factory deck shrimp trawlers with sophisticated onboard sorting, cooking and freezing facilities. As a development of this project Steel-Kit has designed, and is organizing on behalf of the owner, a dedicated shipbuilding and repair facility in South America that will produce up to 10 boats a year initially with additional capacity as required. Commenting on the project, managing director Don Fuller-Love said, "This is an exciting opportunity for us. We are looking forward to expanding our activities to South America." The company intends to use the new facility to supply Kits,

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Focus on Fishing Industry

hulls and finished vessels in South America, North America and Mexico.

Steel-Kit has also supplied kits and hulls for the general fishing, shellfish and fish farming industries as well as a number of private yachts, tugs, passenger vessels and inland waterway vessels.

Another very different project current-

ly being handled by the company is the first of 12 American-style, 48 ft. (14.6 m) aluminium lake cruisers.

Currently the company is providing quotations, prices and technical support to yards, fishing vessel owners and operators who wish to apply for the grants now available for new vessel

building. Steel-Kit is working with leading fishing vessel designers S. C. McAlister & Co. along with other respected ship designers to supply detailed drawings, specifications, kits and hulls for a range of safe, comfortable and modern vessels capable of revitalizing the fishing, passenger and workboat fleets of

the world.

The kits have been developed by Steel-Kit over a period of 25 years of boatbuilding. All parts are interlocking and self jiggling and require the minimum of shaping in order to produce sophisticated hull shapes. Steel-Kit's boat yard customers have been shown to be able to save up to 75 percent of man-hours over conventional fabrication methods.

The working environment is far cleaner and quieter as all the cutting and preparation of plates has been carried out by N/C controlled water-cooled plasma cutters at the Steel-Kit works. The company provides full telephone, E-mail and on-site backup as well as training.

In addition to providing a service developing new designs, the company has a range of over 200 vessels in kit form covering the entire spectrum of boat types in steel and aluminium that can be delivered ready for assembly within three weeks.

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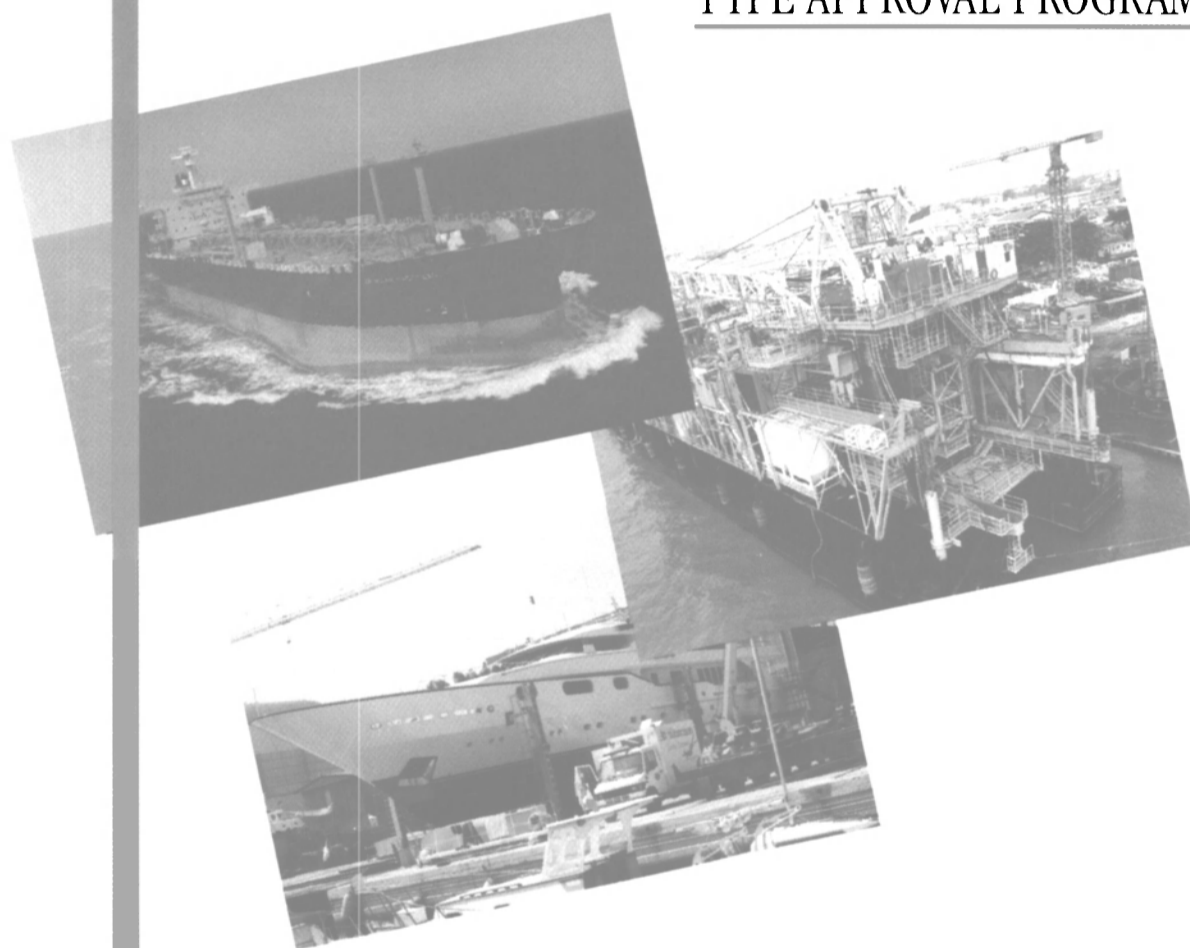
Cenal Launches Stern Trawler

Cenal Shipyard launched the hull of the fishing vessel — stern trawler — measuring 126 ft. (38.3 m) with a beam of 34 ft. (10.5 m). The vessel, which has been built according to



DNV rules and regulations, has been approved for class notation DnV X1A1- Fishing Vessel Ice C. Approximately 416-tons, the hull was side launched on August 18 for Karstensens Skibsvaerft A/S. After voyage preparation, the vessel, which boasts main engines by MAN B&W, will be towed to Karstensens for outfitting and commissioning.

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SSPC Reaches Half-Century Mark

Marking its 50th year of representation for the coatings industry, SSPC: The Society for Protective Coatings is

hosting its International Conference and Exhibition in Nashville, Tenn. at the Opryland Hotel Convention Center. Scheduled from November 12-16, 2000, the convention boasts seminar sessions, training courses, workshops, and networking opportunities — enabling participants and exhibitors to make valu-

able contacts.

SSPC 2000 plans to focus on topics of the day, including current trends in surface preparation and coatings; environmental, health and safety issues; project roles and responsibilities; and issues specific to the offshore/marine industry. The conference's scheduled tutorials

will provide valuable learning experiences focusing on: soluble salts; underground pipelines and storage facilities; thermal spray; concrete repair; and plural component spray equipment.

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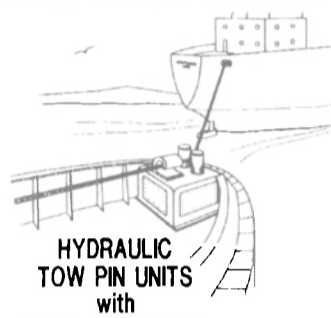
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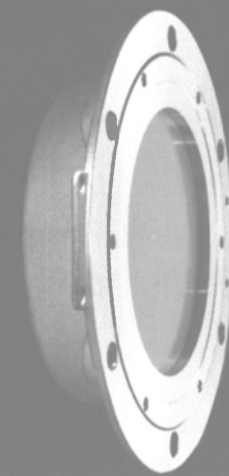
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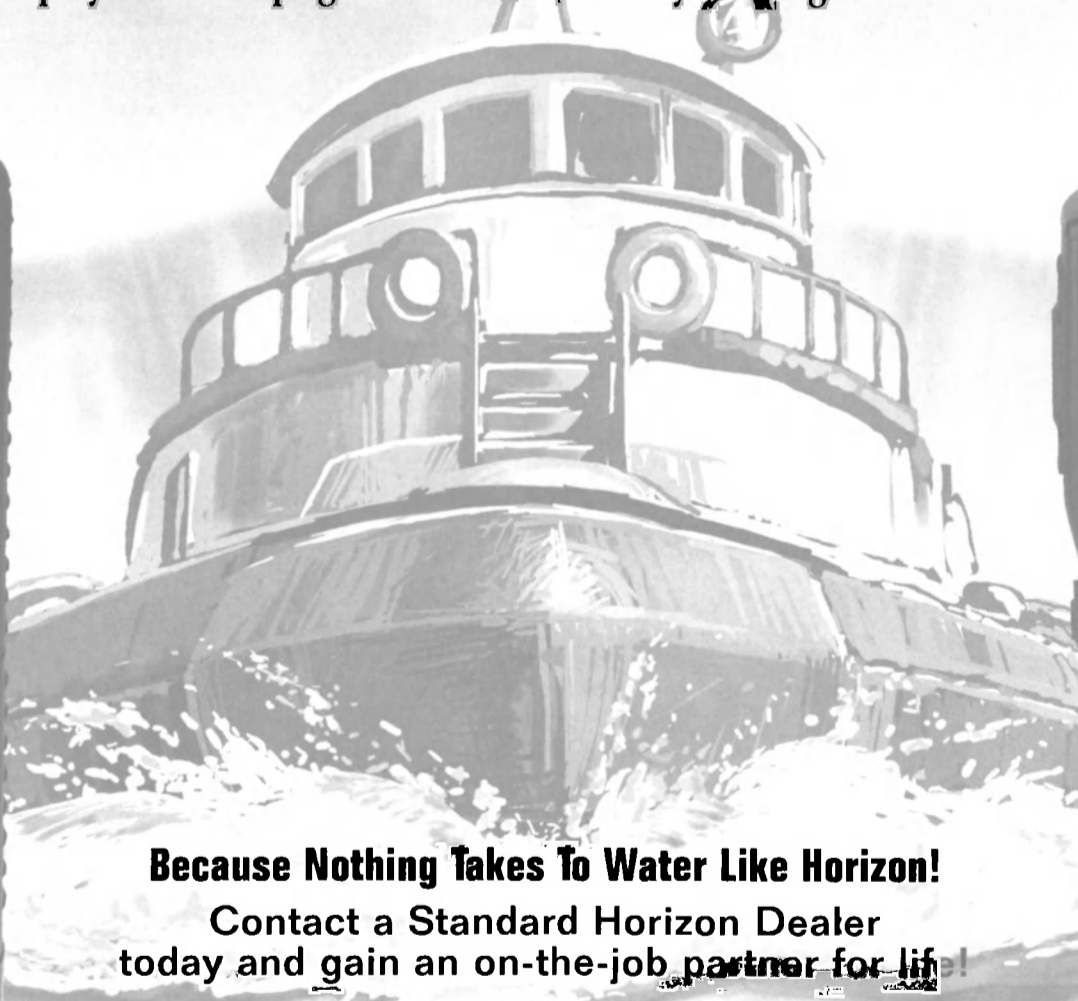
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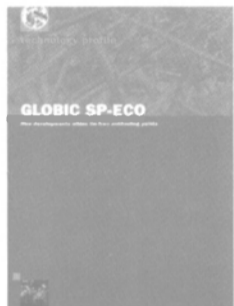
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For further information on SSPC 2000 contact: **Dee Boyle** at (877) 281-SSPC, ext. 202. Potential attendees can also access the organization's Web site at: www.sspc.org.

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New Hempel Coatings Meets Future Requirements



Hempel recently launched worldwide its Globic SP-ECO range of 2003 IMO-compliant antifouling, a high-performance, self-polishing antifouling with a unique fiber composite structure. The innovation is being touted by the manufacturer as revolutionary as the fibers incorporated in the paint are designed to give exceptional mechanical strength and optimal polishing control, offering antifouling protection for up to five years.

Fiber reinforced materials — which are the norm for many everyday and marine-industry products — is new concept for marine antifouling coatings.

Hempel has invested a decade and millions of dollars in the development of the technology which led to Globic SP-ECO, a coating, which the company says has probably the highest solids content of any of the new 2003 IMO-compliant products, meaning less use of solvents and less air pollution.

Globic SP-ECO has a controlled leached layer, which means that subsequent applications only need high-pressure fresh water hosing, thus eliminating the need for a sealer coat. The antifouling represents a new era in 2003 IMO-compliant technology.

The need for development of these new technologies is based on the ban of the use of TBT-based technology, new and evolving regulations, which demand that antifouling paints have no adverse environmental impact. The new regulations stipulate the banning of the application of TBT-based products by January 1, 2003, and the banning of the presence of the TBT-based products on the hull by January 1, 2008.

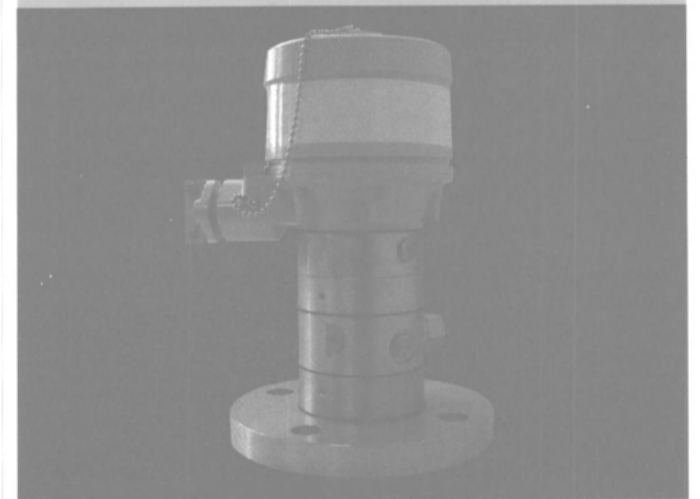
Circle 83 on Reader Service Card

Cygnus Goes Beyond Basic

Cygnus Instruments has revised its Cygnus 1 Basic Model, which accurately measures ship's hulls, bulkheads, decks and tanks through coatings without including the coating's thickness in the measurement displayed. The system also



THE BUBBLER



Smart Pneumatic Level Sensor with Generic 4-20mA Output

The Bubbler is an electro-pneumatic level transmitter that allows remote level measurement using a 4-20mA analog output. The lack of air pressure poses no operational problems, due to an automatic one-way valve which closes as soon as the pressure drops below 1 bar, this prevents back flow in the bubbling line towards the transmitter. Over pressure is also protected against by an automatic one-way valve.

- It's the size of a grapefruit
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- Automatic over-pressure valve
- Automatic stop valve for air failure
- Automatic cleaning of bubbling line
- Connection for pressurized tanks
- 2 pair 24 VDC and 4-20mA cable
- Top or side mount

Many Options

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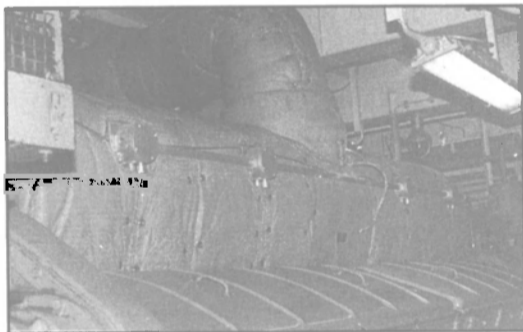
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For productive surface prep, choose NLB's HydroPrep™ Crawler

If you need to prepare large, tall surfaces, you should move up to the SRT-10 Crawler from NLB.

The Crawler delivers the power of ultra-high pressure water jets through patented SPIN JET® rotating nozzles, producing a cleaner surface than grit blasting. You'll also eliminate the cost and hazards of grit, and simplify your clean-up and disposal.

Compared to other automated water jet systems, NLB's SRT-10 Crawler is the:

- Most maneuverable
- Most reliable
- Most economical
- Simplest to maintain and operate

The Crawler is part of NLB's versatile HydroPrep™ system, which also includes an ULTRA-CLEAN 36® pump, rigging, operator console, and vacuum recovery — all for less than you'd expect. It pays for itself by shortening your project.

Even if you've used grit blasting for years, you'll soon see why water jetting with a HydroPrep™ system is more productive. So don't just go with the flow... go with the leader. Call NLB today for a free demo. **In North America, call toll-free, 1-877-NLB-7990.**

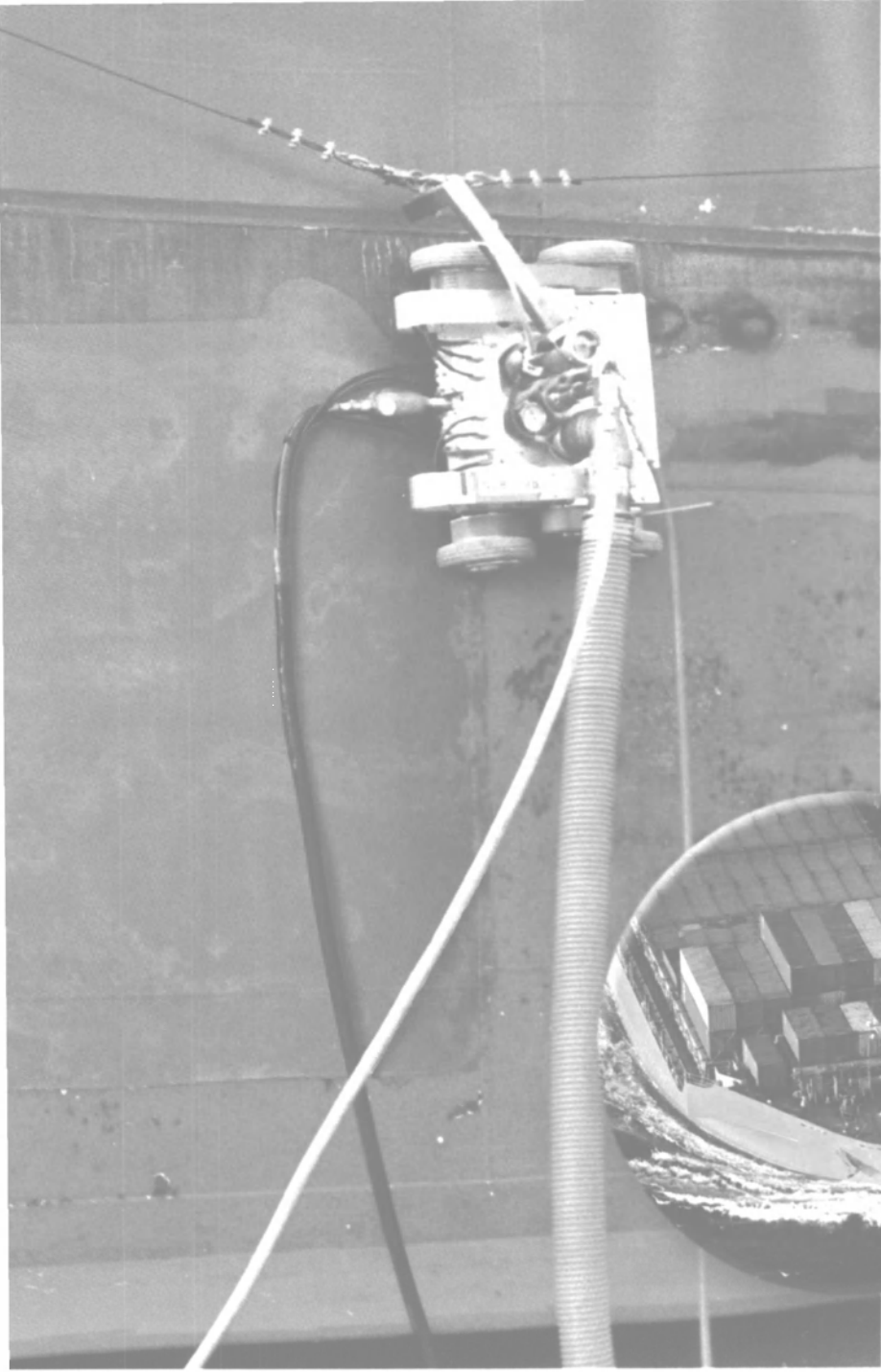
Distributorships still available in some countries.

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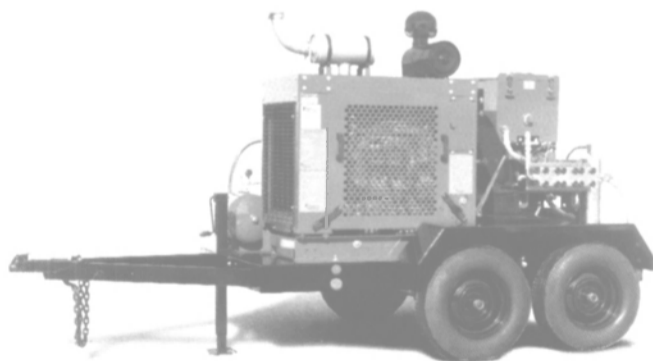
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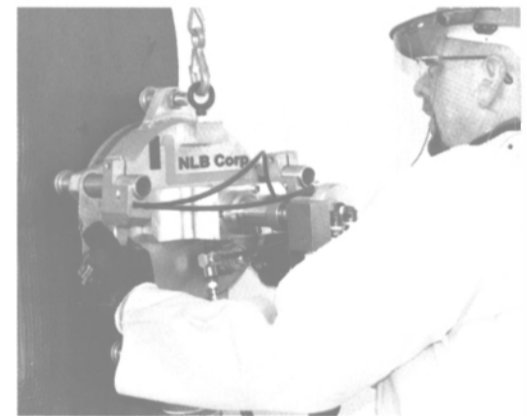
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NLB's compact SRT-10 Crawler is ideal for ships, tanks and other vertical surfaces.



NLB's ultra-high pressure pump units produce up to 40,000 psi (2,800 bar).



The hand-held VertaJet™ SRT-6 simplifies smaller jobs.

NLB Corp.

Coatings & Corrosion Control

measures on rough corroded surfaces with little preparation and requires no grinding. New features include operator selection of probe frequency for enhanced measuring, calibration by either known thickness or velocity of sound and automatic or manual "off switch."

Circle 70 on Reader Service Card

NLB Brochure Highlights Advantages Of Water Jet Surface Prep

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Circle 88 on Reader Service Card

Eureka Chemical Specializes In Corrosion Preventatives

Eureka specializes in non-solvent base corrosion preventatives and lubricants - inside ballast tanks, voids, rudder, pontoons, caissons, sponsons, anchor chain lockers, drydock wing wall and on cranes, hoists, rails, winches, wire-rope, deck equipment, preservation of machinery being shipped on-deck and undersea equipment.

Circle 89 on Reader Service Card

Sattex Bricks Get The Grit Off

The key to a smooth and reliable coating is as dependent upon the actual preparation job as the coating itself. Sattex marine Polishing compounds — available in bricks and sticks in six abrasive grades — are designed to effectively remove surface oxidation, minor scratches, orange peel and sanding marks, while enhancing the luster of the gelcoat.

Circle 78 on Reader Service Card

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Jetting Systems is a manufacturer of lancing systems, tube bundle cleaning machines and 10,000 to 40,000 psi spe-

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When equipment must be repaired now, Climax Portable Machine Tools give your crews the power to get the job done fast, any time, anywhere. Our compact, easy-to-use tools attach directly to the work piece — wherever it may be — so there's little time lost for dismantling. Boring, borewelding, milling, turning, weld prep, beveling, facing and many other operations can be performed easily with precision.

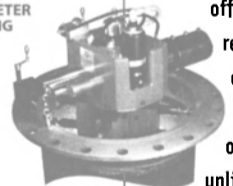
Climax's line of over 25 machine tools provide effective solutions for repairs at sea and valuable alternatives to costly off-site machining in ship repair or refurbishing operations. Call us today for complete information on these tools and an unlimited range of custom tool designs for unique repair applications.




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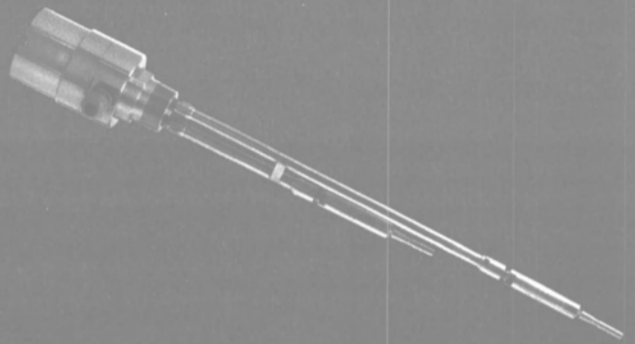
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THE SEA SWITCH TWO



Smart Electronic Level Switch with No Moving Parts

The Sea Switch Two was designed and patented for all tank applications. The Sea Switch Two offers a reliable solution for liquid level detection and control for cargo, ballast, and storage tanks, without any moving parts.

The Sea Switch Two uses a fully static system that is based on the propagation of an acoustic wave into a metallic rod. A piezo-electric sensing element produces a wave along the rod. As the liquid reaches the sensing element the oscillation stops and the alarm is activated.

The Sea Switch Two sensor detects high, high-high, or low level in any liquid with an alarm output given by a dry contact or current loop change 6-18 mA.

- Easy installation • Self-test built-in
- Fully static system — no moving parts

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Circle 237 on Reader Service Card

33

Coatings & Corrosion Control

Ohio Innovator

Last month's new product unveiling by Advanced Polymer Coatings (APC), at the SMM gathering in Hamburg, should give fresh impetus to the Ohio company's rapid marine business growth with its performance-enhancing MarineLine cargo tank coating series.

First introduced in early 1993, MarineLine provided the industry with a viable, lower-cost alternative to stainless steel and other types of tank lining material. The latest formulation, MarineLine 784, has been developed to give higher functionality relative to the standard system, in meeting ever-more pressing needs of chemical and products

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The first application of the new system was completed in July, involving a 5,300-dwt chemtanker newbuilding in the Netherlands.

Circle 80 on Reader Service Card

Corrosion Control Electronically

Applied Semiconductor is a new technology company pioneering the use of non-chip based semiconductor technology that offers Zeta, which is designed to control marine antifouling with no environmental ramifications. Zeta is based in part on NASA technology first used on lunar mission, and it slows the rate of electron transfer within protected material by a factor of 103. Zeta is designed to prevent corrosion of conductive materials, such as steel or aluminum, for life.

The Zeta System consists of two components, a ceramic-based coating, containing millions of microscopic P and N semiconductors, and an electronic control unit (ECU). The coating is applied using conventional air or airless spray equipment in a single coat to the conductive material to be protected. The ECU is then attached to the coat material to be protected.

Once the system is in place, random current fluctuations from the electrochemical activity of corrosion in the protected material are transferred to the semiconductor particles in the coating. The random flow of electrons now takes place between P and N semiconductors of the coating, with the junction between the semiconductors acting as a restrictive dioxide.

Based on an expected life for the Zeta coating of three-to-five years without the ECU, the life of the Zeta coating with the ECU in place is expected for 3,000 to 5,000 years.

In addition to its corrosion prevention properties, the Zeta system can be modified to prevent marine fouling, or the

The innovators of Chesapeake are at it again!!

The makers of METgrain® steel abrasive are pleased to introduce "METgrit®" chilled iron!!

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Surface cleanliness and profile control is the prime requirement for good holiday-free coating practice. METgrit's mix of hard and irregular-shaped chilled iron particles maximizes blast cleaning efficiency for removing paint, rust, and millscale. The result is high speed cleaning at a lower cost.

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P	max	0.03
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Circle 219 on Reader Service Card

Coatings & Corrosion Control

measures on rough corroded surfaces with little preparation and requires no grinding. New features include operator selection of probe frequency for enhanced measuring, calibration by either known thickness or velocity of sound and automatic or manual "off switch."

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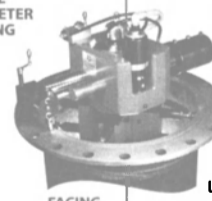
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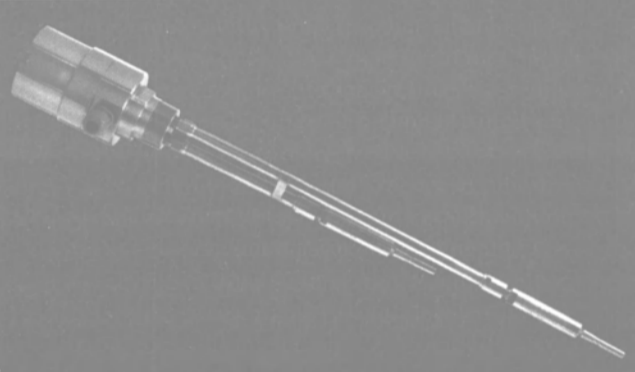
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Coatings & Corrosion Control

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P	max	0.03
S	max	0.06

Coatings & Corrosion Control

growth of organisms such as barnacles and zebra mussels on ships, pipes and other structures exposed to fresh or salt water.

Circle 79 on Reader Service Card

Polyurethane Coating Seals Fish Holds

Futura Coatings has developed a new coating for ship holds, which is designed to be corrosion and chemical resistant. The new product, called URA Shield, is a spray-applied, elastomeric coating that forms a seamless "plastic-like barrier" according to the manufacturer.

Futura specifically offers fishing fleet owners an option other than traditional fiberglass lining over plywood, a system, which can be susceptible to leakage following numerous freeze/thaw cycles.

URA-Shield 5331 applied directly to plywood reportedly creates a seamless barrier to water and chemical intrusion.

Circle 71 on Reader Service Card

NoFire Technologies Offers Compliant Coating System

NoFire Technologies has developed and currently offers a compliant paint and coating system for the marine industry. Its NoFire A-18 Marine paint has been tested at Southwest Research Institute of San Antonio, and reportedly exceeds the requirements and complies with Resolution A.653 (161) and Resolution MSC.41 (64).

NoFire A-18 Marine paint has type approval by the U.S. Coast Guard, ABS, DNV-EC and LR for use on all ships.

Circle 73 on Reader Service Card

USF Surface Prep Offers New Website

USF Surface Preparation Group's newly redesigned website — www.surfacepreparation.com — allows customers to access dozens of products and services with the click of a mouse.

The company has more than 29 brands and an extensive product line, ranging from abrasive airblast equipment to wastewater treatment equipment.

Circle 74 on Reader Service Card

Bio-Dur 561 Used For Ballast Tank Lining Repairs

Professional diving services and Bio-Dur 561 enable permanent repairs to be made to ballast tank linings without disrupting normal operating schedules, an option attractive to shipowners as it allows not only the vessel to stay in service but saves the time and cost of dry-

docking. Bio-Dur 561 is based on a unique blend of liquid epoxy polymer an aliphatic polyamine curing agents, which is able to displace water from wet surfaces in order to make a permanent bond. The formulation is solvent free to ensure safety and maximum technical performance.

Circle 77 on Reader Service Card

Belzona Offers Polymer Fixes

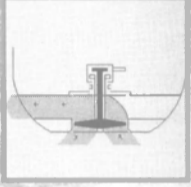

Since their inception 50 years ago, the marine community has used high performance polymeric compounds and specialized coatings extensively. Applications range from small to large, from everyday repairs to once-in-a-lifetime jobs. Several repair techniques and

products are type-approved by the major classification societies as well.

Polymers offer fast turnaround times, as repairs which traditionally took days or weeks can be accomplished in hours. In many cases, repairs can also be carried out in situ, eliminating the need for costly disassembly.

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OMEGA THRUSTERS FOR EASY MANOEUVRING

Jan Verhaar builds reliable, long-life Omega bow and stern thrusters

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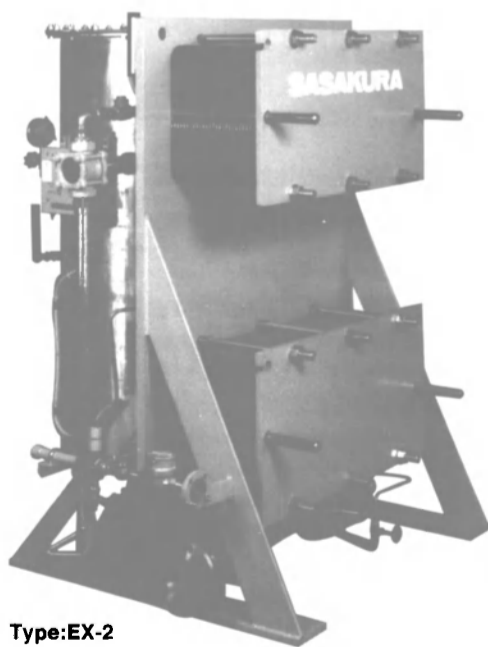
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Circle 306 on Reader Service Card

and macroinvertebrates without the need for back flushing or periodic cleaning. This saves valuable time when ships are in dry dock for annual maintenance and repair.

According to **W. N. Andrew**, chief of Fleet Maintenance at Chevron, the units have saved an additional three to four days of ships time per year. "We have virtually eliminated main condenser cleanings," says Andrew.

Prior to installing the electrochlorination units, Chevron counted on copper ion systems to keep biological organisms free of the main condenser. However, the ion systems offered marginal performance. With a high quality electrochlorination unit in place, main condenser performance had improved measurably.

"We are maintaining .5-in. to .75-in. better vacuum as an average over a year due to the Chloropac anti-fouling action," notes Andrew. The upgraded vacuum not only improves the flow of cooling water to the heat exchange surfaces, it provides for an ample supply of oxygen throughout the piping systems. Thorough oxygen diffusion helps to minimize localized corrosion as well as turbulence at inlets.

There are in fact a number of hidden costs that may be avoided with electrochlorination. For example, the amount of fuel saved can be substantial. Chevron, a company that knows the value of petroleum, had installed electrochlorination units on a number of its tankers to run as economically and fuel efficiently as possible. In calculating the fuel savings with electrochlorination, Andrew stated that there is approximately a two to three ton-per-day savings for each vessel.

The fuel savings and the savings in maintenance and repair help to pay off one electrochlorination system in six months to a year. This was in fact the case at Chevron, where Andrews stated "the units have met our expectation for performance improvement and cost reduction, validating our estimated project payback time of less than one year."

According to USFilter's Electro-catalytic Products, a designer and manufacturer of Chloropac® electrochlorination

Coatings & Corrosion Control

systems, the cost of maintaining the units is minimal. "The cell assembly is designed for high velocity so that the cell may be flushed while in operation, notes **Louis Lombardo** of USFilter's Electrocatalytic Products. "This prevents calcareous deposits within the cell assembly and serves to protect the coated cells for approximately five to seven years."

According to Lombardo, the Chloropac unit operates efficiently in a wide range of seawater temperatures. "The unit is designed to continue operating in seawater below 14 degrees C, the point at which other systems shut down. Ships remain protected throughout the world's oceans," Mr. Lombardo concluded.

Designed for the needs of large and small vessels, the Chloropac system is typically installed in machinery spaces near seachests, avoiding long pipe runs, while the air-cooled controller/ power supply is conveniently placed near the generator flat.

The sodium hypochlorite output of the cell is directly related to the current passing through it. This allows for automatic operation and control of output. In fact, the DC cell power allows for adjustments in output between 0-100 percent.

Circle 17 on Reader Service Card

Litton Avondale Holds Keel Laying Ceremony

Litton Avondale Industries laid the keel of M/V Polar Discovery on August 28 for Long Beach, Calif.-based Polar Discovery. Formally known as Arco Tankers, the company contracted Avondale to build this vessel, which is the last part to a three-part series of Millennium Class tankers that will transport crude oil from Alaska to the U.S. West Coast.

The tanker, which is scheduled for delivery in the fourth quarter 2002, is the final chapter in this Millennium series that began with Polar Endeavour and Polar Resolution. Both vessels will enter the Alaskan trade upon their delivery in 2001. Measuring 895 x 152 x 86 ft. (272.6 x 46.2 x 26.3 m), the vessels' namesake is in honor of explorer Captain James Cook. They are the premiere new crude-oil carriers built for Alaskan trade in accordance with the Oil Pollution Act of 1990.

Constructed with double hulls, the tankers will boast double independent engine rooms, twin propellers and twin rudders. In addition, the tankers will hold all cargo, fuel and lubricating oils isolated from the ship's side by ballast tanks or void spaces. The tanker trio will be powered by twin 11,060 kW


slow-speed diesel engines employing a 2,206 kW bowthruster at a design speed of 16.5 knots loaded and 17.5 knots in ballast. Polar Discovery's tanks will house more than one million barrels of cargo at full capacity and 125,000-dwt of cargo for Puget Sound, Wash.

Circle 1 on Reader Service Card

Vice Admiral Card joins ABS

Vice Admiral **James C. Card**, recently retired Vice Commandant of the U.S. Coast Guard (USCG) has been appointed vice president - Technology at the American Bureau of Shipping (ABS). Vice Admiral Card will report to Dr. **Donald Liu**, senior vice president, and

will be based at the ABS Corporate World Headquarters in Houston. He will assume his new duties in early October. Vice Admiral Card holds Master's degrees in naval architecture and in mechanical engineering, from MIT, and is a 1986 graduate of the Industrial College of the Armed Forces.



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The Abandoned Shipwreck Act:

Useful Tool for Historic Preservation or Paper Tiger?

In 1988, Congress enacted the Abandoned Shipwreck Act (Pub. L. 100-298, 43 U.S.C. §§ 2101-2106), in an effort to give states more authority to protect the historical provenance of abandoned shipwrecks in state waters. It was one of the more controversial laws Congress passed that year because it pitted treasure salvors and divers, on the one hand, against states and historic preservationists on the other. In the end, the states won passage of the legislation, but some twelve years later, the question remains whether the Act has had the intended effect. Two significant decisions since 1988 have called into question the law's stated Congressional policy.

The Abandoned Shipwreck Act and Congressional Policy

First, a description of the Act itself. The Abandoned Shipwreck Act (ASA) asserted title of the United States to any "abandoned shipwreck" that is (1) embedded in submerged lands of a State, (2) embedded in coral formations protected by a state, or (3) on submerged lands of a state and included in or determined eligible for inclusion in the National Register, and transferred this title to the states in or on whose submerged lands the shipwreck is located. Submerged lands include lands beneath state waters generally out to three nautical miles. The stated policy of Congress in enacting the ASA was to allow states to protect natural resources and habitat areas, guarantee recreational exploration of shipwreck sites, and allow for appropriate public and private sector recovery of shipwrecks. Congress also declared that the law of salvage and the law of finds - traditional admiralty principles for the recovery of shipwrecks - were not to apply to abandoned shipwrecks to which title had been transferred. Although it was a small law by today's standards, it attempted to modify 200 years of admiralty law applicable to the recovery and ownership of shipwrecks. Perhaps, with hindsight, the goals were too ambitious.

Brother Jonathan and the Eleventh Amendment

In 1998, the Supreme Court, in a turgid decision construing the application of the Eleventh Amendment to the ASA, ruled that the Eleventh Amendment was not a bar to a federal court's jurisdiction over an admiralty claim brought by a salvor who had located S.S. Brother Jonathan in California waters.

California v. Deep Sea Research, 523 U.S. 491 (1998). The Eleventh Amendment generally protects the States from being sued in federal court without their consent. Although the Court's decision is limited in its effect, and did not reach the question of the underlying constitutionality of the ASA, it still may have a chilling impact on state claims to shipwrecks abandoned in their waters.

To review the facts briefly, Deep Sea Research, Inc. (DSR), a salvage company, claimed to have located the ship known as Brother Jonathan in California's territorial waters. The vessel, a 220-ft., (67 m) wooden-hulled, double side-wheeled steamship, sank in 1865 after striking a submerged rock during a voyage between San Francisco and Vancouver. Most of the ship's passengers and crew perished. The ship's cargo included a shipment of up to \$2 million in gold. In 1991, DSR filed an action in the United States District Court for the Northern District of California seeking rights to the wreck of Brother Jonathan and its cargo. The State of California intervened, claiming it had title to the wreck under the ASA. According to California, the ASA applied because the vessel was abandoned and was both embedded on state land and eligible for inclusion in the National Register of Historic Places.

DSR disputed the State's title claim and also argued that the ASA could not divest the federal courts of the exclusive admiralty and maritime jurisdiction conferred by Article III, Sec. 2 of the United States Constitution. Both the district court and the court of appeals sided with the salvor. The Supreme Court granted certiorari to address the question whether a state's Eleventh Amendment immunity was different in an in rem admiralty action and whether it depends upon evidence of the State's actual possession of the res, i.e., the wreck or part thereof, or whether the State can assert bare ownership under cover of the ASA.

Although the Supreme Court has been the jealous guardian of the states' prerogatives under the Eleventh Amendment, especially in recent years, in this case, the Court distinguished the application of the Eleventh Amendment in more traditional cases from those in which the federal courts are exercising in rem admiralty jurisdiction. The Court was reluctant to disrupt the federal courts' "constitutionally established jurisdiction" in the area of admiralty jurisdiction, and concluded that where a

vessel is not in the actual possession of a sovereign, as it was not in the case of Brother Jonathan, the Eleventh Amendment does not bar federal jurisdiction over the vessel. The district court could resolve the dispute between DSR and the State of California. 523 U.S. 491 at 507-508.

The ASA was intended to grant addi-

tional powers to states, and to allow claims to abandoned shipwrecks located in state waters to be adjudicated essentially in state courts. In state courts, presumably state historic preservation law would apply to the recovery and protection of wrecks. But, the Supreme Court has put this presumption in serious doubt, allowing federal courts sitting in

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Legal Beat

admiralty to continue to exercise jurisdiction over wrecks, which a state has not already located. Although the decision represents a traditional deference to federal courts' admiralty jurisdiction, the Court has significantly undercut a basic premise of the ASA. Since the Court's interpretation is one of constitutional prerogative, there is little, if anything,

that Congress can do about it.

Spanish Frigates and Salvage Claims

A more recent decision that limits the reach of the ASA is the July 21, 2000 decision of the United States Court of Appeals for the Fourth Circuit in *Sea Hunt, Inc. v. Unidentified Shipwrecked Vessel*, 2000 U.S. App. LEXIS 17546.

The *Sea Hunt* decision concerned the rights of Spain, on the one hand, and the Commonwealth of Virginia, on the other, to two Spanish Royal Naval vessels, *La Galga* and *Juno*, which had been lost off the shores of present-day Virginia in 1750 and 1802, respectively.

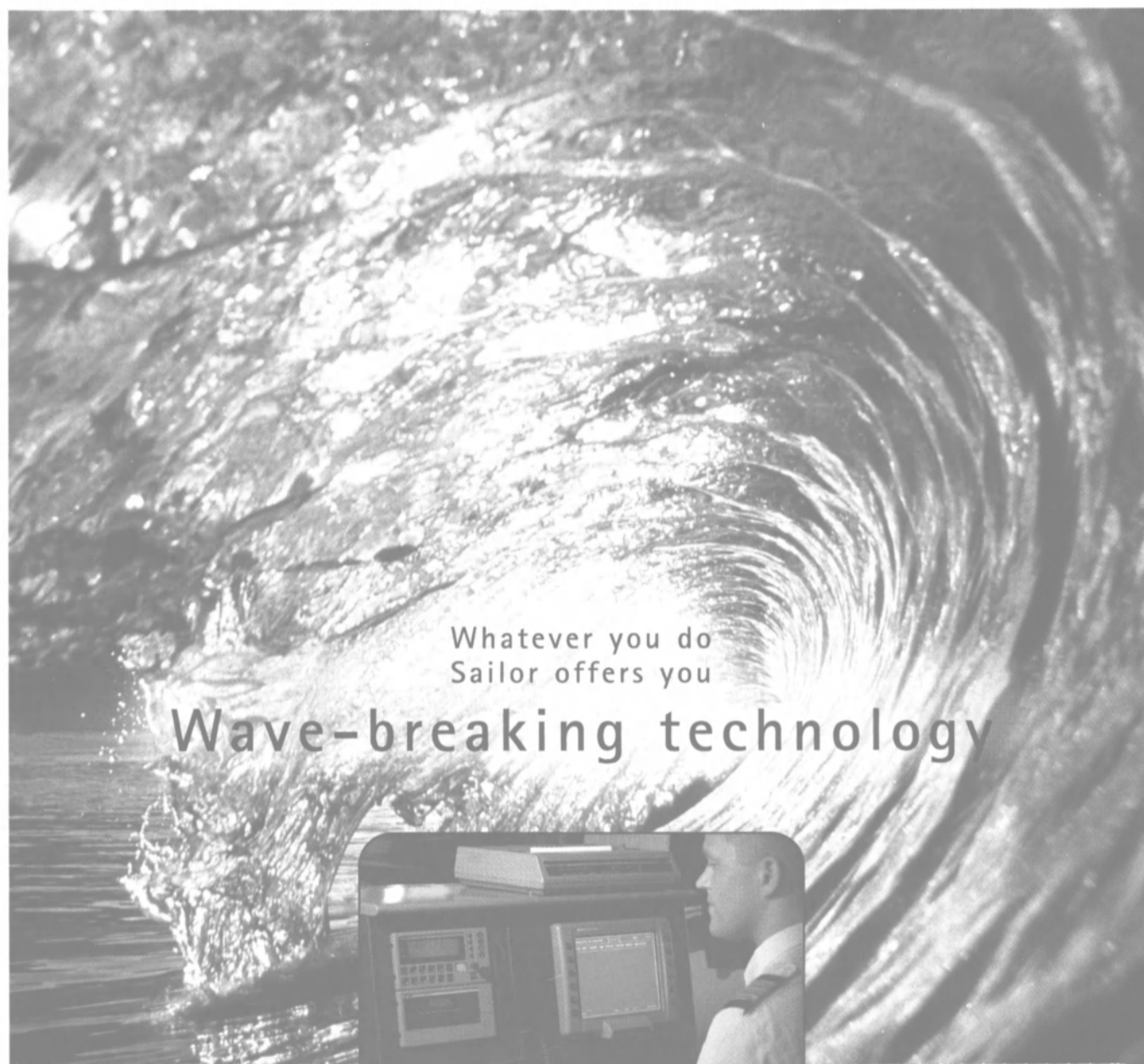
La Galga was a 50-gun frigate commissioned into the Spanish Navy in

1732. She left Havana on her last voyage on August 18, 1750, in order to escort a convoy of merchant ships to Spain. On August 25, 1750, the convoy encountered a hurricane near Bermuda that scattered the ships and forced them westward toward the American coast. *La Galga* eventually sank off the coast of the Maryland/Virginia border. Most of the crew and passengers reached land safely. *Juno*, a 34-gun frigate, entered the service of the Spanish Navy in 1790. On January 15, 1802, the vessel set sail from Veracruz bound for Spain. Beset by a ferocious storm, *Juno* took on water, and sank - causing at least 413 sailors, soldiers, and civilians to perish.

The Commonwealth of Virginia asserted ownership over *La Galga* and *Juno* pursuant to the ASA. The Virginia Marine Resources Commission granted *Sea Hunt*, a maritime salvage company based in Virginia, permits to explore for wrecks off the Virginia coast. *Sea Hunt* spent about a million dollars in remote sensing, survey, diving, and identification operations, as a result of which the company claimed to have found the remains of *La Galga* and *Juno*. *Sea Hunt* brought an in rem admiralty action against the two wrecks on March 11, 1998. The district court granted *Sea Hunt* exclusive rights to salvage the wrecks, but directed the company to send notice to the United States and Spain. Spain intervened claiming that it was and still is the true and bona fide owner of *Juno* and *La Galga*, and that it had never abandoned or relinquished or transferred such ownership and title. The district court found that Spain had abandoned its claim to *La Galga* but not to *Juno*.

On appeal, the Fourth Circuit Court of Appeals sided with Spain's claims to both shipwrecks. The Court of Appeals considered whether these frigates had been abandoned by Spain within the meaning of the ASA. The Court had to decide whether the law allowed a finding of implied abandonment, as the Commonwealth of Virginia argued, or one of express abandonment, as Spain and the United States argued. The Court sided with Spain, finding that an "owner who comes forward has definitely indicated his claim of possession, and in such a case abandonment cannot be implied." 2000 U.S. App. LEXIS 17456 at *11.

The Court also found that the legislative history of the ASA suggests that sovereign vessels must be treated differently from privately owned ones, relying on a State Department letter in the House Report, which states, "The U.S. only abandons its sovereignty over, and title to, sunken U.S. warships by affirmative act; mere passage of time or lack



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Legal Beat

of positive assertions of right are insufficient to establish such abandonment." H.R. Rep. No. 100-514(II), at 13 (1988). Since the United States never intended to abandon its claims to its warships in foreign waters, a different standard would not be applied to those of another nation albeit located in U.S. waters. In

this instance, Spain had maintained the two vessels on its national naval registry and never intentionally abandoned its ownership interests in any treaties Spain had entered into with the U.S or U.K.

Conclusions

Both the Brother Jonathan and Sea

Hunt decisions are major rulings affecting and in many ways limiting the intended reach of the ASA. Although it is likely the parties will appeal the Sea Hunt decision, it is in many ways more defensible than the Brother Jonathan decision. The ASA was never intended to wrest ownership of warships away

from sovereign nations. On the other hand, it was intended to give states greater, if not exclusive, jurisdiction over other abandoned wrecks in state waters. The implications of the Brother Jonathan case are that states will either have to spend more of their own resources to locate wrecks of importance to them or enter into early arrangements with treasure salvors that give those salvors a greater share of the salvage in exchange for allowing the states greater access to information about their historic provenance.

The preceding was authored by Joan M. Bondareff, of Dyer, Ellis & Joseph, P.C. Bondareff was senior counsel to the House Committee on Merchant Marine and Fisheries at the time of passage of the Abandoned Shipwreck Act.

Austral USA Appoints Senior Management Team

Austral USA has appointed two senior members of Austral Ships to Austral USA in Mobile, Ala. to join **Bill Pfister**, vice president of Marketing and Administration.

In order to manage the production of vessels in the shortly to be completed 360 x 93 x 72-ft. (109.7 x 28.3 x 21.9 m) high fully enclosed construction hall, **Simon Thornton** has been appointed vice president of Operations. Simon, who has been with the company since 1998, has extensive experience in aluminium shipbuilding and project management spanning 25 years.

Chris Pemberton joins the team as vice president of Sales and Marketing. Prior to joining Austral Ships in 1994, Pemberton worked in technical sales and marketing for Saab Aircraft and British Aerospace.

Circle 9 on Reader Service Card

NASSCO Granted Drydocking Of USS Mobile Bay

NASSCO has received a contract valued at up to \$23 million for the eight-month extended drydocking and repair availability of USS Mobile Bay.

On September 1, the U.S. Navy awarded NASSCO a \$1 million contract to commence the advance planning for Mobile Bay's maintenance, repair and alteration work package.

Actual work on the vessel, which is expected to reach a value of \$23 million, encompasses drydocking plus alterations to convert the cruiser to all-electric auxiliaries and to install the Navy "Smart Ship" electronic control and automation systems.

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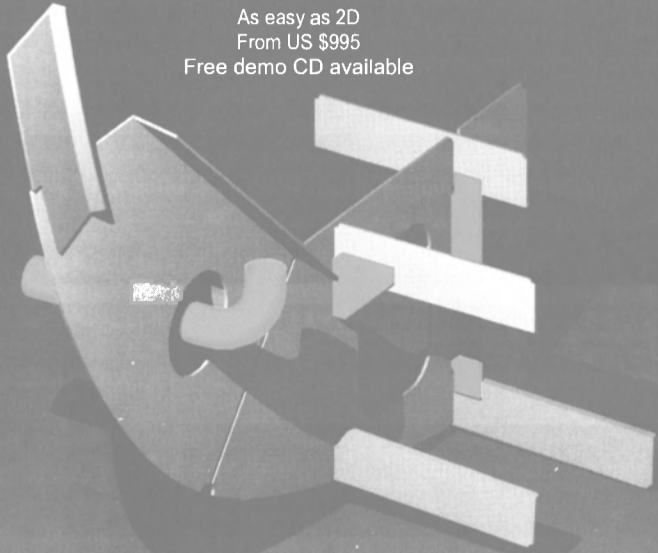
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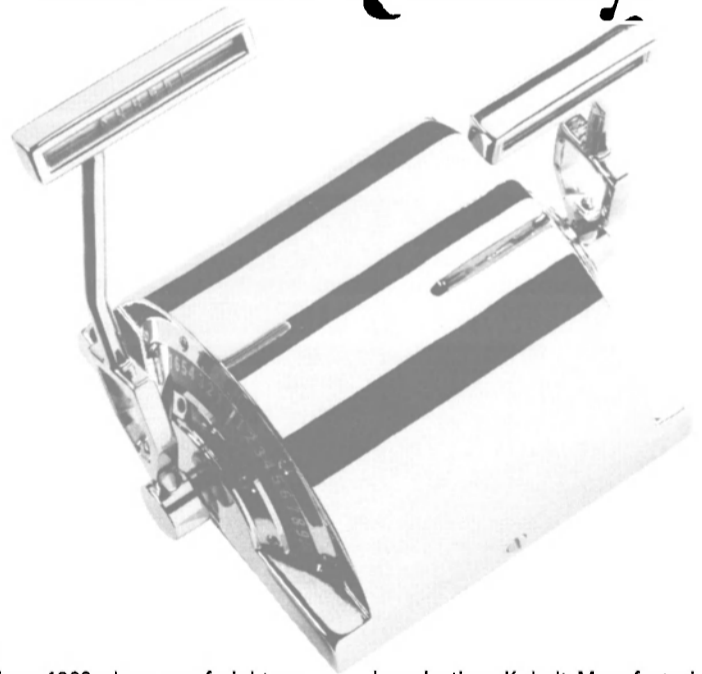
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Circle 266 on Reader Service Card

Contracts

FGH Receives \$52 Million Worth Of Orders

Friede Goldman Halter (FGH) has signed nine contracts with a combined value of more than \$52 million, excluding options.

The contracts are detailed as follows:

FGH has agreed with Foss Maritime for the construction of a 98-ft. (29.8 m) harbor tug, with options to build two additional vessels; a contract was also signed with an undisclosed foreign operator for construction of two high-speed passenger ferries, with options for two additional vessels; Sea Coast Towing has

contracted FGH to build an 80,000-barrel oceangoing double-hull tank barge, with an option for an additional vessel; Trinity Yachts has agreed with Halter for hull construction of a 192-ft. (58.5 m) expeditionary yacht, in addition, Halter has signed a contract with Trinity Marine Products for construction of four

195-ft. (59.4 m) deck barges. Noble Drilling and FGH have agreed on miscellaneous refurbishment and enhancement of the jackup drilling rig Noble Charles Copeland; AmClyde Engineered Products has reported that SAI-BOS, for whom AmClyde is manufacturing a J-Lay tower and associated equipment, has exercised outstanding contract options for additional equipment. In addition, AmClyde's Aftermarket Group received an order from Electric Boat Corp. for new gantry crane travel trucks.

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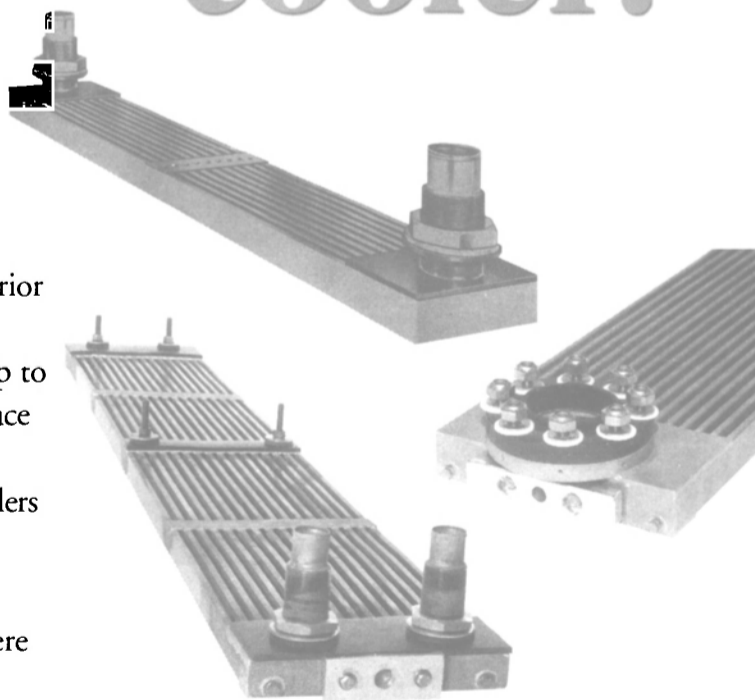
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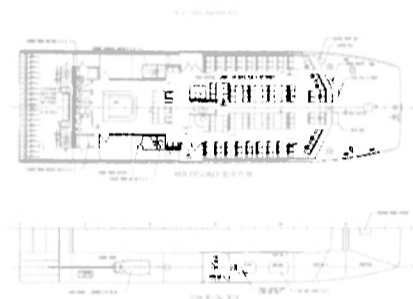
Circle 305 on Reader Service Card

Nichols Bros. To Build

Catamaran For S.F. Bay Area

The San Francisco Bay-based Alameda/Oakland Ferry Service ordered a new 315-passenger catamaran ferry from Nichols Bros. Boatbuilders.

Measuring 112 x 33 ft. (34.1 x 10 m), the catamaran, which is being designed



by International Catamarans of Australia, is expected to go into service in the fall 2001.

The vessel will become the newest member of Nichols-built catamarans that are currently operating between the Alameda area and the San Francisco ferry terminal, as well as other landings by the Alameda/Oakland ferry service.

Expected to operate at a maximum loaded speed of 26 knots over its regular 6.5-mile route on the Bay, the vessel will be powered by KTA 38 Cummins engines operating at 1,190-hp driving standard propellers.

Circle 4 on Reader Service Card

Aker Finnyards Lands Cruise Ferry Order

Aker Finnyards and Estonian Hansatee Group came to an agreement for the construction of a new \$150.8 million cruise ferry for the Gulf of Finland traffic. The 623 ft. (189.8 m) vessel, with a beam of 94 ft. (28.8 m) will be able to hold 2,500 passengers and 1,000 lane meters. Scheduled for delivery in May 2002, the 40,000-gt ferry will be powered by four diesel engines with a service speed of 22 knots.

Circle 3 on Reader Service Card

Ship Repair & Conversion

A Helping Hand In Stralsund

In Stralsund, an ocean-going giant takes to the water with the help of a record-breaking lift.

The Stralsund ship lift reportedly breaks all records, as nowhere in the world is there a lifting and lowering facility on a larger scale than this 754 x 115 ft. (230 m x 35 m) lift. Equally impressive is its power, which enables it to raise and lower a ship of up to 20,700 tons to a maximum of 36 ft. (11 m) without difficulty, the Maersk Valencia in December 1999, serving as an example.

The bow of the oceangoing giant peers out of the 36 ft. (75 m) high shipyard bay, its steel hull follows: the Maersk Valencia, a 682 ft. (208 m) container-ship, edges slowly forward. On 432 wheels, a strange vehicle trundles along the rails like a steel centipede, at two meters a minute. It takes just three hours for the train to make its 280 m journey after which it stands on the largest ship lift in the world, waiting to be immersed.



The men in the 20-person shift routinely carry out the final tasks. Working with the ground crew, they make bow and stern fast starboard and port. The ship will be held vertical by four steel cables once it is afloat. And making sure that gets back into the water in two hour's time are the project leader and two employees of Hydraudyne Systems & Engineering (S&E), Rexroth's Dutch subsidiary. The company built the lift and is therefore responsible for the computer-controlled lowering.

To release the ship, the lift rises four centimeters to disengage the 204 twist-locks. A few minutes later it goes down at a speed of 15 cm a minute. This time there are 12,800 tons on the lift and the transfer system, which must be immersed using the power supplied by its 100 electric servomotors, weighs 900

October, 2000

tons. Incidentally, the ocean giant's "taxi" consists of 54 bilge block bearers (steel girders), the chassis, 108 hydraulic motors and the HGV-size hydraulic supply unit. "As clumsy as it

all looks", explained shipyard head **Detlef Grigo**, "this co-operative project between the Norwegian Rexroth and Hydraudyne S&E is the most modern transfer system in the world."

With this mass of metal it is amazing how silently the electric servomotors, 50 on the right and 50 on the left of the dock, work. (Continued on 82)

For more information about the story on IDAC West's unique monitoring system on page 44, contact **Dave Smith** at: 380 S. Melrose Ave, # 347, Vista, Calif. 92083, Tel: (760) 643-4140; website: IDACWEST.com; e-mail: daves@idacwest.com



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Circle 261 on Reader Service Card

Ship Repair & Conversion

SWM Uses Automation To Speed Workflow

The ability of ship repair yards to quickly, efficiently and effectively get ships in and out in the least possible amount of time is cornerstone to their very existence. Southwest Marine in San Diego has recently adopted an advanced, automated floating dry dock control system, which promises to ensure these lofty goals are met.

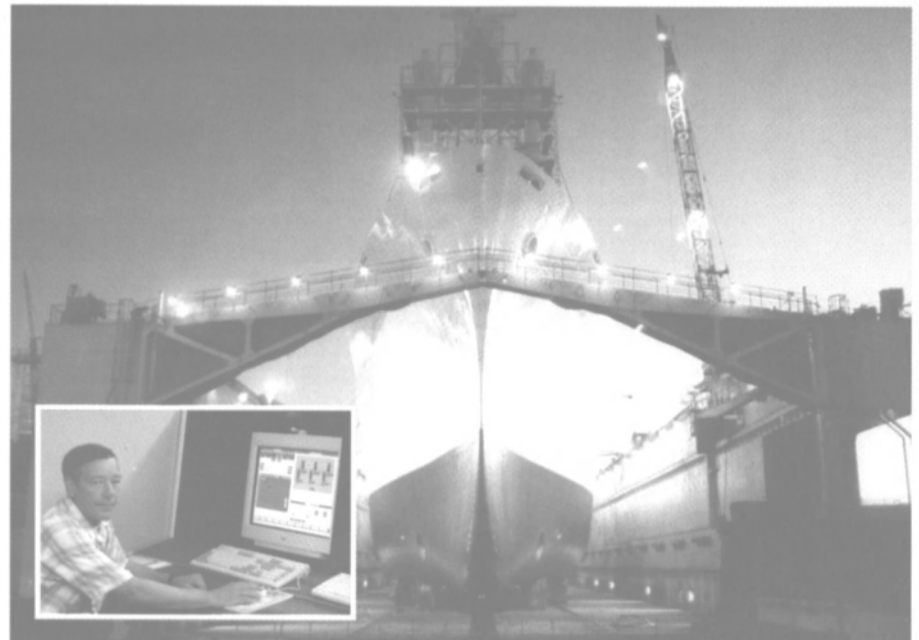
In May 1999, **Randy Jaeger** a project manager at Southwest Marine (SWM) in San Diego, Calif., contacted IDAC West to discuss retrofitting their floating dry dock with a new automatic control system. SWM's 22,000-ton Floating Dry Dock, known as "Pride of San Diego" that is typically used for Naval Ship repair, had an existing control system that had become outdated and difficult to maintain. In turn, SWM invited IDAC West's president, **Dave Smith**, to bid on the project, based on the company's ability to engineer the mathematical models required for ballast control and deflection compensation. IDAC West's technical staff took on the task and was awarded a contract in mid-June to design and implement the Automated Dock Operation Control System to be known as "ADOCS II."

The physical elements of the ADOCS II system are sensors, pumps, valves, industrial logic controller (ILC), and computers. There are two computers located inside of the console that are networked together, each providing redundant hot-backup if the other fails. The computers are connected to a control system that houses Opto 22 control hardware that processes real-time logic relative to the physical devices (e.g. pumps, valves, draft sensors). Opto 22's Factory Floor suite of hardware and software products was selected because of the flexibility and ability to process complex mathematical data quickly and reliably, and because of the electrical isolation provided by the components.

The ILC's control algorithms are focused around information delivered from draft sensors (one on each corner and two in the middle). Accurate information from these sensors provides input to the control system that continually calculates Hog & Sag (Deflection), Heel, and Trim. With these calculations, the control system determines which pumps and/or valves should be activated or de-activated to fill or drain the 18 compartments (ballast tanks). Tank Level Indicators (TLI's) also provide feedback for each tank, allowing intelligent ballast decisions to be made regarding compartment loading and dock stresses.

The operator interacts with the ADOCS II system through two 20-in. computer monitors mounted into a control console that is adjacent to the existing manual system. The control system's graphical user interface (GUI) was developed for Microsoft Windows 98/2000 technology. Having the two monitors side-by-side allows an operator to view different elements of the system simultaneously on both computers. Both monitors can display any information needed and either can be used to control the system.

One of the main design considerations for the operator interface was "ease of use." A variety of different screens are available within the system; the main screen details information that relates to the system's overall status with "pop-up" screens providing immediate status information on problems and events (see



USNS Observation Island situated on Southwest Marine's 22,000-ton Pride of San Diego drydock. **INSET:** Larry Baxter, a dock operator at SWM, had first crack at IDAC West's innovative system.

Figure 1). At the bottom of the screen is a navigation bar for selecting specific screen views such as Tank Levels, Drafts, Valves, and Pump Status. There are also screens that allow the dockmaster and/or operator to make adjustments to system setpoints, access to manual mode(s) of operation, and access to historical data that is logged to the systems hard drive during every docking.

According to **John Vitzthum**, a dockmaster at SWM, "The major reason for purchasing an Automated Dry Dock system is safety." Manual systems rely purely on the docking crew's experience and ability to make necessary adjustments while docking or un-docking a ship.

Every ship has different loading characteristics and behaves differently in a drydock. An automatic system, properly engineered, provides this safety with operation that is accurate and consistent. Once an operator has logged in through

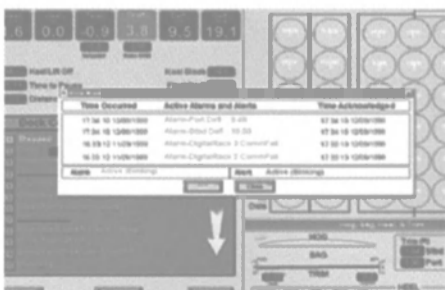
the security system, there is a built-in procedural checklist that must be completed prior to docking or undocking (see Figure 2).

Once all of the system information is entered and checked, the operator can start the event.

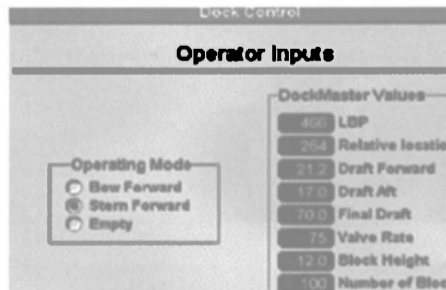
When planning the installation, the new system was designed to be installed in parallel with the existing one, thus providing a means of switching back and forth (old to new) in a matter of minutes.

"It was clear that SWM's dockmaster (Vitzthum) was a little nervous with the initial sea trials. To raise their comfort level further, we developed an ADOCS II off-site simulator that allowed us to test every parameter of the system as if it were actually connected to the drydock," Smith said.

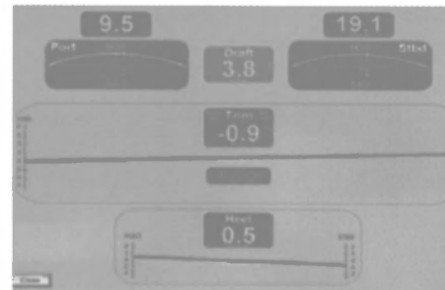
By exercising the docking events off-site, it allowed IDAC West's lead software developer to gain a great deal of



(Figure 1): Displayed is the system's main screen, which is flanked by a yellow "pop up" screen providing immediate status of any problems.



(Figure 2): Once an operator has logged in through the security system, there is a built-in procedural checklist that must be completed prior to docking or undocking.



(Figure 3): An Attitude Monitoring System is essentially a scaled down version of ADOC II that works directly with the manual control console.



Baxter is joined by **John Vitzthum**, dockmaster at SWM.



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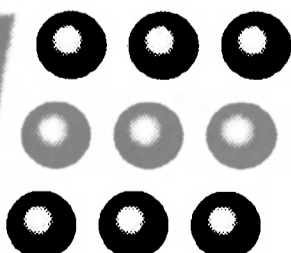
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Ship Repair & Conversion

confidence prior to an actual docking event. The extra effort was worthwhile. With multiple trials and test runs planned, the brand new system required only two calibration and tuning trials before complete success was accomplished.

"The system is now accurate to 0.1-in., and the alarms that we used to get that were either nuisance alarms or real,

don't happen," Jaeger said.

Larry Baxter (SWM's dock operators) was able to use the system right away and is confident in ADOC II's performance.

IDAC WEST has also recently developed another device for SWM known as an Attitude Monitoring System (AMS). It is essentially a scaled down version of ADOC II that works directly with their

manual control console (see figure 3). It focuses on monitoring the drafts only thereby providing information on a separate computer's monitor that represents deflection information. Extensive alarming features are also built-in to AMS. At SWM, both the AMS and ADOC II systems are linked for data synchronization that also allows calibration to be greatly simplified.

"We are now able to retrofit any floating drydock with a scalable solution that can range from monitoring deflection to a full blown control system depending on an individual companies requirements," Smith said.

"This type of flexibility makes of services very unique in the Ship Repair Industry."

Circle 37 on Reader Service Card

ShipRepair & Conversion Is A Maritime Exclusive

Touted as the only recognized international event designed for the ship repair market, this year's ShipRepair & Conversion Exhibition will be the focal meeting point for a variety of companies involved in the industry. Scheduled for November 15-16 at London's Grand Olympia Hall, the exhibition offers immediate exposure to shipowners, operators and managers who are looking to expand their horizons within the realm of the ship repair industry. With last year's event proving to be the most successful ever, Lloyd's List Events, the exhibition's organizer, has decided to host the conference in a much larger space - offering attendees the opportunity to meet with myriad of companies on an international level.

Just some of the companies scheduled to be at the exhibition are: Rolls Royce Marine Systems, Wartsila, MacGregor Group, Cygnus Instruments, Cenal Shipyard and MMC Europe. In addition to networking with these, and more than 300 other companies that are expected to be present, attendees may want to sit-in on the various technical presentations. Scheduled to speak on the conference's inaugural day is **Brett Martin** of Cammell Laird Holdings and **Lock Parker**, CTO of Acromit — both of who will debate on the state of the industry. Subsequent to this session will be a presentation titled, "Tin-free Anti-fouling - How Will the New Regulations Effect Ship Repair?" by Dr. **David Arnold** of Jotun Henry Clark. Additional headliners include: "Main Engine Overhaul — Learning From the Princess of Scandinavia"; and "The FPSO Conversion Market."

Those interested in attending or exhibiting at the conference should contact **Christine Weaver**, tel: +44 (0) 20 7453 5438; or fax: +44 (0) 20 7453 2231. Registration can also be completed online by logging onto the conference's official site at www.shiprepair.com

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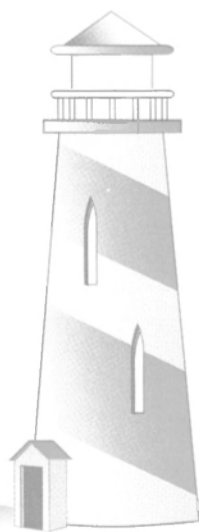
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Ship Repair & Conversion

Cammell Laird, Cascade General Enter Agreement

Consolidation, which has swept the maritime markets for much of the last decade, continued last month in the ship repair and conversion segment, as two of the premier players in the U.S. and U.K. repair and conversion markets

announced plans to work together.

Cammell Laird, which has only recently completed an investment deal in Marseilles, has increased its involvement in the overseas repair and conversion industries by taking a \$7.7 million (49 percent) equity stake in a new holding company along with U.S. West Coast ship repairer Cascade General.

The deal has an option for Cammell Laird to take a controlling interest within the next two years.

It will allow the new company to purchase the repair facility (freehold and docks) at Portland, Ore., the largest single repair facility on the U.S. West Coast. The facility is currently owned by Portland Port Authority and operated by



The Columbia Queen at twilight. Its overhaul was completed at Cascade General.

Cascade General.

Cascade General has leased the facility from Portland Port Authority since 1995, when it became the sole shiprepairing company in the port. Since then, **Frank Foti**, chairman of Cascade General, and future head of the new operation, has been looking to complete the buy-out. The yard currently boasts an annual turnover of about \$100 million, and wins virtually half of all commercial contracts that are placed with U.S. West Coast shiprepair yards. There are three main markets in which the yard operates — passenger vessels (the many cruise vessels now operating on the Alaskan service), tankers (the many large tankers operating between Alaskan terminals and U.S. refineries) and U.S. Navy and auxiliary market. Last year the yard carried out a complicated conversion project involving a Drillship for Global Marine. There is also a very active voyage repair market for ships, especially bulk carriers, calling at ports in the Columbia River area. This is an international business and has resulted in the yard winning a number of dry-docking contracts following successful voyage repair projects. The yard operates three floating docks with lifting capacities of 87,000 tons, 982 x 185 ft. (299.3 m x 56.4 m); 27,000 tons, 661 x 114 ft. (201.5m x 34.8 m); and 15,000 tons, 982 x 185 ft. (182.3 m x 26.8 m). Alongside berthage stands at 7,631 ft. (2,326 m), with a maximum draft of 40 ft. (12.2 m).

Circle 56 on Reader Service Card

SWM Awarded \$55 Million Contract

The U.S. Navy granted a five-year, phased-maintenance contract for LSD - 41/49-class ships to Southwest Marine (SWM). The contract marks the company single-handedly winning all of the LPD and LSD-class vessels in San Diego. On June 13, a \$100-million, five-year, phased maintenance contract for work on six LPD-class ships, two LSD-class ships and one AGF was awarded to SWM.

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Ship Repair & Conversion

Millennium's Vibration Problem Not Related To Gas Turbines

A splashing debut with new innovations could best describe the inauguration of Celebrity's Millennium, which occurred in England this past summer. Ironically, the splashing part of the gas turbine-powered vessel's debut is what

is now causing headaches at the Miami, Fla.-based company. It seems that the slapping of the water against the vessel's hull is causing excess vibration. Quick to offer a remedy is Newport News Shipbuilding (NNS), which was award-

ed the repair contract from Celebrity in August. The company, which brainstormed with Celebrity's executives on September 8 at Kingsmill's conference facilities in historic Williamsburg, Va., will house Millennium at its largest dry-

dock from November 18 — following the vessel's New York City debut — until December 13 when it will steam back to its homeport in Fort Lauderdale, Fla. for its regular fall/winter itinerary of Eastern and Western Caribbean cruises.

MR/EN spoke with **Becky Stewart**, NNS' director of ship repair, who provided a full update of the project via telephone from the meeting site.

Contrary to popular belief, the myth surrounding the "Millennium mystery" began shortly after its maiden voyage on July 1. There were scattered reports of excess noise and vibration that was supposedly coming from the vessel's innovative gas turbine engines. Rest assured, this is not the case, according to NNS' Stewart, the vibration is the result of water slapping, or wave action against the bottom of the ship's stern hull. In order to reduce this "slapping" noise, NNS, after talks with Celebrity and engineers from the ship's builder, Chantiers de l'Atlantique, will install sponsons underneath the ship's hull so that the water flow moves in a different way.

As a sidebar to what was discussed at the meeting other than the task at hand, it was decided between Celebrity and NNS how Chantiers would transfer the electronic engineering data to NNS, so that steel fabrication of the sponsons could begin as soon as possible. Once this was determined, Stewart estimated that the scantlings were scheduled to arrive during the week of September 10, followed by the engineering data from Chantiers by the end of the month.

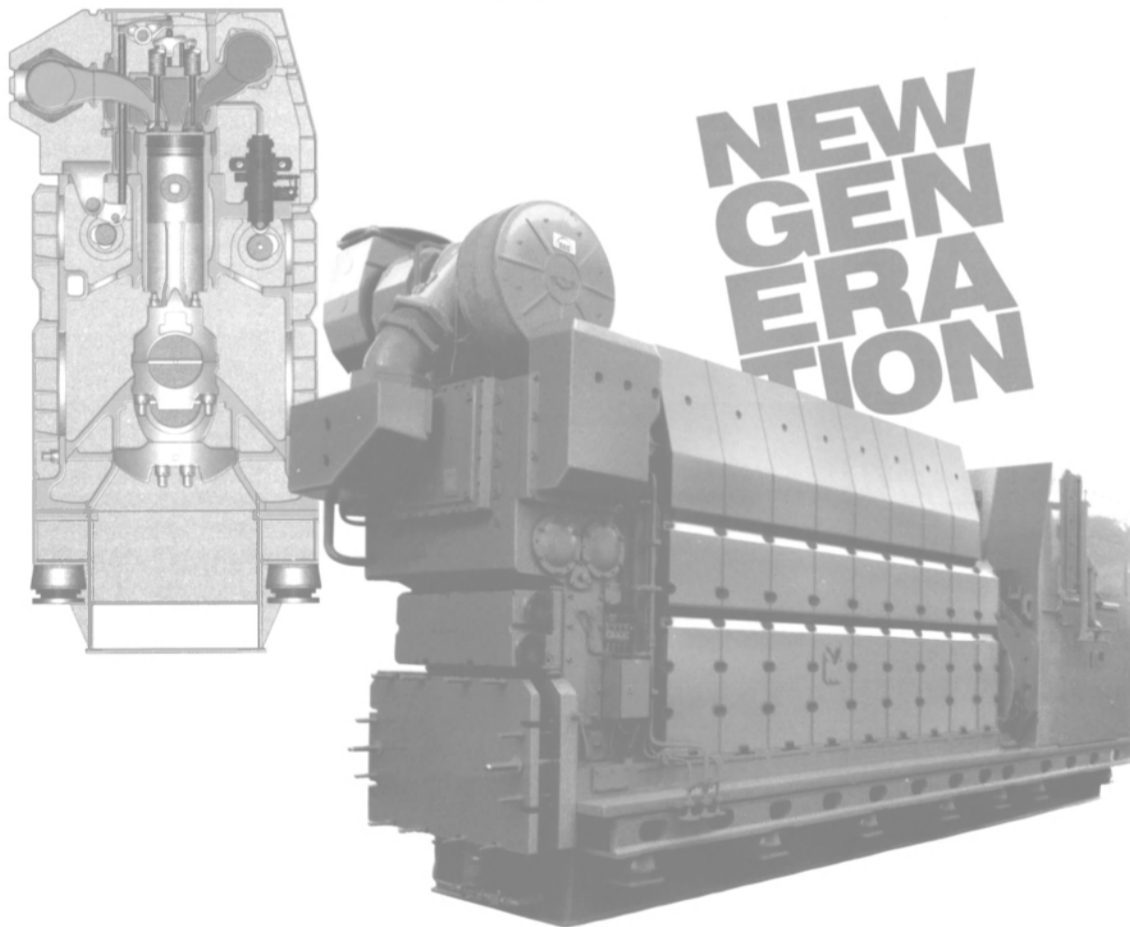
Due to its expansive on-site capabilities, NNS can immediately begin to acquire and fabricate all steel needed for this job prior to the ship's arrival. "If the steel is readily available, we can have it fabricated in a matter of two weeks," Stewart said.

The yard will also be able to piece together most of the steel, as well as position it on the drydock — all from the benefits of having the electronic data prior to Millennium's arrival on November 18. According to Stewart, this benefit shaves off between two to three weeks time that the ship must remain in drydock — time which is especially precious to the itinerary driven cruise industry.

Currently being constructed at Chantiers is Millennium's sistership, Infinity, which is scheduled for a January 2001 inauguration. Dependent upon how far along the ship is in its building process, Chantiers engineers will either incorporate this new engineering design into the vessel's superstructure, or install them as additional attachments.

— by Regina P. Ciardiello

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The compact L27/38 is an advanced medium-speed HFO engine in the 1500-2880 kW range. Its reliability is based on a robust design, fewer components and Holeby's commitment to superior quality down to the smallest nut and bolt. Other benefits include optimal efficiency, low emissions and simplified routine maintenance.

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Circle 240 on Reader Service Card

Ship Repair & Conversion

On The Waterfront With NNS' Director Of Ship Repair

Newport News Shipbuilding has been the recipient of several high-profile cruise ship repair projects of late, including the Millennium fix detailed on the previous page. The person responsible for ensuring that the jobs enter and

exit NNS' mammoth facilities — on time, and on budget — is a story in itself. Clad in a hardhat and steel-tipped boots, the director of ship repair for Newport News, Va.-based Newport News Shipbuilding is hard at work,

supervising a cruise ship that just arrived at the yard for new azipods, inspecting steel fabrication, or walking the wooden planks of the yard's largest drydock making sure all the equipment is strategically laid out for the arrival of an inno-



Becky Stewart

vative cruise vessel. She is **Becky Stewart** — and she has been with the shipyard for approximately 19 years.

In an industry where high-level positions have traditionally been held by men, Stewart is not afraid to demonstrate her high level of expertise — both on the waterfront and in the office. She kicked off her career in the maritime industry at NNS — subsequent to earning an M.B.A. from the College of William & Mary. Stewart's first job with the yard was in its production engineering department. While there, she gained a first-hand look of what actually occurred on the yard's "waterfront," as she was in the middle of the constant buzz of drydock activity. From there, Stewart moved over to the corporate side of the shipyard, holding positions within Information Services and Corporate Strategic Planning — positions that would provide her with a gamut of understanding as to what happens on both sides of the yard — from the waterfront to the financial end.

Prior to her current position, which she has held for the past two years, Stewart was the director of one of NNS' engineering departments, responsible for life-cycle engineering for various Navy ships (NNS constructs and repairs both Navy and commercial vessels). At that time, she supervised about 400 employees both on the technical and engineering side with the maintenance of these vessels, such as ordering spare parts, and developing video and electronic training.

Just what led Stewart back to the waterfront? Most likely her desire to turn back to her roots that she first planted at the yard during her early days there. "I've always been interested in repair and construction from the waterfront and I wanted to get back to that," she said. "Being directly involved with

(Continued on page 59)

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Meyer Werft Completes KLTT Conversion

In September 1999, Meyer Werft was granted a contract by KLTT to convert a container vessel into a livestock carrier - one of the Papenburg-based shipyard's specialties. As the 27th livestock carrier conversion performed by the yard, the original vessel, which was acquired by KLTT, was the 18,145-gt containership Merkur Island. Built by Bremer Vulkan in 1986 for worldwide operation, it took approximately nine months to complete the conversion on the 591 x 87 ft. (179.8 x 26.5 m) vessel.



Capable of transporting 88,000 sheep or 84,000 sheep and 600 cattle, the carrier was docked at Neptun Reparaturwerft with conversion performed in Fischereihafen Rostock. The outfit and equipment was supplied by various specialist firms, and the complete steelwork was fabricated by Neptun Stahlbau GmbH.

Circle 38 on Reader Service Card

Main Particulars

Length	591 ft. (179.8 m)
Breadth	87 ft. (26.5 m)
GT	19,000
Capacity	88,000 sheep or 84,000 sheep and 600 cattle
Number of decks	17
Engine overhaul	Turbotechnik
Fodder plant	Farwick
Main switchboard	SER
Painting, tank coating	Mühlhan
Sheep ramps, aluminum gates	Freericks
Electrical installations	Stolze
Deck coverings	Bolidt
Ventilation systems	Sick

AMHS Ferry Visits Bellingham Bay Shipyard

Approximately \$7.4 million worth of work was performed on the 235 ft. (71.6 m), 250-passenger Alaska Marine Highway (AMHS) ferry Leconte by Bellingham Bay Shipyard (BBS). Taking about six months to complete, the work consisted of SOLAS upgrades and a repowering. BBS was responsible for the repowering, which included the implementation of a pair of new low-NOx, 2,500-hp EMD diesels supplied by Val-



ley Detroit Diesel, plus two gensets from NC Power Systems that were comprised of CAT 3412 diesels driving 435 kW generators. Concurrently, a new switchboard from Harris Electric was installed by Sound Service Marine, who also implemented a new PA/telephone system from Hose-McCann that was integrated into the general alarm system. Major maintenance work was per-

formed on Leconte's tail shafts, port intermediate shaft and rudders, with machining completed by Machinists, Inc. A drive train alignment check and vibration analysis were subsequently accomplished by Diehl Engineering.

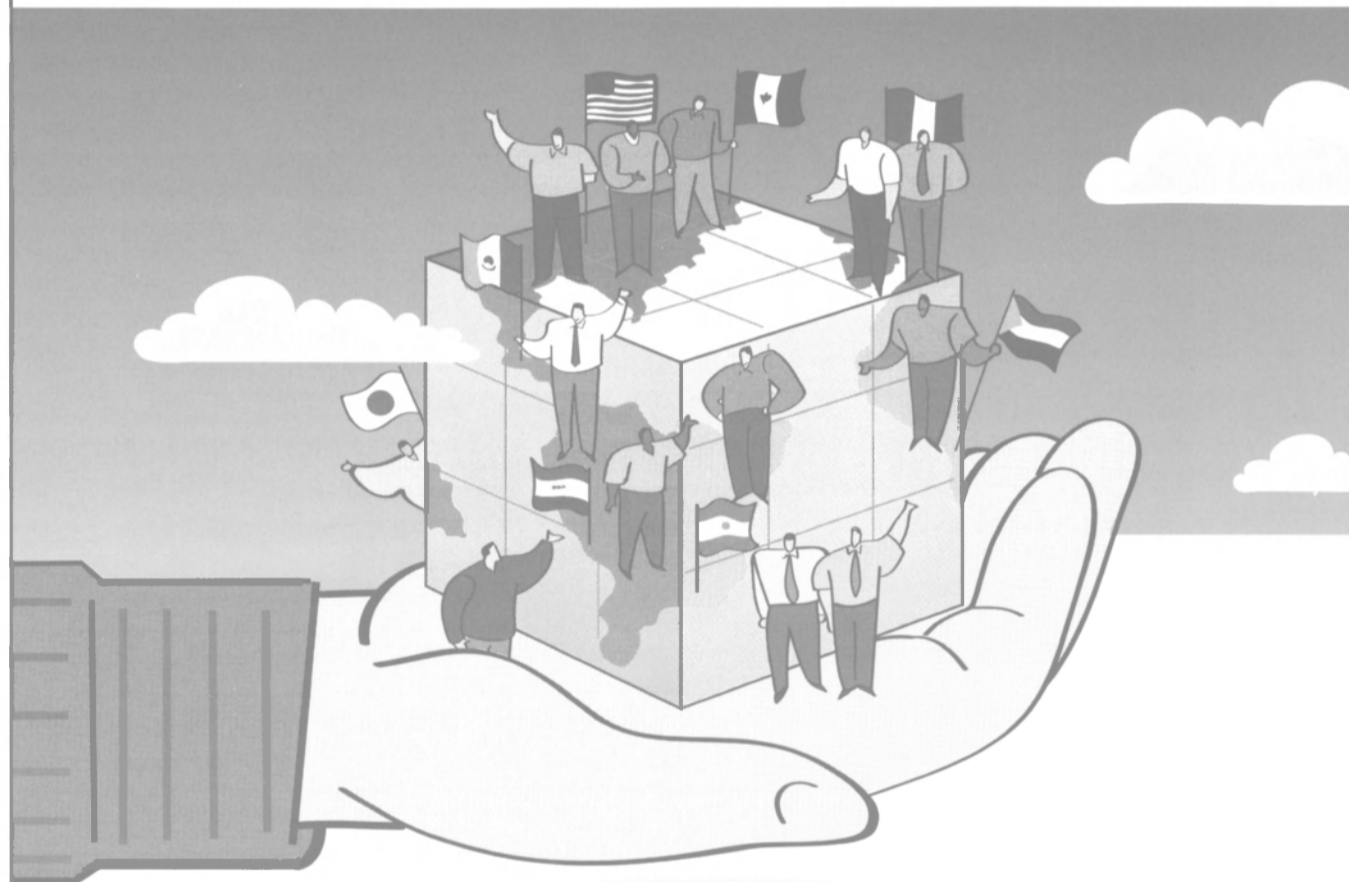
Regarding SOLAS upgrades, new structural fire protection and a new ventilation system with ducting fabricated and installed by Ershings were imple-

mented.

Working further to meet SOLAS requirements, BBS installed new Schat-Harding davits for the Ambar fast rescue boat, along with means of rescue (MOR) platform. BBS also blasted and repainted the vessel, from its keel to upper deck prior to its return service to Alaska.

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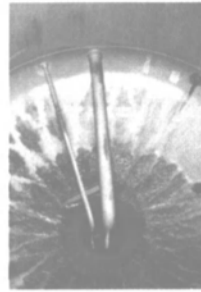
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Ship Repair & Conversion • Products & Services

Toftejorg Features Cleaning Concept For Mud Tanks

Denmark-based company Toftejorg A/S has produced a new automated tank cleaning concept, to be used specifically on offshore mud tanks. The development is a product of Toftejorg's experience in solving complex tank cleaning



problems. One fixed installed tank cleaning machine/turbine water driven rotary jet head, which is

Inner surface of mud tank during the cleaning process.

present in each tank, and the use of an environmentally approved cleaning chemical - Toftejorg Mud Cleaner 947 - are at the forefront of this new concept.

The water-based, non-toxic, solvent-free and fully biodegradable degreasing liquid in the Toftejorg Mud Cleaner, significantly reduces cleaning time and improved results. Previously, manual

cleaning time could take anywhere from two to eight hours, but with the Mud Cleaner 947, the job can be carried out in a few minutes.

Circle 22 on Reader Service Card

ITT Offers Two Condenser Types

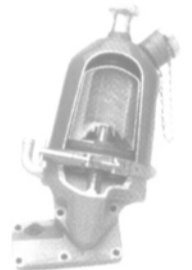
ITT Standard touts two different types of ammonia condensers for efficient cooling in corrosive marine environments — the shell-and-tube models and new welded plate condensers.

The former offers a secure design featuring no gasket contact with the ammonia, while the latter provides quality construction with laser welded titanium plates for longer use, operating efficiency and lower maintenance. Both compact, easy-to-clean versions are corrosion resistant with titanium for long service life.

Circle 23 on Reader Service Card

Fleetguard's Centriguard Reduces Emissions

Fleetguard, manufacturer of heavy-duty engine oil filtration systems, has released its new Centriguard centrifugal filtration.



Designed for diesel engines 18-liter and larger, the filters reduce emissions, extend drain intervals and remove contaminants in lube oil, which wear down valve bridges and fuel injectors, and cause bearing failure and sludge formation. The system is especially conducive for removing very small particles (between one and five microns) and soot.

The Centriguard system, which is modeled after the company's patented ConeStaC technology, allows equipment to operate in extended service environments, with lower replacement part and labor costs to service. ConeStaC also effectively works to remove contaminants by forcing particles to migrate across a narrow gap between plastic cones.

Once particles reach the cone surface, they move outward toward the Centriguard plastic liner shell and are compressed. The product's 44000 Series is available for both engine- and remote-mounted installations. Fleetguard also offers centrifugal filters for on/off highway applications in the eight-16 liter range.

Circle 44 on Reader Service Card

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Lincoln Electric's Invertec Is Powerful, Lightweight

Lincoln Electric Co.'s new Invertec V350-PRO power source is powerful, lightweight and able to handle multi-process applications. Available in two models — factory or construction — the



Invertec provides 350 amps at 60 percent duty cycle. Operating on single or three phase input power, the unit produces either a constant current or con-

stant voltage welding output for Stick, TIG or MIG. Twist-Mate style output connectors provide easy hook-up with welding cables, and both the factory and construction models are suitable for applications that require a smooth arc, process versatility and portability.

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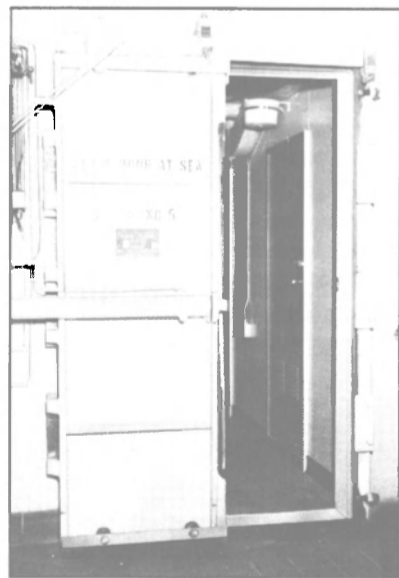
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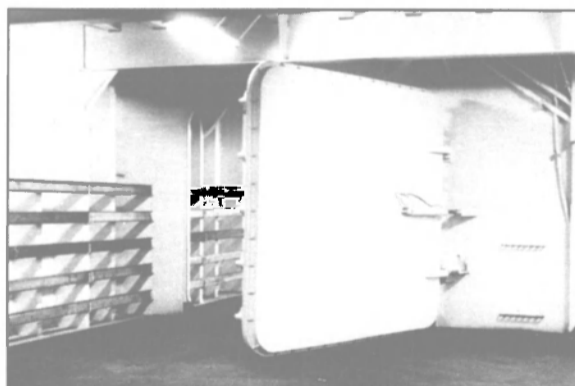
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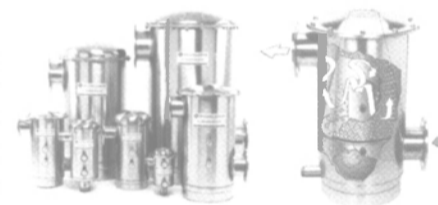
Circle 334 on Reader Service Card

Precision Shapes Fabricates Hull Plug

Precision Shapes (PSOV), a manufacturer of marine tooling, has completed a 70-ft. (21.3 m) hull plug for Davis Boatworks of Wanchese, N.C. The plug, which was delivered as a single part on August 9, was transported by barge through the Intracoastal Waterway to Davis. The largest single part hull plug to be delivered by PSOV, it required an internal steel support structure, and a total of 20-in. of base steel to prevent the plug from flexing.

Circle 47 on Reader Service Card

Miller-Leaman Offers Thompson Seastrainers



Miller-Leaman Inc. has introduced stainless steel Thompson Seastrainers to the marine industry. Available in type 304 and type 316L stainless steel, the strainers feature a large, conical screen element. The standard screen material is a 5/64 in. perforated material. As water enters the bottom of the strainer housing and flows upward, heavier debris and particulate is accelerated downward into the debris reservoir at the base of the strainer. The particulate is then flushed from the reservoir via the flush port. Due to the large screen surface area, all models operate with a minimal pressure drop. The strainers can be modified to fit the specific requirements of the vessel.

Circle 49 on Reader Service Card

Unique Solution For Pipe Insulation

Marine insulation manufacturer Rockwool Denmark now features Universal Pipe Section to its variety of marine products. The pipe section is a lightweight, space and time saving pipe insulation solution that reportedly weighs up to 40 percent less, occupies about 30 percent less space and requires lower installation time.

The MED certified pipe section complies with the strictest safety requirements instilled onboard vessels, and its non-combustible wool and its surface meet requirements of low flame spread according to IMO A.653(16). Well-suited for small pipes and intricate pipe systems with many bends and T-sections, the Marine Universal Pipe Section is comprised of uniquely processed stonewool, which makes it flexible when pressed, while diameter and insulation qualities of stonewool remain constant. In addition, the inner structures of the pipe section adjust automatically to irregularities preventing thermal bridges from occurring.

Circle 24 on Reader Service Card

Wachs' EB Is Specially Built

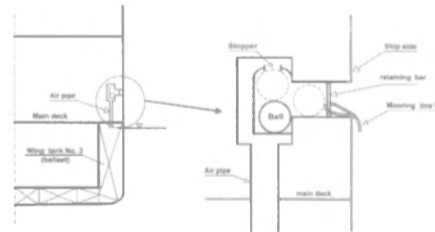
The E.H. Wachs Co. has specifically built its new EB for excavation of dissimilar welds in boiler applications, as well as cutting and beveling operations on heavy wall boiler tubes. The EB clamps to the tube with self centering clamp pads. A cutting/feed system, which is comprised of two tool slides and a spring loaded trip assembly, requires no adjustment and no star wheel alignment. Each tool slide provides up to .75-in. of travel.

Circle 48 on Reader Service Card

Near Miss Caused By Deficient Air Pipes

It was reported in Det Norske Veritas' *Casualty Information* newsletter that an unexpected ingress of water occurred in a 10,000-grt RoRo vessel's starboard ballast tanks while at sea — causing it to permanently heel several degrees to starboard.

The RoRo commenced its voyage with a slight list to starboard due to a SW wind of force 6-7, which came in on the port bow. Within a short period of time, the list increased significantly, at which time the course was altered in order to head into the wind and sea, and the vessel was returned to the port of departure.



After the damage was surveyed (various cars had been damaged due to shifting cargo), investigations showed that water had entered the starboard ballast tank number three. The tank structure was tight, but the closing ball of the air pipe from the starboard wing ballast

tank number three was no longer in place. It was revealed that the retaining bar had broken off at the top, allowing the ball to go overboard.

Probable cause of this incident was more than likely the result of the retaining bars being used as mooring points for bunker barges, which resulted in the detachment.

Bayonne Drydock Opened

The formation of a new company has been established to operate the Bayonne Drydock. Located on the property of the recently closed Military Ocean Terminal, the graving-type drydock will be operated by Brooklyn, N.Y.-based G.M.D. Shipyard on a lease from the

City of Bayonne, N.J. Constructed during WWII, the dock was used as an annex to the Brooklyn Navy Yard to handle the largest ships in fleet, including battleships and aircraft carriers. More recently, it was utilized for commercial work, including the refit of QEII.

Circle 42 on Reader Service Card

Mackay means maritime service.



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Ship Repair & Conversion

After 25 Years, Smit International Keeps Evolving

Although Smit International graced the marine industry with its presence in 1975, the company actually began in the mid-18th century as a shipbuilder, which would eventually evolve into its current state as a diversified marine ser-

vice provider. Known as Smit International Singapore, the company is a wholly owned subsidiary of Smit International BV — a Dutch company listed on the Amsterdam stock exchange.

Celebrating its 25th anniversary this

year, Smit formed a regional office in Singapore as a strategic move for expansion in the Far East. It was quick planning on the part of the company as it noted the region's ever-growing significance, as well as its large potential as a



Kritisun was the first major salvage project secured by Smit International South East Asia.

NOTICE OF PUBLIC SALE SHIPYARD QUINCY, MASSACHUSETTS

The Maritime Administration (MARAD) of the United States Department of Transportation is offering for sale approximately 120 acres of land, more or less, together with all of the buildings, fixtures, dry docks, piers, and equipment constituting the partially reconstructed shipyard located on the Fore River at 115 East Howard Street, Quincy, Massachusetts. The property is currently owned by Massachusetts Heavy Industries, Inc. and MHI Shipbuilding LLC, which entities are currently subject to bankruptcy proceedings, and was formerly owned by General Dynamics and the Massachusetts Water Resources Administration. MARAD is entertaining offers to purchase or lease all or a portion of the land, buildings, fixtures, dry docks, and equipment located at the shipyard, whether for maritime or nonmaritime uses. Sale of the property or any portion thereof will be "AS IS, WHERE IS" and will be for cash. MARAD will also consider proposals to purchase its secured position and bankruptcy claim.

On August 23, 2000, the United States Bankruptcy Court for the Eastern District of Massachusetts granted MARAD relief from the automatic stay imposed by section 362 of the Bankruptcy Code and permitted MARAD to commence preparations for the sale of the above referenced property so long as the sale is not consummated on or before December 1, 2000. MARAD is the senior mortgagee on the property and plans to commence a foreclosure proceeding in the United States District Court for Massachusetts to facilitate the transfer of title to the property free and clear of existing liens to a qualified purchaser. At present, mortgages and liens against the property are in excess of \$85 million.

Proposals to purchase or lease the shipyard in its entirety, or any portion thereof, should be submitted by October 31, 2000 and addressed to Jean E. McKeever, Associate Administrator for Shipbuilding, Maritime Administration, Room 8126, 400 Seventh Street, S.W., Washington, D.C. 20590 (jean.mckeever@marad.dot.gov). Ms. McKeever may be called at 202-366-5737. All information received by MARAD will be treated as confidential, except that MARAD may, at its discretion, share the information on a confidential basis with the other shipyard mortgagees or other officials within the United States government. If dissatisfied with the proposals, MARAD reserves the right to reject all proposals and issue a new request for bids.

In addition to containing a sealed bid, proposals to purchase or lease must contain the proposed business plan for the use of the property in the short and long term and the impacts the entity's intended use would have on the local community, in terms of employment, subcontracting, taxes, the environment, and projected revenue.

Entities or persons interested in inspecting the property or who desire more technical information about the property (including the types of equipment at the yard) may contact Donald F. Coll, Division of Ship Design and Engineering Services, Office of Shipbuilding and Marine Technology, Maritime Administration, at the above address or call him at 202-366-1946 for such technical information.

Circle 346 on Reader Service Card

maritime hub at that time.

The company was initially established in Singapore as Smit International South East Asia (Pte.) Limited, at which time, the company's first-ever managing director, the late **Gert Niemann**, together with his staff, worked out of his home. This was the case because Smit's offices were not ready for occupation during the early weeks of operation. There was even one particular occurrence when Smit's staff and salvage crew were accommodated for a brief time onboard floating crane Typhoon Salvor — prior to the readying of the new office.

Sweeping changes soon occurred and the Smit International staff was finally able to move to its permanent home, with its 43 employees quickly making a name for their company by securing a major salvage contract within the first year of operation. The project involved a vessel named Kritisun worth \$5 million, which was a significant job at that time.

Smit's toddler years of operation focused on its involvement within various marine services in the Port of Singapore and the region surrounding it. The company today has achieved this with the formation of Keppel Smit Towage Private Limited; Asian Lift Pte Ltd and Keppel Smit Transpacific in the Philippines.

Initially beginning with a pair of salvage barges, a crane barge, two tugs and a diving tender, Smit has since evolved into a company worth more than \$200 million with a staff of 700. In fact, on its 25th anniversary the company recognized eight of the 43 original staff members who have been with Smit since its inception.

Presently, the company's activities encompass salvage, ocean, port and coastal towage, pipeline installation, horizontal directional drilling and off-shore support.

Smit can be credited to the following projects, which include installation of tunnel elements for the Tuas Tunnel; the Tuas pipeline project from Jurong Island to Tuas Power Plant; the container and gantry cranes in the port of Singapore; and all cranes at Port Klang and Kuantan Port.

Circle 106 on Reader Service Card

Ship Repair & Conversion

(Continued from page 52)

production is the most exciting part." But that doesn't mean that Stewart wasn't provided with the daily challenges that she now faces on the waterfront while she was on the business side. In fact, Stewart cites her most challenging moments at NNS to date, occurred on that side.

From 1993-1995 when NNS was part of a holding conglomerate of companies owned by Tenneco, Stewart was in charge of consolidating the various companies' data systems into one singu-

lar, seamless system that would function as a main data center for all employees from each company. Stewart and her IT team spent many nights and weekends (so that that a company-wide shutdown was not required) drawing up service agreements and reworking computer networks to accomplish the goal of providing Tenneco's companies with one all-encompassing system for better service.

Since her current tenure began, Stewart has managed notable contracts that the yard has been granted dealing with anything from the recent emergency azipod repair on Carnival's Paradise — to

the eight-month overhaul of Navy cruiser USS Gettysburg. The latter, which encompassed a workforce of 500 and included two months of prior planning, managed to beat its estimated delivery date by four days.

Training is also on Stewart's agenda, specifically for the newer breed of those entering the maritime industry. "Finding young people is going to be a difficult thing," she said. "With the advent of computers it's getting harder to find those who are going to want to work in the down and dirty business of ship repair."

As far as the future of the ship repair

business is concerned, Stewart feels that an eventual era of consolidation within the industry is looming. With European and Asian yards luring customers with their lower prices, she feels that this, as well as price-competition is here to stay. Regarding her time with NNS is a different story however — Stewart is continuing to work diligently to explore further options within ship repair. "In the foreseeable future I will continue to be involved with the ship repair business," she said. "But it's hard to say I wouldn't move to another area of the company within the next three years."

— Regina P. Ciardiello

Stolt-Nielsen Goes Fleet-Wide

Stolt-Nielsen Transportation Group has signed a major strategic agreement with SpecTec for the supply of advanced shipboard management systems. Valued in excess of \$2 million, the deal calls for SpecTec to supply its AMOS maintenance system to Stolt's three operations offices, as well as onboard 75 vessels.

Stolt's decision was based upon the requirement for global centralization of vessel inventories and operational procedures combined with analytical capabilities. The company plans to focus on advanced maintenance standards, inventory optimization, delivery logistics and contract purchasing.

Circle 76 on Reader Service Card

LR Discusses Derbyshire Loss

A recent issue of Lloyd's Register's (LR's) Classification News reports on key points that have since emerged during the Reopened Formal Investigation (RFI) into the loss of the LR-classed OBO Derbyshire, which sank off the coast of Japan in 1980 during typhoon Orchid. LR describes recommendations that have been outlined by the panel of experts serving the RFI in respect of green sea loadings in extreme seas. Complete information can be found online at www.mv-derbyshire.org.uk

20,000-Ton Floating Drydock At Flender Werft

A new floating drydock that allows future drydocking of vessels with a dwt of up to 20,000-tons is currently being constructed at Flender Werft in Lübeck. The steel structure, which measures 722 x 148 ft. (220 x 45 m) has since commenced; commissioning is scheduled by the end of February 2001. Upon completion, the dock will replace the shipyard's largest drydock for which there is already a buyer.

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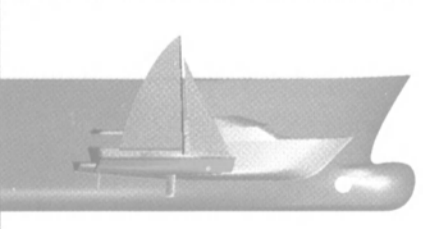
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Atlantic Marine Keeps Docks Working

Atlantic Dry Dock Corp., the repair and conversion arm of Atlantic Holding Co. in Jacksonville, Fla., recently expanded its capabilities with the addition of a 16,000 ton (16,526 metric ton) floating dry dock this summer. The company has been busy of late, including

the late-summer back-to-back dry-docking for the cable layer Wave Venture, the containership Aurora, the dredge Columbia and the jack-up barge Karlissa B.

In addition, the company's 1,300-ton marine railway schedule was equally packed, with the drydocking on the tugs Zeetijer, Samand, Apollo, Cecrops and Chindit. The company's 4,000 ton marine railway is currently undergoing extensive maintenance and refit, but it is expected to be back on-line this month.

Atlantic's repair activities were rounded out with a host of topside work, taking advantage of the company's 4,000 ft. of full-service bulkhead and pier space. Among the jobs were the converted OSV to Ferry, Seabulk Minnesota; the RoRo Crowley Senator; dredge Sugar Island; tug Sea Tern; barge Hugh; and dredge GL-54.

In addition, the organization has strengthened its international presence by appointing the following agencies: M.I.E. Services, Ltd., Cyprus; Marindustry Worldwide, Northeast Region, U.S.; and James L. Taylor & Associates, Gulf Region, U.S. In addition, it is actively seeking representation in Greece, Turkey, Bahamas, South America and West Coast, U.S.

Circle 199 on Reader Service Card

Moody Equipment Opens Seattle Facility

J.A. Moody Equipment Specialists has established a new stocking facility in Seattle, Wash. to better serve its west coast market. The technologically-driven facility houses the company's full line of butterfly, bail, check, globe, gate and the new rotary gates, as well as electric hydraulic and pneumatic actuators. The company also touts oil/water separators, accumulators and surge suppressors. With manufacturers such as Apollo, Atwood & Morrill and Grinnell, all of Moody's marine industry distributed products are in compliance with Military Specs, USCG, ABS and MSS Standards.

Circle 19 on Reader Service Card

H&W Gets Its \$31M From Global Marine

The management and Board of Harland and Wolff breathed a collective sigh of relief upon learning that the arbitration case against Global Marine was decided in its favor, mandating that GLM owes the yard more than \$31 million. In the weeks leading up to the decision, management was questioning the future viability of the yard in the case of a negative ruling on its behalf.

Receipt of these monies will enable a restructuring of the company to take place with the support of the parent company, Fred. Olsen Energy ASA. The restructuring will provide an opportunity to establish a profitable, viable and sustainable offshore and shipbuilding industry in Belfast, although, as previously advised, this will necessitate a significant reduction in the number of employees.

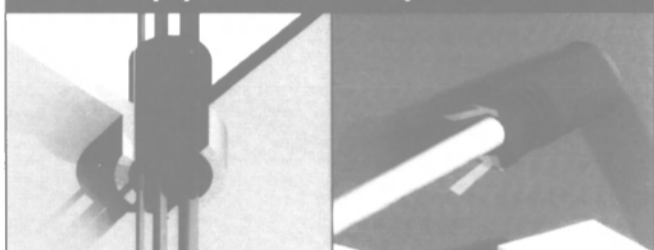
In this connection, the company will complete a business plan demonstrating the viability of continuing shipbuilding and engineering on Queen's Island along with the development of Titanic Quarter under the terms of an agreement with the Belfast Harbor Commissioners. The formalization of that agreement is a necessary part of the restructuring to provide Harland and Wolff with the basis to continue shipbuilding.

Commenting on the ruling of the Tribunal, **Brynjulv Mugaas**, H&W Chief Executive said:

"Since first tendering the Glomar Jack Ryan for delivery on July 24, we have maintained that the yard's scope was complete in accordance with the contract and have been confident of a positive outcome to this arbitration. Today's

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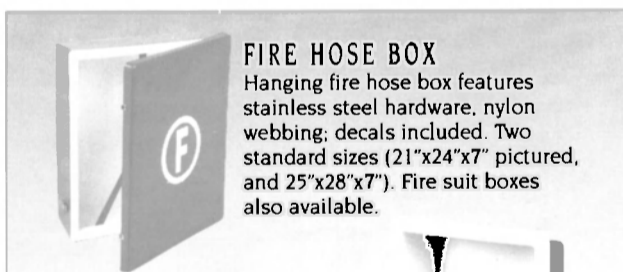
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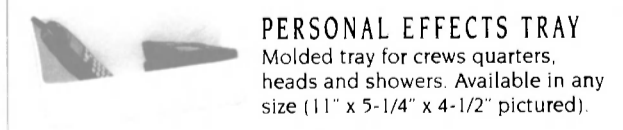
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ruling brings to an end the deplorable and thankfully futile attempt of Global Marine to bankrupt Harland and Wolff by withholding the delivery installment due. This decision has galvanized our determination to succeed in the expected Arbitration to recover the balance of monies due by Global Marine for work completed. The claim was for \$186.9 million, of which \$91.3 million has been paid on account."

National Safety Council To Hold Workshops

The Marine Section of the National Safety Council Business and Industry Division has scheduled technical sessions, meetings and an Open Workshop Seminar on Shipyard Safety Issues. This meeting of the Shipyard Group is in conjunction with the National Safety Congress in Orlando, which is scheduled to occur from October 15-20.

The advantage of the Marine Section Meetings at the National Safety Congress is the access to the many safety professionals, compliance officers, safety equipment suppliers, and all industry technical sessions involved with the National Safety Congress and Exposition.

The Congress is holding 154 safety and health technical sessions in conjunction with a significant exposition floor with a hands on view of every conceivable safety and health device or program. The technical sessions are chosen for the specific applicability to the improvement of any company's safety and health program and professional development for the 20,000 safety professionals expected to attend.

The Marine Section is sponsoring six technical sessions and is holding two forum type workshops one for the Ocean Transport Group and one for the Shipyard Group. Potential topics scheduled for discussion at the conference include: Statistics, Ergonomics, OSHA Shipyard assistance programs, Competent Person Improvement, fall protection, hazardous energy control, ship repair contractor audits and training.

For further details on the National Safety Congress, to access the agenda for the Shipyard Workshop and for a list of sessions that are maritime industry specific, log onto: www.nsc.org.

Carnival Destiny Arrives At NNS

Carnival Cruise Lines' Destiny arrived at Newport News Shipbuilding (NNS) on September 5, for a 10-day period of work. The 101,000 ton, 893 ft. (272.1 m) vessel with a beam of 116 ft. (35.3 m) is expected to undergo survey of

underwater equipment; underwater hull blasting and coating; inspection of bow and stern thrusters; maintenance on propulsion systems and maintenance of lifeboat and vents. This is Destiny's second trip to NNS, a shipyard which boasts a drydock large enough to accommodate the 2,642-passenger vessel.

Crystal Harmony Gets Makeover

James P. Colie & Associates of Hollywood, Fla. completed a full rebuilding and redecorating of Crystal Harmony's dining room and all public restrooms. Designed by Andy Collier of Tillberg/SMC Design, the revamped

appearance of the new room was achieved with renewed ceilings, walls, floors, built-ins and finishes. In addition, the air conditioning system was also restructured and improved. The new interiors of the vessel's public restrooms were designed by Hirsch Bedner Associates.

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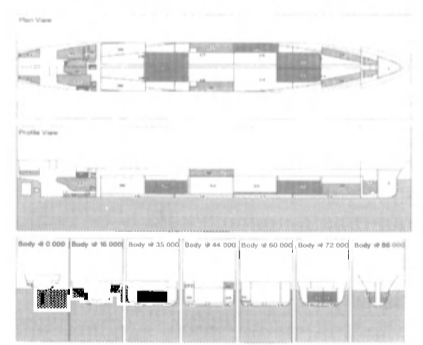
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Ship Repair & Conversion

Good Luck Chartering The "Rust Bucket of the Month"

Oil tankers greater than 3,000-gt that are more than 15 years old are targeted in France crackdown

The long arm of legislation — international, national and regional — will increasingly dictate the way in which ships are designed, outfitted and operat-

ed. This trend will continue, and most assuredly legislation that add to the cost of building and operating vessels will quicken. Following the Erika disaster, the Paris MOU Port State Control Committee has launched an initiative to carry out a targeted inspection campaign on all oil tankers greater than 3,000-gt and more than 15 years old, during the period September 1 - November 30, 2000.

In addition to the normal port state inspection, specific items to be checked include the cargo deck area, ballast tanks, cargo tanks, pump rooms, inert gas system, PV valves and the engine room. The Port State Control Committee has adopted special inspection guidelines for this purpose. Where possible, owners and operators should invite a surveyor to assist during the ini-

tial port state control survey, so that any problems may be solved at the earliest opportunity, thereby minimizing potential delay, expense and any financial penalty that may be levied by the Paris MOU. If ships are detained during this campaign, they could face follow-up inspections in other Paris MOU ports, together with 'naming and shaming' and in severe cases publication as 'Rustbucket of the Month.'

Eyes Onboard

Much as communications services — both in terms of speed, cost and quality — have vastly improved in the past decade, so to have onboard software systems designed to monitor and assist manage critical onboard systems and functions. In the coming years and decades, it can be assumed that a much larger onus will fall on automated systems to ensure the safe and efficient operation of vessels of all sizes. While the "No Man" bridge still may be a few centuries away, the prevailing trend in the maritime realm is dependence on automation to help reduce crew costs and optimize onboard efficiencies.

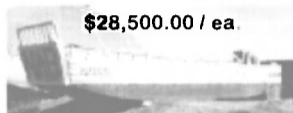
For example, since 1996 when Grimaldi Naples decided to install SpecTec's AMOS for Windows systems on its fleet, the steadfastness of Grimaldi's management to achieve results and the performance of the AMOS system combined to cut costs by 15 percent over three years.

Engineer **Giancarlo Coletta** of Grimaldi Naples knows the highs and lows of maritime software and computerization. He knows what works and what doesn't based on years of first-hand experience. "We were the first customer to use the Windows-based system; we were like the test pilots. This had its good and bad sides: We would have to cope with some of the early bugs, but we were also able to impact the development of the young product. We could propose changes and improvements to suit the shipping world and, as a consequence, our organization," says Coletta. Grimaldi Naples had AMOS for Windows installed on six vessels, in its office and on six new-buildings. Coletta noted that, perhaps most important for any maritime software system to work, the ship's crews were using the product and discovering each day new ways to make their jobs simpler and operations smoother and cheaper. "We have cut maintenance costs, but it is the renovation of our processes that is really dramatic. Purchasing and supply are quicker, more organized and less wasteful. Now, for example, we can organize our purchases to make larger bulk buys and thereby save money," says Coletta.

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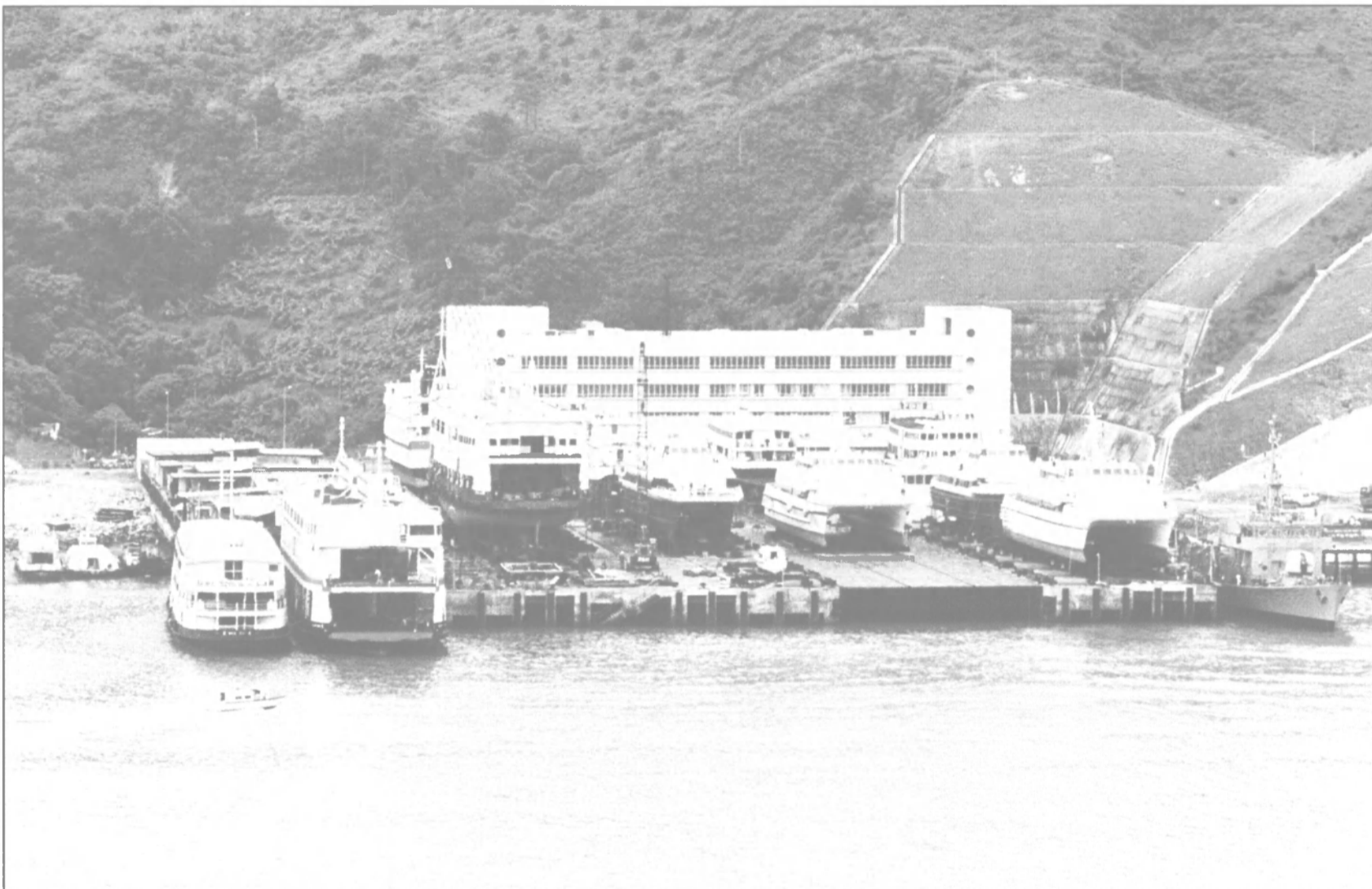


Photo: Courtesy of Hong Kong Shipyards Ltd., Hong Kong

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Subsea Installation, Heavy Lift And Transport Vessels Show Muscle In FPSO Market

Having added a unique multi-purpose offshore installations vessel and a powerful floating crane to its fleet, the Smit International Group is increasingly busy on installation heavy lift and heavy transport projects associated with FPSOs.

Smit Pioneer, formerly a LASH carrier, was acquired and converted by Smit in 1999. The vessel represents a new concept for multi-purpose offshore installation tasks. This large, dock-type vessel is designed and equipped to remain on station for extended periods, having an unusually high degree of self-sufficiency.

The multi-purpose vessel's primary roles include: installation of moorings, diverless tie-ins, well servicing, flexlay, manifold and riser installation, ROV

support and long haul cablelay.

The vessel's equipment outfit includes an advanced DP system, two moonpools, a fully heave-compensated revolving crane (rated at 150/250 tons) and a Super Puma-capable helideck.

Following its extensive conversion program and successful sea trials, the vessel has gained instant acceptance in the global offshore installations market in its new multi-purpose role. The newly commissioned vessel — the first of a new class — started immediately on a contract connected with development of a new field in Angolan waters, and then secured another contract, for work related to Canada's first FPSO, offshore Newfoundland.

Engaged by Coflexip Stena Offshore, Smit Pioneer undertook a series of

installation tasks required within the first phase of the fast-track Kuito development, in 400 m water depth offshore Angola. Coflexip Stena Offshore, SBM and ABB are members of the consortium responsible for the subsea installations program. Chevron is the field operator.

Smit Pioneer's role, performed during autumn 1999, involved the installation of flexible risers and mid-water arches consisting of buoyancy tanks and counterweights. In addition, an 80-ton subsea manifold 20 x 10 x 10 ft. (6 m x 3 m x 3 m) was installed.

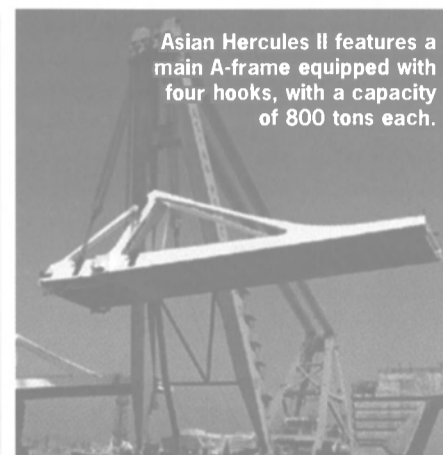
Equipment for this project — loaded onto Smit Pioneer at Le Trait, on the Seine — included a 65 ft. (20 m) diameter carousel and Coflexip's VLS (Vertical Lay System) reel — located at the aft moonpool. Smit's project team engineered a 20 x 20 ft. (6 x 6 m) moonpool plug, required to ensure that the radius of flexible lines remained within the specified parameters.

Smit immediately secured another contract from Coflexip requiring Smit Pioneer to undertake trenching and laying of flexibles at 312 ft. (95 m) depth in the Terra Nova Field, located in the grand Banks Area, 350 km off St John's, Newfoundland.

During April, Smit Pioneer loaded equipment and departed for Canadian waters. The equipment included 12 reels, the Coflexip VLS (mounted at the forward moonpool), a trencher and an ROV.

The vessel's operational advantages include: a single platform for all offshore installation tasks: mooring lines and anchors (plus pre-tensioning); flow-lines, umbilicals and tie-ins; risers, riser bases and manifolds; ROV support; well servicing; and drill support; single mobilization for most mooring systems; minimum time required for mobilization/demobilization/transit; a large deck area and loading capacity ideal for long haul fiber optic cablelay. In this role, Smit Pioneer can load and lay 10,000 km of trans-Atlantic cable in a single voyage.

Smit Pioneer's Newfoundland assignment marked the second contract success for Smit concerning Terra Nova. Asian Hercules II, the largest floating sheerlegs in the Smit



Asian Hercules II features a main A-frame equipped with four hooks, with a capacity of 800 tons each.

Asian Hercules II - Main Particulars

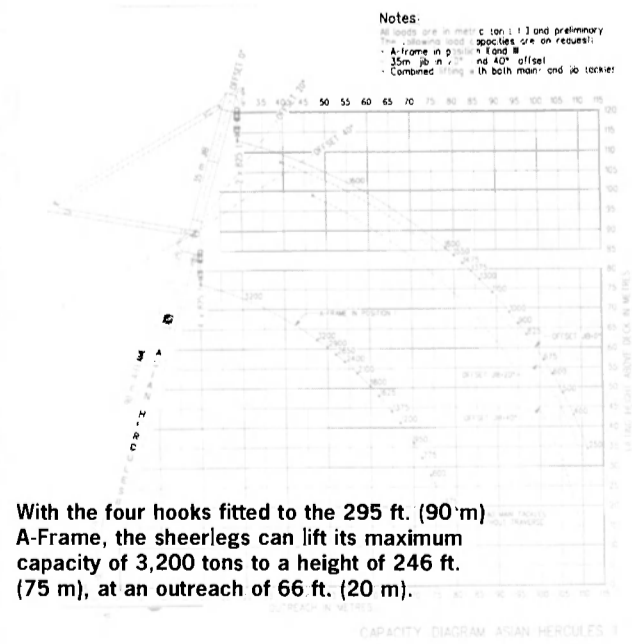
Classification	ABS
Port of Registry	Rotterdam
Length	300 ft. (91.3 m)
Beam	142 ft. (43.3m)
Depth	28 ft. (8.5 m)
Draft min.	9 ft. (2.7 m)
Draft max.	24 ft. (7.2m)
Sailing height min.	184 ft. (56 m)
GT	10,560
Accommodation	27 persons (can be increased)
Propulsion	4 x 813 kW Azimuth
Deck Load	15 t/m
Mooring winches	8 point mooring; 30 ton
	Cap.1000 m of 44 mm diam. wire rope

fleet, performed a series of 20 heavy lifts during the outfitting of the FPSO at Bull Arm, Newfoundland, in May/June 2000.

Acquired in early 2000, the big sea-going sheerlegs is now the flagship of Smit's seven-strong fleet of floating cranes.

The capacity and flexibility of this sheerlegs — one of the most powerful in the world — make it ideal for fast-track FPSO projects. It is able to lift and transport integrated units weighing well in excess of 2,000 tons. With this capacity available, those responsible for fitting

(Continued on page 73)



With the four hooks fitted to the 295 ft. (90 m) A-Frame, the sheerlegs can lift its maximum capacity of 3,200 tons to a height of 246 ft. (75 m), at an outreach of 66 ft. (20 m).

CAPACITY DIAGRAM ASIAN HERCULES II

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Vessel Type:
Scientific, Ocean Research

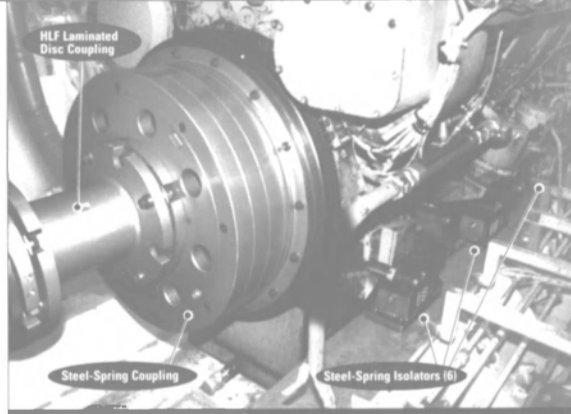
Registered:
Federal Dept. of Fisheries & Oceans, Canadian Coast Guard Division.

Vessel retrofitted with:
Lo-Rez BR4-HS Steel-Spring Vibration Isolators, I/HF, Steel-Spring and 16HLF, Laminated-Disc Flexible Coupling Assembly.

Installed: April 1997.

DNV Certification.

Torsional analysis: T.W. Spaetgens.



Result of Retrofitting

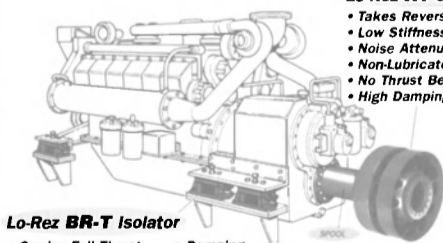
S.P.L.	BEFORE	AFTER (APRIL/97)	NOISE REDUCTION
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Albert Mullowney Sr, Project Engineer,
C.C.G. St John's NF, March 2000



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Circle 268 on Reader Service Card

Great Lakes' Biggest Dual-Mode ITB Begins Service



One of the most labor- and fuel-efficient bulk material carriers on the Great Lakes entered service in June 2000. The self-unloading barge Great Lakes Trader is owned by Great Lakes Marine Leasing, Portland, Ore., and operated by VanEnkevort Tug and Barge, Bark River, Mich. The 740 x 78 ft. (226 x 24 m) Trader is the largest vessel capable of fitting through the St. Lawrence Seaway locks. Combined with the 10,200-bhp (7,600 bkW) tug Joyce L. VanEnkevort, the new integrated tug/barge (ITB) unit is the biggest dual-mode ITB on the Great Lakes.

The 39,600 long ton (40,234 metric ton) capacity Trader was designed by a team of engineers directed by naval architect **Joe Fischer**, president of Bay Engineering, Inc., Sturgeon Bay, Wisc. Halter Marine built the vessel in two halves at their Pearlinton, Miss., facility and finished it at their Gulf Repair Yard in New Orleans, La.

The self-unloading design incorporates internal gravity-fed gates leading to a hydraulically driven single-belt Ems-Tec conveyor system capable of unloading 6,000 long tons (6,096 metric tons) of iron ore pellets, coal, or crushed limestone per hour.

This efficient ship unloading system receives

power from seven Cat 3406C engines rated 462 bhp (345 bkW) at 1,800 rpm. The 3406s drive Rexroth and Vickers multiple pump hydraulic drive units. This arrangement, with multiple engines rather than one or two larger engines, allows greater flexibility in the barge's operation. Engine service is easier to coordinate, and the crew operates only as many engines as are needed.

Barge electrical power is provided by a Cat 3406C gen set rated 260 ekW at 1,800 rpm. Cat Dealer Ohio Engine Power, Cleveland, Ohio, provided all pump engines for Great Lakes Trader, and Cat Dealer FABCO Engine Systems, Green Bay, Wisc., provided the generator set.

Circle 54 on Reader Service Card

Main Particulars

Length	740 ft (225.7 m)
Beam	78 ft (23.8 m)
Hull Depth	45 ft (13.7 m)
Carrying Capacity	39,600 long tons (40,234 metric tons)
Unloading Rate	6,000 long tons (6,096 metric tons) per hour
Auxiliary Engines	7 X Cat 3406C rated 462 bhp (345 bkW)
	at 1800 rpm for multiple pump hydraulic drives
	1 X Cat 3406C gen set, 260 ekW at 1800 rpm

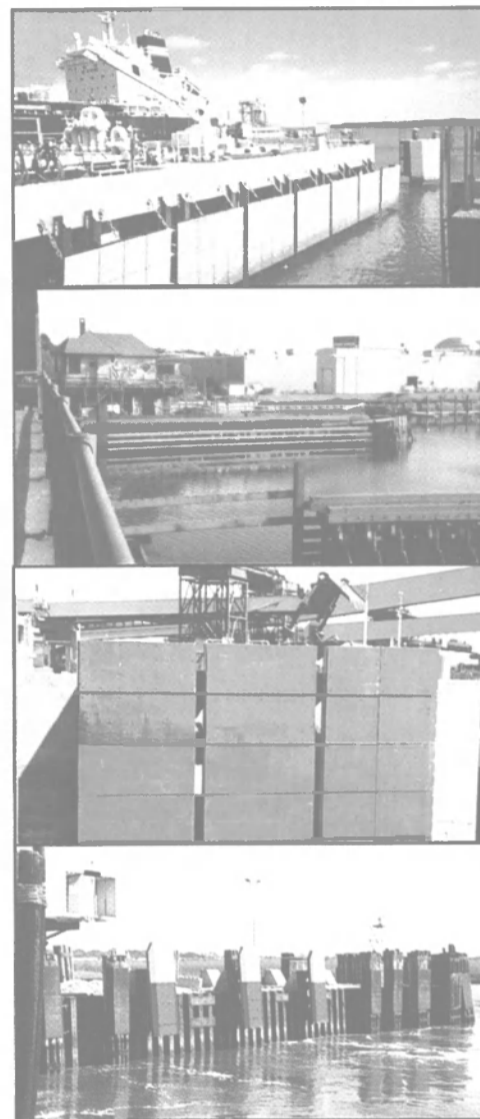
The 510 ft. (155.4 m), 9,300-ton destroyer, which is the 30th vessel of the DDG 51 program, is sponsored by Nancy Roosevelt Ireland, granddaughter of Franklin D. and Eleanor Roosevelt, for whom the vessel is named.

Roosevelt is equipped to carry Tomahawk Cruise missiles, as well as Standard missiles to intercept hostile aircraft and missiles at extended range. Powered by four gas turbine engines, the vessel is able to move at speeds in excess of 30 knots.

Hike Metal Constructs Boat For Pilotage Authority

A new 60 ft. (18 m) fast Pilot boat is being constructed at Hike Metal Products, Ontario, Canada for the Atlantic Pilotage Authority. Responsible for Pilotage operations on the east coast of Canada, the

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USS Roosevelt Is Newest Aegis Destroyer



USS Roosevelt, the newest in a series of Aegis destroyers being constructed for the U.S. Navy by Litton Ingalls Shipbuilding, is scheduled for an October 14 commission in Mayport, Fla.

Naval Architecture & Marine Engineering

Authority will be receiving a new boat that will be used to serve the Placentia Bay district in Newfoundland. Designed by Camarc, the vessel boasts a variety of innovations including a resiliently mounted superstructure to reduce noise levels in the wheelhouse and the patent-

ed "Popsafe" fender system, which fea-

tures no through hull fastenings to retain the fender. Suitable for a two-member crew and up to four pilots, the boat is being constructed to Transport Canada requirements in aluminum alloy and will be powered by twin Detroit Diesel 12V 2000 series engines of 25 knots at full

load. Deck equipment includes a rescue platform recessed into the transom, which can retrieve a casualty in the recommended horizontal recovery position. Also featured onboard is a full navigation package primarily consisting of Furuno equipment.

Circle 14 on Reader Service Card

SeaArk Lands Navy Patrol Boat Contract

SeaArk Marine, Monticello, Ark., received acceptance from the U.S. Navy on the first two of six 40-ft. (12.1 m) patrol vessels for use in Peru. The company was granted the contract from the U.S. Department of Defense in January to construct six Dauntless Class Patrol Boats to be used in support of the PERU Riverine Program on the Amazon River and other river systems. The Peruvian Coast Guard will use the boats for patrol and drug interdiction.



Builder's trials occurred in July on the Arkansas River where the first two boats were inspected and pronounced as successfully accepted. Currently, the boats are being prepared for shipment to Peru; trials and delivery of the remaining boats are scheduled for late November.

All six of the SeaArks will house twin diesel inboard engines, extensive electronics package, berthing for four and weapon mounts.

Circle 91 on Reader Service Card

Main Particulars - Dauntless Class Patrol Boats	
Length	40 ft. (12.1 m)
Beam, (o.a.)	14 ft. (4.2 m)
Draft (inboard models)	4 ft. (1.2 m)
Displacement	27,000-lbs.
Bottom - deadrise aft	20 degrees
Bottom - deadrise forward	50 degrees
Engines	2 Caterpillar 3208TA diesel engines
GPS	Magellan
Radar	Furuno

Kvichak Delivers To Pilots Association

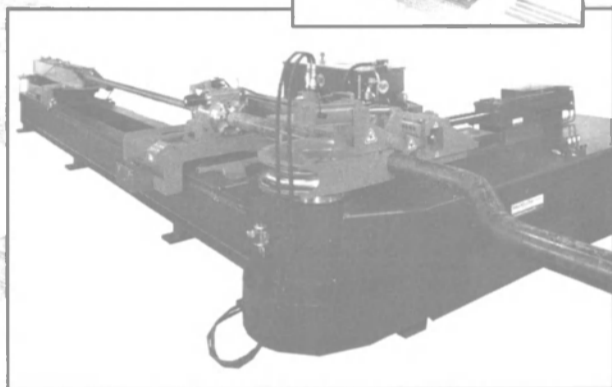
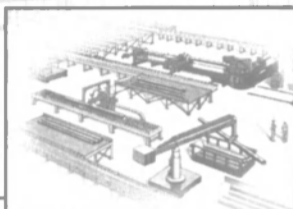
Kvichak Marine Industries delivered Chinook + a 72 x 21 ft. (21.9 x 6.4 m) all aluminum pilot boat — to the



Kvichak Marine's Chinook, which was recently delivered to the Columbia River Bar Pilots Association.

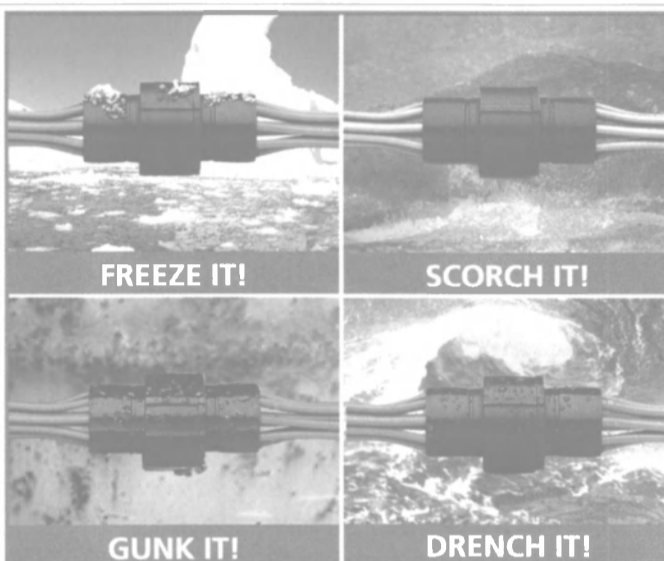
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PMT A98

Circle 287 on Reader Service Card

Columbia River Bar Pilots Association of Astoria, Ore. The vessel replaces the 30-year-old Peacock that had previously been used on the River.

Designed by Camarc, Chinook transports the Pilots to and from seagoing vessels entering or leaving the Columbia River. Running in weather conditions that can sometimes test a vessel's limitations, the Pilots specified that Kvichak construct a vessel that could survive a 360-degree rollover and return safely to its mooring with crew and equipment in tact.

Therefore, the vessel was fully tested by Kvichak in Seattle's Lake Union with the assistance of a Foss barge crane, which lifted the belts that were used to turn Chinook over 180 degrees. The straps then released themselves, allowing the vessel to successfully right itself. A combination of low center of gravity, superstructure buoyancy and hull design enabled the vessel to successfully pass its stability test.

The 50-ton vessel's propulsion is provided by twin DDA marine diesels rated for 1,285-hp at 2,100-rpm, coupled to twin DDA transmissions.

Both engines are coupled to a pair of Hamilton 651 waterjets. Chinook achieved a speed of 29 knots during sea trials, fully loaded with six crew onboard.

Circle 13 on Reader Service Card

NSW SuperCat Ferries Launched

The first of innovative NSW State Transit SuperCat ferries was officially launched on September 6 at ADI Limited's Garden Island facility in Sydney, Australia.

As project manager, ADI is building four SuperCats at Garden Island, and will also assemble the hull and superstructure, integrate the mechanical, communication and electrical systems and oversee fit out.

Capable of carrying 250 passengers, the ferries will move at 24 knots.

They have been designed to generate an extremely low wash level, providing the flexibility to operate along the Parramatta River to Homebush as well as across the Sydney Harbor to Manly. Engine and propulsion systems have been designed to minimize maintenance and create fuel efficiency. ADI will also refurbish NSW's four freshwater class Manly ferries.

Circle 50 on Reader Service Card

Golden Princess Floated Out At Fincantieri

Soon to be the newest member of the

Princess Cruises' fleet, Golden Princess, the sistership to Grand Princess, had its "float out" ceremony at Italy's Fincantieri shipyard where it is currently under construction.

Following the 40 million gallons of water that filled the building dock where Golden Princess has been since its keel

laying in January, the 109,000-ton vessel was transferred from the drydock construction area to its floating outfitting dock where shipbuilders will complete the vessel's work in time for a May 2001 debut.

Scheduled to depart on its maiden voyage on May 16, 2001 with a

Southampton to Barcelona itinerary, Golden Princess will be based in Europe throughout the summer, taking over Grand Princess' 12-day Mediterranean itinerary between Barcelona and Istanbul. In the fall, the vessel will switch to an Eastern Caribbean itinerary.

Circle 92 on Reader Service Card

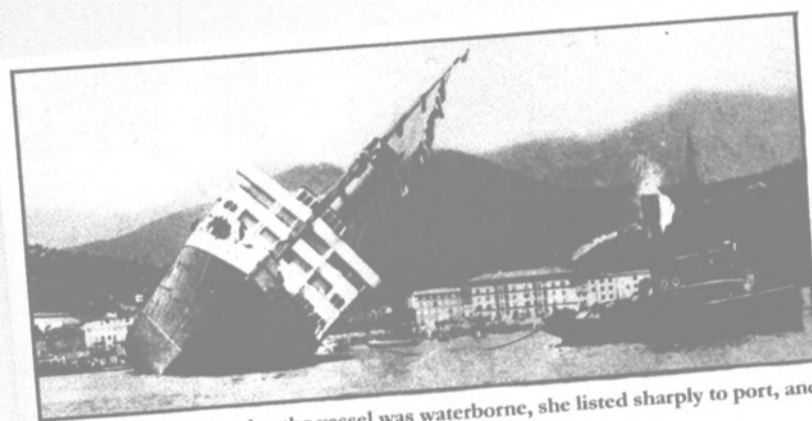


FIG. 202. Moments after the vessel was waterborne, she listed sharply to port, and tugs raced to the rescue.

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Circle 288 on Reader Service Card

Lloyd Triestino Launches First Post-Panamax Containership

LT Usodimare, the first post-Panamax container vessel ordered by Lloyd Triestino from Mitsubishi Heavy Industries' Kobe shipyard, was launched on September 1.

The new vessel is 935 x 131 ft. (285 x 40 m) with a draft of 42 ft. (12.7 m). With a capacity of 5,364 -teu, and a service speed of 25 knots, the Italian-flagged vessel has been classified by RINA. LT Usodimare is named after **Antoniotto Usodimare**, the 15th century Italian seafarer said to have discovered the Cape Verde Islands.

LT Usodimare will be delivered on November 24 and will be deployed on the service connecting China to the Mediterranean and Northern Europe (CEM). The service is



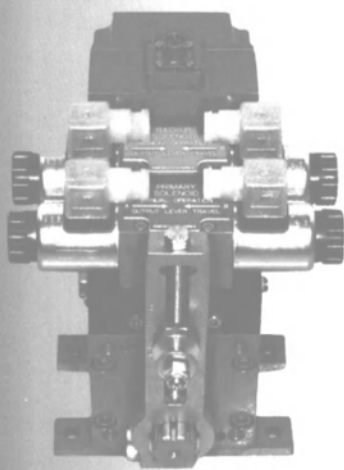
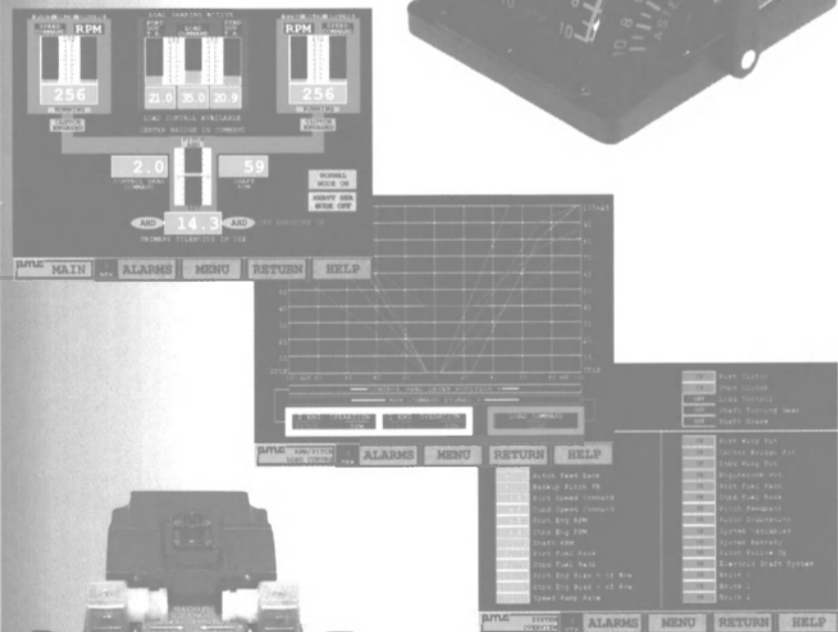
being retonnaged with several 25-knot post-Panamax vessels.

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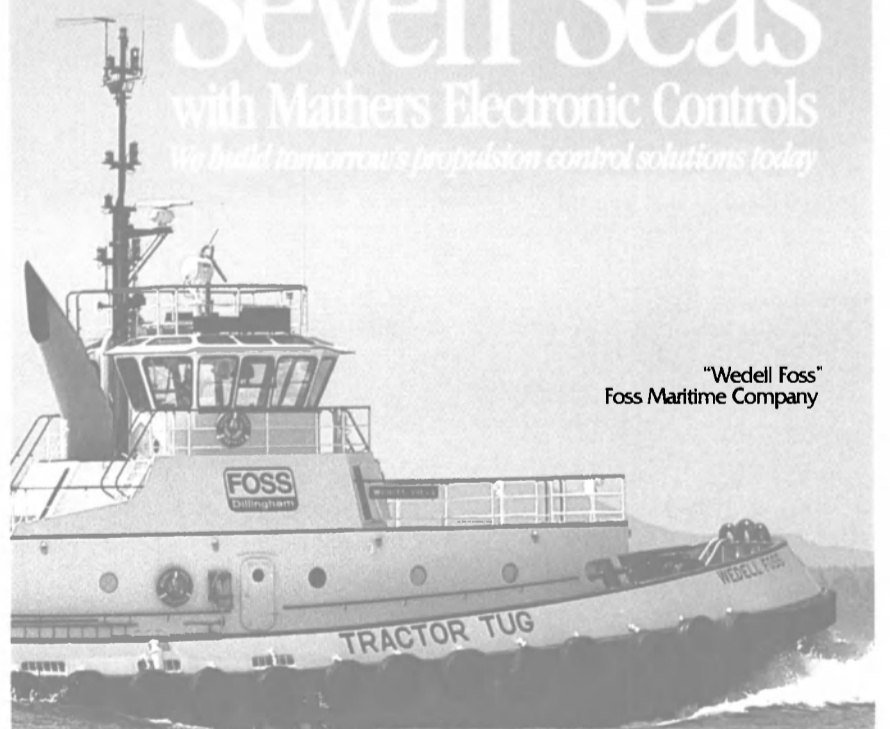
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Gladding-Hearn Delivers First Of Two To Charleston Pilots



Gladding-Hearn Shipbuilding has delivered the first of two new pilot boats for the Charleston, S.C. pilots. This brings the number of pilots' boats built by the Somerset, Mass. shipyard for Charleston Navigation to seven within the past 40 years.

The increased size and performance of the 76 ft. (22.8 m) aluminum boat mirrors the demands of today's pilots, who travel farther offshore and hold station, according to shipyard officials. Designed by C. Raymond Hunt and Gladding-Hearn, the twin-screw vessel, which has a 20-ft. (6 m) beam and draws slightly more than five ft., is powered by Detroit Diesel 16V-2000 DDEC engines, each rated for 1,285-bhp at 2,100 rpm driving Brunton five-bladed, propellers via Twin Disc gears.

The vessel's combination deep-vee hull, which has a top speed of 28 knots, and the special shape of the superstruc-

ture ensures a stable platform alongside large ships and a smooth pull-away.

Circle 51 on Reader Service Card

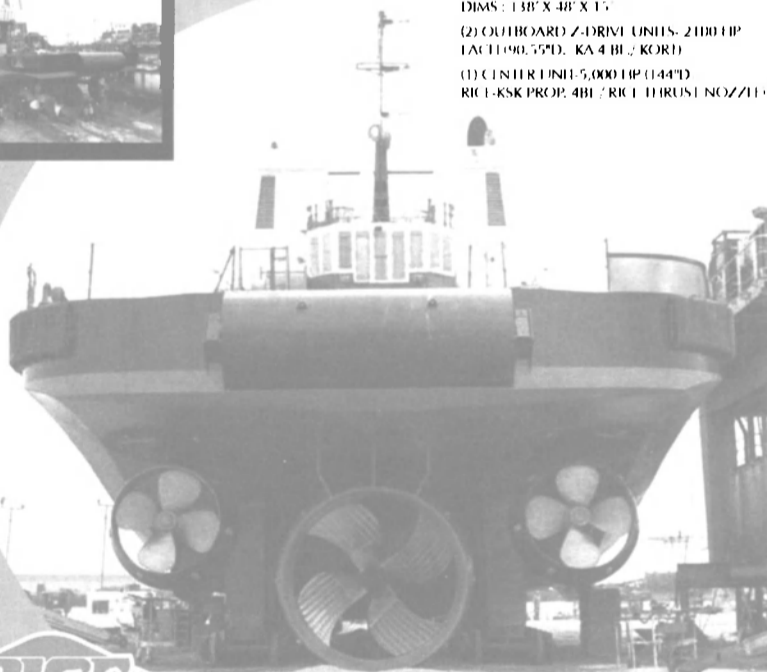
Main Particulars

Length	76 ft.
Beam	20 ft.
Draft	6 ft.
Main engines	2 x Detroit Diesel
Engine supplier	Power Products, Portland, Me.
Gears	Twin Disc
Propellers	Bruntons
Engine controls	DDEC
Gensets	Northern Lights/Alaska Diesel Electric
Generator control panel	Industrial Power Systems
Steering system	Wagner
Radar	Furuno
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GPS	Garmin
Compass	Ritchie
Loud hailer/siren	Raytheon
Speed	27 knots

* 36.4 Lb/hp OF BOLLARD PULL NOBODY DOES IT BETTER THAN **RICE THRUST NOZZLE SYSTEM** U.S. PATENT # 5799394



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Circle 331 on Reader Service Card
Maritime Reporter/Engineering News

Bollinger To Construct Supply Boat For Lytal Ocean

Construction has gotten underway at Bollinger Marine Fabricators on Lytal Ashley — an oilfield supply vessel (OSV) for Lytal Ocean. In addition, a contract has already been formalized for a nearly identical sistership Lytal Andre, which is scheduled for delivery in April 2001. Both vessels will measure 146 ft. (44.5 m), each with a 36-ft. (10.9 m) beam and a depth of 11 ft. (3.3 m). Normal operating draft will be 10 ft. (3 m) and speed is expected to be 12.5 knots. Bollinger's engineering department designed the vessels to meet and exceed new regulatory requirements, which is less than 100-gt and less than 500-gt registered tonnage.

Two Detroit Diesel engines developing a total of 1,400-bhp will power each OSV. They will drive 70-in. diameter by

weight PVC-coated Kevlar material produced by Rubb Manufacturing Co., designed to withstand 110-plus knot winds in any sea conditions. Two Marathon generators each driven by a Detroit Diesel 6-71 engine developing a total of 120 kW provide power for the

barges' blowers, ventilation and lighting systems. A Quality Power switchboard monitors the engines.

Circle 53 on Reader Service Card



Lytal Ashley - a 146 ft. (44.5 m) oilfield supply vessel.



Bollinger delivers warehouse barge Helen III to Maybank Navigation.

67-in. pitch, four-blade Bird Johnson propellers through Twin Disc gears. A Schottel bowthruster will be installed on each vessel driven by a Detroit Diesel engine to aid maneuverability.

Each OSV will boast 3,000 sq. ft. of space on the aft deck, which can handle up to 350 LT of cargo. Below decks, each will be equipped with four Bollinger mud tanks, which can carry a total of 50,200 gallons of liquid mud.

In addition, Bollinger has delivered Helen III, a 320 x 80 ft. (97.5 x 24.3 m) "warehouse" barge to Maybank Navigation Co. of Charleston, S.C. With interior space measuring 280 x 73 x 27 ft. (85.3 x 22.2 x 8.2 m), Helen III can transport 7,200 metric tons of cargo on a 15 ft. (4.5 m) draft. The vessel houses two MacGregor hydraulic ramps enabling efficient RoRo operations. The barge's wide doors, which measure 22 x 18 ft. (6.7 x 5.4 m), allow for the transmission of cargo that is normally too wide for door openings to be off-loaded from large trucks inside the warehouse barge. Helen III's unique-styled warehouse roof is secured to ABS watertight bin walls and is constructed of light-

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● SJD-1206 IRCS Workstation

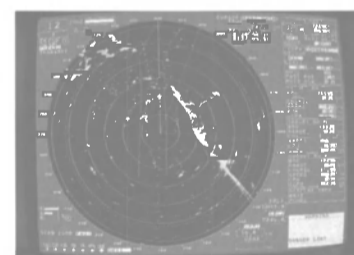
With this one workstation it is possible to operate a multitude of radio communication facilities. A user-friendly design ensures easy operation by all operators.

● JMA-9800 Color ARPA Radar

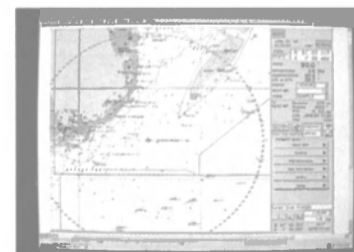
This futuristically designed radar unit features a large 29-inch high-definition color CRT display. It enables quick detection of small targets.

● JAN-3598 ECDIS Total Navigator

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



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Circle 256 on Reader Service Card

Naval Architecture & Marine Engineering

Alstom Takes Lead In Warship Development

As part of the Electric Ship Program, the U.K., and in cooperation with the French government, last month placed a contract with the Power Conversion sector of Alstom in Rugby for the design, construction and operation of an Electric

Ship Technology demonstrator. (ES TD)

The project, worth an estimated \$30 million, is designed to demonstrate the operation of prototype equipment operating in a representative electric ship system and will conduct trials designed to recreate operation in a warship at sea. Testing of the new system is scheduled to commence in the first quarter of 2002.

Electric propulsion is designed to enable a vessel to be powered by fewer, more efficient engines, which naturally would lead to lower costs for both operation and maintenance. These arrangements are designed to save space normally allotted for machinery and re-direct it to weapon systems and accommodation.

Circle 28 on Reader Service Card

NNS Team Selected For Permanent Magnet Motor

Litton Ingalls has selected the team led by Newport News Shipbuilding for the preliminary design of an electric drive propulsion system. The Gold Team will incorporate Newport News' Permanent Magnet Motor (PMM) design into its initial system design proposal for the U.S. Navy's next generation surface combatant, the DD 21 Land Attack Destroyer.

Circle 29 on Reader Service Card

Wärtsilä 200 Makes Its Mark

The Wärtsilä 200 diesel engine has had ample opportunity to exhibit its diversity of late, with two significant orders. Transocean SedcoForex ordered four 12V200 generating sets for re-powering its Transocean 135D semi-submersible offshore platform. The 2,020 kW sets are set for delivery in October, to be installed on station in Brazil. In addition, Fincantieri ordered two 12V200 main engines to power the diesel-electric propulsion system of a new multipurpose support vessel contracted by the Italian Navy. The engines have a combined output of 4,800 kW at 1,500 rpm.

Circle 30 on Reader Service Card

MHI, Volvo Penta Agree

AB Volvo Penta and Mitsubishi Heavy Industries have signed a final global agreement on distribution of diesel engines with cylinder volume between 24 and 65 liters. The engines will be branded Volvo Penta and marketed and serviced by Volvo Penta's global distribution network. The new range will mainly be used for marine commercial applications, as both main propulsion units and generator sets.

Circle 31 on Reader Service Card

Woodward Controls On Landmark Ship

Woodward Governor Company supplied the control hardware and software algorithms for the gas turbines on Celebrity Cruises' Millennium ship, a luxury liner, which made its maiden voyage in July 1, and is the world's first cruise ship to feature gas turbines for main propulsive power. Woodward Industrial Controls supplied S&S Energy Products, a GE Power Systems Business, with the NetCon® digital control system and DSLC™ digital synchronizer/load controls for both turbine generator sets. The microprocessor-based NetCon control system, provides speed/load control and unit protection.

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Circle 283 on Reader Service Card

(Continued from page 64)

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Naval Architecture & Marine Engineering

Latest Developments in Engine Room Simulators

Transas Marine has released a new simulator product, which is a stand-alone Engine Room simulator, ERS Solo. This simulator broadens the company's existing product range of Engine

Room simulators, which includes the PC-based ERS 2000 and the ERS 3000, which is fitted with real engine control room panels for monitoring and control of engine room machinery. The ERS

Solo possesses all the functionality of ERS 2000, other than its online Instructor functions. With the ERS Solo simulator, the Instructor-generated tasks are performed in off-line mode. The main



simulated machinery includes the ship's diesel propulsion power plant, with models for two-stroke and four-stroke diesel engines, an electric power plant and a number of auxiliary systems. The main purpose of this new simulator development from Transas is to provide a cost-effective but efficient instrument suitable for both preliminary and knowledge refreshment training of Engine Room watch-keeping personnel. ERS Solo can be run on Intel Pentium - II - 400 equipped with a 17-in. or higher true-color monitor with a resolution of 1,280 x 1,024 pixels.

A new set of dedicated hardware for the ERS series has already been designed and was made available during Summer 2000. Due to increased demand for Engine Room simulator technologies, the range of software functions for ERS systems has also been expanded. A new version of the ERS simulator is already approaching the final stages of development and will be presented to end - users in the near future. The new features of this upgraded ERS include a Distillation Plant system simulator, which has already been added to the existing functionality, a Fire Extinguishing alarm system, CO2 Extinguishing system, as well as a Foam and Sea Water Extinguishing system, all of which are currently under development.

Circle 32 on Reader Service Card

ABS Signs MOU With MSC

American Bureau of Shipping has signed a Memorandum of Understanding (MOU) with Military Sealift Command (MSC) of the U.S. Navy. The document outlines and formalizes the processes and procedures used in the survey and classification of all MSC U.S. Government-owned vessels.

Totalling more than 100 vessels, the MSC fleet is composed of non-combatant vessels such as tankers and cargo ships that support sealift, fleet and special mission operations of the U.S. Navy. All MSC public vessels will be classed in accordance to ABS Rules and, additionally, ABS may act on behalf of the United States Coast Guard (USCG) as their agent to conduct ship inspections when appropriate.



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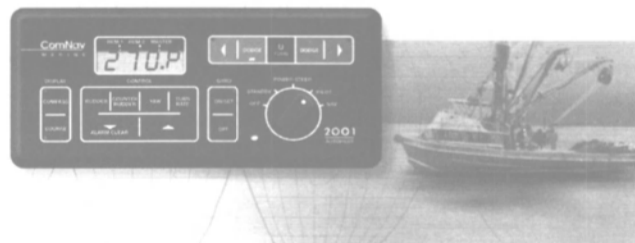
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(Continued from page 64)

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Room simulators, which includes the PC-based ERS 2000 and the ERS 3000, which is fitted with real engine control room panels for monitoring and control of engine room machinery. The ERS

Solo possesses all the functionality of ERS 2000, other than its online Instructor functions. With the ERS Solo simulator, the Instructor-generated tasks are performed in off-line mode. The main



simulated machinery includes the ship's diesel propulsion power plant, with models for two-stroke and four-stroke diesel engines, an electric power plant and a number of auxiliary systems. The main purpose of this new simulator development from Transas is to provide a cost-effective but efficient instrument suitable for both preliminary and knowledge refreshment training of Engine Room watch-keeping personnel. ERS Solo can be run on Intel Pentium - II - 400 equipped with a 17-in. or higher true-color monitor with a resolution of 1,280 x 1,024 pixels.

A new set of dedicated hardware for the ERS series has already been designed and was made available during Summer 2000. Due to increased demand for Engine Room simulator technologies, the range of software functions for ERS systems has also been expanded. A new version of the ERS simulator is already approaching the final stages of development and will be presented to end - users in the near future. The new features of this upgraded ERS include a Distillation Plant system simulator, which has already been added to the existing functionality, a Fire Extinguishing alarm system, CO2 Extinguishing system, as well as a Foam and Sea Water Extinguishing system, all of which are currently under development.

Circle 32 on Reader Service Card

ABS Signs MOU With MSC

American Bureau of Shipping has signed a Memorandum of Understanding (MOU) with Military Sealift Command (MSC) of the U.S. Navy. The document outlines and formalizes the processes and procedures used in the survey and classification of all MSC U.S. Government-owned vessels.

Totaling more than 100 vessels, the MSC fleet is composed of non-combatant vessels such as tankers and cargo ships that support sealift, fleet and special mission operations of the U.S. Navy. All MSC public vessels will be classed in accordance to ABS Rules and, additionally, ABS may act on behalf of the United States Coast Guard (USCG) as their agent to conduct ship inspections when appropriate.

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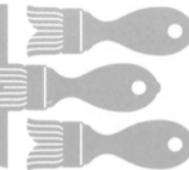
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U.S. Navy Keeps Ship-Shape With Software

The Naval Surface Warfare Center uses Adams software to simulate USN ship hull and deck equipment. The technology is used for conceptualization and design-for-manufacturability simulations. As a result, design cycles have been slashed by 50%.

Hull and deck machinery equipment — such as watertight closures, cargo/weapons elevators, embarkation equipment, cranes, boat handling equipment, and habitability — is an integral part of a U.S. Navy ship mission. Whether moving ammunition or providing helicopter access, these systems must be fully operational when called upon. In addition, they must be safe to operate, maintainable by the ship crew, and affordable to the Navy throughout the equipment lifecycle.

Hull and deck machinery equipment is a responsibility of the Naval Surface Warfare Center, Carderock Division (NSWCCD) in Philadelphia, Pa. NSWCCD is an engineering field activity under the Naval Sea Systems Command (NAVSEA). In this capacity, they provide research and development, test and evaluation, fleet support, and in-service engineering for surface and undersea vehicle hull, mechanical, and electrical

(HM&E) systems, and propulsors. In addition to the U.S. Navy, support is also provided to the Maritime Administration and maritime industry.

Ralph Tursi, mechanical engineer, supervises the mechanical computer-aided Engineering (MCAE) section of the NSWCCD Hull and Deck Machinery Department. His team plays a vital role in the design of this equipment for new construction ships, as well as design improvements for in-service craft. In this role, Tursi and his team are faced with several engineering challenges. Says Tursi, "First, we must take into account that the shipboard environment is typically harsh and promotes corrosion. As a result, we must ensure that shipboard designs are reliable and able to withstand the unique elements encountered onboard ship."

Other important design considerations exist for Navy shipboard equipment. Tursi explains, "In today's 21st century

Navy, our ships feature an elite, highly trained, professional crew. These crews must rely on extensive automation. The ship and crew need to focus on the mission at hand, with less time available to devote to equipment maintenance. In addition, the demographics of the typical Navy crew have changed, with significantly more women than in the past. As a result, habitability design specifications must also accommodate the female population. We must incorporate these human factors into our designs accordingly."

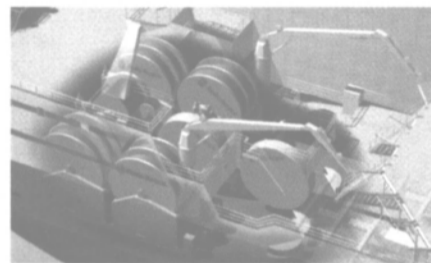
Since ships are fighting machines, the equipment must withstand military requirements. Tursi adds, "This is an important distinction between Navy and commercial vessels. The commercial industry is certainly driving many of the latest technological innovations. As a result, the Navy typically looks to indus-

(Continued on page 82)

Products & Services

Rolls-Royce Leads The Way

With its latest cable handling system, Rolls-Royce offers a state-of-the-art solution for deep sea cable handling in the offshore and marine market. Designed for safe and fast deployment and recovery of seabed cables, including seismic systems and fiber optic cables, are the main drivers. The present system is prepared for seabed operations in 3,000 m of water with a safe working load of 40 tons, and a vessel speed of six knots.



Different modules can be combined with advanced spooling devices and storage units in a high capacity cable handling and storage system. In-house developed software for control and synchronization of the traction unit and the winches is available. This software, in combination with the vessel's positioning system or alternatively seabed sensors, allows for accurate deployment control of the cables where accuracy is a must.

Circle 94 on Reader Service Card

New High-Strength, Low-Weight Winchline

After extensive market research Lankhorst Touwfabrieken by developed a new winch line. The company's winch line, introduced on the market in 1997, is said to exhibit the same advantages as the existing winch lines. It is designed to be strong, compact, round, it also offers a weight reduction of 20 to 25 percent, does not absorb any



Atlantic Pioneer, the first in a 17,800-dwt series container-friendly multipurpose dry cargo ships built by a Chinese shipyard for Intership Navigation and feature MacGregor cranes.

MacGregor Wins Big In China

In the first six months of the year, MacGregor Cranes has secured orders for 77 cranes for ships to be built in China, with a cumulative value of more than \$20 million. The largest order of the recent influx of contracts from the world's third largest shipbuilding nation is for 24 MacGregor-Hagglunds GL4028-2 cranes for a series of six geared 52,300-dwt bulk carriers, being built at the Jing Jiang shipyard for U.K.-based Greek owner Victoria Steamship.

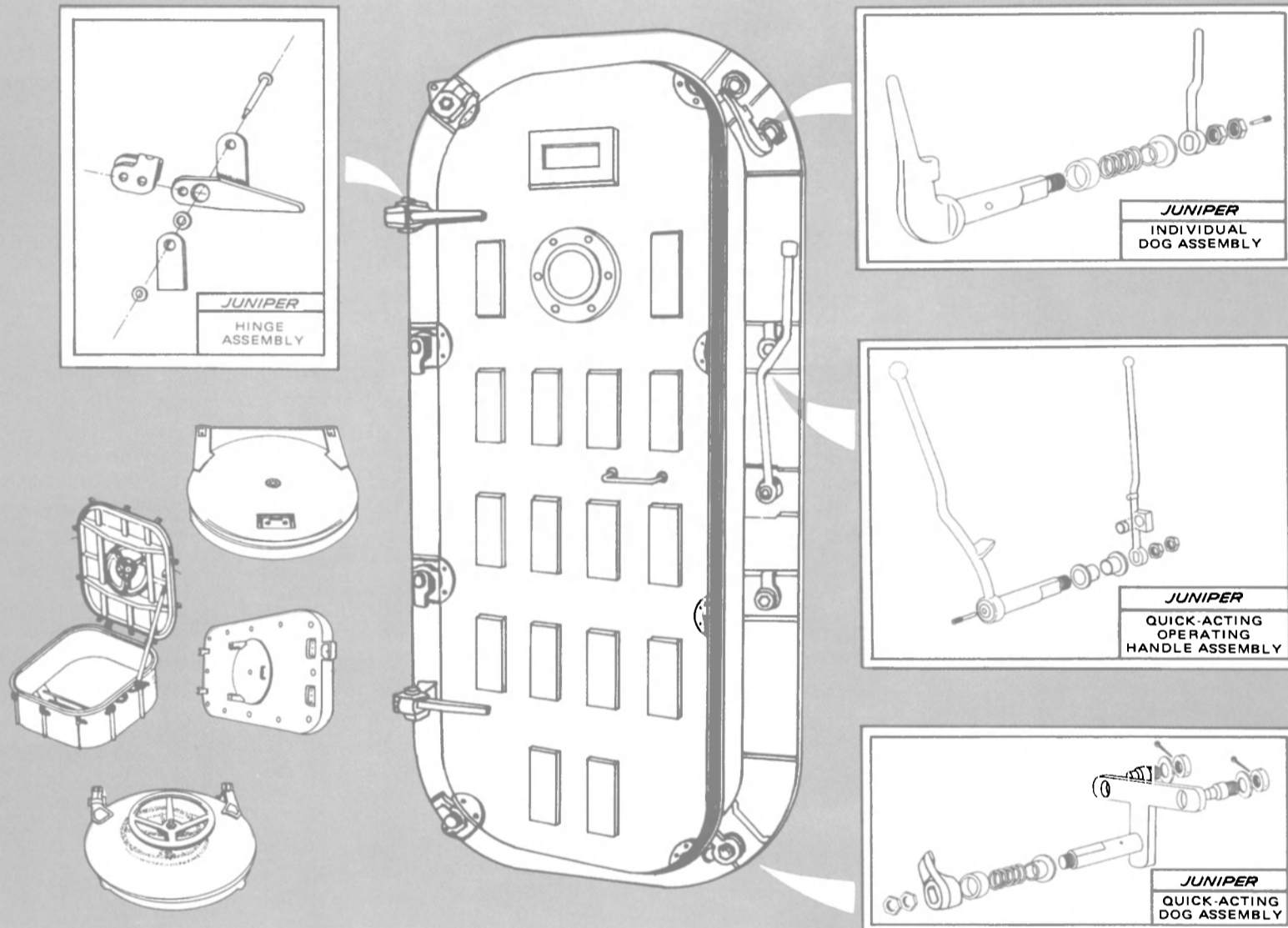
Another order is for a two-ship series building for Intership Navigation, which has ordered two pairs of

GL4528/4032-2 cranes for two ships in a continuing series of 17,800-dwt container-friendly multipurpose cargo vessels, and two four-crane shipsets of GL4026-2/3226 grab versions for a further series of 35,000-dwt container-friendly bulkers. MacGregor is a global market leader in shipboard cargo care products, including hatch covers, cranes, RoRo equipment, elevators and escalators, galleys, cargo securing systems and refrigerated cargo handling systems. Its annual turnover is \$400 million.

Circle 97 on Reader Service Card

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Circle 98 on Reader Service Card

Propane Powered Cargo Movers In LA Port

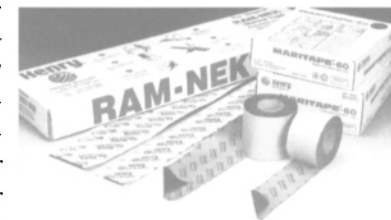
Moving cargo around the Port of Los Angeles is now aided by five LPG-powered "yard hustlers," which were officially entered into service at the Evergreen America Corp. container terminal, operated by Marine Terminals Corp. (MTC). The low-emission yard hustlers are capable of moving 55,000 pounds of cargo around the terminal and railyards. They are reportedly the first of their kind for any port in the U.S. Each unit cost \$70,000, with part paid for MTC by a special program in California which encourages the acquisition of equipment with lower emissions.

Drew Marine Distributes

Henry Diplomatic Marine Products

The Drew Marine Division of Ashland Specialty Chemical Co. has entered into a distribution alliance with the Diplomatic Marine Div. of the Henry Co. which gives Drew rights to distribute Henry Diplomatic Marine's full line of hatch cover sealants and sealant systems. In addition to RAM-NEK Heavy Duty Marine Tape, recognized as a premium hatch cover sealing tape for severe-weather protections, as well as a line of competitively priced products for less challenging conditions. The unique new RAM-WRAP pipe repair system is used for making fast, temporary or permanent emergency repairs.

Circle 95 on Reader Service Card



Pacific Coast To Supply For AMCV

Pacific Coast Marine Industries was selected earlier this year by Litton Ingalls Shipbuilding to provide the exterior doors and windows for the United States Lines cruise vessels currently under construction for parent company American Classic Voyages (AMCV). The contract calls for the supply of more than 1,200 doors for the private verandas and 600 windows, both of which will be of the heavy-duty clamp-in type.

Circle 102 on Reader Service Card

E-Crane's 1500 Series

There are three reasons Wayne B. Smith, Inc. chose E-Crane's 1500 Series for off-loading material from barges on the Mississippi: ease of operation, efficiency, and operator friendliness. The specific E-Crane attributes important to them include a lifting capacity of more than 16 tons, with a free-standing pedestal mount, and productivity that exceeds 1000 tons/hour. In addition, E-Crane offers new applications that have allowed Wayne B. Smith, Inc. to offer more material handling services to their customers.

Circle 104 on Reader Service Card



Measurement Technology Launches New Products

Measurement Technology Northwest has developed two new line control instruments for use by marine workboats, oil rigs and research vessel, products that are specifically engineered to withstand the rigors of the marine environment. The instruments, LCI-90 and LCI-100, have already been implemented in the oil and gas industry through Houston Scientific International, a manufacturer of physical measuring devices.

LCI-90 is a rugged winch line parameter display and controller built for environmentally demanding applications. Tension, payout and line speed are displayed on a high performance electro-luminescent display for excellent readability in all light conditions. The 12-gage 316 stainless steel front panel and fully sealed pushbuttons make it tough enough for on-deck appli-

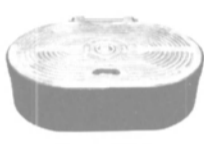
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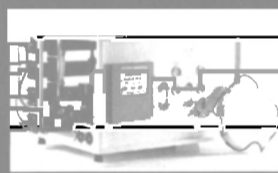
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cations. LCI-100 is a multi-purpose instrument designed for good readability in all conditions. It includes a rugged electro-luminescent display for wide angle readability in any lighting condition. The 316 stainless steel and sealed tactile push buttons are designed for wet and corrosive environments. The large number of I/O channels and serial networking capability provide flexibility in line monitoring, weighing or SCADA applications.

Circle 93 on Reader Service Card

MacGregor Gives Oriana A Lift

The larger sistership to the 69,153-gt Oriana, Aurora reportedly includes "evolutionary design modifications." MacGregor previously supplied elevators to other Meyer Werft newbuildings, but this is the first time the company has provided provisions stores to the German yard. Aurora's elevator dimensions deemed a supply of 10 passenger elevators and nine service elevators - 18 of which boast KONE MR-26 machinery and KONE TMS 600 controllers, while the remainder is hydraulically operated. Corresponding operating heights are 82 ft. (25.1 m) and 64 ft. (19.6 m), and weigh 2,000 kg.

Provisions stores within the vessel comprise 37 rooms totaling a floor area of 1,578 sq. m; including eight refrigerated stores measuring 363 sq. m rated to -25 degrees C and 14 chilled rooms at various temperatures measuring 653 sq. m.

MacGregor Extends Capabilities With Atlas

The MacGregor Group has expanded its horizons within its passenger ship portfolio with the acquisition of Miami-based cruise ship galley technology specialist Atlas Marine Services. Subsequent to its attainment last year of French galley specialist Tanel International, MacGregor has been proactive in seeking to extend the scope of its galley resources, which ultimately led to the acquisition of Atlas this past June. A custom metal fabricator specializing in the modernization of galleys onboard cruise ships and yachts, Atlas has dedicated experience in the area of provisions stores and refrigeration machinery.

Circle 99 on Reader Service Card

OSL, Philadelphia Gear Form Alliance

OSL Offshore Systems & Deck Machinery, LLC has formed a business alliance to manufacture and supply turnkey Rack and Pinion Electric driven Jacking Systems for offshore drilling and production rigs. The alliance of OSL Offshore Systems & Deck Machin-

ery, LLC and Philadelphia Gear Corporation forms a unique organization bringing large mechanical drive automation systems, integrated PLC controls, electrical and hydraulic power from each of the world wide suppliers with a focus on the supply of critical service in the operation of offshore drilling and production vessels.

This alliance brings to the offshore

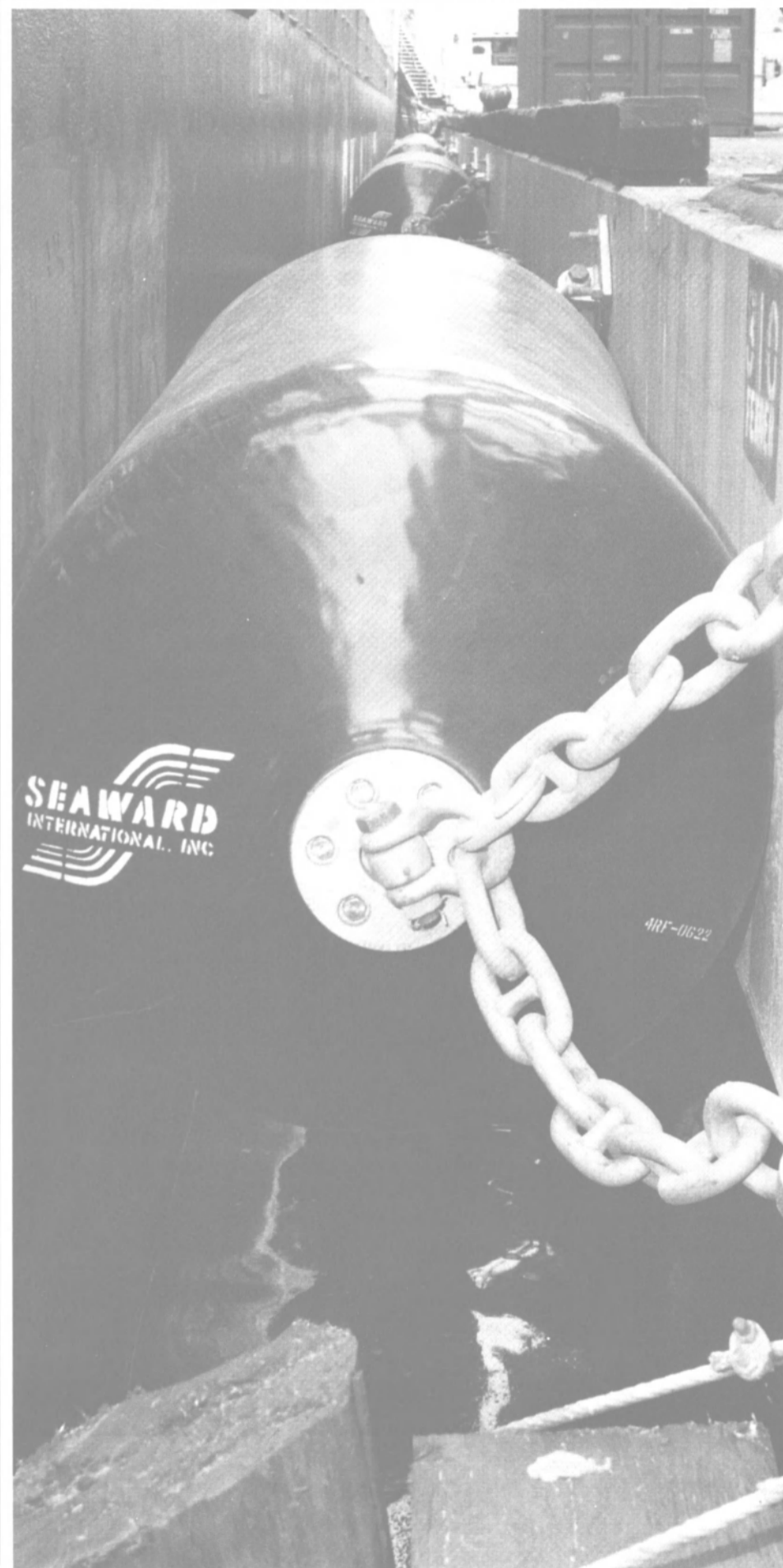
industry a state-of-the-art design with a single source provider for the shipbuilder and owner.

Doug Hines, OSL president, said: "We are very pleased to announce the formation of this alliance in the continued commitment of OSL to the offshore industry in the supply of technically superior systems. This alliance brings together key companies as a sin-

gle source supplier with the ability to design, manufacture, install, and commission the complete system.

By combining our new load sharing electric drive subsystem with the large capacity pre-design mechanical gear equipment of Philadelphia Gear we bring to the industry a capability that has not yet been available."

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Mackay Opens New Depot

Mackay Marine opened its latest depot in Charleston, S.C., on May 1. "Mackay's active presence in Charleston provides our current and future customers with consistent and dependable Mackay service at all major ports on the East Coast," said **Scott Thiemens**, Mackay's Southeast U.S. and Caribbean Regional manager.

Charleston is the fourth largest container port in the U.S., and effectively fills in the Mackay Marine customer service gap that

had existed between Jacksonville, Fla. and Norfolk, Va.

Circle 96 on Reader Service Card

Saab Marine Group Forms Single Solution

Saab Marine Electronics has formed a new group of companies in order to supply the marine market with a total concept for modern applications.

During a short period of time, Saab Marine Electronics has acquired the share holding majority in three companies with complementary high performance equipment within ship automation, tank cleaning and ballast and bunker tank monitoring.

Circle 103 on Reader Service Card

Furuno Appoints Thompson

Furuno U.S.A. has elected **Roy Thompson** as manager of its newly formed Special Product & Fisheries Group.

Thompson, who previously served as the company's marketing manager, will be responsible for assisting in the research and development of fishing products, analyzing trends and creating new marketing strategies for the commercial fishing sector.

GE Elects Douglas To Marketing/Sales Director

GE Marine Engines has appointed **Richard K. Douglas** as director, Marketing and Sales. Douglas will lead the marketing and sales effort for GE's full line of LM marine gas turbines and main reduction gears. Prior to joining GE after retiring from the U.S. Army, he served as GE Aircraft Engines' Asia Regional Black Belt for Six Sigma in Tokyo, Japan. Douglas holds an M.P.A. from Harvard, and a B.S. degree from the U.S. Military Academy, West Point, N.Y.

Furuno Releases New NT Versions Of Chart Plotters

Furuno has introduced a new option to its GP 1650 and GP 1850 chart plotters — C-MapNT cartography. Developed for both Furuno CDC and Navionics® charts, Furuno is offering two versions of the GP1650 and the GP1850 series — one running C-MapNT and Furuno CDC chart cards — the other featuring Navionics and Furuno CDC chart cards.

Circle 7 on Reader Service Card

LR Appoints Waryas

Lloyd's Register Americas (LR) has elected **Edward A. Waryas** as vice president, Marine Marketing. Waryas will focus on U.S.-based customers, while continuing to expand LR's efforts within South America. Waryas previously held positions at Newport News Shipbuilding, MAN B&W Diesel and Mobil Shipping & Transportation.

DuPont Acquires Brookdale

DuPont Canada Inc. has acquired a 51 percent share in Brookdale International Systems Inc., the Vancouver-based manufacturer of the Emergency Escape Smoke Hood. After several months of negotiations, an agreement was reached between the two companies in July. **Ward Metzler** of DuPont will serve as Brookdale's president.

Circle 35 on Reader Service Card

Seabulk Branches Out

Seabulk Systems has opened a new office in Montreal to handle transshipment opportunities on the U.S. and Canadian East Coast. A new-patented Capesize vessel unloader (SCU) will be used to unload Cape bulkers and a unique 10,000dwt self-unloader will be used for loading into Panamax/Cape ships.

In addition, Captain **John D. Pace** has been appointed vice president, Marine Operations to manage Seabulk's Montreal operations.

GE Gear Plant Receives USN Theater Surface Team Award

GE Marine Engines' Lynn, Mass. Gear Plant recently received the U.S. Navy's Theater Surface Combatant Team Award for Excellence for the prompt effort performed on the main reduction gear of the USS Decatur DDG 73 destroyer. The award was presented to GE in July by U.S. Navy Capt. **Fred Parker**, AEGIS Shipbuilding program manager.

Boatrac To Develop Info System For Seabulk Offshore

Boatrac has reached an agreement to develop an integrated information management system for the Seabulk Offshore Gulf of Mexico workboat fleet. The agreement calls for an information system that allows for the crew to enter data directly into a database resident onboard the vessels.

Circle 26 on Reader Service Card

Bollinger Delivers 1,734-ft. Worth Of Barge

Bollinger delivered seven barges totaling 1,734 ft. (528.5 m). The workscope included four double hull barges delivered to PCS Phosphate; a double skin barge to Harbor Fuel Service in Puerto Rico; and a pair of split hull dumps scows, which went to Donjon Marine of Hillside, N.J. Each of the four barges built for PCS measure 260 x 14 ft. (79.2 x 4.2 m) with a 52-ft. (15.8 m) beam. The covered bulk hopper barges can carry 3,000 metric tons each of phosphate rock.

Circle 10 on Reader Service Card

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The LEADER in Maritime Communications



The US Military has unique requirements for telecommunications services and Maritime Telecommunications Network meets their needs. MTN provides dedicated private networks to the US Navy from nuclear aircraft carriers to supply ships.

MTN currently supports four government contracts: two as a prime contractor and two as subcontractor

MTN has strategically positioned itself to supply both tactical and non-tactical communications services to the Navy by utilizing commercial off-the shelf (COTS) technology and services.

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Circle 242 on Reader Service Card

Art Anderson Associates Adds To Marine Engineering Division

Art Anderson Associates has expanded its marine engineering division with the addition of **Joseph Payne**, P.E. as a senior electrical/project engineer. Payne is a registered Professional Engineer with 17 years of marine electrical operations and engineering expertise, involving casino vessels, offshore oil rigs, ocean tugs, dynamic positioning vessels, and diesel-electric propulsion.

Crowley Promotes Two To Southern Cal Harbor Services

Crowley Marine Services (CMS) has promoted **Laura Kovary** to senior account executive, and **Mike Gasparo** to manager of Customer Service for the company's harbor services operation in Southern California.

Southwest Wire And Ocean Supply Join Forces

Southwest Wire Rope and Ocean Supply have teamed up to form Southwest Synthetic Systems/Ocean Supply, focusing on synthetic rope for the offshore drilling and marine industry. The new alliance will also concentrate on flat web nylon and polyester round slings for the industrial overhead lifting markets. The new company has also been designated as a distributor for the Randers Ropeworks product line.

Circle 36 on Reader Service Card

Sales Director At Servomex

Servomex Group has appointed Dr. **Sam Langridge** as sales director, with global responsibility for sales operations. Dr. Langridge, who returns to Servomex after more than nine years developing major sales and business development initiatives for other companies, was managing director of the Far East operations of H+B in Singapore from 1992 through 1995. His most recent appointment was a business development director of international engineering group, Set Point Technology.

Empire WaterLink Offers Airport Transport Alternative

In order to ease the inconvenience of the New York-Metro area's congested roadways due to an increased passenger base, Empire WaterLink (Empire) has leased a building located in downtown South Amboy, N.J. to handle the expansion of its planned fleet of high-speed intermodal ferry operations for airport passengers and parcel airfreight throughout the tri-state area. The new high-speed low-wake ferries, each with a five-member crew, are capable of carrying 300 passengers plus luggage. In due time, the vessels will operate on an hourly basis to John F. Kennedy International Airport (JFK) from each terminal — seven days a week, 17 hours a day.

Empire predicts that by next year a scheduled service will operate out of South Amboy at a temporary site, serving several New Jersey counties.

Stolt-Nielsen, Seatrans Collaborate On GOM Service

Stolt-Nielsen Transportation Group and Seatrans Ermefer Tankers have established a co-service from the U.S. Gulf to the Mediterranean and Black Seas to carry bulk liquids. The new service will provide at least two sailings a

month from the U.S. Gulf to both Seas.

ASRY Appoints Thornton

ASRYMAR's London sales team has elected **Peter Thornton** as its new sales and marketing director. He will work to expand the company's marketing and sales operations in the U.K., Benelux and Switzerland.

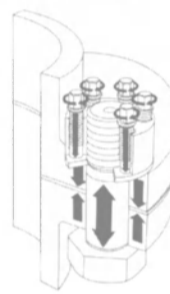
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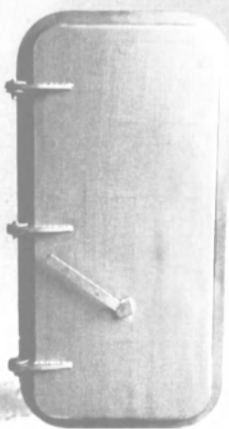
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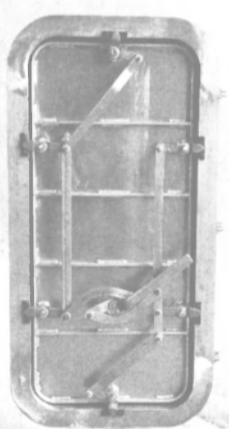
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Software Helps USN Save Money

(Continued from page 76)

try for technologically advanced products and equipment. However, these products in many cases necessitate modifications to withstand military requirements. This issue can make designing our equipment very challenging."

The U.S. Navy is just as demanding as any civilian or commercial customer. Says Tursi, "It is imperative that shipboard equipment be safe, reliable, and affordable throughout the life of the ship. Our primary mission as a NAVSEA activity is to support the Naval fleet. If we cannot accomplish this, the Navy will find someone else who can." Tursi and his team extensively utilize MCAE software to help them meet their objectives and customer expectations. "We use a variety of MCAE tools, such as 3D modeling, finite element analysis, and mechanical systems simulation software. Mechanical systems simulation software is probably one of our most important MCAE tools," says Tursi, "and for this we utilize the Adams product from Mechanical Dynamics, Inc. (Ann Arbor, Mich.)" Tursi's team implements Adams as both a conceptual tool and design tool. "The software allows us to demonstrate to our sponsor what a new design will look like as an end-product. Once we obtain their approval, we use the same conceptualization models and apply engineering expertise. We model the design in a CAD software, download the geometry to a finite element analysis (FEA) program, and then simulate the design in Adams to check it for real-world performance. Adams helps us conduct a complete design-for-manufacturability study prior to building any physical prototypes."

As a conceptualization tool, Adams assists Tursi and his team in creating and visualizing new ideas. "Working with Adams is a much more productive

use of our time than trying to draw manually or with a 2D system. Adams enables us to conceptualize a design quickly. The software has been a real winner with that aspect of the design cycle. For us to be able to show a non-technical person not only what our designs will look like, but how they will perform are very important. The technology helps our customer better understand the equipment and designs that we will provide." Tursi likes the ability to expand Adams models. "We can transform our conceptual designs into real engineering models. That process eliminates a lot of rework and time. We can quickly move from concepts to working models with real engineering information. The software facilitates engineering efficiency and productivity. As a result, we have reduced our design cycles by at least 50 percent."

Prior to implementing Adams, the team addressed new product designs manually. "We would typically develop 2D CAD sketches. Even when we migrated to 3D software to develop new designs," adds Tursi, "the process remained difficult because of the number of configurations we needed to show our customer. The 3D models were simply still shots.

However, with Adams as part of our toolkit, we now have the ability to show real-world equipment simulations. In addition, we are now armed with the powerful flexibility to change design configurations on the fly. We and our customers are very confident that we can develop and optimize the best possible designs."

After implementing Adams for several projects, Tursi says the Navy realized the difference in his department's ability to address new product design requirements in a much more expedient manner.

A Helping Hand In Stralsund

(Continued from page 43)

"They are essentially modern differential pulley blocks," says engineer **Hans Hozeman**, the Hydraudyne manager in charge. The platform is put into operation by 100 electric servomotors (Rexroth Indramat), five-stage planetary gearing (Lohmann + Stolterfoht) and a cable pull system with winch drums and headwheels. The steel rope runs over the massive winches that are standing on firm ground close to the platform, on the left and the right. "With this technology we can control to an accuracy of one tenth of a millimeter," explains Hozeman.

Synchronization is Vital

The precision of the Hydraudyne S&E system becomes obvious as the Baltic flows evenly and silently over the platform. A synchronized performance, because all the ship lift data and control parameters are continuously reported during immersion and converted into signals by the central computer, to ensure that the lift is lowered smoothly and evenly.

"All winch signals are converted into light signals and then fed into the control center. Control PCs process this information. The result becomes visible," comments Hozeman on the synchronization efficiency. If sensors or even a motor should fail, the system switches off immediately.

The lift stops at a depth of 2.5 meters for the scheduled leak test. The integrity of hoses and seals is checked. The sink-down recommences after half-an-hour, until the ship is afloat.


The so-called "swimming out" is handled by a tug. It pulls the ocean giant slowly out of the dock. Two special HGVs on the right and left of the lift shaft move forward with the ship at the same speed. They hold under tension the two steel cables made fast on the stern. This prevents movement of the 12,800-ton vessel.

An electronic eye at the center of the stern monitors the balancing act. The ship has scarcely reached open water before three tugs tow it to the quay. The "steamer's" superstructures will be completed there and after a total of three months' construction (commencement of assembly of the ship's hull) the ship is ready for the vast freedom of the ocean.

Since it was established on June 15, 1948 almost 1,600 ships have left the shipyard in Stralsund, and currently five or six new ones are built each year. In 1990 the company added ferries, dredgers, containerships and special-purpose vessels to its fishing trawler product range. In the middle of 1997 Hydraudyne S&E completed the Stralsund ship lift in 20 months. The company was certified to DIN ISO 9001 in 1999. The shipbuilding assembly bay was erected in 1997/98. At 98 x 354 x 243 ft. (300 x 108 x 74 m) — it is one of the largest in the world.

Last year it received the "European Structural Steel Award 1999" from the European Structural Steel Convention. Volkswerft Stralsund currently has 1,200 employees and its order books are full until 2001. A (230 m) ship will take to the water for the first time in Stralsund during mid-2001.

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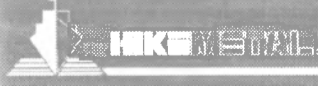
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(Continued from page 26)

of-the-art machinery and cargo control systems and an integrated navigation system.

"We see a long future on the North Slope," Drinkwater said. "We expect our net Alaska production to stay at or above the current level for another decade." BP has net Alaska production of 300,000 bpd.

The "Alaska Class" design will allow maximum flexibility for oil deliveries to West Coast ports, including BP refineries in Los Angeles and Cherry Point, Wash.

The ships will be operated by Alaska Tanker Co. of Portland, Ore., which was formed in 1999. The Alaska Tanker Company operates BP chartered tankers used in the Alaska North Slope trade. BP operates 12 Alaska oil fields with gross production of approximately 800,000 barrels of oil per day.

BP is also the leading gasoline retailer in the five western states of Washington, Oregon, California, Arizona and Nevada. The company has more than 1,700 ARCO retail outlets.

Main Particulars

Design life	35 to 50 years
Capacity	1.3 million barrels
Deadweight	185,000 MT
Length	941 ft. (287 m)
Breadth	164 ft. (50 m)
Maximum Draft	61.5 ft. (18.75 m)
Tanks	18 cargo tanks (3 x 6)
Steering	2 high efficiency rudders with separated steering gear rooms
Speed	15.3 knots

Eight Manises-Built Marine Engines For The German Market

Manises Diesel Engine, the engine manufacturing arm of Astilleros Espanoles, has been awarded contracts for constructing eight MAN B&W marine engines with a total 192,250bhp output power for German interests.

All these engines will be fitted in containerships currently under construction in German shipyards, a series of six at J.J. Sietas and a further two at Kvaerner Warnow. The six 6L70MC type engines contracted by Sietas will be installed in six 1,700 TEU containerships ordered by German shipowner Oskar Wehr. The additional two 7L70MC type engines will propel two sister boxships of 2,500 TEUs which Kvaerner Warnow yard is building for German companies Ritscher and Tanke.

The contract has been landed by the Spanish manufacturer just three months after Manises was awarded

by MAN B&W an extension of their licensing agreement to cover the whole European Union and Norway markets, and the Litton shipyards in the US, whereas the license was previously limited to the Spanish market. According to Manises Diesel Engine sources, the contract was negotiated and sealed in 60 days.

Crowley Promotes Executive Trio



Crowley Maritime Corp. (CMC) has promoted **Bill Pennella** to vice chairman and executive vice president at the company's Oakland, Calif. headquarters. Pennella, who previously served as executive vice president with responsibility for human resources, labor relations and purchasing, will also oversee Information Technology, and Finance and Accounting functions.



The company has also promoted **Rick Swinton** to vice president, Tax and Audit, responsible for the application and adoption of accounting policies, income tax planning and compliance, and audit. Throughout his 20-year tenure with Crowley, Swinton has held various positions including manager of Internal Audit, and most recently as corporate controller.



John Calvin has been promoted by the company to vice president and controller, responsible for planning, accounting and financial reporting functions; he will continue to operate out of Crowley's Jacksonville, Fla.

office.

Since arriving at the company more than 12 years ago, Calvin has moved up within the ranks with the company's Jacksonville-based liner subsidiary, Crowley Liner Services, including vice president, Caribbean Islands Services; controller, and director of corporate finance. He holds a BBA in Accounting and Finance from University of North Florida.

Explorer Of The Seas Passes Sea Trials

Explorer of The Seas, which is currently under construction at Kvaerner Masa-Yards for Royal Caribbean International, has successfully completed its sea trials.

The second member of the Voyager-class series, the vessel's trials were conducted on the Baltic Sea, and according to Captain **Olav Nyseter**, the incoming master of the vessel, all tests performed met or superceded the specified parameters.

The trials also included the vessel's demonstration of its excellent maneuvering characteristics that were shown during steering tests.

Explorer of the Seas, which is scheduled for delivery this fall, returned from its trials on June 19 to Kvaerner for continuity of its outfitting work.

In addition, Kvaerner Masa-Yards launched Carnival Spirit — the second in a series of new Panamax-Max cruise vessels — on July 7 at the Helsinki New Shipyard. The 85,700-gt vessel will be delivered to Carnival in the spring 2001.

Able to carry 2,680 passengers, the vessel measures 966 ft. (294.5 m) with a breadth of 127 ft. (38.8 m)

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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 Buyers Directory Section, contact Susan Cosme at (212) 477-6700.

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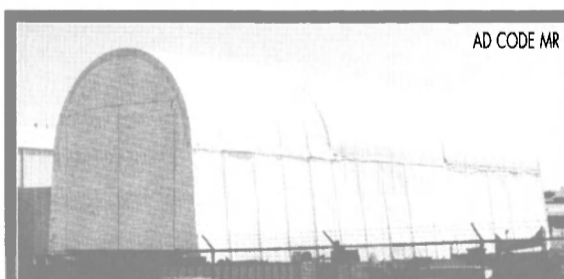
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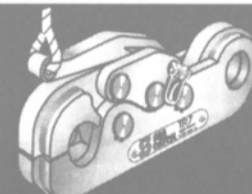
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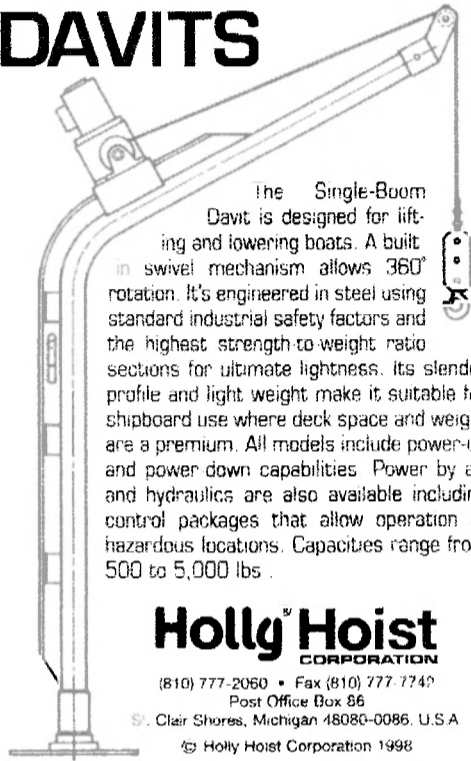
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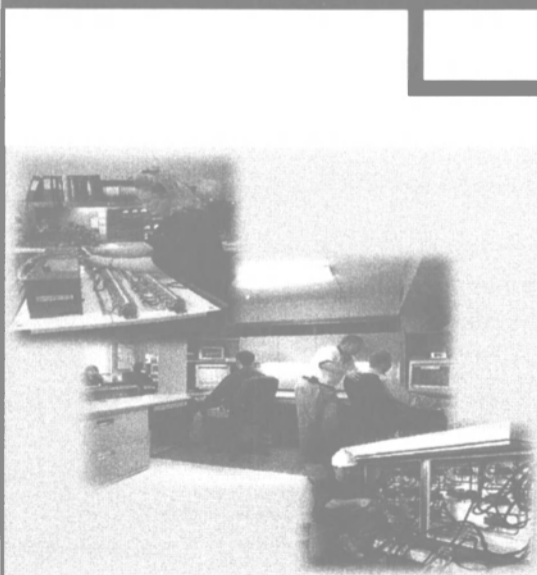
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