

NOVEMBER 1997

MARITIME REPORTER AND ENGINEERING NEWS

Technology is rapidly changing the cost and capabilities of marine

Navigation & Communications

U.S. Coastal Tankers
Long-term shipbuilding prospects

Offshore Technology
Builders and suppliers help fuel red-hot market

INSIDE: REPAIR REPORT



Marine Environmental • Marine Finance • Europort '97 Preview •
Bunker Fuel Monitor • Ferlship's New Contracts •
BENEUX Review • Recent Ship Sales

OUR ENGINE ROOM SYSTEMS COME WITH THESE VALUE-ADDED EXTRAS:



24-Hour, Toll-Free Access to Well-Stocked Spare Parts Departments. Protect Your Employees, Customers and Cargoes With High Quality Original Spares. 1-800-937-7689



Reliable Technical Support Available Anywhere Around the World. Exceptional Training Programs From Qualified Instructors.

MSPX 303 SEPARATOR FOR OIL RECOVERY AND SLUDGE TREATMENT

GMSE SERVICEMAN
Timely Service From The Best-Trained Team In The World...Like Graduate Marine Service Engineer (GMSE) Danny Ports.

WHAT IS A GMSE?

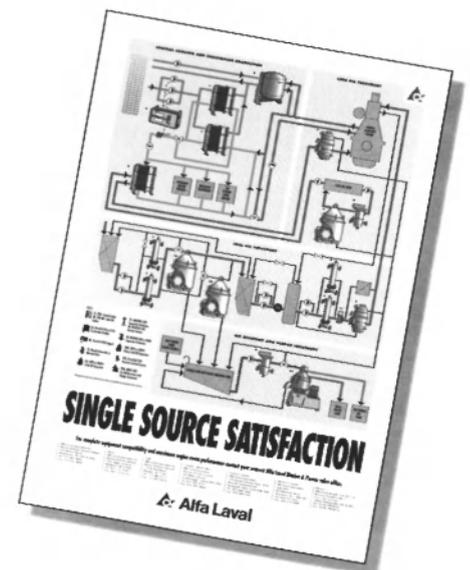
GMSE stands for Graduate Marine Service Engineer. GMSE's are an elite, experienced team of highly-trained Alfa Laval Service Engineers strategically located in major ports around the globe. Their specialized training includes all aspects of Alfa Laval equipment and related engine room systems.

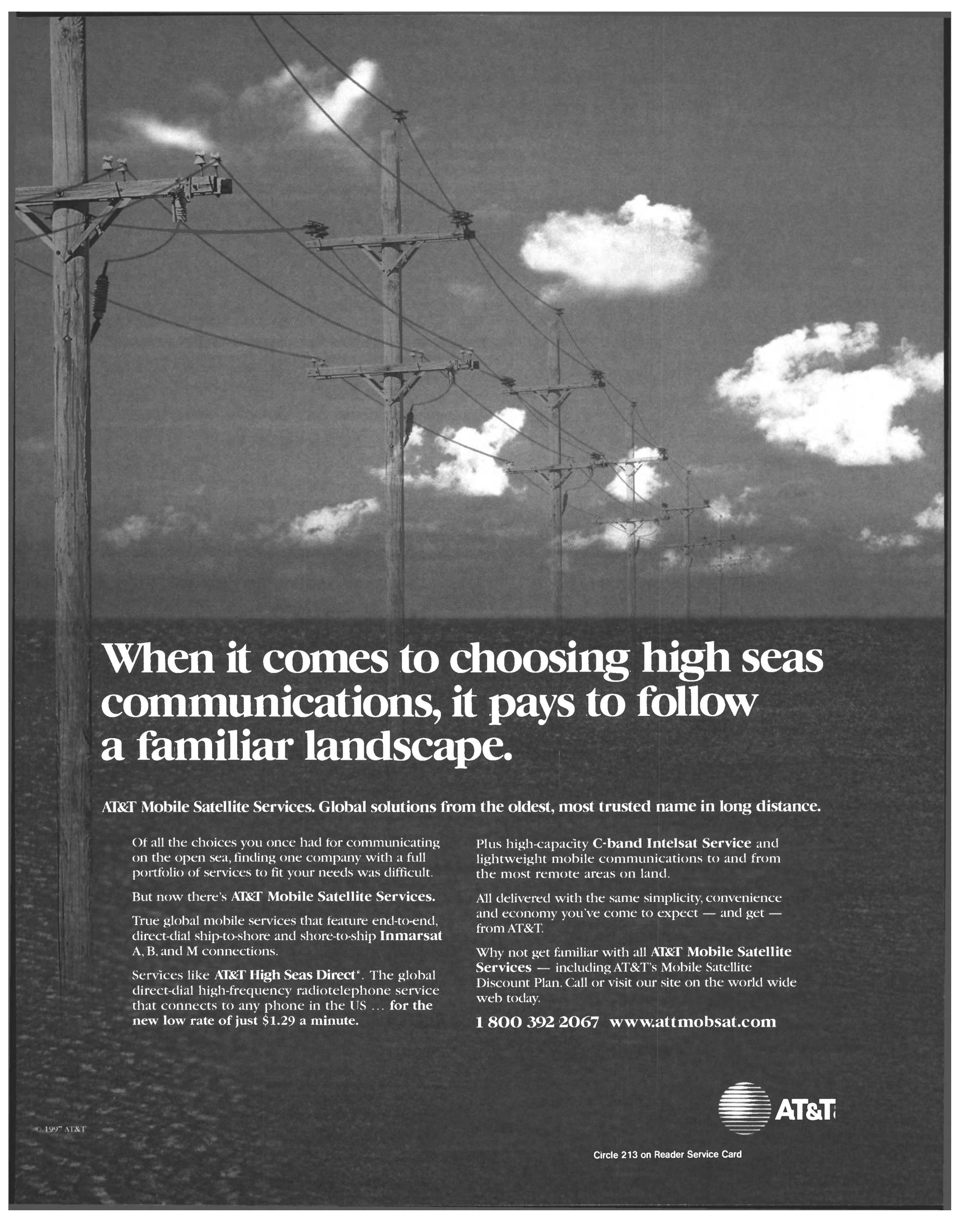
- ALFA LAVAL MANUFACTURES THE SYSTEMS THAT SERVE YOUR ENGINE ROOM:
- Fuel & Lube Oil Treatment Separators and Systems, Heaters, Viscosity Control Systems, Fuel Booster Systems, Self-Cleaning Filters
 - Central Cooling Systems, Plate-Type Heat Exchangers For Numerous Shipboard Applications
 - Fresh Water Production, Plate-Type Distillers, Tube-Based Distillers
 - Oil Recovery & Sludge Treatment

In the US call 1-800-210-4646 or visit our website www.thomasregister.com/alfalaval

 **Alfa Laval**
Uniting vital technologies

955 MEARNS ROAD, WARMINSTER, PA 18974-0556





When it comes to choosing high seas communications, it pays to follow a familiar landscape.

AT&T Mobile Satellite Services. Global solutions from the oldest, most trusted name in long distance.

Of all the choices you once had for communicating on the open sea, finding one company with a full portfolio of services to fit your needs was difficult.

But now there's **AT&T Mobile Satellite Services.**

True global mobile services that feature end-to-end, direct-dial ship-to-shore and shore-to-ship **Inmarsat** A, B, and M connections.

Services like **AT&T High Seas Direct***. The global direct-dial high-frequency radiotelephone service that connects to any phone in the US ... for the new low rate of just \$1.29 a minute.

Plus high-capacity **C-band Intelsat Service** and lightweight mobile communications to and from the most remote areas on land.

All delivered with the same simplicity, convenience and economy you've come to expect — and get — from AT&T.

Why not get familiar with all **AT&T Mobile Satellite Services** — including AT&T's Mobile Satellite Discount Plan. Call or visit our site on the world wide web today.

1 800 392 2067 www.attmobsat.com



EXCLUSIVE AGENT

MARITIME REPORTER AND ENGINEERING NEWS

NETHERLANDS



BELGIUM



LUXEMBOURG



laender

MARITIME MEDIA N

Otweg 18
NL - 2771 VX Boskoop
Netherlands
Telephone: +31 (0) 172 230707
Fax: +31 (0) 172 230708
e-mail: maritime@tqdesign.nl
<http://www.wirehub.nl/~tqdesign/maritime.htm>

In this edition

Pictured on the cover: Rapidly advancing technology is helping to vastly change the way ships at sea navigate and communicate. Read up on the latest in marine navigation and communications technology, starting on page 26. **Inset:** The *Sealand Expedition* recently visited NORSHIPCO's Titan drydock for a 25-day repair. This month's Ship Repair & Conversion column starts on page 44.

FEATURES

8 U.S. Coastal Tanker Construction Outlook

International Maritime Associates President Jim McCaul analyzes the market for building tankers for the domestic trade.

24 High-Tech Offshore

The booming offshore market is being fueled by the ability to find and recover resources in deeper waters.

26 NAV/COM UPDATE

Decision Time For Inmarsat: The quickly evolving sat/com market has Inmarsat debating private v. commercial operation.

Charting A Better Course: The raster v. vector chart battle continues.



40 BENELUX: Carving its niche

In a special report in conjunction with the Europort exhibition, International Editor Alan Thorpe analyzes market trends in this European region.

SECTIONS

8 Marine Finance

44 Ship Repair & Conversion

Offshore continues to drive repair business.

56 Now & Notable

Round-up of vessels delivered last month from around the world.

59 Marine Environmental

67 People & Company News

76 Products Showcase

78 Forliskip's Now Contracts

79 Bunker Fuel Monitor

79 Recent Ship Sales

86 Buyer's Guide

90 Classified Advertising

Subscriptions: One full year (12 issues) \$18.00 in U.S.; outside of U.S. \$96.00 including postage and handling. For subscription information, contact: Dale Barnett, fax: (212) 254-6271.

MARITIME REPORTER AND ENGINEERING NEWS

ISSN-0025-3448
USPS-016-750

No. 11

Vol. 59

Founder: John J. O'Malley 1905 - 1980

118 East 25th Street
New York, NY 10010
(212) 477-6700

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means mechanical, photocopying, recording or otherwise without the prior written permission of the publishers.

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

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

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

Publishers are not responsible for the safekeeping or return of editorial material.
© 1996 Maritime Activity Reports, Inc.

Member

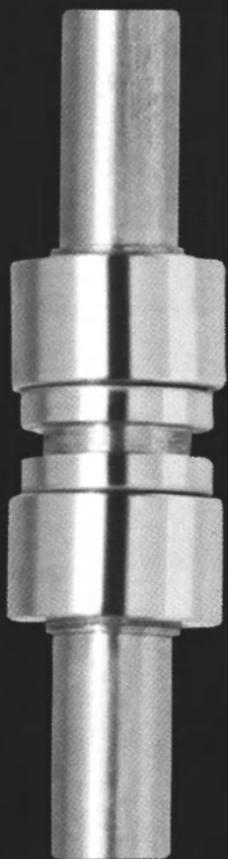


Business Publications
Audit of Circulation, Inc.

LOKRING

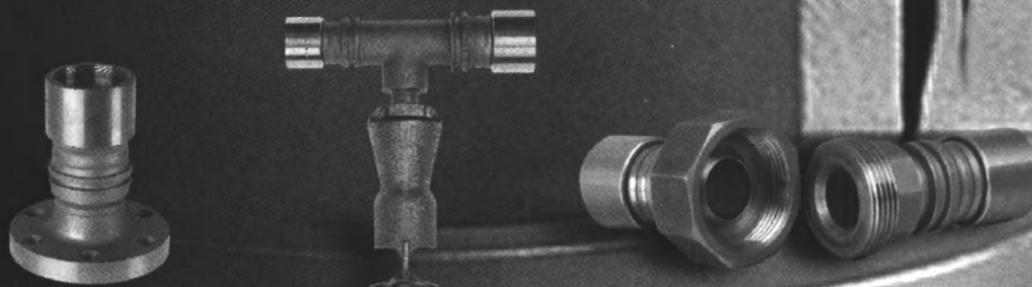
The right way to join pipe

**UNDER BUDGET,
AHEAD OF SCHEDULE,
WITH NO HOT WORK...**



- metal to metal, leak tight, permanent connections in minutes
- NAVSEA and ABS approved, USCG accepted
- ferrous and non-ferrous piping systems
- approved for use in fire hazardous applications per ASTM F 1387
- most fitting configurations available
- over 1 million fittings installed

...business as usual



call 1-888-NO-WELDS for more information on the LOKRING pipe joining system
396 Hatch Dr. Foster City, CA 94404

International Representatives

INTERNATIONAL OPERATIONS

Charles E. Keil, Vice President
980 N. Federal Highway, Ste. 206-01
Boca Raton, FL 33432
Telephone: +561-368-1021; Fax: +561-368-1161
24-hr Tel/Fax: +561-998-0313
Mobile Tel: +561-716-0338

Australia

ANNE MURRAY/YVONNE SANDFORD
World Media Network Pty. Ltd.

Suite 5, Level 1, 89 York St., Sydney, NSW 2000 Australia
Telephone: +61 2 9299 5677; Fax: +61 2 9299 6178

Benelux

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

Central America

EDUARDO F. LOPEZ/LUIS A. SANCLEMENTE

Transmarine Media Service, P.O. Box 2071, Panama 1, Panama
Telephone: +507 264 8404/60; Fax: +507 223 8367

China

WANG ZE/XU XIAO FENG
Liaoning Foreign Trade Advertising Corp.
2 Zhongshan Square, Dalian, China 116002
Telephone: +86 411 2801924; Fax: +86 411 2644606

Eastern Europe

IVAN BERENYI/OLGA IVANOVA

Pannonia Media Agency, 8630 Balatonbaglar
Radnati Miklos u.14, Hungary
Telephone: +36 85 353 319; Fax: +36 85 353 442

Egypt

CAPTAIN TARIQ M. OSMAN
Osman Marine Media Co.
Algamhoria St., P.O. Box 1248, Alkleej Bldg., Port Said, Egypt
Telephone: +20 66 340988; Fax: +20 66 325705

France

DANIEL SOLNICA
Ediconsult Internazionale, 25 Rue Saulnier 75009 Paris, France
Telephone: +33 1 4246 9571; Fax: +33 1 4246 8508

Germany & Switzerland

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

Hong Kong

NEWTON CHENG
Winwell Services Ltd., Room 808, Yu Sung Boon Bldg.
107-111 Des Vaux Road, Central Hong Kong
Telephone: +852 2815 0266; Fax: +852 2544 6662

Italy/Malta

VITTORIO NEGRONE
Ediconsult Internazionale
Piazza Fontane Marose, 3-16123 Genoa, Italy
Telephone: +39 10 583684; Fax: +39 10 566578

Japan

AKIO ISHII
Ace Media Service Inc.
12-6, 4-chome, Nishiike
Adachi-ku, Tokyo 121, Japan
Telephone: +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
Telephone: +351 1 3142256; Fax: +351 1 3525157

Scandinavia

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

Singapore

CATHERINE WONG
The Euro-Asia Link, 391 A Orchard Road #12-01
Ngee Ann City Tower A, Singapore 238873
Telephone: +65 337 4658; Fax: +65 456 4610

South Africa

FINN KVAMSDAHL
Finn's Enterprises, Media Marketing Division
P.O. Box 99, 2250 Blinkpon, Republic of South Africa
Telephone/Fax: +27 13 2963 023

South America/Caribbean Basin

DELIO R. ALONSO
Multilink International
115 Calabria Ave., Ste. 12
Coral Gables, Fla. 33134
Telephone: +305-445-6423; Fax: +305-445-1483

Spain

JESUS MORAN
Via Exclusivas S.L., Modesto Lafuente, 4 28010, Madrid, Spain
Telephone: +341 448 7622; Fax: +341 446 0198

Turkey

NIHAT BOYTUZUN/ROWENA BAILEY
Kamera Corp., Cumhuriyet Cad. 257/3, Harbiye 80230
Istanbul, Turkey
Telephone: +90 212 231 14 20; Fax: +90 212 230 36 97

United Kingdom

MICHAEL J. DAMSELL
Euromedia Ltd., P.O. Box 122, Hayward's Heath
West Sussex RH16 1YF, England
Telephone: +44 1444 417360/Fax: +44 1 896 784089

Sub-Zero B-R-R-R-R! Extreme conditions call for extreme clothing. No matter how cold or wet it might get, you still have a job to do. That's **Tough.** exactly why Carhartt Extremes was created. From active

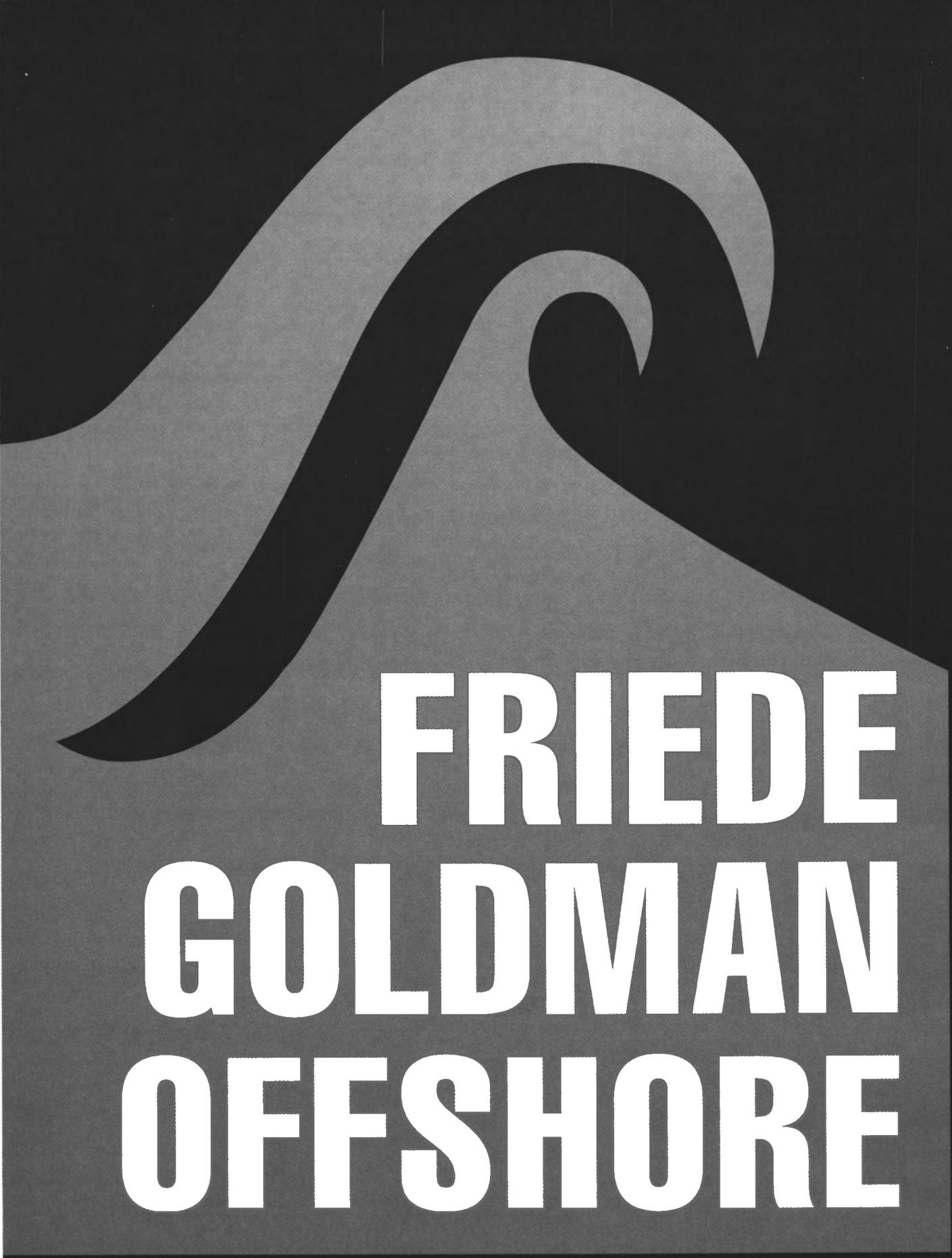
jacs, coats and jackets to bibs, coveralls and hoods, Carhartt Extremes sets the industry standard for durability in cold and wet environments. Its outer shell of 1,000 denier high-tenacity Cordura® Plus nylon by Dupont combined with Carhartt Arctic heavyweight polyester batting insulation delivers superior warmth, toughness and protection from the elements. You need Carhartt Extremes... when it's too cold and wet for anything else. For your nearest Carhartt Extremes retailer call 1-800-358-3825.



www.Carhartt.com

Carhartt
EXTREMES

NEW RIG CAPACITY

A large, stylized graphic of a wave, rendered in shades of gray and black, dominates the upper half of the advertisement. The wave curves from the left side towards the center, creating a sense of movement and depth.

FRIEDE GOLDMAN OFFSHORE

A new purpose-built shipyard on the Gulf of Mexico is hard to believe, but you won't have to wait anymore. Imagine your new build in the world's most modern offshore fabrication facility, the new Friede Goldman Offshore yard, opening in Spring 1998.

IT'S COMING. The 90-acre Friede Goldman Offshore facility will include a 95,000 square-foot fabrication shop with the latest state-of-the-art manufacturing equipment, 600-ton mobile crane lift capacity and access to a 30,000 ton lift capacity dry dock.

BELIEVE IT. There's no maneuvering down an obstructed channel. Located directly on the Gulf of Mexico off Pascagoula, Mississippi, the easily accessible yard will offer a 302,500 square-foot sub-assembly and launch area for new builds and 2,000 feet of deepwater outfitting bulkhead.

DEPEND ON IT. The 1,000 skilled Friede Goldman Offshore workers and experienced project managers will work as a team to produce your new build safely—on time and on budget using premier forming equipment.

It's not just your imagination any longer. To learn more about the world's most modern offshore manufacturing facility call Friede Goldman Offshore—and put the new build you've been waiting for on the fast-track to reality.

FRIEDE GOLDMAN OFFSHORE, A Friede Goldman International Co. 3400 Litton Road Pascagoula, Mississippi 39567
Phone: 601.696.0000 Fax: 601.769.6222

Circle 244 on Reader Service Card

EDITOR'S NOTE

This month's product feature — Navigation & Communications Technology (starting on page 26) — focuses on the amazing advances which satellite communications, electronic charting, and a host of additional marine electronics technological breakthroughs have meant to the efficient and safe operations of ships at sea. There is little doubt that navigation and communications advances have appreciably improved the process of sailing from point A to point B. Even the notoriously conservative maritime market has, slowly but surely, embraced these new technologies. But, as has been proven again and again, inside and outside of the maritime market, high technology alone is not a guarantee of success.

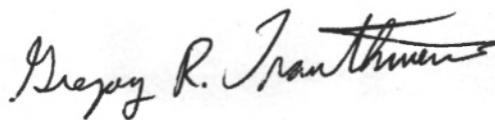
William O'Neil, head of the IMO, has continually stressed throughout his tenure (increasing in frequency and volume, of late) that focusing on the human factor is just as crucial as focusing on technological advances, in terms of shipboard safety.

This point was hammered home most recently when two ships collided in the Singapore Strait, resulting in one of the area's worst pollution incidents. According to Singapore police, *Evoikos* and *Orapin Global* collided despite warnings from the port's high-tech radar-based Operations Control Center and its Vessel Traffic Information System (VTIS) up to 13 minutes before the accident.

"The Human Element" was addressed last month by ABS, which issued detailed guidelines for the application of ergonomics to marine systems. "We believe that the Human Element must be considered as an integral part of an overall safety culture," said ABS chairman Frank Iarossi.

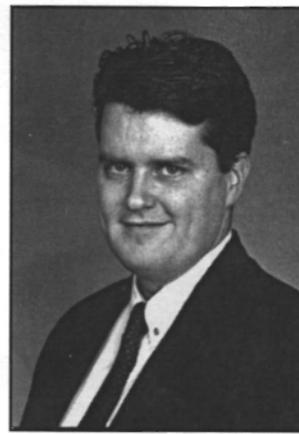
U.S. Coastal Tankers Outlook

Kicking-off this month's Marine Finance section is a report from James R. McCaul, president of International Maritime Associates, which analyzes the outlook for the construction of U.S. Coastal tankers. In discussing the "traditionally profitable market niche for U.S. shipbuilders" in his report, Mr. McCaul estimates that the trade in the year 2007 will require five to 10 more tankers than are currently on the orderbooks.



Gregory R. Trauthwein, editorial director

Please contact me with any comments regarding the publication and/or news leads at:
tel: +212-477-6700; fax: +212-254-6271; or e-mail: trauthwein@marinelink.com



MARITIME REPORTER

& ENGINEERING NEWS

Editorial & Executive Offices
118 E. 25th St., NY, NY 10010
Tel: (212) 477-6700; Fax: (212) 254-6271;
e-mail: mren@marinelink.com

PUBLISHERS

Charles P. O'Malley
John E. O'Malley
John C. O'Malley

Vice President

Gregory R. Trauthwein

EDITORIAL

Editorial Director

Gregory R. Trauthwein

Senior Editor

Nina D. Miller

Associate Editor

Suzanne I. Staszak-Silva

Production Editor

Anthony Besada

Technical Editor

David Tinsley

International Editor

Alan Thorpe

Editorial Consultant

James R. McCaul, president,
International Maritime Associates

MARKETING

Marketing Assistant

Jennifer Bobbe

PRODUCTION

Production Manager

Adam Hellman

Asst. Production Manager

Christopher Eaton

CIRCULATION

Circulation Manager

Dale L. Barnett

ADVERTISING SALES

Regional Sales Manager

Lucia Annunziata

Regional Sales Manager

Christopher Goldsholl

Regional Sales Manager

Jean M. Vertucci

Classified Sales Representative

Carrie Rivera

U.S. GULF COAST

James N. McClintock

Simpson Corporate Park, Indigo House, Suite A, 206 South

Tyler Street, Covington, La. 70433

Telephone: (504) 893-5099; Fax: (504) 893-5024

Advertising Sales Information

Telephone: +212-477-6700

Maritime Reporter/Engineering News

Maritime Week

the new weekly paper from the publishers of *Maritime Reporter*, provides crucial, timely, financial-related information for anyone conducting business in the maritime industry. For a FREE 4-WEEK trial subscription, contact me by telephone, fax or e-mail using the information above.

***This same navigation technology
now available in a compact model.***



Advanced Marine Technology
is an established OEM provider
of ECDIS products.

The aircraft carrier U.S.S. Constellation
uses ECDIS navigation technology from
Advanced Marine Technology.

INStar[™]
Integrated Navigation System

**Now you can have advanced electronic charting
in our low-cost INStar system.**



Advanced Marine Technology

Outlook For Construction Of U.S. Coastal Tankers

by James R. McCaul, president International Maritime Associates, Inc.



Building tankers for the domestic trade has traditionally been a profitable market niche for U.S. shipbuilders. The market is limited to U.S. builders and prices have not been driven down by low cost competition.

Construction of tankers for Jones Act trade has remained profitable in an international market where prices have fallen 20 percent over the past several years. The following is a brief forecast of construction requirements in this market niche for the next five to ten years.

Crude Carriers

The major oil producers in Alaska have long claimed that output of the Alaskan fields has been in an irreversible long term period of decline since peaking at 2.0 mbpd in 1988. To some extent this is true, as production in 1996 was 1.42 mbpd — down from 1.49 mbpd in 1995, 1.56 mbpd in 1994, 1.58 in 1993 and 1.71 mbpd in 1992.

Recent analyses have suggested a “renaissance” is underway in Alaska that will stabilize production in the foreseeable future. For example, Arco expects to stabilize its production at 350,000 bpd over the next five years, whereas last year the company forecast its Alaska production would fall below 300,000 bpd in 1999. Reflecting this upbeat outlook, Arco plans to invest \$1.7 billion and BP plans to invest \$3.5 billion in Alaskan fields over the next five years.

A number of factors are driving field production stabilization. Perhaps most important has been traditional underestimating of

field potential by major producers to pressure the State on royalty payments. There have also been significant improvements in reducing costs for field development. According to Arco, lease and support costs in Alaska have been cut from \$2.29/bbl in 1991 to \$1.54/bbl in 1996. Development costs have been cut from an average of \$3 million to \$2 million per well and facility hook-up costs have been cut from \$1.5 million to \$0.6 million per well over this period. In addition, there have been a number of recent discoveries of small to mid-size oil accumulations on the North Slope.

The stabilization of Alaskan crude production has coincided with OPA 90 regulations that are cutting into the number of ships available to transport crude to California and elsewhere. This has produced a need for replacement tankers.

There are currently 34 tankers operating in the Alaskan trade, with total capacity of 4.1 million dwt. Taking into account OPA phase-outs and the addition of two Arco tankers, which are now firm orders at Avondale, 20 tankers with 2.5 million dwt will be available for the trade in 2002. The number will decline to seven tankers with one million dwt in 2007.

In other words, 61 percent of today's capacity will be available in

2002, and 24 percent of today's capacity will be available in 2007. These figures will be 67 and 29 percent respectively if S/R *Mediterranean* is permitted to return to the Alaskan trade.

The question: Will this much lower capacity be adequate to accommodate the transport requirement? While remaining capacity may be adequate for 2002, it will likely be lower than needed in 2007, assuming new fields and improved techniques continue to stem the downturn of production in Alaska well into the next decade. The capacity problem will be particularly severe in the years following 2007, as only S/R *Baytown* and the two Arco ships now on order will remain after 2010.

To meet future requirements, International Maritime Associates envisages Arco exercising its option for three ships at Avondale and BP/Exxon ordering four to six tankers through an intermediary. Assuming these ships are delivered over the next five years, capacity in 2002 would be 83 to 88 percent of the current level and 46 to 51 percent of the current level in 2007.

If these orders occurred and S/R *Mediterranean* reentered the trade, the percentages would be five to six percent higher.

Should environmental restrictions on developing the wildlife

Our best estimate is that the trade in 2007 will require five to 10 more product tankers than currently in service or on order

refuge be removed, there could be further requirements for building new crude carriers five to 10 years out.

Product Tankers

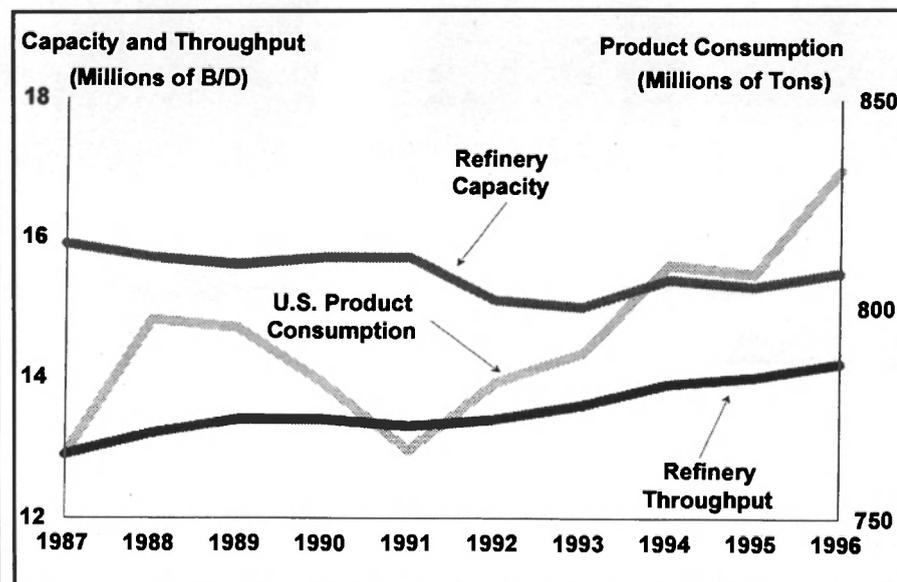
While refinery throughput in the U.S. has been rising, refinery capacity in the U.S. has not grown over the past 10 years. As shown in Figure 1 (below), capacity in 1996 is slightly below that of 10 years ago. In contrast, U.S. product consumption has increased significantly during this period — with increased refinery utilization handling part of the increase.

There is little possibility that U.S. refinery capacity will increase significantly in the future, as environmental restrictions continue to create a serious constraint on adding new capacity. With tightening refinery capacity and growing product consumption, output from U.S. refineries will be increasingly destined for consumption centers in the Midwest via pipeline — with consumption centers in the Northeast and Southeast increasingly satisfied by product imports.

As a result, there is little likelihood that demand for coastal product tanker shipping will increase in the near future. At best, demand for coastal product tanker transport will remain relatively steady over the next five to 10 years. The more likely situation is continued gradual decline in requirements for coastal product tankers.

There are now 48 product tankers in coastal service, with total capacity of 1.9 million dwt. Taking into account OPA phase-outs and counting the five ships on order for Hvide, there will be 43 product tankers in service in 2002 with capacity of 1.8 million dwt. If the five T-5 tankers now on charter

Fig 1: Domestic Refinery Capacity and Throughput V. U.S. Product Consumption



All roads lead to ABB Turbocharger Service.



***ABB Turbocharger Co.'s network of service centers around the U.S.
equal less down time for your vessel, saving you time and money!***

We at ABB recognize that every additional hour your ship stays in port for repairs is money lost. This is why 24-hour service for your ABB turbocharger, often within hours, is now available locally from our facilities in Houston, Los Angeles, Miami, New York and Seattle.

Staffed by ABB factory-trained technicians, our repair facilities offer swift handling of your maintenance concerns by people you know you can trust. With the help of our computer network, ABB technicians can access your

turbocharger's complete history to aid in speedy diagnosis. They can then utilize our locally maintained stocks of genuine ABB parts or go on-line to rapidly locate necessary parts in our worldwide inventory.

You asked for the best in service, and we delivered. But you would expect nothing less. After all, we design and build the industry's most efficient turbochargers. It's only natural that we also offer the finest in repair and maintenance service, worldwide.

We Design It... We Build It... We Service It Best!

ABB Turbocharger Co.

U.S. Headquarters*

1460 Livingston Ave., North Brunswick, NJ 08902

24 Hour Service: (732) 932-6103

Telefax: (732) 932-6378

*ISO 9002 Certified Facilities

ABB Turbocharger U.S. Service Centers:

*Houston (281) 930-8383 Fax: (281) 930-9595

Los Angeles (310) 324-4814 Fax: (310) 324-5102

Miami (954) 450-9544 Fax: (954) 450-8957

*New York (732) 932-6103 Fax: (732) 932-6378

*Seattle (253) 383-1806 Fax: (253) 383-1270

See Us At Fish Expo Booth 1036



MARINE FINANCE

to MSC are redelivered to the owner, the number of ships and total product tanker capacity in coastal service in 2002 will be the same as at present.

Looking 10 years out, the number drops to 29 tankers with capacity of 1.2 million dwt. Assuming the T-5 tankers are employed in the coastal trade, there would be 34 tankers with capacity of 1.4 million dwt. These figures rep-

resent 64 and 72 percent, respectively, of current capacity.

Based on these numbers, there does not seem to be a requirement for additional coastal product tankers through 2002.

Capacity five years from now, without any additional orders being placed, will be equivalent to that of today. However, demand for domestic tanker shipping in 2002 will likely be somewhat lower than today's demand.

There appears to be a requirement for additional ships between 2002 and 2007. Our best estimate is that the trade in 2007 will require five to 10 more product tankers than currently in service or on order. Orders for 5 to 10 ships would bring capacity to 1.4 to 1.6 million dwt in 2007, which would be 75 to 85 percent of current capacity. This would accommodate a decline in demand for shipping of 15 to 25 percent.

Redelivery of the five T-5 tankers could negate the requirement for additional orders. With these five ships in coastal service, orders for five to 10 new tankers would bring capacity of domestic product tankers in 2007 to 85 to 93 percent of current capacity, which seems on the high side given the declining demand for coastal shipping.

Chemical Tankers

There is a relatively small but stable flow of chemicals and specialty liquids in U.S. coastal trade. Currently, 18 tankers are employed in this business, with total capacity of 590,000 dwt.

OPA 90 restrictions will result in about 25 percent of these ships being phased out over the next five years and another 10 percent phased out between 2002 and 2007.

Some of these vessels are expected to be replaced in order to continue to service the chemical/specialty liquids trade. International Maritime Associate's best estimate is that two or three chemical/specialty tankers will be ordered over the next five years to replace ships taken out of service.

Jones Act

All of the above is based on the assumption that "build American" restrictions continue to remain in effect. Eliminating these restrictions could impact the possibility of building replacement tankers for the coastal trade.

Even the threat of the Jones Act restrictions being eliminated could impact the timing and/or flow of orders. At this time, the Jones Act appears to be intact — but there is a strong opposing force trying to get it changed.

A new study by IMA, Shipbuilding Industry Outlook 1998, examines future demand in major shipbuilding market niches, forecasts construction requirements and assesses the competitive posi-

tion of key players.

The study is available for \$1,350. To order, please contact International Maritime Associates, Inc., 700 New Hampshire Ave., NW, Suite 118, Washington, DC 20037 USA (tel: +202-333-8501; fax: +202-333-8504; e-mail imaassoc@msn.com)

GE Capital Services And Sea Containers To Form Joint Venture

Sea Containers Ltd. and GE Capital Services have signed a memorandum of understanding to create GE SeaCo Ltd., a joint venture company which will operate the companies' marine container fleets.

The proposed deal is subject to various conditions, including the conclusion of definitive agreements which are now being drafted and regulatory approval.

The GE capital fleet is currently operated by Genstar Container Corp., a GE Capital company.

GE SeaCo will acquire Sea Containers' container depots and may also acquire certain Sea Containers' subsidiaries engaged exclusively in marine container leasing.

GE SeaCo will establish a wholly-owned U.K.-based service company to be called GE SeaCo Services Ltd. which will provide management services. Bermuda-based GE SeaCo will operate the existing combined marine container fleets, totaling approximately 1.2 million TEUs equivalent units under master lease agreements with the existing fleet owners. All current container leases to customers will remain in force.

Sea Containers' fleet consists in large measure of specialized container types while GE Capital Service's fleet is weighted more towards standard dry cargo and refrigerated containers. The combined fleets had an original cost of \$3.5 billion.

In 1996, the combined rental revenue of the existing Sea Containers and Genstar marine container fleets was \$590 million. Future profits from these fleets after master lease payments will be apportioned approximately 30 percent to Sea Containers and 70 percent to GE Capital.

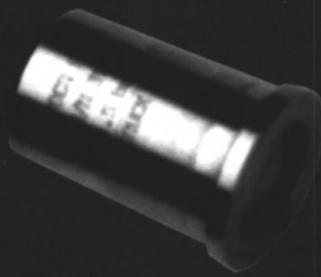
GE SeaCo expects to purchase approximately \$200 million worth of containers in 1998, with profits on the GE SeaCo-owned fleet to be shared equally between the joint venture partners.

A 15-year revolving credit, guaranteed 50 percent by Sea Containers and 50 percent by GE Capital Services, will be put in place to fund such purchases. Securitized financing may also be used in due course to fund container additions. At closing, GE Capital Services will also be investing \$10 million in newly-issued Sea Containers' Class

MTN And R Cruises Sign Agreement

Maritime Telecommunications Network

THE BALLAST SENSOR



actual size

Use One Sensor for all Shipboard Liquid Levels!

This technology has been designed specifically for surviving the rigors of ballast tank continuous monitoring. It weighs less than one ounce, and is constructed from 100-percent pure titanium.

- Accuracy one-quarter of 1-percent.
- ABS, USCG and Lloyds approved.
- FM Class I, Div. I, intrinsically safe.
- Removal without tank entry.
- Can include temperature.
- One sensor for all shipboard liquids: Fuel Oil, Lube Oil, Fresh Water, Black Water, etc.
- Generic 4-20ma output.
- 15,000 Tanks worldwide.
- Big Blue compatible.
- EMS Automated Draft, Trim, and Heel System compatible.

Call today for more information!



ELECTRONIC MARINE SYSTEMS, INC.
800 Ferndale Place
Rahway, NJ 07065

732.382.4344
732.388.5111 fax
emsmarcon@aol.com e-mail

Circle 239 on Reader Service Card

MARINE FINANCE

(MTN) and R Cruises, a subsidiary of Renaissance Cruises, have signed a three year agreement making MTN the telecommunications provider for two of R Cruise's newest ships, *R1*, expected to be launched mid-1998, and *R2*, to be launched in late 1998. MTN will facilitate inbound/outbound calls and switched or dedicated voice/fax and data communication.

For more information on MTN
Circle 63 on Reader Service Card

Titan Awarded \$51.6 Million Navy Contract

The Titan Corp. has been awarded a contract by the U.S. Navy with a potential value of \$51.6 million over a 3.5 year period.

Under the contract, Titan will provide engineering, technical and installation support services to the Department of Defense and other government agencies at various shore activities, training sites, laboratories, ships and remote locations in the U.S. and abroad.

In addition, Titan will provide computer-based training development, evaluation and instructional services in support of interactive courseware and interactive electronic manuals development. The value of the contract for the first 12-month period, effective September 18, is \$14.1 million.

Moroccan Government Awards Contract To Racal

The Moroccan Government has placed a \$3.5 million contract with Racal for an advanced system to manage and track fishing vessels in Moroccan waters.

The system will be used to monitor the activities of some 400 craft working in Morocco's squid fishery, an area extending up to 200 miles from the country's coastline.

The Racal Locator system will also be used to track 15 naval patrol vessels and 14 aircraft operated by the Air Gendarmerie. Upon completion, the vessel reportedly will be one of the most technically sophisticated fishery VMSs (Vessel Monitoring System) in the world.

All vessels and aircraft operating within the scheme will be equipped with a compact Secure Vessel Unit (SVU) designed by Racal and assembled in Morocco.

The SVU contains a combined GPS/Inmarsat-C transponder that automatically and intelligently transmits the vessel's position at designated intervals to the central control via the Inmarsat Atlantic East communications satellite.

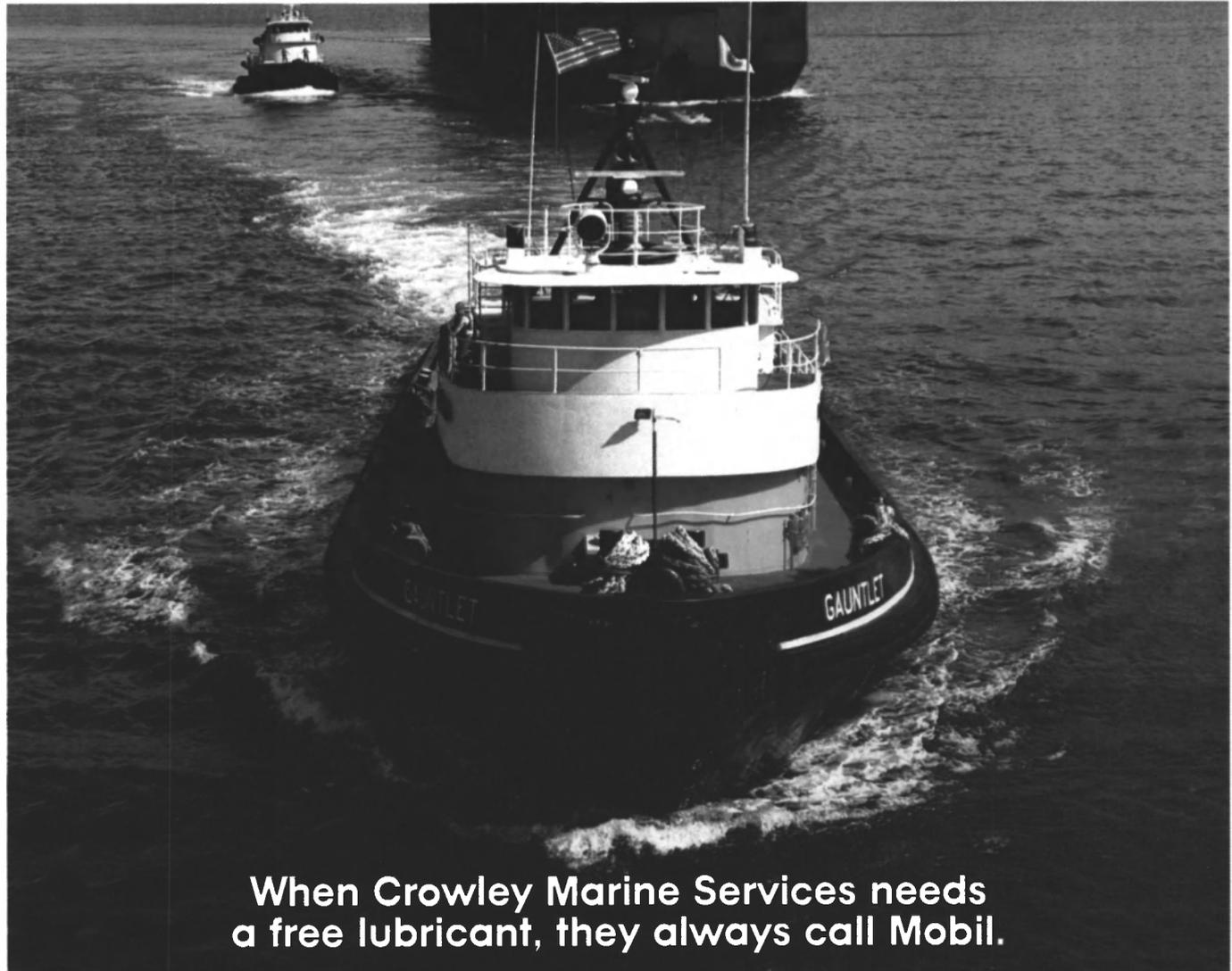
The system will have the ability to integrate the transponder

derived vessel tracks with those obtained from an existing chain of 20 radar stations located at 50 to 60 mile intervals along the coast. The main control center will be located in the Fisheries Ministry in Rabat.

For more information on MTN
Circle 64 on Reader Service Card

Litton Awarded \$85.4 Million For Ongoing U.S. Navy Fleet Support

The U.S. Navy has exercised a FY98 contract option worth \$85.4 million with Ingalls Shipbuilding



When Crowley Marine Services needs a free lubricant, they always call Mobil.

Introducing chlorine-free, zinc-free Mobilgard 450 NC.



Crowley Marine Services' Invader class tugboats operate under very severe load conditions for up to seven days between ports of call. To help ensure the vessels' EMD engines perform at all times, our customer uses new Mobilgard 450 NC. Lew Cascone, Crowley's manager of engineering, says the lubricant is making a noticeable difference in the engines' overall cleanliness. It's no surprise really. You see, we worked closely with

Crowley to field test Mobilgard 450 NC for 8,000 hours. At the end of the test, it was clear to Crowley, EMD and Mobil, that the new chlorine-free, zinc-free oil keeps turbocharged medium-speed diesel engines cleaner and offers better protection than the previous formulation. To learn more, please contact a Mobil Marine Sales engineer in your area, or visit our Web site. The address is <http://www.mobil.com/marineproducts>.

© 1997 Mobil Corporation

Mobil The energy
to make a difference..

Circle 304 on Reader Service Card

MARINE FINANCE

division of Litton Industries for continued life cycle engineering and technical services in support of the Navy's fleet of Ticonderoga (CG 47) Class Aegis cruisers, and Spruance (DD 963) and Kidd (DDG 993) Class destroyers.

These three classes include 62 of the U.S. Navy's most advanced

surface combatant ships.

"Post-delivery life cycle support of the Navy's surface fleet is a major element of Ingalls Shipbuilding's business base," said **Jerry St. Pe'**, senior vice president of Litton Industries and president of Ingalls. "These three classes of cruisers and destroyers

represent a significant portion of the Navy's surface combatants, and this contract is a validation of our company's long-standing reputation for excellence in this area of work."

For more information
on Ingalls

Circle 65 on Reader Service Card

Nu-Tech Takes Order From Davie Industries

Nu-Tech Inc., North American agents for IMG has received an order from Davie Industries for a panel line. This line will be installed this December, as part of the continued modernization of the Davie facility to restore the company to its position as one of the premier shipyards and offshore oil rig builders in North America.

Leif Hoegh To Buy Carriers

Leif Hoegh ASA has entered into a contract with companies in Hong Kong, controlled by the Shougang Group of China, to buy two bulk carriers. Each ship is 210,600-dwt.

They were delivered from Daewoo Heavy Industries Ltd. in October 1996 and May 1997 respectively. The vessels, *SG Prosperity* and *SG Enterprise*, will be chartered out for a period up to 15 years to Shougang Concord International Transport Ltd., Hong Kong. The total price of the vessels is \$100 million.

Delivery of the ships is scheduled for this month.

Veritas Completes Purchase Of Sparrows Point Yard

The Veritas Capital Fund, L.P. has completed its purchase of the BethShip Sparrows Point Yard, which had been owned and operated by Bethlehem Steel Corp. since 1916. Veritas will immediately open the shipyard for business as Baltimore Marine Industries, Inc.

David Watson, BMI president and CEO, said, "While the yard has been out of the market for a while, its workforce and its management team have remained intact and are poised to do what they do best: the expert repair and conversion of ships. We have already been awarded two ship repair orders in October, and we expect many more to follow them."

Canadian Shipbuilding & Engineering Makes \$5 Million Purchase

Encouraged by Port Weller Dry Docks' employees' endorsement of a new five-year labor contract, Canadian Shipbuilding & Engineering Ltd. will proceed with

SEA SWITCH



High-Level Alarm With No Moving Parts!

This technology was designed specifically for shipboard use to last the life of the hull.

- Constructed of teflon and stainless steel.
- Self-test meets requirements for closed tank gauging.
- Intrinsically safe.
- ABS and USCG approved.
- Self-cleaning.
- Can be replaced on-deck with no tools in less than a minute without venting to atmosphere.
- Multiple display options.
- Big Blue compatible.
- Embedded pump control capability.
- Mates to a standard four inch butterfly flange.

Call today
for more
information!

EMS

ELECTRONIC MARINE
SYSTEMS, INC.
800 Ferndale Place
Rahway, NJ 07065

732.382.4344
732.388.5111 fax
emsmarcon@aol.com e-mail

Circle 344 on Reader Service Card

REAL SAVINGS AT THE TOUCH OF A BUTTON

the DK-2 Range

Single and twin channel compact portable systems for full cylinder and fuel pressure analysis

- HIGHEST ACCURACY
- BEST PRESENTATION OF RESULTS
- RUGGED CONSTRUCTION

START TODAY

The Doctor systems provide extensive information on the performance of engines quickly, simply and accurately.

Also available is an INSTALLED system and fully featured ON-LINE system



ICON 55PC, South Queensferry Tel: +44-(0)131 331 7772
RESEARCH West Lothian EH30 9TG, UK Fax: +44-(0)131 331 7436

Circle 258 on Reader Service Card

SMALL FRY.

In a compact footprint of 15", it is almost unbelievable the capacity that Lang's 30lb. and 50lb. Fryers can generate.

- Handles demanding production requirements with ease
- Saves valuable counter and floor space
- High quality durable construction

To learn more about Lang's line of heavy-duty marine galley equipment, call:

lang 1-800-882-6368
6500 Merrill Creek Parkway
Everett, WA 98203



Circle 273 on Reader Service Card

When you have a fleet that can

GO ANYWHERE
IN THE WORLD,

you need
communications
that can too.



Fleet scheduling used to be less hectic than air traffic control. No more • So now COMSAT Mobile Communication – the largest Inmarsat service provider – makes vessel communications simple, reliable and cost-efficient on all seven of the high seas • Send and receive up-to-the-minute data on weather and routing information, harbor and docking requirements, contractual and exchange information, special cargo needs, ship maintenance and more. Use e-mail, telex, fax or voice • DIAL COMSAT FIRST™, and see how mobile satellite communications can help keep your business right on course. Call +1-301-214-3100 or e-mail us at SALES@COMSAT.COM

Circle 226 on Reader Service Card

© 1996 COMSAT Mobile Communications



MARINE FINANCE

the purchase and installation of advanced technological equipment, valued at \$5 million, at its Port Weller division. Major components of the new equipment to be installed over the next six to nine months include a numerically controlled plasma arc steel-cutting machine, robotic-operated steel profile cutting and welding equipment and semi-automated panel fabricating production line.

3.MAJ Exercises Options For Two Vessels

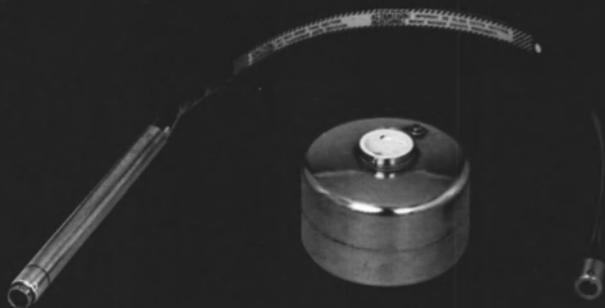
3.MAJ has enforced the contract for two optional vessels — 70,000 dwt product tankers — with Monte Carlo-based company Scorpio Ship Management.

The tankers are scheduled for delivery in

February and December 2000. The existing order book at 3.MAJ now consists of two 22,200 dwt multipurpose vessels for Chinese Polish Joint Stock Shipping Company and four 70,000 dwt product tankers for Scorpio Ship Management.

For more information on 3.MAJ
Circle 66 on Reader Service Card

THE GAUGER



Have One-Tenth of an Inch Level Accuracy for All Liquid Cargos!

This technology requires no in-tank support. The structure has proven reliability on over 10,000 tanks worldwide and has complete milspec self-diagnostics.

- Made of two materials: teflon and stainless steel.
- Can include multiple temperatures.
- Can include tank header pressures.
- USCG and ABS approved for closed tank gauging.
- FM approved Class I, Div. I, Group C & D.
- Big Blue compatible.
- Readout in BBLs/Tons/GAL, etc.
- Sea-made for leak detection.
- Multiple display options.
- Complete load Management Software.
- Embedded Pump Control capability.

Call today
for more
information!

EMS

ELECTRONIC MARINE
SYSTEMS, INC.
800 Ferndale Place
Rahway, NJ 07065

732.382.4344

732.388.5111 fax

emsmarcon@aol.com e-mail

NO.1 IN WORLD WIDE TRADING SECOND- HAND AND NEW MARITIME / OFFSHORE EQUIPMENT

Norwegian Maritime Equipment AS sells, buys and negotiates second-hand, reconditioned and new equipment. Delivered with documentation, certificates
ISO 9002

- Lifeboats
- Mob. work -boats
- Fast Rescue Boats
- Davits - ships and rig davits / single arm / liferaft davits
- Liferafts
- Deck Cranes
- Rig Cranes
- Helicopter Decks
- Winches -diesel / hydr. / electric / air
- Power Packs
- Anchors
- Chains
- Reverse Osmosis Plants
- Sewage Treatment Plants
- Air compressors
- Azimuthing and tunnel thrusters
- Accommodation Modules
- Firefighting systems
- Drilling equipment
- Various Maritime / Offshore Equipment

Upon request we will send you an offer with technical specifications and prices.



NORWEGIAN
MARITIME EQUIPMENT

ADDRESS: BOGSNES INDUSTRIPARK
P.O. BOX 244, 5460 HUSNES, NORWAY
Phone +47 53 47 95 00 Fax +47 53 47 34 99

Circle 283 on Reader Service Card

Lloyd's Register Receives U.S. Authorization

Lloyd's Register (LR) has become the first non-U.S. classification society to be authorized to carry out surveys on behalf of the U.S. Coast Guard (USCG). Under this agreement, LR will carry out plan approval surveys and issue statutory certificates for load-line, safety construction and tonnage for both new and existing ships.

This move follows a change in the Code of Federal Regulations which previously stated until the passage of the 1996 Coast Guard Authorization Act, the USCG could delegate marine safety functions related to vessel plan review and inspection to only the American Bureau of Shipping (ABS) or similar U.S. classification societies. This situation has now been amended to allow delegation of these functions to a classification society based outside the U.S., giving American shipbuilders and owners a choice of classification societies.

An anticipated cost benefit is reduced vessel downtime, as it will no longer be necessary for a U.S. flag ship to undergo separate USCG inspections for certification and classification surveys.

Under the new regulations, the USCG can issue a certificate of inspection based on the reports by a recognized, authorized non-U.S. classification society that a vessel complies with the International Convention for the Safety of Life at Sea, the International Convention for the Prevention of Pollution from Ships, other applicable international conventions, classification society rules and other specific requirements. This new procedure will reportedly reduce the burden on the vessel owners and operators by establishing an alternative to the current USCG inspection system that results in plan review and inspections by the vessel's classification society as well as by the USCG.

The terms of the agreement of the delegation include reciprocity towards ABS in the U.K. — although ABS has been able to carry out work on British flag vessels on behalf of the Marine Safety Agency previously.

For more information on Lloyd's Register
Circle 67 on Reader Service Card

A.P. Moller Selects Thordon for Anchor Handling Tugs

A.P. Moller recently chose Thordon axial and thrust bearings for the stern rollers of anchor handling tugs *Maesk Battler* and *Maesk Provider*.

Maritime Reporter/Engineering News

A Perfect Solution!

INMARSAT



Maritime Capsat®-C

The compact Capsat-⁺ transceivers offer an inexpensive and global communication solution to any fax, telex and data subscriber in the world. The units will meet not only your communication needs but also your safety concerns with a fast transfer of emergency signals, including an updated position via the integrated GPS. The Capsat-C may even be used for your GMDSS, tracking or fleet management requirements.

Capsat® Maritime Telephone



The Capsat Maritime Telephone gives you global connection for telephone, fax, and data calls.

Compact design and easy installation make the Capsat Maritime Telephone convenient for all kinds of vessels.

With the world's smallest antenna you can call from almost all coastal waters, as well as from the high sea on the Northern hemisphere.

The Capsat Maritime Telephone becomes the indispensable communication tool at sea!

Track us down for more information.

Call +45 39 55 88 00.

Or E-mail us on: sales@tt.dk

Whitbread Round the World Race.
The leg heading towards Cape Horn.

Meet us at
EUROPORT '97
Stand Z 202

**'DON'T LEAVE PORT
WITHOUT ONE'**

Thrane & Thrane
STAY IN TOUCH

MARINE FINANCE

According to Thordon, A.P. Moller engineers specified SXLs for this bearing application. Designed to handle loads up to 550 tons, the 13.1-ft. (4-m) diameter stern rollers installed on the 4,300 dwt *Maersk Battler* were equipped with 6.4 ft. (1.9 m) diameter Thordon SXL axial bearings, the largest diameter tubular bearings pro-

duced to date by Thordon Bearings Inc.

For more information on Thordon
Circle 25 on Reader Service Card

Fairbanks Morse Captures LPD-17 Contract

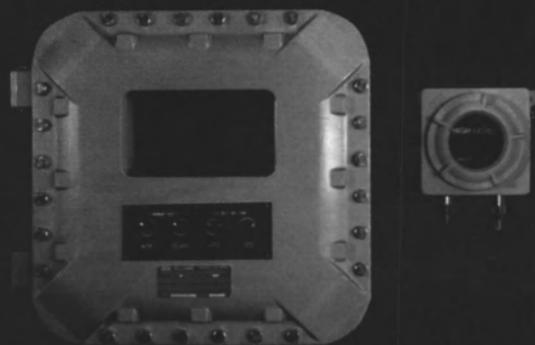
The Fairbanks Morse Engine

Division of Coltec Industries has received an order valued in excess of \$12 million with options valued in excess of \$138 million for engines related to the U.S. Navy's LPD-17 program. The firm order is for four Colt-Pielstick PC2.5 diesel engines, each capable of generating 10,400 hp, that will propel the first ship in the LPD-17 fleet.

The four engines are scheduled for delivery to Avondale Shipyards in 1999. The engines will be built at the Fairbanks Morse facility in Beloit, Wis. The options include propulsion engines for 11 more ships that could be built through the year 2006 as well as two spare engines.

For more information on Fairbanks
Circle 68 on Reader Service Card

BIG BLUE



View Your Entire Loading Operation In One Glance!

The on-deck cargo loading display is designed for use by shipboard personnel on board tank ships and barges to view the complete loading operation in one glance. It is built for the harshest environments of temperature, water, salt, and vibration. It is approved by both ABS and USCG in full compliance for on-deck cargo loading operations.

- Tank ullages in feet, inches or meters.
- Individual tanks rate-of-fill or empty in BBLs/Tons/GAL or metric.
- Individual tanks time-to-full or empty in HR/Minutes.
- Individual tank temperatures.
- Header pressure.
- Individual pump status ON/OFF.
- Two alarm set points for ullage, temperatures and pressures.

Call today
for more
information!

EMS

ELECTRONIC MARINE
SYSTEMS, INC.
800 Ferndale Place
Rahway, NJ 07065

732.382.4344
732.388.5111 fax
emsmarcon@aol.com e-mail

Circle 346 on Reader Service Card



MTN
Maritime Telecommunications
Network—the Leading
Provider of Passenger and
Crew Telecommunications.
On 9 Major Cruise Lines
and More Than 40 Ships.

Leading
Provider of
C-Band Networks
for U.S. Navy
Vessels.



Provider of Both
Voice & the High Data
Rate Required for
Offshore Drilling
Operations.



The Leader in Maritime Communications

*MarineSat*SM
is a Low Cost,
Easy to Use
Satellite Service for
Commercial Ships,
Yachts & Private Vessels



MTN & MarineSatSM

Subsidiaries of

ICG
SATELLITE SERVICES, INC.

800.799.2411 • 305.599.9434

Circle 330 on Reader Service Card

Friede Goldman Signs Memorandum To Acquire Shipyard

Friede Goldman International Inc. (FGII) has signed a Memorandum of Understanding with the government of the Province of Newfoundland to purchase its Marystown Shipyard in St. John's for an undisclosed amount. The transaction is expected to be completed in the fourth quarter 1997.

Marystown Shipyard Ltd., one of the largest fabricators in Newfoundland, operates Marystown Shipyard Facility and Cow Head Fabrication Facility.

The new shipyard gives FGII the capability to build two complete semisubmersible offshore vessels simultaneously as well as North Sea-type supply boats at the Cow Head Fabrication Facility.

FGII, through its subsidiary Friede & Goldman, Ltd., has reportedly designed 30 percent of the world's semisubmersible vessels operating worldwide.

For more information on Friede Goldman
Circle 26 on Reader Service Card

MarAd Spurs American Shipbuilding

Secunda Atlantic Lands \$17.1 Million Loan Guarantee

U.S. Secretary of Transportation **Rodney Slater** has announced the approval by the Maritime Administration (MarAd) of a \$17.1 million loan guarantee to Secunda Atlantic, Inc. to finance the construction of an anchor handling tug supply vessel. Secunda, a subsidiary of Secunda Marine International, is the first Canadian company to participate in the ship financing loan guarantee program. The vessel, which will be registered in Canada, is being constructed by Halter Marine Group, Inc. and will meet the requirements of the Canadian Coast Guard and Det Norske

MARINE FINANCE

Veritas (DNV). The 241-ft. (73.5 m) AH/TS vessel is expected to be delivered in April 1998.

"We applaud Secunda's vision and faith in America's shipbuilding industry. This contract continues to bolster the resurgence of American shipyards, enhance U.S. competitiveness, and provide employment for America's skilled labor force," Secretary Slater said.

Eastern Shipbuilding Group To Build Crewboat/Ferry

MarAd has extended a \$9.6 million federal loan guarantee to Eastern Shipbuilding Group, Inc. to help finance the construction of a high-speed, 250-passenger crewboat/ferry to be built in the Florida shipyard for Trico Marine.

Delivery of the twin hull vessel is expected in December and will operate with an American crew under U.S. registry. Trico Marine will operate the new crewboat/ferry for Petrobras Brasileiro S.A., the Brazilian state oil company, for servicing oil platforms off the coast of Brazil.

Under the Title XI ship financing program administered by MarAd, funds are secured in the private sector with repayment guaranteed by the federal government. MarAd has agreed to guarantee approximately \$9.6 million or 75 percent of the estimated \$12.9 million cost of the vessel. The term of the financing is eight years from delivery of the vessel.

Corn Island, Tidewater Equipment Get MarAd Boost

A \$6.6 million loan guarantee was approved by MarAd to help finance the construction of seven ocean deck barges for operation in the U.S. Gulf of Mexico and U.S. coastal waters. Five of the seven barges will be built at the Corn Island Shipyard while the remaining two will be constructed at Tidewater Equipment Cashman Equipment Company. Tidewater will deliver one barge in January 1998, with the second following one month later. Corn Island will begin delivery of its first barge April 1, 1998, and supply one each month thereafter.

"These new ship orders will create jobs for skilled American workers by government partnering with industry to promote economic development," Secretary Slater said. "This program is a real plus for American shipyards, their workers and their suppliers."

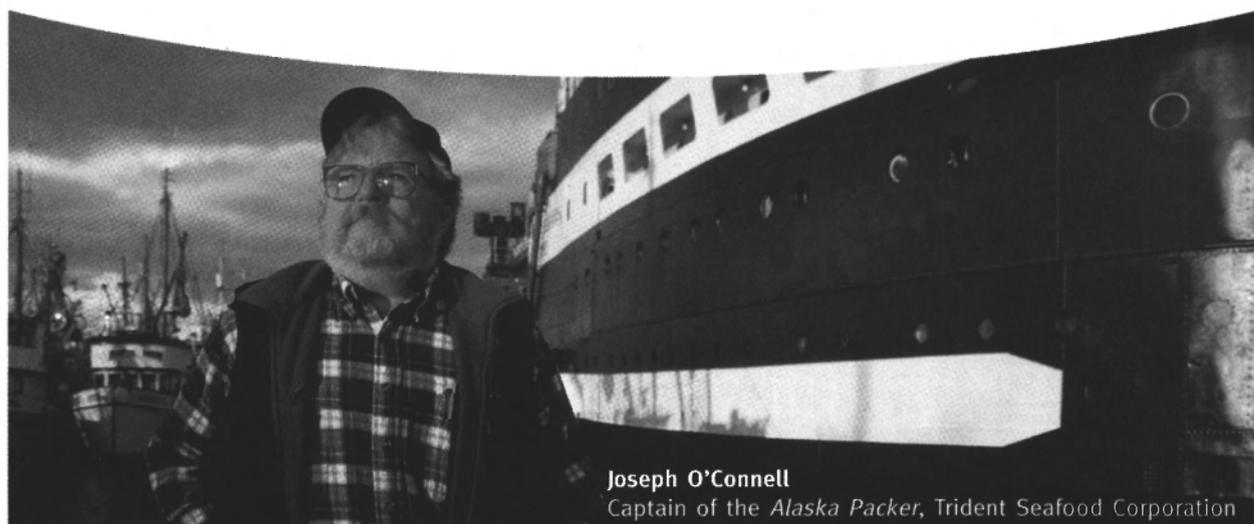
Hellenic Shipyards Wins Conversion Contract

Hellenic Shipyards Co. recently won a contract from the Latsis group of companies to undertake conversion work on motor yacht *Alexander*. The 393.7 ft. (120 m)

vessel will be converted into a high class passenger cruise liner which conforms to all IMO structural and safety requirements. In addition to utilizing its own workforce, Hellenic Shipyards are involving the services of the cruise liner outfitting company Ippokampos SA and other local contractors. The

work, which began in September, is scheduled for completion in February 1998 and will involve structural and outfitting changes to the vessel. Though the value of the contract has not been made public, it is reportedly expected to be in the millions and is subject to heavy penalties for late delivery.

A M E R I C A N M O B I L E S A T E L L I T E



Joseph O'Connell
Captain of the *Alaska Packer*, Trident Seafood Corporation

When Captain O'Connell speaks, Trident Seafood saves money.

The best value in maritime communications.

There's no end to the ways you can spend money on your fleet. Which is why it's nice to know that with Skycell® service from American Mobile Satellite, you can get satellite telephone voice and data communications throughout North American waters and the Caribbean—for a lot less than you'd think.

American Mobile Satellite's service costs as little as \$1.19 a minute, with equipment that starts at just \$5,495.

So Skycell service makes good sense on price alone. But you get even more value from its exceptional collection of features and full range of calling options—like conference calling and voice mail.

Seamless coverage. Coast to coast and beyond.

With American Mobile Satellite, you can stay in touch wherever you go. The seamless coverage area includes virtually all of North and Central America and surrounding waters—from Alaska all the way to the Panama Canal and throughout the Caribbean.

Easy to use, reliable and completely confidential.

Skycell service is easy to use, too—no matter where you use it. You dial direct. Your callers dial direct. No special codes or access numbers. No hassles.

Thanks to our digital technology, you can count on exceptional quality and complete privacy for all your communications—including data transmissions. What's more, both the phone and antenna are fully marinated and stabilized to take the pounding that comes from life at sea.

Start saving now. Pick up the phone.

The bottom line is whether you have a single boat or a fleet, American Mobile Satellite can probably help you lower your communication costs. For more information, call 1-800-872-6222. Or visit our Web site at www.skycell.com.



The Tracphone™ has a 19-inch actively stabilized antenna that can be mounted easily and unobtrusively on any fishing vessel—including yours.

 **American Mobile**
S A T E L L I T E

8 0 0 - 8 7 2 - 6 2 2 2 Ext. 5 2 2 4

© 1997 American Mobile Satellite

Circle 208 on Reader Service Card

Meeting Maximum Requirements At Minimum Cost!



FR2100 Series IMO-Compliant Radar has both full-color and monochromatic displays



FAR2805 Series IMO-Compliant ARPA/Radar has both full-color and monochromatic displays

Furuno IMO-Compliant Radars.

Furuno offers today's most cost-effective IMO-compliant radars. From unique features to simplified operation, and unparalleled reliability, the choice is Furuno!

Maximum Features.

Furuno has both 28" (FAR2805 Series) and 20" (FR2100 Series) radars that meet 250/340mm IMO requirements – both are available in either "X" or "S" band versions, with optional electronic inter-switching.

Packed with features, both the 28" and 20" versions are available with full ARPA functions, including tracking of up to

40 separate targets (on the FAR2805 Series). Plus, these are the only IMO radars which can integrate radar and chart plotter on one screen in a course-up mode.

Minimum Training.

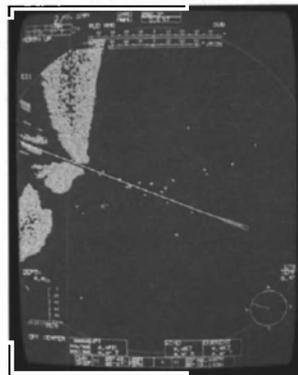
These Furuno IMO radars are among the easiest to learn and operate,

thanks to a combination of simplified controls and on-screen menus. The result is minimum operator training cost.

Maximum Reliability.

These radars are built to Furuno's legendary standards for maritime durability. So you can count on years of trouble-free operation. If maintenance is required, Furuno's international dealer network is your assurance of fast, efficient service virtually anywhere in the world.

Learn more about meeting maximum IMO radar requirements at minimum costs. Call, fax or write us today.



TYPICAL RADAR SCREEN



TYPICAL CHART PLOTTER SCREEN



RADAR/CHART PLOTTER INTEGRATED SCREEN

FURUNO®

Demand The Best!™

FURUNO U.S.A., INC. • P.O. Box 2343, 271 Harbor Way, So. San Francisco, CA 94083, U.S.A.
Tel: (415) 873-9393 • Fax: (415) 872-3403 • Internet Address: www.furunousa.com

FURUNO (UK) LIMITED • Aberdeen, U.K.
Tel: 0224-595351 Fax: 0224-575794

FURUNO DANMARK AS • Hvidovre, Denmark
Tel: (45) 36 77 45 00 Fax: (45) 36 77 45 01

FURUNO FRANCE S.A. • Le Plessis Robinson, France
Tel: (1) 46 29 94 29 Fax: (1) 40 94 08 45

FURUNO NORGE A/S • Alesund, Norway
Tel: 071-25642 Fax: 071-27021

FURUNO ESPAÑA S.A. • Madrid, Spain
Tel: 1-435-95-20 Fax: 1-431-30-82

FURUNO SVERIGE AB • Västra Frölunda, Sweden
Tel: 031-490220 Fax: 031-497093

FURUNO ELECTRIC CO., LTD. • 9-52 Ashihara-cho, Nishinomiya 662, Japan • Tel: 0798-65-2111 • Fax: 0798-65-4200

MARINE FINANCE

Jotun Valspar Acquires International Zinc Coatings Assets

Certain assets of International Zinc Coatings and Chemicals Corp. have recently been acquired by Jotun Valspar Marine Coatings. The acquisition brings to Jotun Valspar's current technologies the WB-14 Weld, Pre-construction Primer and WB-2 and WB-5 Duro-Seal.

In addition, International Zinc Coatings brings innovative technologies and customers who are involved in new construction of ships, barges and workboats to Jotun Valspar.

For more information on Jotun Valspar
Circle 82 on Reader Service Card

HAM Marine Awarded Conversion Contract

HAM Marine Inc. has been awarded a contract to convert a deck barge to a power generating unit for EPIC Energy Amazon Co., a subsidiary of Houston-based El Paso Energy International.

The conversion project will include designing structural foundations, performing engineering design work, implementing a fire protection system and installing the power equipment which will be provided by El Paso Energy.

The barge was expected to arrive at the shipyard Oct. 23, with completion scheduled for December. Upon completion, El Paso Energy has plans to tow the barge to Manaus, the capital of the state of Amazonas, as part of the Manaus Power Project.

For more information on HAM Marine
Circle 83 on Reader Service Card

Paxman Wins Engine Order

GEC Alsthom Paxman Diesels has won a contract to supply four 12VP185 engines for two Tricat, 164 ft. (50 m) catamarans to be built by FBM Aboitiz Marine Inc. for Philippine high speed ferry operator Universal Aboitiz Inc.

The Paxman high speed engines are rated at 2,180 kWb at 1,835 rpm. The first set of engines will be delivered in December. These new vessels, to be built in Cebu, Philippines, will replace the existing fleet which will be re-assigned to other routes as the new vessels

arrive.

The Tricats will have a cruising speed of 40 knots carrying a maximum of 404 passengers and will reportedly be the largest passenger-carrying catamarans operating in Asia.

For more information on Paxman Diesels
Circle 72 on Reader Service Card

Tirrenia Lines Selects GE Gas Turbines

GE Marine & Industrial Engines (M&I) announced that FiatAvio has ordered four LM2500 gas turbines for the company's third and fourth MDV 3000 fast ferries,

being built by Fincantieri for Tirrenia Lines. FiatAvio will place the LM2500s into propulsion packages.

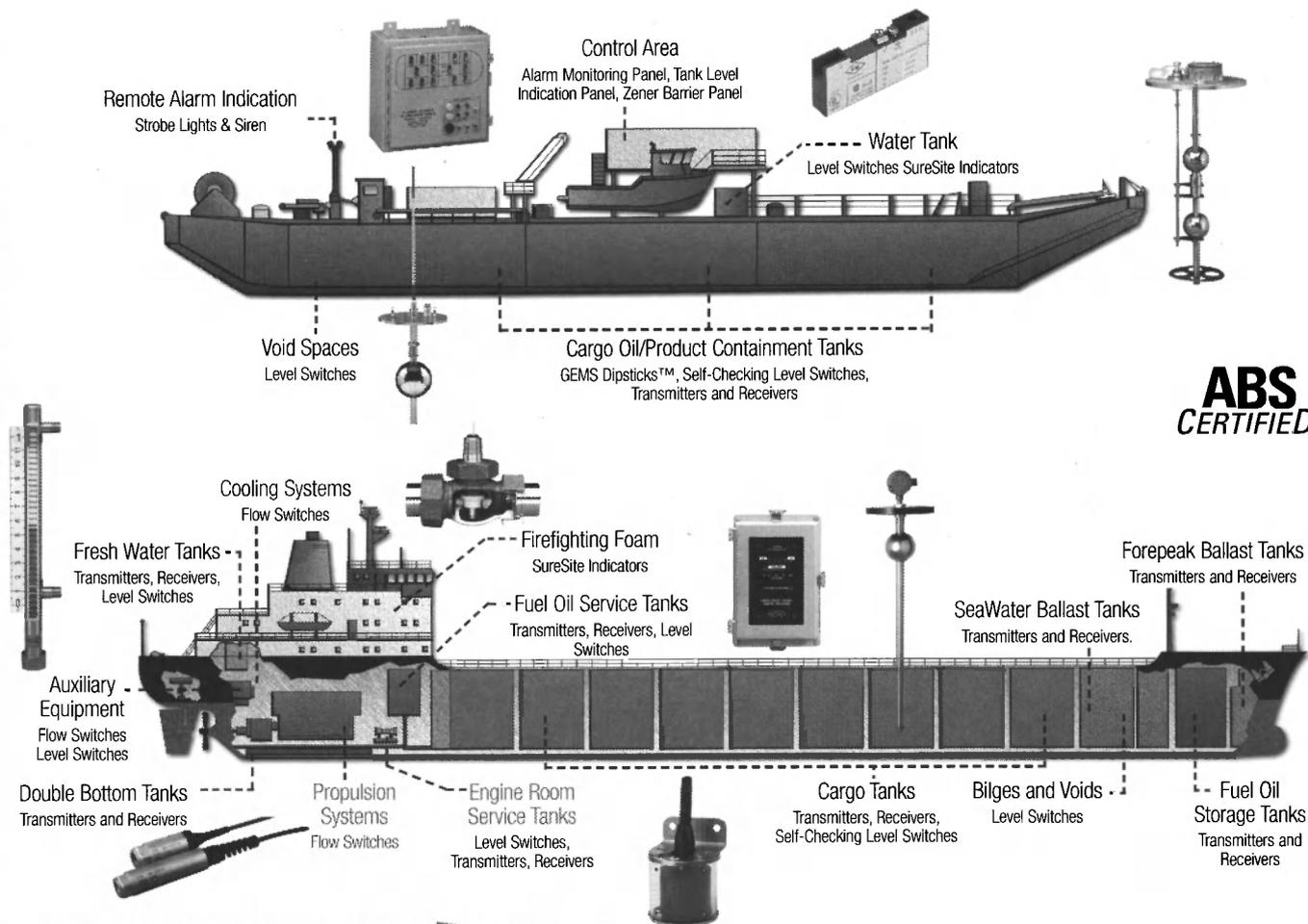
Similar to the first two MDV 3000s, the third and fourth fast ferries will feature a CODAG configuration each with four MTU diesel engines and two LM2500

Stern to bow, Gems Sensors has all your shipboard liquid level, flow and pressure sensing needs covered. Our MarineGrade™ sensing components are precisely engineered for a wide variety of specialized needs throughout ships and off shore rigs. MarineGrade™ Sensors are ideal for both new and retrofit applications.

THE EASY CHOICE FOR FLUID SENSING

SENSORS FOR MOST ANY APPLICATION

- Lube Oil Tanks
- Fuel Oil Tanks
- Hydraulic Systems
- Coolant Tanks
- Ballast Tanks
- Cargo Tanks
- Storage Tanks
- Day Tanks
- Potable Water Tanks
- Fire Fighting Foam
- Gray Water Tanks
- Overfill Alarm Monitoring
- Sump Tanks
- Waste Oil & Oily Waste Holding Tanks
- Expansion Tanks
- Feed Water Systems
- Bilges



**ABS
CERTIFIED**

FREE! MARINEGRADE™ FLUID SENSORS BROCHURE

- Products • Sales Offices • Distributors
- Yes, I want to keep up with the best! Send the latest MarineGrade™ brochure.

Name _____
Company _____
Streets _____
City _____ State _____ Zip _____
Phone: _____ Fax: _____



For Application Assistance Call:
1-800-321-6070

**Gems™
Sensors**

Gems Sensors
One Cowles Road
Plainville, CT
06062-1198

tel 860.747.3000
fax 860.747.4244
www.gemssensors.com

gas turbines.

The first 1,800-passenger, 460-vehicle MDV 3000 fast ferry is scheduled to begin commercial service in the spring of 1998, and the second will commence operation in the summer of 1998. The third and fourth ferries will begin oper-

ating in the spring and summer of 1999, respectively. Each vessel is expected to reach speeds in excess of 40 knots and will provide service on the Italian route to Sardinia Island, Italy.

For more information
Circle 84 on Reader Service Card

Carnival Signs On With RTM STAR Center

Carnival Cruise Lines has signed four contracts with RTM STAR Center, a maritime simulation, training and research facility. The training contracts cover courses to

be developed and taught by STAR Center in Proficiency Training in Fast Rescue Boats, Personal Safety and Social Responsibility, and Global Maritime Distress and Safety System (GMDSS). In addition, STAR Center will conduct a docking maneuvering simulation research study of Carnival *Destiny* and the various Fantasy class ships.

For more information on RTM STAR
Circle 74 on Reader Service Card

GVA Floating Dock designs

Build your own dock with our construction assistance



6,000 TLC



15,000 TLC

Standard features:

- Caisson type
- Dry transverse tunnels in pontoon for passage between wingwalls
- Fabrication friendly in every detail
- Excellent internal access for inspection & maintenance

Options:

- Self docking
- Degree of self support
- Chain or dolphin mooring
- Bottom with rise of floor
- Custom design or standard design

Sizes:

- 5,000 to 80,000 tonnes lifting capacity.



40,000 TLC



80,000 TLC

GVA consultants

GVA Consultants AB.
 Gothenburg, Sweden. Phone +46 31 10 67 60. Fax: +46 31 13 56 92
GVA International Ltd.
 London, UK. Phone: +44 181 995 1331/1333. Fax: +44 181 742 3211

Circle 250 on Reader Service Card

Zodiac To Build Cutter Boats For USCG

Zodiac Hurricane Technologies, Inc. has been awarded a multi-million dollar contract from the U.S. Coast Guard (USCG) for the production of fifteen 18-ft. (5.5-m) boats and eight 22-ft. (6.7-m) boats for Base Year FY97 with similar quantities for the next four option years. The cutter boats will feature advanced rigid-hull inflatable technology and design elements tailored to meet the needs of the USCG. The 18 ft. cutter is a gas-powered, 60 hp outboard boat with a normal operating maximum speed of 28 knots. The H530 was designed for use as a shore-based or shipboard-based law enforcement boat and as a trailerable general purpose RIB. The larger cutter is a diesel-powered 130 hp jet drive boat with a normal operating maximum speed of 28 knots and is intended for use as a fast rescue boat.

MCC Wins ITOS Tracking Contract

Meteor Communications Corp. (MCC) has been awarded a contract by the Puget Sound Marine Exchange to provide equipment and communications network services for the International Tug of Opportunity System (ITOS), a marine safety initiative cooperatively developed by the U.S. and Canadian shipping industry. The purpose of the ITOS is to prevent drift grounding of disabled tankers in the Strait of Juan de Fuca, Puget Sound and the Olympic Marine Sanctuary by identifying the location and status of tugs available to respond to a disabled tanker. ITOS will consist of approximately 100 U.S. and Canadian tugs that normally transit these waters. The tugs will use MCC's FleetTrak Automatic

Universal Telegraphs

STORK-KWANT

Voltastraat 3, P.O. Box 23
 8600 AA Sneek Holland
 Phone: +31 (0)515 413745
 Fax: +31 (0)515 422478

Quality in Command

Circle 309 on Reader Service Card

MARINE FINANCE

Information System (AIS) transponders and communications network to transmit their position, identity and other vessel information. Information from the real time ITOS database will be provided by the Puget Sound Marine Exchange to the U.S. and Canadian Coast Guard Vessel Traffic Centers. The first ITOS tugs were equipped with the MCC AIS in October, and the entire network is expected to be fully operational by the end of the year.

Moran Continues Tug Conversion Program

Moran Towing Corp. has completed its third MORTRAC conversion. The *Drum Point*, like the previously converted tugs *Sewells Point* and *Harriet Moran*, is now equipped with a forward-mounted, fully-retractable, 360-degree azimuthing thruster, in addition to the tug's conventional single screw propulsion system. *Drum Point* now has 3,005 hp and is equipped with a remodeled pilothouse with unobstructed 360 degree visibility and a very low profile. Moran has also dispatched *Drum Point's* sister tug, *Town Point*, to Norfolk Shipbuilding & Drydock Corp.'s Berkley Yard to undergo the same conversion, which is expected to be completed in December.

Construction Of EBDG Project Underway



Construction of one of Elliot Bay Design Group's (EBDG) largest marine engineering projects is underway at Atlantic Marine. The design of what will reportedly be the largest known passenger SWATH (Small Waterplane Area Twin Hull) vessel built in the U.S. is for a 1,200-passenger gaming vessel for International Hospitality America Corp. Completion is scheduled for March 1998. The vessel design features variable displacement, taking on or discharging ballast water to vary the draft, with the goal of optimizing its seakeeping characteristics. The vessel will be certified under USCG rules for large

passenger vessels under 46 CFR Subchapter H and will be classed with the American Bureau of Shipping as a passenger vessel under 298.5 ft. (91 m). It will measure approximately 237 ft. (72.2 m) long with a beam of 95 ft. (29 m) and a depth to the main deck of 46 ft. (13.7 m). In addition to 1,200

passengers, the vessel will carry a crew of 150. Propulsion will be provided by AC/DC silicon-controlled rectifiers (SCR), with four 1,050 kW Detroit Diesel gensets driving two 1,500 hp DC motors plus a bow thruster. The boat is scheduled to make four trips a day from its berth at the Port of Miami

cruise ship terminal.

Machine Works Nabs Coast Guard Contracts

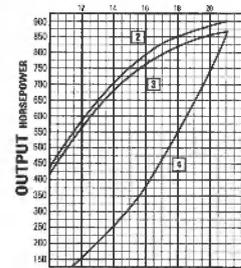
Machine Works at Essex has been awarded two new contracts by the U.S. Coast Guard for its 110

Is your engine brand failing to meet expectations? The alternative is now even more attractive.

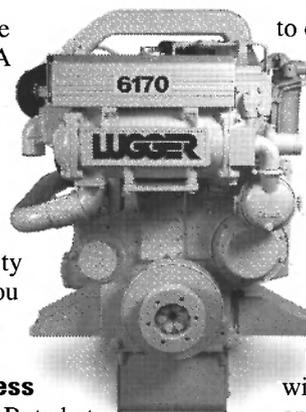
Since its introduction the 23 liter, Luger 6170A has proven itself in the toughest jobs on the water; tugs, draggers and passenger ferries.

Now this big bore, inline six brings you the long life, total dependability and low life-cycle costs you expect from a Luger and up to 900 hp.

More power, low stress



Rated at 700 hp for continuous duty the 6170 gives you 2086 ft lbs of prop twisting torque at 1500 rpm. With a conservative hp



Inline muscle

to cid ratio of 0.5 to 1 it works hard without straining. Even its 900 hp high output rating is only a 29% increase over continuous. This is an engine rated for the long haul in whatever type of boat it is installed.

Cut your fuel costs.

With specific fuel consumption rates going as low as 0.331 lbs/hp/hr, the L6170A will lower your operating costs and extend your vessel's working range. This economy comes from proven mechanically controlled variable fuel injection timing. Fly-by-wire, electronic black boxes are not needed. Luger gives you proven technology and lower operating costs.

Building a new boat or repowering?

Tired of engines that don't live up to your expectations? Then look at what the new version L6170A offers. You will never go back to what you had.

Call free for L6170A brochure.

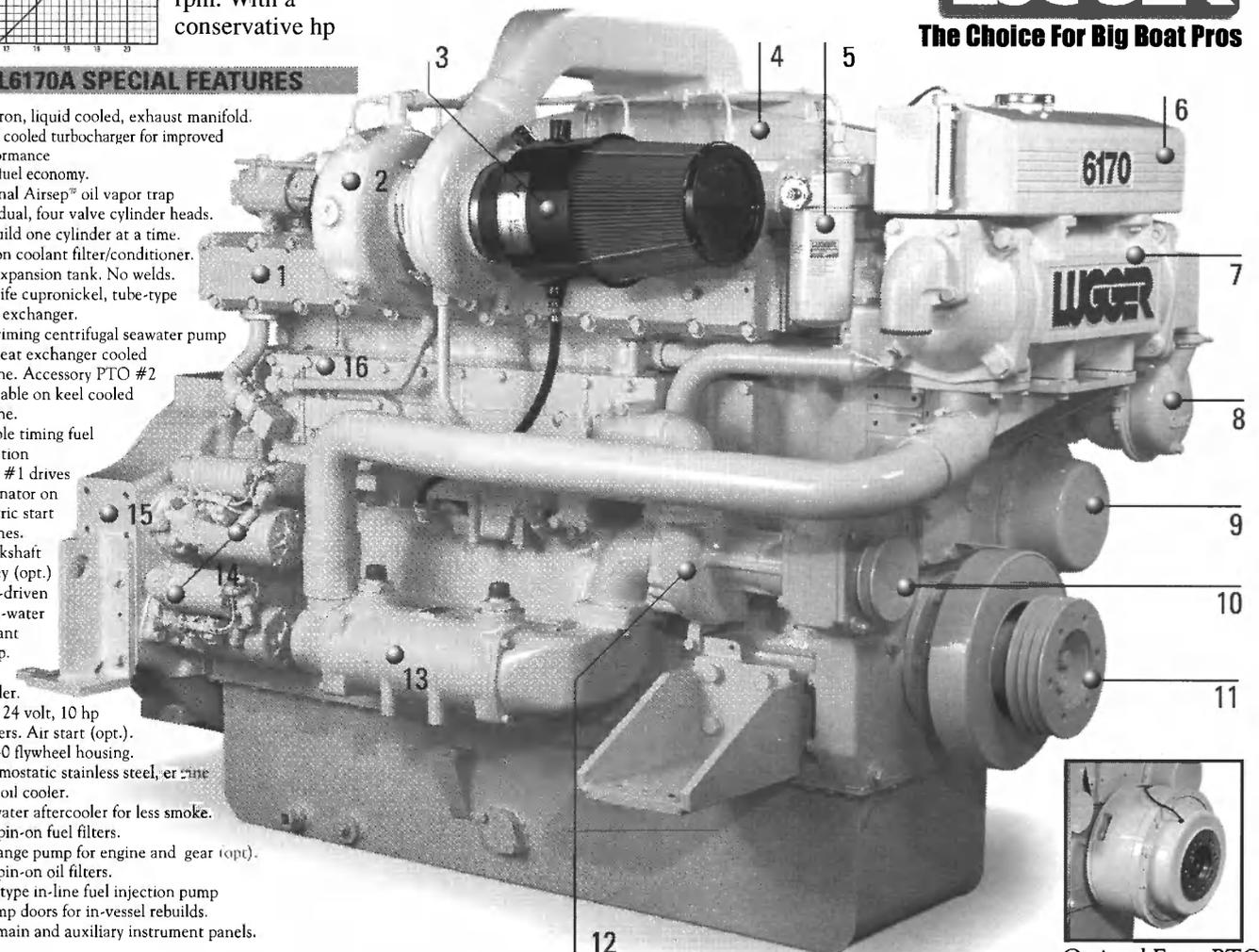
West (Seattle) 1-800-762-0165
Alaska (Anchorage) 1-800-478-3006
Northeast (Mass) 1-800-480-4223
Southeast (Florida) 1-800-843-6140
Fax 206-782-5455
E-Mail ade@northern-lights.com
Web www.northern-lights.com

LUGGER

The Choice For Big Boat Pros

L6170A SPECIAL FEATURES

1. Cast-iron, liquid cooled, exhaust manifold.
 2. Liquid cooled turbocharger for improved performance and fuel economy.
 3. Optional Airsep[®] oil vapor trap
 4. Individual, four valve cylinder heads. Rebuild one cylinder at a time.
 5. Spin-on coolant filter/conditioner.
 6. Cast expansion tank. No welds.
 7. Long life cupronickel, tube-type heat exchanger.
 8. Self priming centrifugal seawater pump for heat exchanger cooled engine. Accessory PTO #2 available on keel cooled engine.
 9. Variable timing fuel injection
 10. PTO #1 drives alternator on electric start engines.
 11. Crankshaft pulley (opt.)
 12. Gear-driven fresh-water coolant pump.
 13. Gear oil cooler.
 14. Dual 24 volt, 10 hp starters. Air start (opt.).
 15. SAE-0 flywheel housing.
 16. Thermostatic stainless steel, er zinc lube oil cooler.
- Freshwater aftercooler for less smoke.
 - Dual spin-on fuel filters.
 - Oil change pump for engine and gear (opt).
 - Dual spin-on oil filters.
 - Bosch-type in-line fuel injection pump
 - Oil sump doors for in-vessel rebuilds.
 - VDO main and auxiliary instrument panels.



Optional Front PTO

*Leaders Are Leaders
For A Reason*



*Industry leaders such as
Dixie Carriers, National
Marine, Hollywood Marine
and Tidewater benefit from:*

- **Reliable, confidential communications**
- **Increased productivity and efficiency**
- **Timely, accurate information**
- **Reduced paper transactions**
- **Hourly position updates**

*Call for more information, and
find out how BOATRACS
can impact your company.*

BOATRACS

**The Leader in Cost-Effective
Maritime Satellite
Communications**

6440 Lusk Boulevard, Suite D201
San Diego, CA 92121-2758

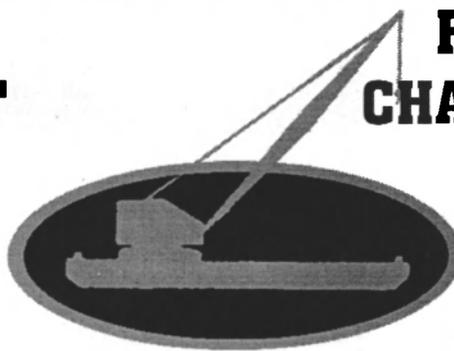
Toll Free: 1-800-336-8722
Fax: (619) 587-1073

Circle 218 on Reader Service Card

STERLING EQUIPMENT

**FOR
RENT**

**FOR
CHARTER**



A DIVISION OF JAY CASHMAN INC.

- DECK BARGES (VARIOUS SIZES)
- CRANE BARGES/DREDGES/DUMP SCOWS
- CRANES (GROVE/P&H/MANITOWIC)
- BUCKETS (VARIOUS TYPES & SIZES)
- VARIOUS HEAVY CONSTRUCTION EQUIP.
- WINCHES/ANCHORS/ANCHOR BALLS/AND
- OTHER MARINE EQUIPMENT!

617-561-4469

**PLEASE CONTACT BOBBY D. FOR MORE
INFORMATION ON ADDITIONAL EQUIP.**

**62 NAY STREET
EAST BOSTON, MA 02128
VISIT OUR WEBSITE ADDRESS @
WWW.STERLINGEQUIPMENT.COM**

Circle 306 on Reader Service Card

ft. (33.5 m) Island Class patrol boats. The contracts are for six propeller shafts each; the first was recently shipped and the second is expected to be completed later this year.

For more information
Circle 73

Philadelphia Gear Wins Avondale Contract

Philadelphia Gear has been selected by Avondale Shipyard to supply the main reduction gears for the LPD-17 class vessels, which are modern diesel-powered amphibious assault ships capable of transiting the Panama Canal. Philadelphia will transport and deploy the combat and support elements of Marine Expeditionary Brigades as a key component of amphibious task forces.

The reduction gears are similar to the LSD-41 class reduction gears previously furnished by Philadelphia Gear and will be used to combine power from two 10,400 hp diesel engines to a controllable pitch propeller. Two reduction gears are required for each ship, and the class size is set at 12 ships.

For more information
Circle 93

Rice Celebrates Production Landmark Propeller



Rice Propellers, manufacturer of propellers and nozzels worldwide, recently celebrated the production of its 20,000 propeller, ordered by Master Boat Builders of Alabama. The historic propeller is a 64 x 57-in., four blade Delphin type.

For more information
Circle 58

Mission Critical Performance at workgroup prices

When you're ready to move your IT applications to Windows NT®, Intergraph is the expert way to go. Our InterServe® line of Windows NT servers unleash the power of Intel's 200 MHz Pentium® Pro processors. Superior engineering and high-availability features will satisfy even your most demanding mission-critical applications. And best of all, the InterServe line of high-performance servers starts at \$3,934.

InterServe is part of Intergraph's total system solution – including storage, site management, and networking. And every solution is backed by our own award-winning service, support, and consulting.

No company understands Windows NT like Intergraph. In 1993, we moved our entire 8,000-seat enterprise from UNIX to Windows NT. Today we're Windows NT from top to bottom. When you're ready to make the move, call the experts at 800-747-2232. Or visit our Web site at www.intergraph.com/federal. Ask about the agencies we've already helped switch to Windows NT. Then check our GSA Schedule (#GS-35F-4155-D), and see why government customers are choosing Intergraph.



Government computing is moving to Windows NT.

We'll take you there.

INTERGRAPH

FEDERAL SYSTEMS

Intergraph and the Intergraph logo are registered trademarks, InterServe and InterSite are trademarks of Intergraph Corporation. The Intel Inside logo and Pentium are registered trademarks and the Pentium Pro processor logo is a trademark of Intel Corporation. Windows NT is a registered trademark of Microsoft Corporation. Other brands and product names are trademarks of their respective owners. Copyright 1997 Intergraph Corporation, Huntsville AL 35894-0001. MC970362

Circle 253 on Reader Service Card



IS 660/650 IS 645/635 IS 625/615

Hot-Swap Disk Drives



InterSite™ Server Monitoring



Hot-Swap Power Supplies



Hot-Swap Fans



PENTIUM PRO
PROCESSOR

Friede Goldman Continues To Expand Capabilities

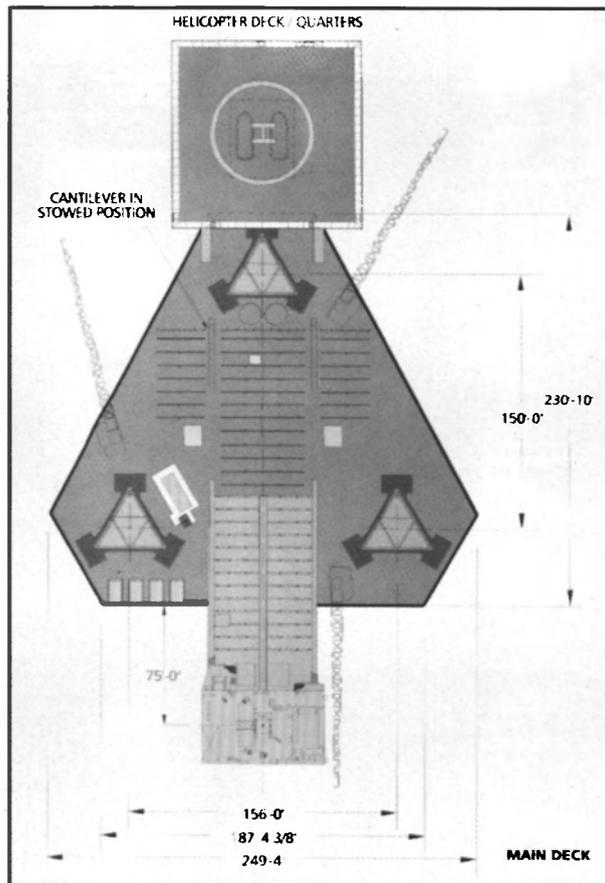
New Orleans-based Friede Goldman International Inc. (FGII) continues to entrench its position as a major beneficiary of the offshore boom, with an enviable expansion of products and services. Its latest move was the signing of a Memorandum of Understanding with the government of the Province of Newfoundland to purchase the Marystown Shipyard in St. Johns. The transaction, expected to close by the end of 1997, will provide FGII with the capability to build two complete semi-submersible offshore vessels simultaneously, as well as North Sea-type boats at the company's Cow Head Fabrication Facility.

The deal also signals an interesting new era of U.S./Canadian cooperations and mergers, with several other Canadian yards posing as potential takeover or partner targets of U.S. yards, which are in need of building space and skilled employees.

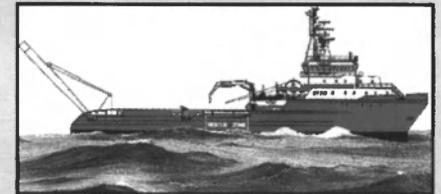
According to a recent equity research report from Bear Stearns, FGII is an excellent investment opportunity based on many factors. Bear Stearns expects FGII to be one of the premier rig builders over the next three to five years, as the offshore drilling cycle moves towards its peak. The booming offshore market, driven by technology which enables companies to more economically find resources in and recover them from

(Continued on page 24-A)

BELOW: FGII Machinery deck. ABOVE, RIGHT: JU-2000 Main Deck



Ulstein AHTS Fills Offshore Deepwater Niche



The UT741 from Ulstein is a multipurpose offshore vessel.

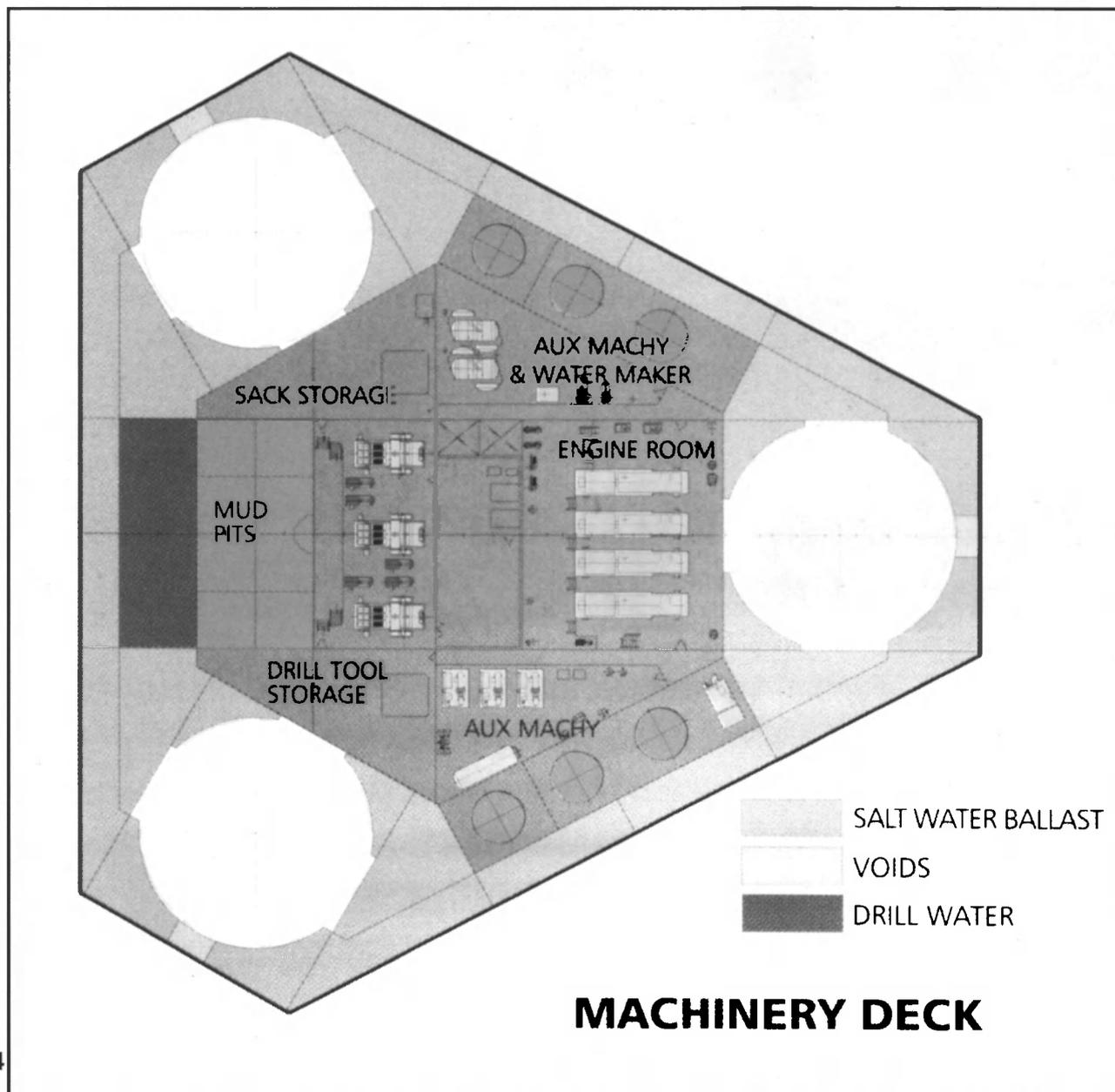
Ulstein's latest UT700 design — the UT741 — is part of the builder's AHTS portfolio and able to work anchors to depths of 8,200 ft. (2,500 m). A UT741 unit was ordered for construction by the Th. Hellesoy Skipsbyggeri AS yard in Hardanger, for Saevik Supply. Delivery of the vessel is scheduled for May 1999, and the contract includes an option for two additional vessels.

The UT741 design is defined by Ulstein as a multi-function anchor handling tug, supply and service vessel, mid-range in size, fitting neatly between the company's UT740 and UT742 models. The UT741 has an overall length of 273.2 ft. (83.3 m) and a beam of 67.3 ft. (20.5 m). It is built around a very large, triple-drum, 500-ton Brattvaag winch, which provides the vessel with outstanding deepwater anchor handling capability. The 67.3 ft. beam affords a roomy working deck area of 880 sq. m., offering a load capacity of 2,000 tons, which is sufficient for most offshore tasks and provides the ability to carry a flexible pipe basket. For trenching operations, a 250-ton A-frame is specified over the stern for handling large ploughs, and 23,800 bhp is installed to provide a substantial bollard pull of 260 tons. The vessel's power package includes a pair of Ulstein Bergen BRM-9 engines rated at 5,400 bhp (4,000 kW) each, supplemented by a swing-up azimuthing thruster driven by another Ulstein Bergen powerplant.

For more information from Ulstein Circle 71 on Reader Service Card

UT741 Particulars

Length, o.a.	273.2 ft. (83.3 m)
Breadth, molded	67.3 ft. (20.5 m)
Depth, to main deck	31.2 ft. (9.5 m)
Design draft	23 ft. (7 m)
Power	17,500 kW (23,800 hp)
Bollard pull	260 tons
Ballast water	2,000 cu. m.
Freshwater	1,100 cu. m.
Drillwater	1,900 cu. m.
Dry bulk cargo	12,000 cu. ft.
Fuel oil	2,000 cu. m.
Liquid mud	540 cu. m.
Oil Rec.	1,050 cu. m.
Cargo deck area	680 cu. m.



JU-2000 Particulars

Length	.....231 ft. (70.4 m)
Breadth, o.a.	.....250 ft. (76.2 m)
Depth of hull (at side)	.....31 ft. (9.4 m)
Total length of legs	.....520.8 ft. (158.7 m)
Depth of spud cans	.....19.5 ft. (5.9 m)
Diameter of spud cans	.....59 ft. (18 m)
Center of forward leg to CL of Aft Legs	.....150 ft. (45.7 m)
Center to center of Aft Legs	.....156 ft. (47.5 m)
Classification	.....ABS or DNV
Accommodations	.....100 in two-person rooms

deepwater fields, has created an unprecedented "up" cycle which has seen day rates soar, while owners/operators scramble to find yards to convert and upgrade older rigs (and build new ones) for the tremendous volume of projects. The result: a strong demand for shipyard space, and an opportunity for yards to enact appropriate pricing initiatives for at least the next two years. To help it cope with the burgeoning demand, FGII is (in addition to the Marystown deal detailed above) constructing a new shipyard, which should be operational by the second quarter of 1998. The yard will focus on newbuild orders for the Gulf of Mexico, the North Sea, West Africa and Southeast Asia. Bear Stearns projects revenue contribution from the facility to be \$33 million in 1998 and \$137 million in 1999.

JU-2000: Technological Advantages

Friede Goldman International was incorporated in February of this year, following the acquisition of the proprietary rig design and engineering services of Friede & Goldman by shareholders of HAM Marine. The company is recognized as one of the world's largest designers of offshore drilling rigs. One of the company's latest offerings is the JU-2000, what it terms its next-generation in the evolu-

tion of jack-up drilling rigs. The JU-2000 features enhanced leg design, cantilevered quarters, extended reach cantilever and modular hull design.

The modular hull design features are designed to maximize efficiency and minimize fabrica-

tion costs. The structure is highly adaptable. The JU-2000 is a self-elevating drilling unit, designed for all-year North Sea harsh environment operation in 330 ft. (122 m) of water. In less harsh environments, the rig is designed to work in up to 400 ft. (122 m) of water

with its standard leg length of 522 ft. (159 m) and normal jacking system of 36 pinions. Greater water depths are possible with the addition of pinions, and hull and leg modifications.

**For more information on FGII
Circle 70 on Reader Service Card**



Inmarsat-B
The Advanced Mobile Earth Station
FELCOM 81A/81B



■ **FELCOM 81A: (Class 1) Telex version** ■ **FELCOM 81B: (Class 2) Non-Telex version**

- High reliable antenna design
- 9.6 kbps high speed fax is standard, drastically reducing communication costs
- Non rewinding antenna with inclinometers which maintain uninterrupted communications during 360 degree course change of ship
- Radionav data through digital interface by IEC 1162
- Automatic antenna positioning and automatic setup of component units
- High speed data (future development)
- Optional credit card reader is available
- Worldwide service network

FURUNO ELECTRIC CO., LTD.
9-52 Ashihara-cho, Nishinomiya City, Japan
Tel: +81 798-65-2111 Fax: +81 798-65 4200

FURUNO U.S.A., INC.
South San Francisco, California, U.S.A.
Tel: +1 415-873-9393 Fax: +1 415-872-3403

FURUNO (UK) LIMITED
Denmead, Hampshire, U.K.
Tel: +44 1705-230303 Fax: +44 1705-230101

FURUNO FRANCE S.A.
Le Plessis Robinson, France
Tel: +33 1 46 29 94 29 Fax: +33 1 40 94 08 45

FURUNO ESPANA S.A.
Madrid, Spain
Tel: +34 1 435 95 20 Fax: +34 1 431 30 82

FURUNO DANMARK AS
Hvidovre, Denmark
Tel: +45 36 77 45 00 Fax: +45 36 77 45 01

FURUNO NORGE A/S
Ålesund, Norway
Tel: +47 70 102950 Fax: +47 70 127021

FURUNO SVERIGE AB
Västra Frolunda, Sweden
Tel: +46 31 7098940 Fax: +46 31 497093

FURUNO SUOMI OY
Helsinki, Finland
Tel: +358 9 317277 Fax: +358 9 3412930



ISO9001 certificate of approval applies to navigational and fishery instruments, and communications equipment.

JU-2000 Operating Capacities

	No. Tanks	Total Amt.
Fuel oil	.....4	.....4,720 bbls
Drill water	.....4	.....10,540 bbls
Potable water	.....2	.....2,180 bbls
Lube oil	.....2	.....45 bbls
Brine	.....1	.....1,000 bbls
Base oil	.....1	.....1,000 bbls
Ballast or Preload	.....20	.....15,800 S. tons
Bulk mud and/or Cement	.....8	.....17,400 cu. ft.
Sack stores	.....1	.....5,000 sacks
Active and Reserve mud pits	.....8	.....3,960 bbls
Slugging pit	.....1	.....85 bbls
Mud processing tanks	.....4	.....390 bbls
Pipe rack area	.....—	.....13,220 sq. ft.

Circle 246 on Reader Service Card

Navy Taps ERC For Fuel Cell Development

Energy Research Corp. (ERC) received a \$1.6 million contract from the Naval Surface Warfare Center - Carderock Division to develop the ERC Direct Fuel Cell

for naval applications.

This contract is part of a larger effort by the Office of Naval Research and the Naval Sea Systems Command to demonstrate

fuel cell power systems for naval applications.

R&D Expanded

The contract covers initial design

and research activities directed at using readily available naval fuels in ERC's carbonate fuel cell to develop a 500 kW system for sea trials at a future date.

"This is an important step in the company's efforts to develop diverse applications for its fuel cell technology," said **Jerry Leitman**, president and CEO. "Direct Fuel Cell powerplants for naval and commercial ships are a potential large market application. The Direct Fuel Cells could be used to supply either shipboard auxiliary power or propulsion power."

The ERC Direct Fuel Cell can use a variety of commonly available fuels with a minimum of fuel processing equipment.

In the Navy program, the ERC intends to focus its approach on using liquid fuels which are currently available aboard ships. One of the processes to be studied is the upgrading of Navy fuel to methane (similar to natural gas). Converting the liquid fuel to methane requires no energy input. The ERC system — using natural gas — has reportedly demonstrated, on a MW scale, that it is highly efficient.

Other advantages — aside from high fuel efficiency — touted by the manufacturer are silent operation and negligible air pollution.

Fuel Cells Explained

Fuel cells produce electricity from a variety of fuels by an electrochemical process akin to that found in batteries, with the exception that a fuel cell will produce energy as long as fuel and air are supplied, which likens it to a conventional engine.

However, in a fuel cell, unlike an engine, the fuel and air do not come in contact with each other so

See Why 40,000 PSI Waterjetting **WINS** More Surface Prep CONTRACTS

At 40,000 psi, Husky™ delivers more pressure than any other, so it



removes coatings faster. A

single Husky pump supports more operators.

And, with our new HydroCat™

option, one Husky

operator can

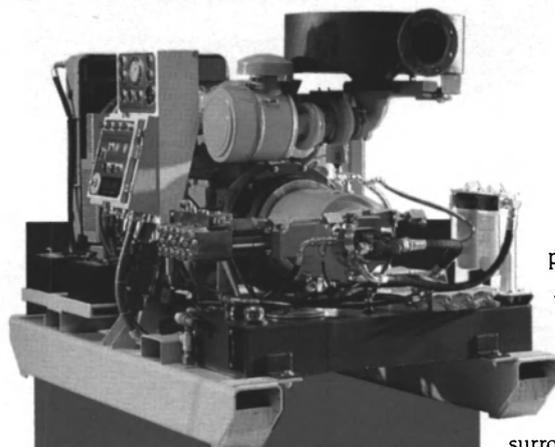
work as fast as

ten blast operators

on vertical and

overhead surfaces.

With a "shipyard tough" Husky you'll produce an in-spec surface, overcome tough environmental



HUSKY 40,000 psi
Waterjet Surface Prep Systems

CALL
800-446-FLOW
for a **HUSKY**
DEMO

problems, and **lower your cost.**

There's **no grit** to purchase,

contain, or dispose; **no dust**

to contaminate the

surrounding

workplace; and

no masking

is required to

protect equipment.

Getting the entire job done faster,

better, and for less—that's what

winning contracts is all about.

That's why **the majority of**

contractors choose Husky for

surface prep with water. Just see

it and you'll

believe it!



FLOW

<http://www.flowcorp.com>

Circle 327 on Reader Service Card



there is no fuel combustion. This results in a quiet, clean and efficient use of fuel.

In most fuel cells, the fuel is first converted into a hydrogen-rich feedstock in external processing equipment. In the ERC Direct Fuel Cell, this equipment is eliminated and a fuel such as natural gas is fed directly to the fuel cell. This leads to a more efficient use of the energy content of the fuel and requires less capital equipment. ERC is hopeful that the navy work will help it to further develop similar systems for the commercial maritime market.

For more information on ERC
Circle 12 on Reader Service Card

Maritime Majors Join Forces

ABB, Kvaerner Masa-Yards and Fincantieri have formed ABB Azipod Oy, a new company which will manage the business activities of the Azipod electric propulsion system.

Under the agreement, ABB Industry will own 55 percent of the new company, and Kvaerner and Fincantieri will each own 22.5 percent.

"The reason for forming a new company with this structure is that the Azipod system is now developed to a stage when the market is rapidly growing and it is essential to strengthen marketing and sales, as well as after-sales service.

"ABB is a major supplier of key electrical machinery to the shipping industry and has an established worldwide service network. The share ownership by Fincantieri and Kvaerner Masa-Yards secures the new company a strong development input from the market," said Kvaerner President and CEO **Martin Saarikangas**.

ABB Azipod Oy will commence its activities in a new manufacturing facility in Helsinki, Finland. **Risto Pakaste**, former head of Kvaerner Masa-Azipod, has been appointed president of the new facility, which will focus on marketing, sales, design and development, unit assembly and testing, installation and after-sales service of Azipods.

Aker Marine Announces New VPs

Phillip A. Abbot has been appointed vice president of Marketing and Business

Development and **Chuck Minton** has been appointed vice president of Anchor Handling Operations at Aker Marine Contractors, Inc.

Mr. **Abbot** has been working in the offshore engineering and construction business for more than 25 years. He started Aker Engineering's Subsea and Marine Pipeline Department and managed

this group for three years.

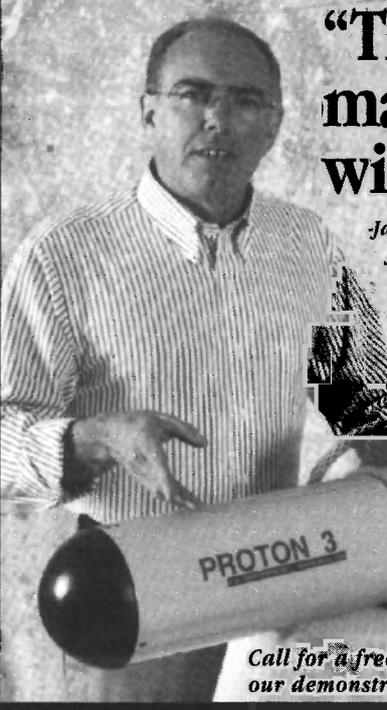
SPR Joins Up With Simplex-Turmar

Standard Piston Ring Co. Ltd. (SPR) has joined Simplex-Turmar Inc. (STI) in a new cooperative agreement.

SPR, which manufactures piston rings and specializes in diesel engines for the marine and power generation industries, has appointed STI agents for the U.S. and Canadian markets to ensure that maximum communication and service levels are attained.

For more information on STI
Circle 86 on Reader Service Card

"The Proton 3 is a state-of-the-art magnetometer that's compatible with the state of your budget."



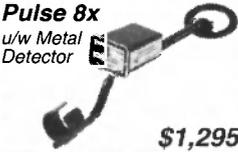
Jack Fisher, President
J.W. Fishers Mfg., Inc.

"At one gamma sensitivity, the maximum practical sensitivity for a towed magnetometer, the Proton 3 gives you the best cost/performance ratio of any magnetometer on the market today. The ultimate detector for iron and steel targets, it features a rugged tow fish, LCD display, 150/300 ft cable, and is capable of a 1500 foot detection range."

Only \$8,495

J.W. Fishers Mfg., Inc.
1953 County St., E. Taunton, MA 02718 USA
(800)822-4744 Tel. (508)822-7330
FAX: (508)880-8949 or 822-1931

Call for a free catalog or to order our demonstration video.



Pulse 8x
u/w Metal Detector
\$1,295



DHC-1
Diver-held Camera
\$3,495



SSS-100K
Side Scan Sonar
\$26,995



Sea Otter ROV
\$18,995



TOV-1 Towed Video
\$4,195

Circle 266 on Reader Service Card



METALLEIDO SRL
VIA TERPI, 26
16141 GENOVA (ITALY)
TEL. 39 10 / 836.02.96
FAX: 39 10 / 836.52.63
TELEX: 286535 MITELA I



Mitlight®
3D Sandwich Panels
JUST ASK US!

FIRE RESTRICTING MATERIAL
IMO MSC 40 (64) - 41 (64) **NO OTHER EXISTING PRODUCT CAN MATCH OUR MITLIGHT®**

✓ LIGHT WEIGHT, ✓ HIGH STRENGTH,
✓ FIRE PROOF, ✓ DECORATIVE

PARTITION WALLS, CEILING, LINING, FURNITURE, DOORS, AIR DUCTS, LUGGAGE COMPARTMENTS, FLOORINGS, ACCORDING TO ANY DESIGNER'S REQUIREMENT.

4.000 m² **Mitlight®** ON FINCANTIERI PEGASUS

Circle 280 on Reader Service Card

Decision Time For Inmarsat

It was almost 20 years ago that Inmarsat, the United Nation's (U.N.) global satellite provider, first came into being under the wing of what is now IMO. It has

during that time developed its global communications network and been instrumental in the implementation of GMDSS. But now an air of uncertainty is per-

vading its roots.

As the launch of the last of the net of third generation of Inmarsat satellites approaches, heralding a new era in low-cost global commu-

nications, the organization finds itself at a cross roads in its development.

Initially a non-profit making organization as part of the U.N., it now has to decide whether to remain in that area or to enter the cut-throat commercial world.

Its options include remaining purely a service provider and leading maritime safety body funded by the U.N., or becoming a commercial enterprise and to achieve its stated aims while seeking to make profits.

There are those among its ranks who believe that next year, the organization will be reconstituted and recreated as a formal company with a national registration supported by its members, of which Hungary is now the 81st and latest. Inmarsat Director-General **Warren Grace** has said that a company structure should be adopted as soon as possible after its meeting in October.

He considered the benefits to be gained operating as a business rather than an international organization would include:

- more flexible financial structure for existing investors and potential shareholders;
- speedier decision-making process through a nominated board of directors; and
- the removal of certain privileges through the inter-governmental process which would normally not be available to competing companies.

Whatever decision is made, Mr. **Grace** said, the organization was totally committed to the provision of distress and safety services, and denied that these tenets would be undermined should a commercial solution be adopted.

Inmarsat's operations are governed by its convention. It is unique in that the organization is the only one under IMO auspices to have the power to develop and supply its own systems. This is one reason why there is such a dilemma facing Inmarsat, as it seeks to be the provider and final arbiter of how systems should operate.

It is this situation of handling commercial issues with safety matters that has reportedly caused friction.

(Continued on page 34)

Drillships, Semisubmersible Rigs and Construction Vessels

a study of construction and conversion requirements to meet demand for new equipment in the offshore sector over the next five years

December 1997 — \$1,200

The offshore sector is booming — and day rates for drillships, semisubmersible rigs, pipelay vessels, diving support vessels and other construction equipment have risen to the point where orders for major conversions and new equipment are now being placed.

These orders involve complex equipment that provide excellent business opportunities for builders, conversion yards, systems suppliers and designers.



International Maritime Associates has just completed an in-depth study of future requirements for offshore drilling and construction vessels. IMA's 200 page report provides an essential reference for companies involved in this fast moving business sector. The study examines

Underlying Market Drivers in the Offshore Sector

- growing oil and gas demand
- lowered costs of exploration and development
- trend toward deepwater and marginal field activity
- royalty relief to encourage deepwater production

Current Industry Situation

- performance characteristics of existing inventory
- profile of equipment on order
- current and expected level of day rates
- competitive position of key players

Forecast of Capital Spending for Equipment

- requirements for new and/or upgraded equipment
- expected timing of orders
- projected available construction and conversion market
- likely competitors for future contracts



How to order the study — Just fax your order to us at 1-202-333-8504, call us at 1-202-333-8501, or mail your order to International Maritime Associates — 700 New Hampshire Ave., NW — Washington, DC 20037 USA.

Circle 25 on Reader Service Card

Hose-McCann Telephone Company Inc.,

Your Maritime Communications SuperStore.,

It is only natural when you think of Hose-McCann Telephone Co., Inc. that high quality, Sound Powered Telephones spring to mind. But we would like you to think again.

To borrow a retail concept, Hose-McCann is now a one-stop SuperStore for all of your marine communication needs. In order to be your complete communication source, we have expanded our manufacturing capability to include: • **Integrated Public Address and / or General Alarm Systems** • **Intercom/Talkback Systems** • **Closed Circuit TV** • **Video Information & Ship's Recreational Entertainment Systems**. When you add this to our already elaborate array of Sound Powered Telephones and Automatic Dial Systems, General Alarm Systems and Military Spec equipment, you can see we and we alone have all your shipboard communication needs covered.

As always, all of our communication systems are designed and manufactured according to the most stringent Hose-McCann quality standards. No product leaves our warehouse without the Hose-McCann name on it. That is your guarantee that it is the toughest, most durable and most reliable product of its kind available today. Our professional team of designers and engineers will have it no other way and neither should you.

Please call us or write for more information on these exciting new product lines. Hose-McCann is now proud to call itself **the ultimate purveyor of marine communication systems in North America**. We think you'll agree and we look forward to hearing from you soon!



**Hose-McCann
Telephone Company Inc.**

We Communicate Better Than The Rest™

**1241 West Newport Center Drive,
Deerfield Beach, Florida 33442
Tel. 954.429.1110 Fax. 954.429.1130
www.hmctelco.com**

Circle 256 on Reader Service Card

Raster V. Vector — the battle continues

The relentless advance of new technology continues to force change in one of the world's oldest and most conservative of activities, the marine industry.

Navigation at sea has been developed over thousands of years. Probably — until recent times — its most important advance was the chronometer making possible the calculation of longitude. But even this momentous event is being overshadowed by the development of electronic navigation concepts. Not least among these is ECDIS — electronic chart display and information systems.

There are currently two types of accepted electronic charting systems. Raster and Vector. Raster charts are more easily produced than those using the vectorized principle, which involves producing data in layers laid progressively on top of each other.

One of the major advocates of raster charts is the U.K. Hydrographic Office (UKHO), whose systems can transpose its paper chart portfolios to raster scan products, capable of being used by approved electronic chart systems under its ARCS service.

This has initially provided the marine industry with an acceptable electronically digitized format, but lacks the versatility of the vectorized chart.

The U.K. Hydrographic Office (UKHO) said that it does not take a position favoring raster or vector charts — providing they are officially authorized — but sees great benefit from combining the two systems for a complete, worldwide coverage.

The compilation of a vectorized chart is a time-consuming and lengthy process and production is being concentrated on high-risk areas such as coasts and harbors, leaving the deep sea and ocean passage routes to be covered by

raster scanned charts for the immediate future.

It has taken a number of years for an international standard to approach ratification under the auspices of IMO working with the International Hydrographic Offices (IHO).

The UKHO has been actively involved in the development of international standards for electronic navigational charting (ENC) and ECDIS, working closely with the Monaco-based IHO.

Towards this end the UKHO has been a member of a working group set up to develop the protocol for electronic charts, Special

(Continued on next page)

View from the cockpit... the control bridge on the Stena HSS. The captain and co-pilot/navigator sit in aircraft-type chairs and have access to all necessary information via three computer screens immediately in front of them.



NAV/COM Notes

PC Maritime Wins Shell Order

Shell International Trading and Shipping Co. has placed an order with PC Maritime Ltd. for the installation of the Navmaster Professional Office throughout its fleet of 47 vessels, as an onboard route management and planning system. Of the 50-system order, 47 Navmasters will be installed onboard Shell's fleet of tankers and gas carriers and the remaining three systems will be used by the company's Fleet Audit superintendents to assist in onboard training.

For more information on PC Maritime
Circle 38 on Reader Service Card

C-Map Releases New Bathymetric Cartridges

C-Map has released two bathymetric cartridges/chartsets for the eastern Gulf of Mexico and the Washington/Oregon coast.

Both systems contain NOS bathymetric chart data taken from paper charts, which display size, shape and distribution of underwater features.

For more information on C-Map
Circle 39 on Reader Service Card

Litton Shows Off New Product Line

Litton Marine Systems is scheduled to unveil a complete line of products and systems for Sperry Marine, Decca Marine and C. Plath at Europort 97. Scheduled presentations include integrated bridge systems, marine information technology (IT), navigation sensors and ship control systems.

For more information
Circle 40 on Reader Service Card

MVS Launches New Satellite Services

Global satellite communications provider MVS USA has launched new services including Inmarsat B High Speed Data (B-HSD) via MVS 0-1-5 Worldwide service. MSV 0-1-0 revolves around two Land Earth Stations (LES), providing coverage in all four ocean regions for Inmarsat M, Mini-M and B, including B-HSD.

For more information on MVS USA
Circle 41 on Reader Service Card

PROTECT YOUR CREW...WITH



"EVAC-U8® has a unique ability to neutralise all hazardous gases commonly found in a fire, and gives extraordinary protection against these gases. . . If everyone were equipped with an EVAC-U8® unit, the number of fire-fatalities would drop to nearly zero."

Captain Jan-Olav Lindkvist
Stockholm Fire Brigade



EVAC-U8™

Emergency Escape Smoke Hood

Used on safety and liability conscious Marine Vessels worldwide, the EVAC-U8® Emergency Escape Smoke Hood can be donned within 15 seconds in the event of an onboard fire. Serious injury or death from smoke inhalation occurs in only a matter of seconds - EVAC-U8® will provide your crew with up to 20 minutes of filtered air.

Protect them - 20 minutes could very well mean the difference between life and death!

BROOKDALE International Systems Inc.

1-8755 Ash St., Vancouver, BC,
CANADA V6P 6T3

Tel: 1-800-459-3822 • 1-604-324-3822

Fax: 1-604-324-3821

E-mail: info@evac-u8.com

www.evac-u8.com



Just another office with a sea-view.

The ships in your fleet are floating offices, profit centres like any other part of your business. Run by managers who have to look after staff, inventory and production. And just like them, you need to know what's going on.

Station 12 has a comprehensive package of maritime communications systems to keep you in control. And the best part is, however many ships you operate, calls they make or services they use - it's all presented to you on one account, making your life easier.

Your crews benefit too. With special rates that make keeping in touch with their loved ones a practical reality. So whether you want remote access to central

computer networks for your ships, the ability to send and receive faxes at sea, or just a phone that will work anywhere on the planet - we can help. With all Inmarsat services in all ocean regions, through the worldwide '12' access code. Satellite-based solutions that guarantee astonishing clarity and reliability.

No fuss, no bother, no unnecessary complication, just global communications that work - every hour of the day, every day of the year. Whatever the view from your window.

Station 12. If you can get there, you can call from there.

Station 12[®]
**The ultimate mobile
connection**



For information call +31 255 545 111
or fax +31 255 545 100 or e-mail to station12@pi.net
or write to Station 12 Customer Services,
PO Box 468, 1970 AL IJmuiden, The Netherlands

Circle 105 on Reader Service Card

(Continued from previous page)

Publication 57, more commonly known as S57, the transfer standard for digital hydrographic data, and also the product specification for ENC. These two documents define the content and format of

official ENC data sets and have therefore been essential to the establishment of an ENC service.

Edition 3.0 of S57 was agreed in February 1996, followed by a period of final study. In November 1996 this international standard was fixed for four years to allow

equipment manufacturers to produce ECDIS equipment, and hydrographic offices to get ENC to a stable environment.

The UKHO has been producing prototype ENC data for several years in S57 Edition 2.0 format, covering selected limited areas, in

support of ECDIS sea trials.

This has been mainly concentrated on the Baltic and North Sea and included the ECDIS Testbed (BANET) project, which involved the use of the high-speed ferry Finnjet on its Baltic Sea route and later onboard the car ferry Hamburg, operating between Harwich, U.K. and Hamburg, Germany.

This latter project was mainly concerned with the updating of ENC data onboard the ship for the equivalent of four paper charts. Some of this updating was achieved while the vessel was at sea using a shore-based bulletin board which the vessel could access via cellular telephone system.

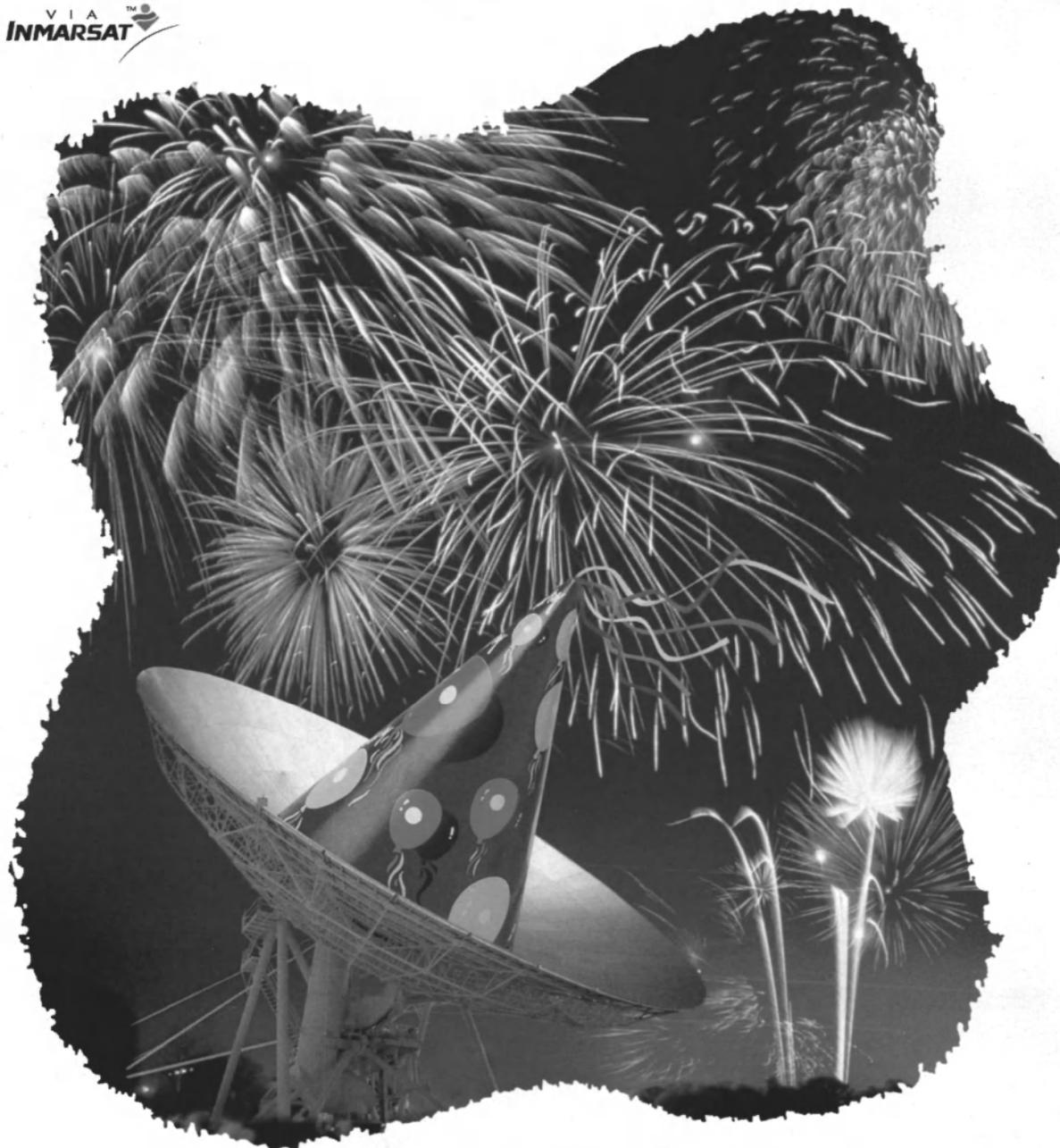
Another trial was conducted onboard the buoy tender Pharos using charts based on Oban harbor in northwest Scotland.

A future trial of ECDIS is planned aboard a ferry operating between Rotterdam in The Netherlands and Hull, U.K. for which the Norwegian Electronic Chart Center (ECC) and the UKHO are providing the data. This trial was originally scheduled for early 1996 with the UKHO providing S57 Edition 2.0 data, but with adoption of Edition 3.0, it has been rescheduled to use the later information. According to the UKHO, updating Edition 2.0 data to the new protocol requires considerable skilled manual intervention and, in some instances, it is better to ignore the earlier edition and start afresh using the Edition 3.0 standard.

The collaboration of the UKHO and ECC is speeding the establishment of a regional ENC database and to jointly market a service as a Regional Electronic Chart Coordinating Center (RENC). This is in accordance with the IHO's World Electronic Navigational Database (WEND) principles. The two organizations are cooperating with other European HOs in building a single, integrated ENC database for the region. The service will provide both ENC chart data with full updating procedures.

As a premium product, said the UKHO, it is expected to be of particular interest to those maintaining the tightest schedules, high value vessels, passenger ships and those carrying hazardous cargoes, which can realize the greatest benefit from improved safety. The

VIA
INMARSAT



On the 15th anniversary of Sentosa's Inmarsat Services, we're giving our customers a couple of reasons to celebrate.

One, our Singapore Sentosa Land Earth Station now offers global coverage with Inmarsat-B, Inmarsat-B High Speed Data, Inmarsat-M and **MPLUS** services. The Access Code is 210 for all four services worldwide. And they will function alongside the existing Inmarsat-A service (which is also available globally), and Inmarsat-C (available in POR/IOR).

Sentosa LES Access Codes				
Ocean Region	POR	IOR	AOR-E	AOR-W
Inmarsat-A	10	13-5	13-5	10
Inmarsat-B/M/ MPLUS	210	210	210	210
Inmarsat-C	210	328	-	-

And, more importantly, two, we have also reduced the rates for all our services by as much as 50% such that they are arguably the lowest in the world.

So take advantage of our improved charge bands, cost savings, competence and commitment more than ever. Call on Sentosa Land Earth Station for your Inmarsat answers today. And join in the celebrations.

For proper Access Procedures to Sentosa Inmarsat-A service in IOR/AOR-E (Access Codes 13-5), please contact Sentosa Customer Service Centre.

Come visit our booth (W337) at Europort '97, Amsterdam, Netherlands from 18th - 22nd November '97.

Singapore Telecom

Service first. Always.

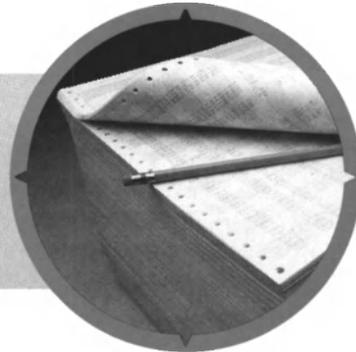
For more information, contact Singapore Telecom, International Mobile Service, 15 Hill St, #02-00 Telephone House, Singapore 179352. Tel: (65) 4816231. Fax: (65) 4818050. Tlx: (87) 34842. Internet: SENTOSA%IMIR%ST@SINGTEL.COM. Website: http://www.singtel.com/sentosaLES



GMDSS
Mackay will guide you through compliance—from specification through installation and inspections.



Inspections & Regulatory Compliance
We'll free your vessel from red tape delays.



Satellite Airtime

We offer competitive rates and consolidated invoices that are simple and verifiable.



Satellite Equipment

Whether it's phone, fax, video or data, we can meet your equipment needs.



Worldwide Installation & Repair

We keep your investment working 24 hours a day, 365 days a year.



Seaworthy communications and electronics from a one-stop source.

For more than 70 years Mackay Marine has been a friendly port for the shipping, fishing and offshore industries. We earned our sea legs by providing you with a complete marine package: *equipment, service and airtime.*

Mackay will help you select the right equipment and tailor the service package and technical assistance program that best meets your needs... and your budget. From safety and communications equipment to engine room monitoring devices,

we can outfit all your needs. Our trained service engineers will maintain your communications, navigation and below-decks equipment with global, 24-hour-a-day service. Need quick access to airtime? We'll link you via INMARSAT and AMSC. We'll even take the confusion out of airtime billing with a consolidated invoice regardless of the earth station used.

For marine equipment, service and airtime, Mackay is the name to know.

Call 1-919-850-3047 for our FREE capabilities brochure.



A Division of Mackay Communications

2721 Discovery Drive, Raleigh, NC 27616

Email: macinfo@mackaycomm.com



Order your free Mackay brochure today.

NAV/COM REVIEW

RENC service will be undertaking a trial service this year.

Additional collaboration between European HOs is demonstrated by the Electronic Chart Hub Organization (ECHO) project which is an approved scheme of the EU's Telematics Program.

This is designed to develop and

demonstrate the supply of validated ENC data and meta-data (associated administrative data) from HOs to a RENC, the integration of the data with the RENC and the distribution of the ENC data to vessels at sea, fitted with the appropriate ECDIS equipment, making use of telecommunications

technology throughout.

The participants in the project are the ECC as the RENC, the U.K. and Finnish hydrographic offices as supplying HOs, the Finnish Maritime Authority as receiving vessels, and the following software houses: Iona, Ireland and Sysdeco Dikas, Norway. Aspo in

Finland is the nominated ECDIS manufacturer while Inmarsat and Telenor are the communications authorities.

Also involved is Sintef of Norway as a research organization. Started in early 1996, the project is expected to last two years.

Work is well underway in production of prototype data and the UKHO, in conjunction with other regional HOs which are supplying source data, has now fully developed its production capability to capture and convert chart data into an ENC database. The production program is generating ENC data for the U.K., in order to provide it to the northern Europe RENC.

The UKHO says there is a clear need for the commercial shipowner to have access to officially approved and updated ENC data, so that ECDIS equipment can be safely used.

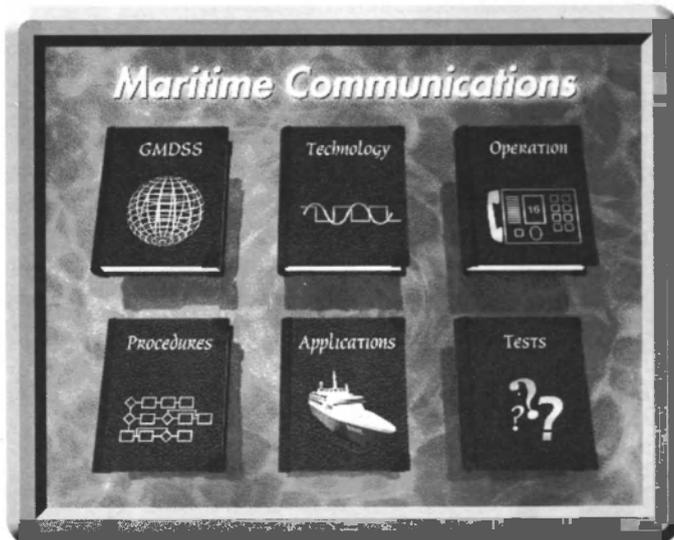
In recognition of this situation, the ECC and UKHO are working at full speed to produce an official ENC with an update service covering some commercial routes which will be attractive to potential customers.

In order to ensure the correct data has been collated, extensive market research has been conducted with consultations carried out with a wide variety of ship operators with both small and large fleets, and of many nationalities, to ascertain what should be included in the ENC service and which areas should be covered.

The IMO adopted the performance standards for ECDIS in November 1995, and by the end of February 1996 agreement had been reached on both the data transfer standard — S57 Edition 3.0 — and the ENC product specification.

The display catalog was finalized in November last year and type approval for ECDIS is expected from the International Electrotechnical Commission (IEC) in 1998.

The ENC database is currently being developed and trials, including a prototype updating service, will be ready by the end of this year, and in 1998 the mariner should have ready access to the safety benefits of ECDIS within some major shipping routes and ports, the information being supplied through the northern Europe RENC.



Safer Communications at Sea

Computer based GMDSS and Maritime English training on CD-ROM

- Individual on-board education and training
- Perfect refresher tool to maintain your skills
- Tests and individual log-book included

Maritime Education

P.O. BOX 3314, S-103 66 Stockholm, Sweden, Phone: +46-8-791 83 60, Fax: +46-8-791 82 88, E-mail: post@maritime.se
Circle 279 on Reader Service Card

Bollinger Fourchon

A quick repair service only three miles from the Gulf of Mexico.



ISO 9001 CERTIFIED



Bollinger Fourchon, Inc. is located in one of the fastest growing and most conveniently located ports on the Gulf Coast.

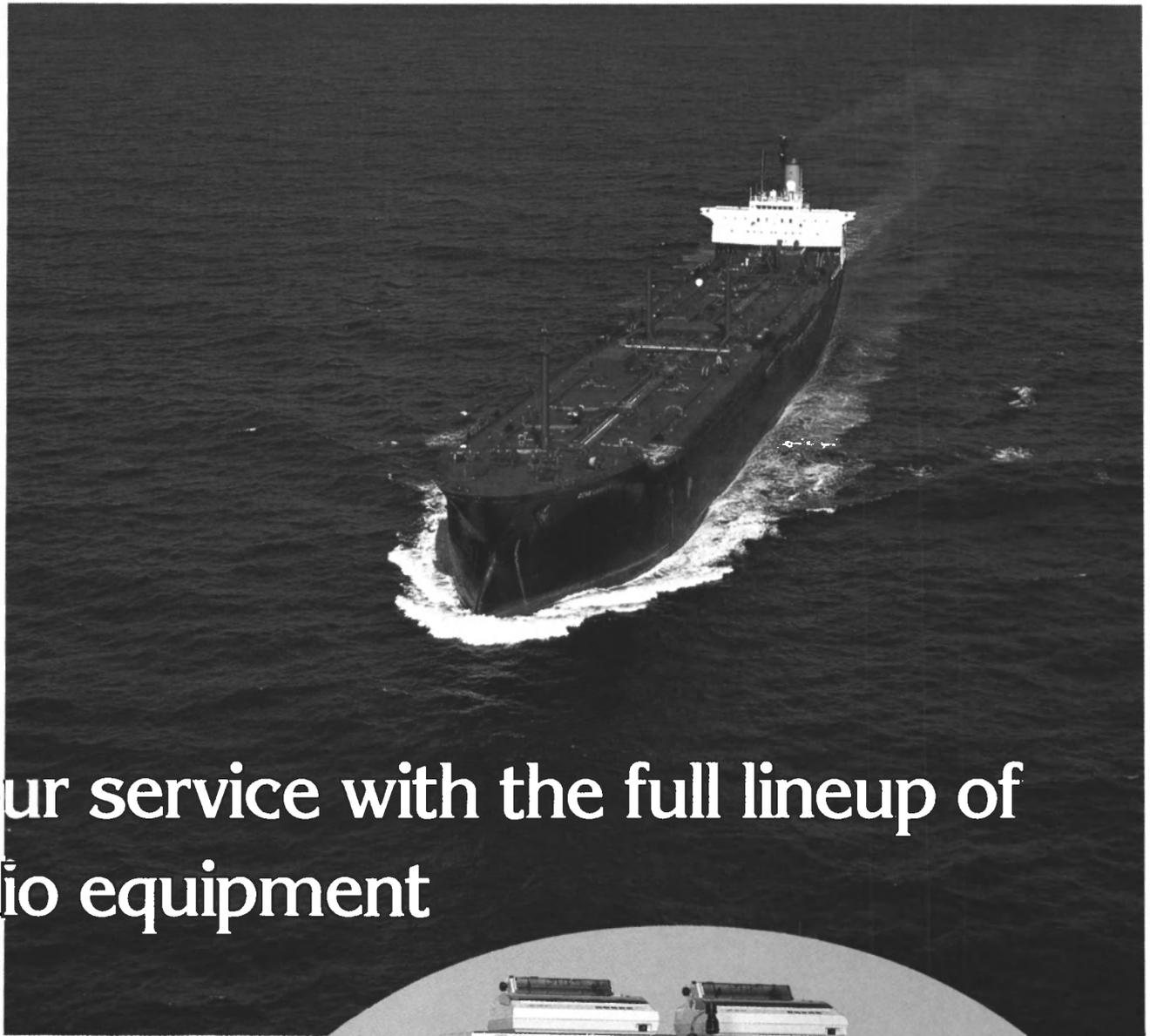
Available to the deepest draft vessels, including mobile drilling rigs, Bollinger Fourchon provides 24 hour service and quick turn around with the same quality service as all Bollinger operations.



103 Norman Doucet Dr., Golden Meadow, LA 70357

Nolty J. Theriot Rd., Fourchon, LA, Phone: 504/396-2366, Fax: 504/396-2427

<http://www.bollingershipyards.com>



JRC is at your service with the full lineup of GMDSS radio equipment

The Global Maritime Distress and Safety System (GMDSS) is being promoted today as a system that will offer unprecedented effectiveness in search and rescue operations at sea. Carriage requirements for the GMDSS are gradually being phased in, and installation will become mandatory after February 1, 1999.

JRC is already supplying the total lineup of radio equipment which the GMDSS requires. This includes VHF, MF, HF and Inmarsat communications equipment.

All JRC GMDSS equipment is type-approved by ZC (China), NTA (Denmark), ZZF (Germany), PTT (Netherlands), NTRA (Norway), ROS (Russia), MARITEX (Sweden), DTI (UK), FCC (USA), IC (Canada) and MPT/MOT (Japan). Contact us now. We're waiting to serve you.



GMDSS Communication Console

JRC *Japan Radio Co., Ltd.*
Since 1915



MAIN OFFICE: Akasaka Twin Tower (Main), 17-22, Akasaka 2-chome, Minato-ku, Tokyo 107, Japan Tel: (3) 3584-8832 Fax: (3) 3584-8878 **JRC (NY) LTD:** 430 Park Avenue 2nd Floor, New York, NY 10022, USA. Tel: (212) 355-1180 Fax: (212) 319-5227 **JRC (SEATTLE):** 1011 SW Klickitat Way, Bldg. B, Suite 100, Seattle, WA 98134, USA. Tel: (206) 654-5644 Fax: (206) 654-7030 **JRC AUTHORIZED HIGH SEAS DEALERS IN NORTH AMERICA:** **ABLE COMMUNICATIONS:** 6214 W. Broadway, Pearland, TX 77581, USA. Tel: (713) 485-8800 Fax: (713) 485-8230 **FRANK L. BEIER RADIO INC.:** 1990 Industrial Blvd. Harvey, LA 70058, USA. Tel: (504) 341-0123 Fax: (504) 348-2007 **HIGH SEAS TECHNOLOGY INC.:** 2965 W. State Rd. 84, Marina Mile Ft. Lauderdale, FL 33312, USA. Tel: (954) 584-6000 Fax: (954) 587-3007 **MACKAY COMMUNICATION:** 2721 Discovery Drive, Raleigh, NC 27606, USA. Tel: (919) 850-3000 Fax: (919) 954-6000 **MARKETRONICS COROPORATION:** 320 International Parkway, Sunrise, FL 33325, USA. Tel: (954) 846-1011 Fax: (954) 846-1671 **SEACOAST ELECTRONICS INC.:** 240 Talleyrand Avenue, Jacksonville, FL 32202, USA. Tel: (904) 355-0343 Fax: (904) 356-9088 **TRONICS INC.:** 16910 Texas Avenue, Suite A8, Webster, TX 77598, USA. Tel: (713) 338-2688 Fax: (713) 338-2686 **CANADIA MARCONI COMPANY:** 600 Dr. Frederik Philips Boulevard Ville, Saint-Laurent, Quebec, Canada H4M 2S9. Tel: (514) 748-3148 Fax: (514) 748-3006 **HI-TEK MARINE:** Via Simon Bolivar Edificio Mile #225, P.O. Box 55-2179, Paitilla, Panama Tel: 261-6177 Fax: 261-5780 **NAUTICA, S.A. de C.A.:** Condor No. 31 Col. Alpes, Deleg. A. Obregon, 01010-Mexico. Tel: 680-2104 Fax: 651-2825 **OASIS MARINE SERVICES LTD.:** Suite #203-4534 East Hastings St., Burnaby, British Columbia, V5C 2K4, Canada. Tel: (604) 393-1730 Fax: (604) 293-1731

NAV/COM REVIEW

(Continued from page 26)

Inmarsat has, in some measure, already moved towards a more commercial operation.

In 1995 it set up a company ICO Global Communications, to over-

see the implementation of a global hand-held satellite communications system. Financed by Inmarsat, which has a holding of more the 10 percent in the company, ICO's current main goal is to introduce Project 21, a global

mobile phone system which is intended to become operational by the end of next year. The system will provide a voice, fax, data and paging service through a network of 10 operational satellites, and is expected to attract millions of

users over the first 10 years of operation. Call costs are expected to be in the region of \$2.50 and \$3.50 per minute. Inmarsat has additionally expanded its influence from the London headquarters by continuing to locate offices in strategic locations around the world, its first being in Beijing, China three years ago.

One of the proponents of the commercialization of Inmarsat is **Joseph Hersey**, head of the Spectrum Management Division of the U.S. Coast Guard. Mr. Hersey believes that restructuring is essential if the agency is to remain competitive. He also agrees that whatever happens, Inmarsat must maintain its primary role of providing safety services, in particular GMDSS.

Mr. Hersey gave several reasons for this stance, including: GMDSS should be enforced by contract and the agency should have a large number of financially responsible members; there should be clear separation between Inmarsat and its subsidiary, ICO Global Communications; and, there should be a distinct separation between the public corporation and intergovernmental organizations.

But not everyone is as positive as Mr. Hersey about going commercial. The International Chamber of Shipping (ICS) has voiced concern over possible changes to the organization with respect to the plethora of private and public consortia developing their own communications systems.

In contrast to safety matters which are well covered, the ICS says it has doubts over the current methods of processing routine communications.

It is mindful of the explosion in the use of cellular mobile phones and assumes there would be no restriction on their use by crew or passengers for short range messaging.

Non-safety communications may become an adjunct to the general mobile radio service, with the GMDSS system being restricted to safety and routine communications concerning a vessel's operation.

It is this increasing pressure from independent service providers that could relegate Inmarsat to that only concerning the GMDSS system, and missing out on the lucrative commercial traffic that it must challenge for, if

FOSTER REFRIGERATOR MARINE DIVISION

FOSTER
SINCE 1946

Foster designs and engineers their Marine products to withstand pressures of rough seas and operate efficiently in hot galleys

Meets rigid specifications of MIL 21908E, the US Navy
US Coast Guard and Public Health Services

- * 4 cu. ft. to 100 cu. ft. Refrigerators & Freezers
- * Special Body Depth for easy passage thru deck hatches
- * Pass Thrus
- * Medical Refrigerators & Freezers
- * Blast Chillers & Freezers
- * Modular Construction Available
- * Dual Temps



MH-40-U

FOSTER REFRIGERATOR CO., 6 Aitken Avenue, Hudson, NY 12534
Toll Free 1-888-828-3311 Fax 1-518-828-3315

Circle 326 on Reader Service Card

Discover the C-MAP world

C-MAP are major suppliers of digital nautical charts, a crucial element in the improvement of safety of navigation at sea.

The C-MAP digital chart library which includes over 9000 digital copies of original paper charts is being continually expanded. The CM93 data format fully conforms to IMO's S57/DX90 specification and as authorised digital charts become available it will be possible for these to be incorporated in C-MAP's database.

A number of major marine electronics manufacturers have selected C-MAP CM93 digital charts for their ECDIS systems. If you are planning to invest in safety and efficiency by installing an ECDIS system, contact your system supplier or call us to check that your system can use C-MAP's unique database.

C-MAP Commercial
133 Falmouth Road
Mashpee, MA 02649 USA
Phone 508 477 7537
Fax 508 477 7549

C-MAP Norway A/S
Box 212 - 4371 Egersund - Norway
Phone +47 51 49 42 34
Fax +47 51 49 25 33

Visit our Internet Web Site at www.c-map.no

See us at Fish Expo
Booth #2229

C-MAP
THE ELECTRONIC CHART STANDARD

Circle 222 on Reader Service Card

NAV/COM REVIEW

it decides to "go public."

It is a complex situation for Inmarsat to balance these conflicting needs of maintaining safety, taking onboard the latest technology and marketing new services to the marine industry.

According to **Andy Fuller**, Inmarsat's marine safety marketing manager, the result will be a 'take no prisoners' mentality: "There is not room for everyone," he says. "Billions of dollars are being gambled in order to win the greatest share in what is a very lucrative market."

This market is increasingly being concentrated around the maritime mobile phone sector. At present the marine industry does not have complete coverage by

satellite communication, a fact seen as inhibiting a naturally conservative industry.

A cull of staff and an internal reorganization just over two years ago did little to help the cause and sent an adverse message to the industry.

Inmarsat has been trying to

redress the situation since. Again the problem of keeping up with the rapid advances in technology. "GMDSS is a case in point," says **Mr. Fuller**. "The convention will probably be out of date by the time the final deadline of February 1998 is reached."

One significant area in which

the organization is making an impact is that of vessel tracking.

Japan, for example, is to set up the Sea Traffic Control Satellite System which will be used to track the exact positions of ships and record their speed, to try and ease the congestion experienced in most of that country's ports.

Si-Tex Launches New Radio Receivers

Si-Tex offers two new radio receivers – the Nav-Fax 100 and Nav-Fax 200 – to cover shortwave communications in the 30 kHz to 30 MHz range.

The Nav-Fax 100 is a stand-alone, voice-only receiver, while the Nav-Fax 200 includes a date interface port, cable and software and can be connected to a personal computer for viewing and downloading weather fax images. Both models feature a large LCD which displays frequency and signal strength.

For more information on Si-Tex
Circle 77 on Reader Service Card

AMT Releases New ECDIS

Advanced Marine Technology (AMT) has released ECDIS Version 2.0, a state-of-the-art Electronic Chart Display and Information System (ECDIS) featuring the latest advances in ECDIS technology. The new product features NIMA chart display capability and ECDIS-radar interface with route, chart data and user data transfer for the Raytheon Pathfinder/ST ARPA radar.

Safety aids featured on the ECDIS 2.0 include Guard Zone for collision avoidance and Anchor Watch to ensure visual and audible alarms are set off when the vessel is off-track.

For more information on AMT
Circle 42 on Reader Service Card

offshore systems international
DISTRIBUTORS AND MANUFACTURERS
OF COMMERCIAL
NAVIGATIONAL EQUIPMENT

FEATURING THE FULL LINE OF GYROCOMPASS
AUTOPILOTS AND SPEED LOGS
MANUFACTURED BY
YOKOGAWA DENSHIKI COMPANY LTD

CMZ500 GYROCOMPASS PT500 AUTOPILOT EML500 SPEED LOG

5013 PACIFIC HIGHWAY EAST, SUITE #16
FIFE, WA 98424 USA

☎ 253-926-8711 ☎ 253-926-8779
WWW.OSL.COM OSI@OSL.COM

Circle 284 on Reader Service Card

**Quality Products For The
Worldwide Marine Industry**

Marine heads **Oily Water Separators**

Microflush Marine Heads in stainless steel or vitreous china use only two quarts of water per flush. Options include rear or downward discharge, internal or remote flush activators.

Marine Sanitation Devices have no moving parts, no power requirements and low maintenance. Discharge by gravity or sump/pump. Accommodates crews from 3 to 100 men. IMO approved. USCG certified.

Oily/Water Separators in 7 models: .15-5.0 cu. meters p/hour. Coalescing technology means no replacement filters required.

MICROPHOR Quality Products
Microphor, Inc.
452 East Hill Road, Willits, CA 95490-1460 USA
(800) 358-8280, (707) 459-5563, Fax: (707) 459-6617
E-mail: info@microphor.com, www.microphor.com

Circle 281 on Reader Service Card

**Marine Deck Hardware
and Equipment**

- ◆ **ANCHORS:** ◆
50 to 60,000 Lbs. - New and Used
Stockless - Danforth - L.W.T. - Halls - Snug Stowing
- ◆ **CHAIN** ◆
3/4" to 5 1/8" - New and Used
Stud Link - Cast Steel - Grades 2 and 3 - Oil Rig Quality
for Moorings, Towing, Barge Handling,
Ship's Replacement
- ◆ **WINCHES - WINDLASSES - CAPSTANS** ◆
Vertical or Horizontal Hand, Electric, Diesel, Hydraulic
or Repowered to your specs
- ◆ **HATCHES - WATERTIGHT DOORS** ◆
MANHOLE COVERS - SCUTLES - PORTHOLES ◆
All Sizes - New or Reconditioned
- ◆ **PANAMA CHOCKS - DOUBLE BITTS** ◆
SINGLE BITTS - CAST STEEL CLEATS ◆
AND KEVELS ◆
All Sizes Available, New & Used
- ◆ **FENDERS PNEUMATIC** ◆
For Rent or Sale
All Sizes,
New & Used

IN STOCK NOW
in the West Coast
East Coast and
The Gulf

Call Toll-Free
(800)
322-3131

**GIGANTIC INVENTORY
NEW &
USED**

SERVING
THE MARINE & OIL INDUSTRIES
FOR OVER 35 YEARS
WE ARE
DIRECT FACTORY
DISTRIBUTORS & IMPORTERS

P.O. BOX 596
WILMINGTON, CA 90748
PH: (310) 522-9698
FAX: (310) 522-1043

**WATERMAN
SUPPLY CO., INC.**

Circle 319 on Reader Service Card

MARINE DIVISION
INSULATIONS
INCORPORATED
JOINER CONTRACTOR

MARINE INTERIOR SYSTEMS

**Quality On Time
Quality In Budget
...and we will consider your
other priorities.**

1101 Edwards Avenue, Harahan, LA 70123
504/733-5033 Toll-Free 800/445-5033 Fax 504/733-3934

Circle 261 on Reader Service Card

THE ONLY EVACUATION SYSTEMS THAT ARE US COAST GUARD APPROVED.



Evacuation Slide System.

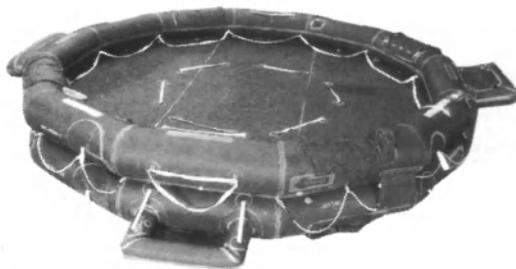
Designed specifically for Low Freeboard Vessels, it is a combination slide and platform. It provides speedy evacuation for all passengers - young, old and physically challenged. US Coast Guard Approved.



Evacuation Chute System.

The most efficient, easy-to-use, flexible, and cost-effective marine evacuation system available in the world. It evacuates passengers and crew in the shortest possible time.

Manufactured to meet or exceed all SOLAS requirements. US Coast Guard Approved



We manufacture the only US Coast Guard approved single 100 person Reversible Inflatable Platform.

These sturdy platforms are designed for passenger carrying vessels operating in protected waters. Fully reversible - it offers instant boarding, which ever way it inflates. Also available in 10, 25 and 50 person sizes.



DBC MARINE SAFETY SYSTEMS
12351 Bridgeport Road, Richmond, B.C.
Ph. (604) 278-3221 Fx. (604) 278-7812
1-800-931-3221
sales@dbcmarine.com
www.dbcmarine.com

Circle 234 on Reader Service Card

CorroSeal Tip #1

Use a wet film gauge to measure 8 to 10 mils wet film thickness upon application.

For your FREE CorroSeal tips card and wet film gauge, call us toll free 888-4-NO-RUST (888-466-7878)



CORROSEAL, INC.
MARINE & INDUSTRIAL COATINGS



CorroSeal is a Registered Trademark of CorroSeal, Inc.

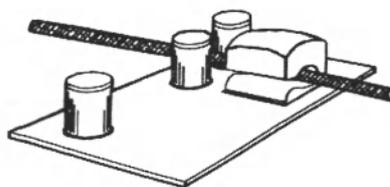
http://www.corroSeal.com • rust-time@aol.com

Circle 227 on Reader Service Card

Hydraulic Tow Pin Units

Features:

- Hard wearing manganese steel vertical rollers rotating on bronze bushings
- Optional tow line hold-down and stern rollers available
- 8" and 12" diameter pins now available with 12" or 16" vertical rise
- 3, 4, or 5 pin models and compact unit available



Call or Fax for our free brochure

WESTERN MACHINE WORKS
1870 Harbour Road - North Vancouver,
BC-Canada-V7H 1A1
Phone: (604) 929-7901 Fax: (604) 929-7951

Circle 320 on Reader Service Card

NAV/COM REVIEW

Leica Wins Contract For Indian DGPS Beacon System

Leica and Elcome Marine Ltd., its India distributor, have been awarded a contract by India's Department of Lighthouses and Lightships for a DGPS beacon system.

The contract calls for Leica to install DGPS reference stations at 10 existing radiobeacon sites in India, which were selected to provide optimum coverage over Indian coastal waters. Each site will have two DGPS receivers, one integrity monitor and one broadcast station controller. The broadcast station software will run on Windows NT software. Standard RSIM message format will be used for communications between the controller, integrity monitor and reference station.

For more information on Leica
Circle 45 on Reader Service Card

Lockheed Martin Enters Chinese Market

Lockheed Martin Ocean, Radar & Sensor Systems (OR&SS) has signed a contract with China with an initial value of \$3 million for a vessel traffic system (VTS) marking the company's entrance into the Chinese market.

China's Research Institute of the Ministry of Electronics Industry and OR&SS signed an agreement in April calling for the two to jointly pursue contracts to develop, produce and install marine traffic management systems for ports, harbors and waterways in China.

For more information
Circle 44 on Reader Service Card

Marinette Orders Nautronix Systems

Nautronix has been awarded a second contract this year by Marinette Marine Corp. to supply four additional Dynamic Positioning Systems (DPS) for U.S. Coast Guard (USCG) WLM coastal buoy tenders. The order is in addition to the six ASK4000JSDP systems Marinette ordered from Nautronix last February and brings to 19 the total number of USCG vessels supplied with Nautronix DPS.

For more information on Nautronix
Circle 46 on Reader Service Card

Scientific-Atlanta Unveils Mobile Communications Transceiver

Scientific-Atlanta, Inc. has introduced a mobile version of its new, compact StarGate satellite communications transceiver. The new communicator is a

NAV/COM REVIEW

self-contained unit including all electronics, antennas and software necessary to collect, package, transmit and receive data. Using the ORBCOMM Low Earth Orbit satellite communications system, StarGate reportedly offers global two-way data messaging from virtually any location.

For more information
Circle 76 on Reader Service Card

Radio Holland To Feature Prime Products At Europort

Radio Holland is scheduled to exhibit its key maritime electronics products at Europort '97.

The company will display the newest equipment from its supplier SP Radio, including a mini GMDSS console, the SP4800 VHF, Mini M, Inmarsat B and a voyage recorder.

Radio Holland will also present its latest services and products for traffic accounting and service providing, such as Astra Mail for Window 95 Ship board e-mail software, which includes fax and data with attachments to Inmarsat A, B, M and mini M and cellular phone.

For more information on Radio Holland
Circle 75 on Reader Service Card

Mackay To Offer BT Communications Services

BT has signed an agreement with Mackay Communications, Inc. to offer Inmarsat satellite communications services to the U.S.-based commercial maritime industry. As a worldwide provider of satellite communications solutions, BT offers direct-dial voice, fax, data, telex and e-mail. Mackay will offer the full line of BT maritime services including Inmarsat A, B, Sat, B-Sat High Speed Data, C-Sat and M-Sat.

In addition, Mackay will also offer BT services such as BT CallTrak, an itemized call reporting system, and BT SatMail, a menu-based e-mail system.

For more information
Circle 78 on Reader Service Card

Hughes Receives Inmarsat Type Approval

Hughes Technical Services Co. has received Inmarsat Type Approval for its new MX2464 MagnaPhone Inmarsat-B ship ter-

minal.

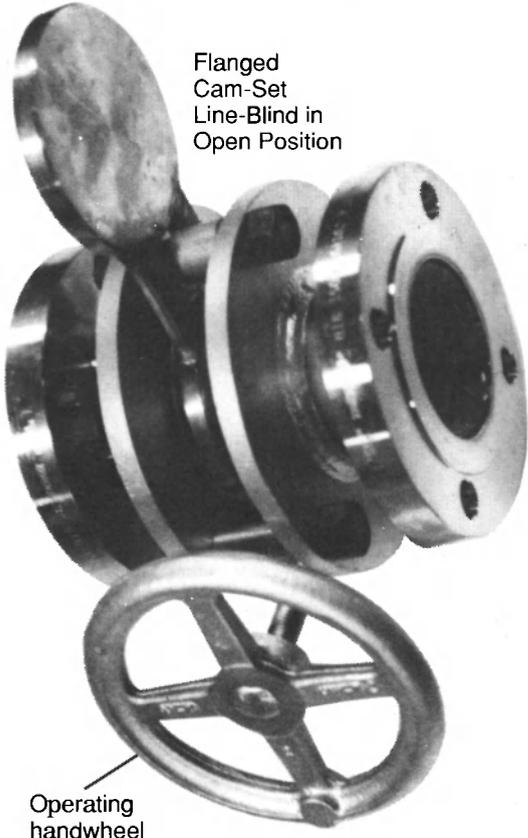
The new stand-alone satellite communications terminal can reportedly provide worldwide voice, telex, fax and data service between ship and shore.

For more information on Hughes
Circle 47 on Reader Service Card

Q-Mar Introduces New ECDIS

Q-Mar has designed and developed the Sailsafe Electronic Chart Display and Information System (ECDIS), which integrates digitized marine charts with a

Differential Global Positioning System (DGPS). Electronic nautical charts, in either raster or vector format, work as the display foundation of the system, while DGPS information provides for precise positioning of the vessel chart. Sailsafe features include: a design which meets ECDIS stan-



Flanged
Cam-Set
Line-Blind in
Open Position

Operating
handwheel

CAM-SET™ LINE-BLIND VALVES

A unique concept in line-blinding that eliminates spreading pipe/blind flanges

Just one screw releases or seals the spectacle plate. No reaching around pipes. No binding. No jacking the line. **The cams do all the work.**

- Low initial cost
- Safe one-man operation
- Positive shut-off
- Seal unaffected by piping misalignment
- Simple, one man, spectacle changing
- Various materials available.
- Sizes 1 inch and up, Flanged or BWE

Write for new Bulletin CS-895

FETTEROLF / CORPORATION

P.O. Box 103, Skippack, PA 19474
Tel: (610) 584-1500 • Fax: (610) 584-5904
Tel: (334) 79 75 10 04 • Fax: (334) 79 75 20 02

Circle 243 on Reader Service Card

ENVIROVAC

sewage systems solve all your marine sanitation needs.

Pre-Engineered Vacuum Collection System

Standard Design and Components
No Special Engineering

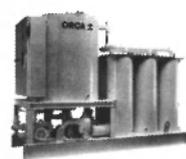
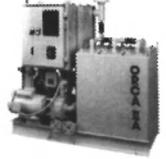


EVAC 90 Toilet

- Low Volume Fresh Water Flush Toilet (3 pints/flush)
- Small Diameter Piping . . . 1-1/2" and 2"
- Reduces Sewage Volume by 90%
- Flexible Piping Layout . . . With Vertical Lift
- Reduced Holding Tank Size . . . 80% Smaller
- Eliminates Toilet Vents
- Reduces Material & Labor Costs, and Topside Piping Weight
- Proven History of Reliability
- Over 5,000 Marine Installations Worldwide

ORCA II Marine Sanitation Device

Sizing to Fit 12 to 500 People

ORCA II (165-500 People) ORCA IIA (12-70 People)

- Microprocessor Control and Monitoring System
- Simple Operation & Maintenance
- Fully Automatic Hands-off Operation
- Simple and Inexpensive Installation
- Compact and Lightweight
- Designed Specifically for the Marine Industry
- Over 500 Installations Worldwide
- Operates in Fresh, Salt or Brackish Water
- U.S.C.G. Certified and IMO Approved
- Available with ORCACLOR Automatic Chlorine Generator



ENVIROVAC INC.
1260 Turret Drive • Rockford, IL 61115 • U.S.A.
815/654-8300 • Toll Free: 800/435-6951 • Fax: 815/654-8306

Circle 241 on Reader Service Card

NAV/COM REVIEW

dards set by IMO/IHO, the display of various chart formats, integration of real-time data from the Coastal and Ocean Water Level Information System (COWLIS), interface to Automatic Identification System (AIS) for silent ship-to-ship and ship-to-shore communications and a semi-

automatic operating mode.

For more information on Q-Mar
Circle 79 on Reader Service Card

BT Invests \$20M In ICO Global

British Telecom (BT) will invest

\$20 million in ICO Global Communications, becoming the 50th ICO shareholder. With this agreement, BT plans to extend its global product portfolio, specifically in specialized mobile markets such as corporate users, maritime aeronautical, ground transport and other high-mobility sectors.

SpecTec Wins Jepsens Contract



Pictured is Jepsens Enterprise which will be equipped with a SpecTec AMOS software system.

SpecTec has been awarded a contract by Jepsens Ship Management to install its AMOS range of turnkey software systems on 21 vessels, with an option for 19 additional vessels over the next two years. Jepsens has also shown interest in SpecTec's AMOS-QMS quality management system and the AIA Tool corrective actions system. The first Jepsens installation is in progress on the company's 22,000-ton bulk carrier *Sir Charles Parson*.

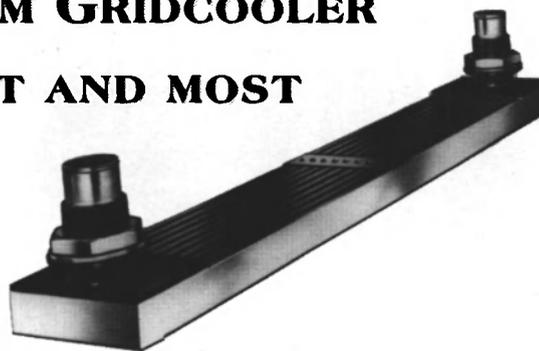
For more information on SpecTec
Circle 80 on Reader Service Card

FERNSTRUM

GRIDCOOLER®

50 YEARS EXPERIENCE IN ENGINEERED KEEL COOLING!

**"THE FERNSTRUM GRIDCOOLER
IS THE SIMPLEST AND MOST
DEPENDABLE
FORM OF
FRESH WATER
COOLING AVAILABLE!"**



Unique Qualities
Found in the
Gridcooler...

*Closed cooling
system

*Completely
assembled and
factory tested

*Heavy gauge
90/10 copper-nickel
rectangular tube.

*Excellent
anti-foulant
capabilities.

*Silver brazed joints.

*Custom designed.

*Used for decades
on commercial and
military vessels.

*U.S. Navy
20 year rating.

*Over 8000
models available.

Our customers have been saying things like this for decades. We've been engineering cooling systems for all types of marine engines for the last 50 years.

Our product is so durable, efficient and easy to install that the U.S. Navy wrote their keel cooling specifications around our Gridcoolers and gave them a 20 year rating.

GIVE US A CALL!

We'll figure out which of over 8000 different Gridcoolers is right for cooling your engine in your application.

**DON'T TAKE CHANCES WHEN IT COMES
TO YOUR ENGINES' DEPENDABILITY.**

**DO IT RIGHT THE FIRST TIME...
USE FERNSTRUM GRIDCOOLERS!**

R. W. FERNSTRUM & COMPANY

P.O. Box 97 1716 11TH AVE.

MENOMINEE, MI 49858

PHONE: 906-863-5553 FAX: 906-863-5634

NECSA Postpones Acceptance Of Raster Charts

At the recent NAV43 (IMO Subcommittee on Safety of Navigation) meeting, a majority of the nations voting in the Plenary session of the Subcommittee chose to postpone accepting the raster chart as the legal equivalent to a paper chart.

The Navigational Electronic Chart System Association (NECSA) has opposed this proposal on the grounds that the proposed system is an inadequate version of an electronic chart and would deprive mariners of most of the promised improvements of this new technology.

The NECSA has resolved that use of Raster Electronic Chart as the legal equivalent and replacement for paper nautical charts, or as an Electronic Nautical Chart for ECDIS, is detrimental to safe navigation.

Consilium Selesmar Updates Radar Series



Consilium Selesmar has presented its new NAVBAT ARPA radar, designed with the latest technology. Its range combines either an up-mast X-Band transceiver or a down-mast solid state transceiver with a 20-in. color display providing full ARPA facilities, which is housed in an ergonomic desk mounting cabinet. For high speed vessels, there is also a high speed X band antenna option. Other features of the NAVBAT ARPA radars include advanced fully digitized video processing, and flexible interface for connection to position and navigation systems via NMEA 0183 standards.

For more information
Circle 11 on Reader Service Card

Micrologic Introduces Internal Differential Data Receiver

Micrologic has introduced the ML-9200 DGPS (Differential Global Positioning System) differential data receiver. The receiver is designed to be internally installed into Micrologic's Millennium series 12-channel fixed-mount GPS receivers and can operate in either manual or automatic settings. The H-field antenna attached to the receiver are unaffected by alternator noise and lighting and can be installed inside most boats. The ML-9200 features a maximum lock on time of 10 seconds and is capable of sending DGPS data to other GPS receivers.

For more information on Micrologic
Circle 31 on Reader Service Card

Del Norte Provides New Global Positioning System



The latest 5012 differential global positioning system (DGPS) from Del Norte reportedly brings new accuracy to remapping surveys, major dredging surveys and monitoring breakwaters for construction and other purposes. In addition, it can help gauge the speed and track of

the tide, providing further navigational assistance to large ships passing through breakwaters.

The 12-channel, onboard system takes the best combination of visible satellites to calculate the vessel's position to within one meter. The receiver and its PC is controlled by a single keyboard and

provides flexible data logging and processing capability. Using its internal microprocessor and resident software, the unit logs position and sensor detail to its hard drive while providing the helmsman with full track guidance facilities, including line printer and plotter. Upgrades in software are

readily installed via the disc drive.

The system receives its differential correction data from a fixed reference station and the corrections are calculated by a Del Norte 2012 reference receiver and transmitted via a UHF data link.

For more information on Del Norte
Circle 28 on Reader Service Card



**DYNAMIC SHIP DESIGN AND
STRUCTURAL ASSESSMENT**

DESIGN
by analysis

NOT
by guesswork

**ABS SAFEHULL
WIDELY IMITATED
NEVER DUPLICATED**

Apply sophisticated dynamic-based, engineering first principles to the design and evaluation of tanker, bulk carrier and containership hull structures.

Leave the empirical extrapolations and prescriptive guesswork to others.

SafeHull is available only from the ABS® office nearest you or e-mail: safehull@eagle.org for the latest Windows™ based version.

BENELUX: Carving It's Niche

by Alan Thorpe, international editor

The strengthening of the U.K. pound this past summer enabled Holland and Belgium to become far more competitive than in previous years, especially in the ship repair market.

Holland remains one of the largest shipbuilding nations to remain in northern Europe, offering many yards specializing in smaller ships, ferries and dredgers.

The one large shipbuilding complex in Belgium — Boelwerf — has remained closed for more than one year, and it appears that it has virtually no chance of re-opening.

The Dutch shipbuilding industry has taken a new look with shipbuilding and engineering group IHC Caland, launching a takeover bid for fellow shipbuilder Van der Giessen de Noord — the country's largest shipbuilding complex — with the aim of creating a north European shipbuilding group active in the offshore and merchant shipping industries.

IHC has made a public bid for all outstanding shares of Van der Giessen at around \$155 million, with the deal expected to be completed in the fourth quarter of this year.

Both companies are listed on the Amsterdam Stock Exchange. IHC has specialized in serving the oil & gas and dredging industries, while Van der Giessen has made its name in the more traditional shipbuilding sector, where it is notoriously difficult to turn a profit. Currently on order at IHC are dredgers for Jan de Nul, Antwerp Dredging, Gambia, Dredging Corporation of India, HAM and Van Oord.

Meanwhile, during late May this year, Van der Giessen was awarded a major offshore newbuilding contract from Bermuda's Toisa Ltd., involving the construction of a 372-ft. (113.6 m) multi-purpose offshore support vessel (OSV), with options for additional vessels.

The vessel, to be delivered by late July 1998, has a contract value of \$35 million.

The new ship will have accommo-

dations for 70 in 40 cabins, two large moonpools, clear deck area of 1,200 cu. m., and it will be fitted with a 100-ton capacity offshore crane and a helicopter landing deck suitable for Super Puma helicopters.

A diesel-electric propulsion system (comprising four Stork Wartsila diesel engines type 9L26 of 2,800 bhp at 900 rpm each) will drive two fixed-pitch, variable speed, azimuth stern thrusters (2,200 kW/900 rpm) and three forward tunnel thrusters (1,050 kW/1,200 rpm each).

A dynamic positioning system will be fitted to provide the ship with the highest dynamic positioning classification standards.

The vessel has a trial speed at design draft of about 13.9 knots with two azimuthing thrusters, each unit developing 2,200 kW.

Toisa Ltd's OSV main particulars

Length, o.a.	372 ft. (113.6 m)
Length, b.p.	352.6 ft. (107.5 m)
Breadth, molded	72.2 ft. (22 m)
Depth, to main deck	31.2 ft. (9.5 m)
Draft, design	20.7 ft. (6.3 m)
Draft, scantling	21.6 ft. (6.8 m)
Deadweight, design	5,335t
Deadweight, scantling	6,650t
Workdeck area	1,475 cu. m.
Speed	13.9 knots

Newbuilding orders recently completed at Van der Giessen include a two-ship deal with German ferry operator DFO (Deutsche Fahrgesellschaft Ostsee GmbH), calling for two 15,000-grt double-ended ferries of 466 ft. (142 m) long and approximately 82 ft. (25 m) wide.

The vessels, named *Schleswig Holstein* and *Deutschland*, provide space for up to 285 cars or trucks, and approximately 120 cars, with an IC3 train, can be transported on the vessels without any on-shore shunting maneuver being necessary.

The first in the series, was handed over to DFO in May, and the sec-

ond was handed over last month.

The yard is also carrying out an order for Isle of Man Steam Packet, involving a 407 x 77 ft. (124 x 23.4 m) passenger/RoRo ferry, expected to be delivered in July, 1998.

Another Rotterdam-based shipbuilder, YVC Ysselwerf BV, Capelle a/d IJssel, has also had a full order-book recently, winning two contracts, one comprising of a 10,400 dwt chemical tanker for owners Tank Africa, and the other a fish factory trawler for Jaczon subsidiary, SARL Klipper, France.

Tank Africa's chemical tanker main particulars

Length, o.a.	393.7 ft. (120 m)
Breadth, molded	63.3 ft. (19.3 m)
Breadth, extreme	63.7 ft. (19.5 m)
Depth, moulded	42.7 ft. (13 m)
Draft, design	25.6 ft. (7.8 m)
Deadweight	9,500 t
Summer draft	27.2 ft. (8.3 m)
Heavy fuel oil	980 cu. m.
Marine diesel oil	125 cu. m.
Fresh water	150 cu. m.
Speed	14.5 knots

A dredger under repair in Shipdock Amsterdam.



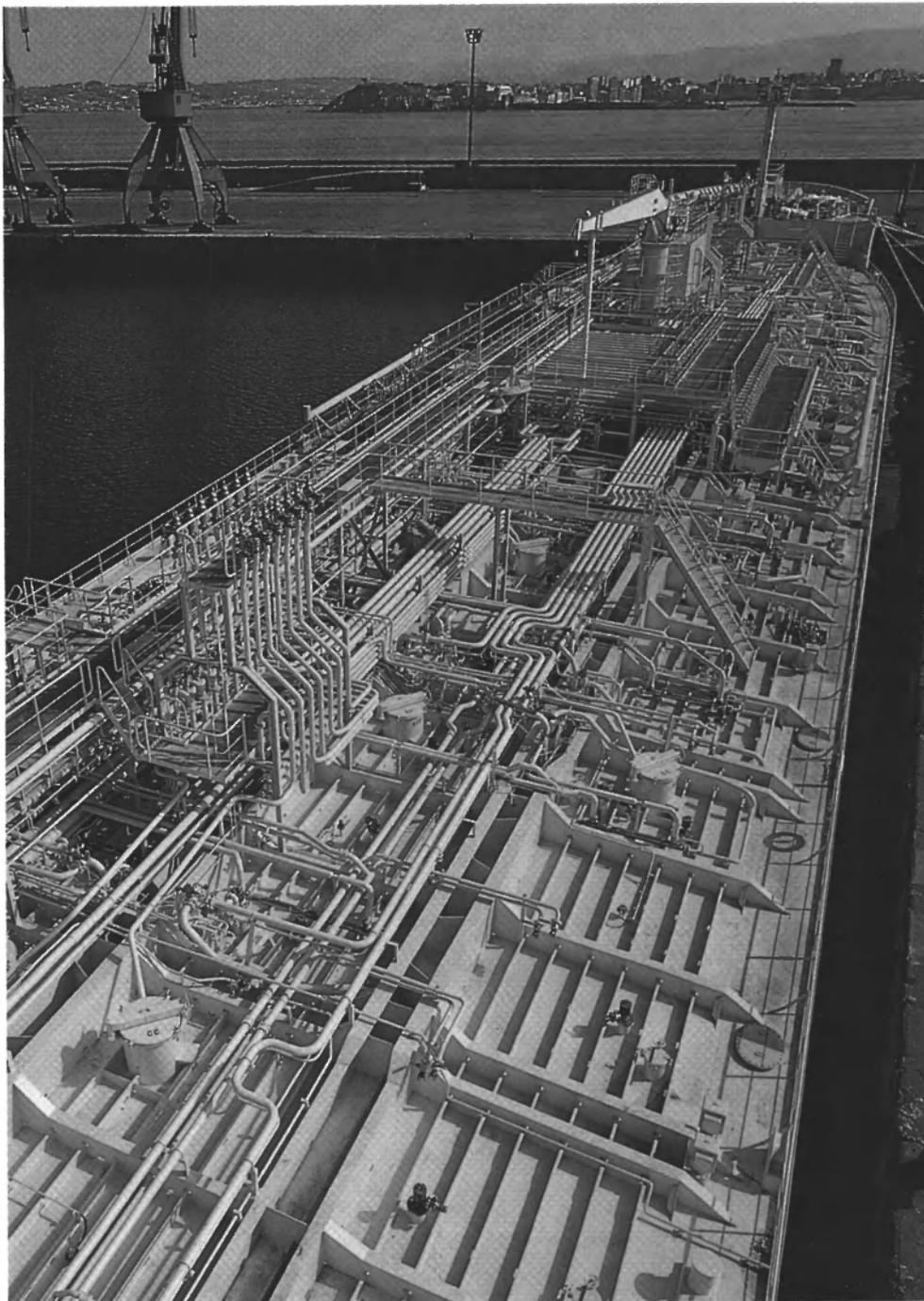
CHEMICAL CARRIERS

CUSTOMIZED TONNAGE

Building or converting to meet each owner's specified performance

A wide spectrum of sizes and types of chemical carriers designed to the requirements of the most significant owners, showing the increasing capabilities of our Group in this demanding sector:

- The ultimate generation of parcel tankers, diesel-electric powered 22,000 DWT units now under construction for STOLT, in which sophisticated cooling and heating systems and state-of-the-art cargo monitoring and control improve cargo handling and preservation.
- Or the 19,000 DWT parcel tanker type for Barton Group and for JO TANKERS, with 34 segregations, or the 15,000 DWT vessel for KNUITSEN with advanced systems for stripping, cleaning and vapour return to minimise waste.
- A range of 8,000/22,000 DWT IMO II coated chemical carriers for FOUQUET, KNUITSEN and others.
- Or the phosphoric acid carriers of up to 32,000 DWT for Shipping Corporation of India, with seven rubberized tanks.



Grupo Astilleros Españoles
Ochandiano 14-16
28023 El Plantío
Madrid - Spain
Tel +34 1 387 81 00
Fax +34 1 387 81 14

ASTILLEROS ESPAÑOLES

AESA in Sestao, Seville, Cádiz and Puerto Real; ASTANO in Ferrol; ASTANDER in Santander; JULIANA in Gijón; BARRERAS in Vigo and MANISES DIESEL in Manises.



Wellington introduces two new lines manufactured with advanced fibers from **AlliedSignal**
FIBERS

SteelPlait™ Ropes
with **SPECTRA®**
Performance Materials

*The Ultimate in
Strength & Flexibility*

- Highest strength-to-weight ratio - replaces steel
- Soft, flexible and lightweight - for easy and safe handling
- Easy to splice
- Excellent energy absorption
- Available in 1" to 6" diameter in 8 strand braided construction
- Corrosion/oxidation resistant

- Towing lines • Head lines
- Mooring • Winch/lifting lines • Tug assist lines
- Lashing/ratchet lines
- Facing lines • Steering Lines • Seismic/oceanographic towed array lines • Wing lines

SeaGard®
Polyester Ropes

*The Ultimate in
Wet Abrasion Resistance*

- High wet strength
- Excellent UV Resistance
- Outstanding durability
- Economical - longlasting value
- Good handling properties and flexibility
- Available in 3 strands, 8 strand plaited and 12 strand double braided constructions; up to 18" diameter

MORE ROPE POWER

**FOR HEAVY
MARINE
APPLICATIONS**



Spectra® and SeaGard® are registered trademarks of AlliedSignal Inc.

Wellington
Commercial Products
1140 Monticello Rd.
Madison, Georgia 30650
(800) 228-6680
Fax: (706) 342-4656

Circle 206 on Reader Service Card

**Fish factory trawler
Main particulars**

Length, o.a.	414 ft. (126.2 m)
Breadth, moulded . . .	390.4 ft. (119 m)
Depth maindeck . . .	36.2 ft. (11.2 m)
Speed	17.4 knots
Heavy fuel oil	1,550 t
Marine diesel oil	395 t
Fresh water	115 t
Ballast	835 t

Verolme Heusden is currently building two dredgers for HAM and Westminster Dredging, and has recently won a third order for a dredger, this time from Boskalis. Niestern Sander, which also recently increased its ship repair capability by buying a second hand floating dock, has also recently received a newbuilding order in the form of a 8,230-tanker for Petromarine.

One of the most interesting aspects of Dutch shipbuilding is the number of small yards in operation along the Westdeep Canal outside Groningen in the northern region of the country. Yards in operation along this canal include Van Diepen, which has recently won an order for two 5,000-dwt general cargo vessels from Wagenborg and a 3,173-dwt specialized livestock carrier from Vroon; Bodewes, Bodewes Volharding, both of which are building long series of small bulk carriers; Ferus Smit, with a long series of bulk carriers for Wagenborg; and Pattje, which has a series of four 4,250-dwt bulk carriers on order from Tecmarine Lines in the U.S.

The ship repair industry, especially in Rotterdam, has increased

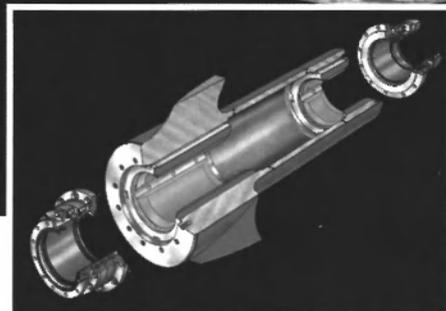
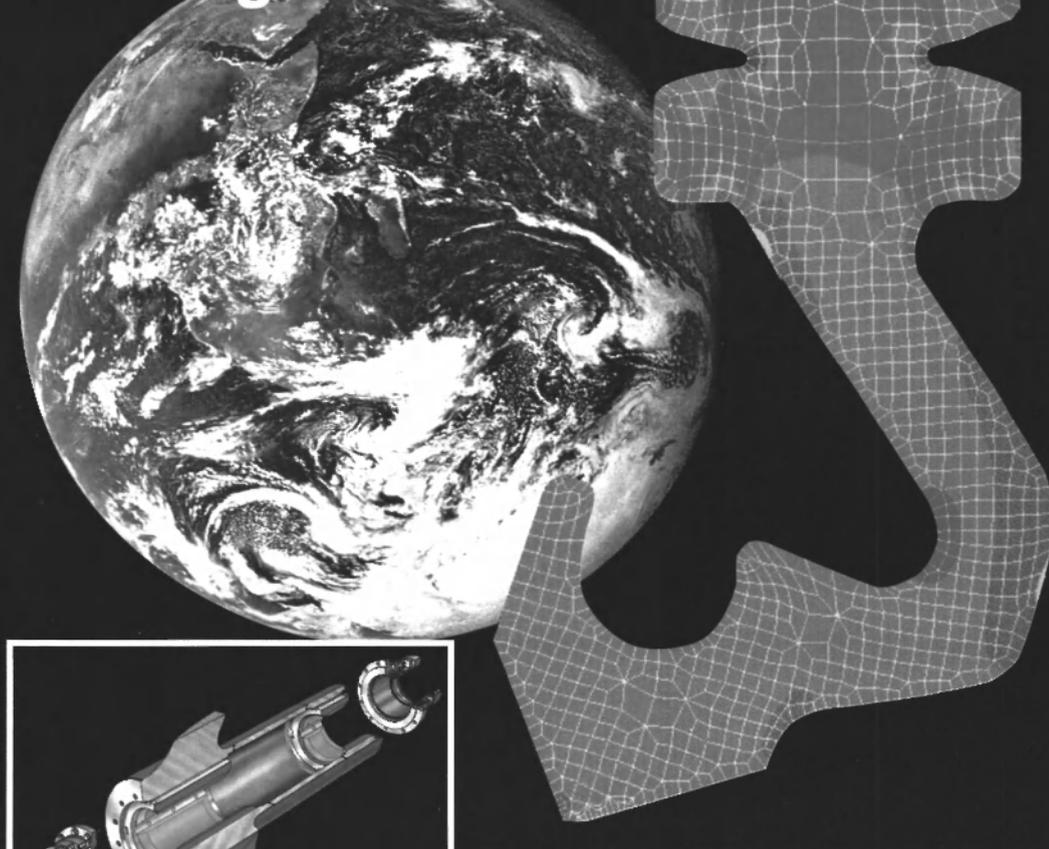
in volume during recent months. Following a fairly busy period in the conventional ship repair industry during July at Verolme Botlek, when two of the North Sea's largest shuttle tankers were repaired — Knutsen OAS' 113,131-dwt *Tove Knutsen* and Petroleum

Shipping's 87,500-dwt *Aberdeen* — the Rotterdam yard has experienced a fairly quiet period. However, the offshore side of the yard's activities is very busy with two major projects currently underway and another booked. The two projects currently in the

yard are the semi-submersible rig *Petrobras XXIII*, which is being converted to a dynamically positioned (deep water) rig, and the jack-up rig *Noble Al White*, which is undergoing the installation of

(Continued on page 51)

SIMPLEX COMPACT SC 2000 Sealing The World.



The next generation of seals, with finite-element design and proven performance worldwide.

- Patented CLICK - clamping system
- Micro-lubricating film
- Intelligent complex sealing ring knee

Offers you:

- Environmental protection
- Operational safety
- 15-year class period

For more than fifty years, Simplex and Simplex-Compact have been synonymous with outstandingly engineered Sterntube sealing systems. Simplex-Compact 2000 continues with this tradition into the next century.



B&V INDUSTRIE-TECHNIK GMBH
(A Thyssen Company)
P.O. Box 100720 Hamburg, Germany

Distributed by:
STI New York City Area
P.O. Box 630168 Little Neck, N.Y. 11363-0168 USA
TEL: (718) 460-1220 FAX: (718) 460-1464
SIMPLEX TURMAR INC. Buffalo New York Office
TEL: (716) 695-0142 FAX: (716) 695-0144

Circle 217 on Reader Service Card

One of the MSC fleet of containerhips in Antwerp Shiprepairers.



Offshore Continues To Drive Repair Business Around The World

by Alan Thorpe, international editor



Japanese offshore engineering company Mitsui Ocean Development (MODEC) has been awarded contracts worth \$300 million (Y35 billion) for four FPSO/FSU units.

Three companies have awarded the contracts: Australia's BHP Petroleum; Mexico's state-owned Petroleos Mexicanos (Pemex); and Marathon Petroleum Gabon (two contracts), an affiliate of Marathon Oil.

MODEC has slated three of the conversion projects with Jurong Shipyard Ltd. (JSL). The companies have cooperated on several FPSO conversions, which is a key consideration in light of the spate of technical-related delays which have recently surrounded this sector.

The Pemex contract involves 357,600-dwt tanker *Juno*, to be arranged with a 2.2-million barrel storage capacity as a floating storage unit (FSU). For BHP Petroleum, JSL will upgrade FSU *Shua Venture 1* — which on completion will be renamed *Modec Venture 1* — to full FPSO status, with the installation of additional processing modules. The vessel is expected to be ready for service by next spring.

Regarding the Marathon Petroleum Gabon contracts, an additional two projects have been secured by MODEC in conjunction with Japanese trading house Nissho Iwai Corp.

The first involves the conversion of 138,540-dwt tanker *Anitra* into a one million barrel FSU. This project is also to be carried out by JSL.

The second project calls on U.S. conversion specialist Texas Drydock Inc. (TDI), recently

bought by Halter Marine, for the conversion of the drilling platform *Ocean Ruler* to a jack-up production unit. Both projects are expected to be completed by the end of 1997. Spain's Astilleros Espanoles (AESAs), Cadiz, has been awarded another contract from the Brazilian offshore market — a \$145 million contract to convert a VLCC into a floating production, storage and offloading (FPSO) unit.

The 300,000-dwt tanker, which has not yet been specified (but is expected to be one of the Petrobras fleet), will be converted at the AESA's Cadiz yard. Awarded by Esmeril, which will operate the converted unit on behalf of Brazil's state-owned Petrobras, the vessel will be redelivered in November 1998.

After delivery, the vessel will be moored in waters 3,300 ft. (1,000 m) deep on Petrobras' Roncador offshore field.

Late in the spring of 1997, the Cadiz yard delivered converted FPSO *Petrobras 32*, which was formerly VLCC *Cairu*, six months ahead of schedule.

Later this year, the yard will also deliver *Petrobras 26*, a production platform being converted from drilling rig *Iliad*.

Singapore's Hitachi Zosen has become the latest large yard from the Republic to win an FPSO conversion contract, with the conversion of the 1978-built conventional tanker, the 131,484-dwt *Proster* (formerly the *Enalios Ethra*) which was due to arrive at the yard this month. The conversion project is to be carried out for Mitsubishi Heavy Industries (MHI), which, in a joint venture with Switzerland's SBM Inc., has a contract with Japan Vietnam Petroleum Co. (JVPC) to supply a FPSO for the Rang Dong Field off the Vietnamese coast.

Recently completed at Singapore's Keppel Shipyard (Tuas) was the conversion/refit of the 59,642-dwt St. Vincent-registered conventional tanker *Red Teal*, which will be renamed *Armada Pekasa* for its new role as a FPSO off the Malaysian coast

for Malaysian oil giant Petronas.

The \$12 million contract, which saw the vessel being converted to a FPSO, was completed in late-June, after three months of work.

Houston's Falcon Drilling has awarded the \$60 million conversion of 129,077-dwt bulk/oil carrier *Coastal Golden* — the project to be named *Peregrine VI* — to the new Blohm + Voss (B+V)/Lisnave joint

venture.

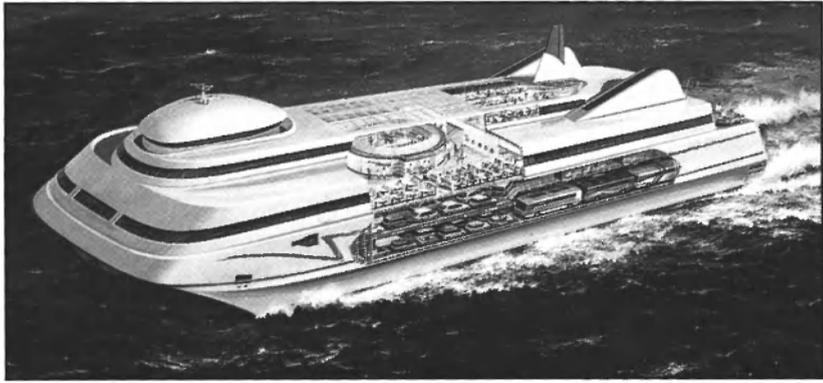
Negotiations for the contract, which will see the vessel converted into a drilling ship, were originally started between Falcon and Hamburg's (B+V). At that time, Lisnave and B+V were negotiating a partnership, which, under the restructuring plan for the new Lisnave, has paved the way for the present situation where Thyssen



Visby is shown undergoing refurbishment at Lloyd Werft.



Pictured is a Falcon Drilling-owned hull, to be completed as a drillship by Keppel.



Seaflight: 110m, Passenger, Cars, Bus, Gas Turbine



E-CAT: Passenger, High Speed, Low Wake



Ro/Ro: 115m, Passenger, Car, Trucks, Cabins



Monohull HSM-150: High Speed, Aluminum, Diesel, Passengers, Cars



Trimaran HST-800: 40 Knot, Steel Trimaran, Gas Turbine, Passengers, Cars, Freight

CONNECT WITH HALTER FERRIES

Whatever the job...fast vehicle/freight/people carrier or a slower tourist or charter boat, Halter has the optimum vessel for you. As a world leader in SES, SWATH and high-speed, low-wake multi-hull vessels, designed and built passenger vessels to customer specifications for cost, capacity, speed, range, passenger comfort, seakeeping, reliability and safety. Name your propulsion... diesel, gas turbine, CODAG, Z-drive, cycloidal, water jets, we've built them all. And we build in steel, aluminum and composites or combinations thereof.

So, if you have any ferry connections to make, connect with Halter Marine... the world's largest builder of small to medium sized ships.



13085 INDUSTRIAL SEAWAY ROAD
GULFPORT, MS USA 39503

TEL: 601-896-0029 • FAX: 601-897-4828

SHIP REPAIR & CONVERSION

Werften GmbH (owners of B+V) became a 20 percent shareholder in Lisnave. Therefore, B+V advised Falcon of the advantages of having the project carried out at Lisnave's Mitrena yard.

Work involves removal of the existing stern-driven power station and replacing it with a new

diesel-driven unit; installation of a drilling package (including steel structure for moon-pool and intermediate decks); installation of a dynamic positioning system; accommodation work (construction of additional cabins and heli-deck); tank modifications; and installation of four 80-ton deck cranes.

The contract also includes an option for the conversion of another two ships, which will be named *Peregrine VIII* and *Peregrine IX*.

Birkenhead's Cammell Laird has also won a conversion contract from Falcon Drilling, involving the \$23 million conversion of 7,746-dwt *Deepsea Worker* (to be

renamed *Peregrine VII*) from a salvage vessel to a dynamically-positioned drillship. This contract is the largest to be undertaken at the yard and provides a timely fillip for the company's stock market ambitions.

The vessel arrived this May. When completed, it will have been upgraded and lengthened, with a 104-ft. (31.7-m) mid-body section installed, as well as a moonpool and a new drilling substructure.

Other work will include: the fitting of full length sponsons 8.2 ft. (2.5 m) on each side; installation of a new drilling derrick; and complete design and installation of a new drilling system.

Meanwhile, Singapore's Keppel shipyard has won a conversion project from Falcon Drilling, converting a 12,000-dwt hull, to be named *Peregrine*, to a drillship. The contract, which is valued at \$43 million, is scheduled to be completed by mid-1998.

Poland's Gdansk Shiprepair Yard (Rementowa) has drydocked the 67,436-dwt NIS-registered tanker *Petroroll* for conversion to a shuttle tanker.

Owned and managed by Golar-Nor Offshore AS (Trondheim), the vessel will feature two new compartments, a new forward bowthruster room, a powerplant STB side stern, a CO2 system and new exhaust ducts, pipes, cabling, etc.

A new 1,000-kW bowthruster will be delivered by Ulstein. In the new powerplant, a 1,000 kW Caterpillar generating set will be installed. The dynamic positioning system, which was delivered by Autronica, will also be installed in order to improve navigation.

Some repair will be carried out as well, including extensive overhaul of machinery, fitting and electronics.

In addition, a new tank measurement will be installed.

All work will be supervised by Det Norske Veritas surveyors.

The U.K.'s A&P Group has won what could be the largest conversion contract to be placed this year from the conventional marine industry. A&P Tyne has been tapped to convert 11,403-grt RoRo ferry *Ambassador 11* to a cruise casino ship for Stirling Shipping One, in a deal worth \$23 million.

The 1970-built vessel arrived on Tyneside in August.

Work will involve the removal of 300 tons of steel, to be replaced by 400 tons, helping to create four

The **PICKUPCAT** concept

The **PICKUPCAT** concept is based on dividing a vessel in two separate parts: a self contained catamaran containing power, propulsion and steering functions, and an interchangeable cargo carrying unit.

The assembled units retain the same strength and structural properties as that of a traditional hull construction. The time spent in port to engage/disengage the two separate units take less than 2 hours. The cargo unit may serve as a floating storage facility, independently of the propulsion unit which is free to operate elsewhere. While at sea, the two units operate as one ship.



Terminals and Transportation for less

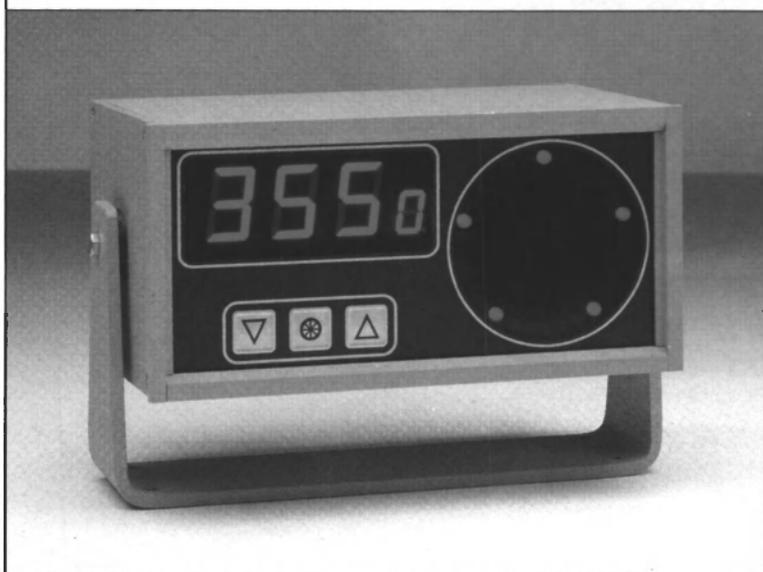
Talk to us now about the **PICKUPCAT** concept



PICKUPCAT AS
MUNKEDAMSVN. 59B, N-0270 OSLO, NORWAY
PH: +47 23 11 58 80
FX: +47 23 11 58 99

Circle 286 on Reader Service Card

Digital Gyro Repeaters



- Large super-bright Digital Heading Display.
- Analog Turning Indicator - allows instant estimation of the ship's turning rate.
- Will work from most types of gyro compasses.
- Repeaters can be "daisy chained" and synchronized to first repeater (Master Repeater).
- Digital Data output. NMEA and various other protocols are available for integration with survey and navigation computers.

SCAN Repeater
DIGITAL HEADING REPEATERS

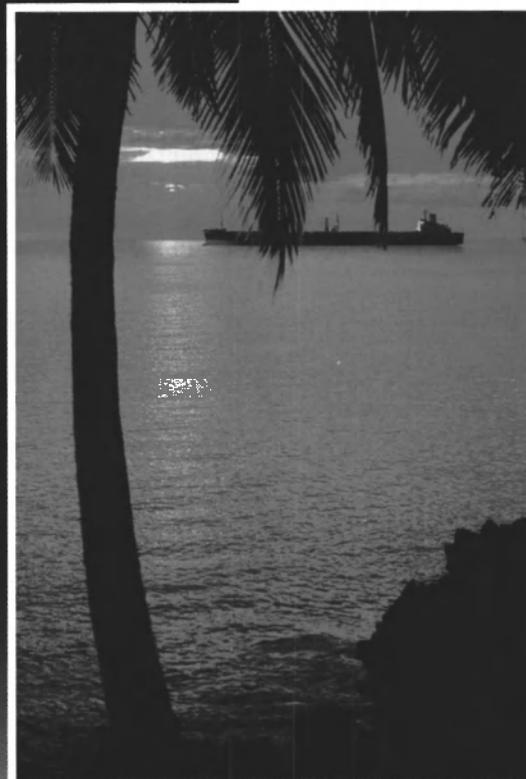
P.O. Box 155,
N-1411 Kolbotn, Norway.
Phone: +47 6680.7107
Fax: +47 6680.8095
E-mail: scansys@sn.no

1041 S.E. 17th STREET, SUITE 100,
FT. LAUDERDALE, FL 33316, USA
Phone: +1.954.523.8878
Fax: +1.954.523.7157
E-mail: scansys@worldnet.att.net

scandinavian micro systems™

Circle 295 on Reader Service Card

The GMDSS solution



Close at hand...



The SAILOR GMDSS CERTIFIED SERVICE concept has been developed to ensure the shipping industry a uniform level of service covering specific requirements for spare parts, replacement units and technical manuals, all supported by annual technical training of service personnel.



EAST COAST
500 South 31st Street
Kenilworth, NJ 07033
(908) 298-9100 fx (908) 298-9118

2703 Avenger Drive
Virginia Beach, VA 23452
(757) 431-2926 fx (757) 431-3676

3007 Greene Street
Hollywood, FL 33020
(954) 920-8400 fx (954) 920-8455

GULF COAST
701 A South Conception
Mobile, AL 36603-2102
(334) 432-3139 fx (334) 433-8223

5515 Pepsi Street, Ste C
Harahan, LA 70123-3221
(504) 733-4024 fx (504) 733-4027

5233 IH-37, Ste A-1
Corpus Christi, TX 78408
(512) 883-5283 fx (512) 883-5285

WEST COAST
1965 E. Spring Street
Long Beach, CA 90806-1920
(562) 595-0177 fx (562) 988-0236

309 South Cloverdale, #B29-30
Seattle, WA 98665
(206) 768-1601 fx (206) 768-1603

910 Minnehaha, Ste 3
Vancouver, WA 98665
(360) 737-0519 fx (360) 737-0543

CANADA
356 Lynn Avenue
Vancouver, B.C., Canada V7J2C5
(604) 293-2900 fx (604) 293-2930

Frederik sail & Rubow Communication

The SAILOR GMDSS STATION is the ultimate, well-planned approach to GMDSS for new constructions as well as for existing vessels.

The flexible design of the well-known SAILOR COMPACT PROGRAMME permits the individual units to be combined into a complete GMDSS configuration for all areas of operation. The SAILOR COMPACT GMDSS STATION has already proven its superiority world-wide by the number of installations. It has become the most internationally recognized GMDSS solution available.

SAILOR GMDSS equipment is supported by a strong network of sailor distributors in more than 80 countries.



Radio-Holland USA B.V.
Member of the SAIOR-RadioHolland Group

United States Headquarters

8943 Gulf Freeway • Houston, Texas 77017

ph: (713) 943-3325 fx: (713) 943-3802

Circle 289 on Reader Service Card

We have met our fiercest competitor.

And It's Us.

STEWART & STEVENSON SERVICES INC. is the largest distributor of General Motors Corporation Electro-Motive Division (EMD) diesel engines. We design and package EMD power generation equipment and marine propulsion packages.

Frequently, when we offer our new EMD packages we are asked by our customers to quote our rebuilt engine packages as well. It happens so often that we have become our own biggest competitor! Our customers know that either way — new or rebuilt — they are purchasing the best medium speed engine money can buy, at the lowest price.

In 26 U. S. states, 10 South American countries, and all of Central America and the Caribbean, S&S is authorized to engineer, sell and package EMD engines. So call Stewart & Stevenson Services Inc. (S&S) for your next EMD quote, or call us for your rebuilt EMD quote.



Coverage to spare
S&S offers engineering and sales in 26 U.S. States and 28 foreign countries, including all the Caribbean Islands.

SALES, PARTS, SERVICE

SALES ONLY



ELECTRO-MOTIVE
General Motors Corporation



DETROIT
DIESEL



NEW ORLEANS BRANCH
1400 Destrehan Avenue
Harvey, LA 70058
(504) 347-4326
Fax: (504) 348-8970

HOUSTON BRANCH
8631 East Freeway
Houston, TX 77029
(713) 671-6100
Fax: (713) 671-6197



Bill Marquette
SALES MANAGER
NEW ORLEANS

Circle 307 on Reader Service Card

SHIP REPAIR & CONVERSION

casinos as well as restaurants, bars and executive suites. In addition to the major steel work, the vessel will be upgraded to meet the latest SOLAS regulations as well as DNV's strict class rules for cruise vessels. It is expected that the vessel will be at the yard for

four to five months, with the scheduled date of re-delivery set for January 3, 1998.

Meanwhile, Belfast's Harland & Wolff's (H&W) Ship Repair & Marine Services Division, and Mivan Marine, are to fly a team to Florida to make an early start on

the first major cruise ship contract won by the joint venture, established earlier this year.

The team will board P&O Cruises' *Arcadia* at Fort Lauderdale and start work afloat during its voyage back to Belfast. The ship is expected to arrive at

H&W's yard by the end of this month and will undergo a major refit, enhancing its facilities for the U.K. passenger market. Other work to be carried out by H&W includes drydocking and general repairs (mechanical overhaul and survey, as well as a complete hull cleaning and painting).

Mivan Marine has been contracted to carry out major refurbishment of the public areas and cabins, including the creation of new public spaces, and the upgrading of other public areas.

Arcadia is expected to leave Belfast in early December, commencing her cruise program with a 12-night Christmas cruise, followed by a maiden three-month world cruise, which is scheduled to leave Southampton on January 5, 1998.

Swedish ferry owner Gotland AB has placed a two-ship order with Bremerhaven's Lloyd Werft to upgrade and refit the two ferries, 23,775-grt *Stena Felicity*, which is to return to its original name, *Visby*; and 16,829-grt *Sally Star*, which will be renamed *Thjelvar*.

Both vessels, which will also be upgraded to the new SOLAS regulations, will be used on the Gotland/mainland Sweden service. It has also been announced that when Lloyd Werft completes the upgrading and lengthening of the 39,213-grt cruise vessels *Windward* and *Dreamward* between January 15 and May 12, 1998, they will be renamed *Norwegian Wind* and *Norwegian Dream*, respectively.

The two new mid-body sections have been sub-contracted (under guarantee) to Schichau Seebeck Werft, despite this yard being bankrupt under the recent Bremer Vulkan closure.

For more information on the repair companies and equipment suppliers mentioned in this article, circle the appropriate number on the Reader Service Card in this edition.

Autronica	13
Astilleros Españoles	14
Caterpillar	15
DNV	16
Gdansk Shiprepair Yard (Rementowa)	17
Halter Marine	18
Hitachi Zosen	19
Jurong Shipyard	20
Mitsui Ocean Development	21
Mitsubishi Heavy Industries	22
Ulstein	23



THE WAY AHEAD

For your FREE ARCS INFORMATION PACK call our customer services hotline: **+44 (0) 1823 723323**





ADMIRALTY
RASTER CHART SERVICE

ARCS, the weekly updated electronic chart service from the United Kingdom Hydrographic Office.

- Official Admiralty electronic charts with familiar image and guaranteed reliability.
- Compatible with a wide range of navigational software.
- Comprehensive worldwide coverage and distribution.
- Remote access to chart data.

...simply add water

THE UNITED KINGDOM HYDROGRAPHIC OFFICE
Taunton Somerset TA1 2DN United Kingdom
Facsimile: +44 (0)1823 323753 Telex: 46274

Circle 317 on Reader Service Card

Sailed any uncharted waters lately?

Explore a Sea of Information on

MARINELINK

<http://www.marinelink.com>

EUROPORT '97 — BENELUX REVIEW

(Continued from page 43)

three new spudcans (each weighing 480 tons).

The project still due in is the semi-submersible rig *Scarabeo 6*, which is being upgraded to comply with the new Norwegian Petroleum Directorate (NPD) regulations.

Rotterdam's Wilton Fijenoord, which is currently carrying out a two-year restructuring plan, has recently staved off the threat of bankruptcy.

The loss-making facility is projected to break even this year after losses of more than \$65.4 million in 1995 and about \$23 million in 1996.

The workforce has also been reduced from 790 to around 300.

Meanwhile, during the first six months of this year, Wilton Fijenoord has been busy with approximately 50 ships being repaired.

The most significant contracts carried out involved two ships from P&O — the 21,162-grt passenger/RoRos *European Freeway* and *European Tideway*, both undergoing annual drydockings and general repairs.

Vlaardingen Oost Shiprepair has also been relatively busy throughout the year with a number of important contracts and is expected to continue this heavy workload until the end of the year. A significant contract completed by the yard recently involved the 9,079-grt Cypriot RoRo ferry *Sally Euroway*.

Owned by Interorient Navigation Co., Limassol, the vessel underwent work to its aft ramp, converting it from a single level to a double level ramp. It also underwent survey and general repairs, taking 10 days in all. The vessel is currently deployed on the Ostend/Ramsgate service.

YVC Bolnes Dockyard, Damen Group's Rotterdam-based ship repair subsidiary, was recently awarded two two-ship repair contracts.

The 14,530-dwt DIS-registered reefer vessels *Australian Reefer* and *African Reefer*, which are currently undergoing sales dockings, are both owned by J Lauritzen AS of Copenhagen, and Vroon's 991-dwt Dutch-registered *Energy Express* and the 844-dwt St. Vincent-registered *Rig Express*, both supply ships and managed by

Telco Marine, Den Helder, will undergo propeller work and steel renewals, respectively.

Niehuis & van den Berg's new 712 x 104 ft. (217 x 31.8 m) dock has now been commissioned.

The first ship repaired was the



Schleswig Holstein, a recent delivery from van der Giessen de Noord.

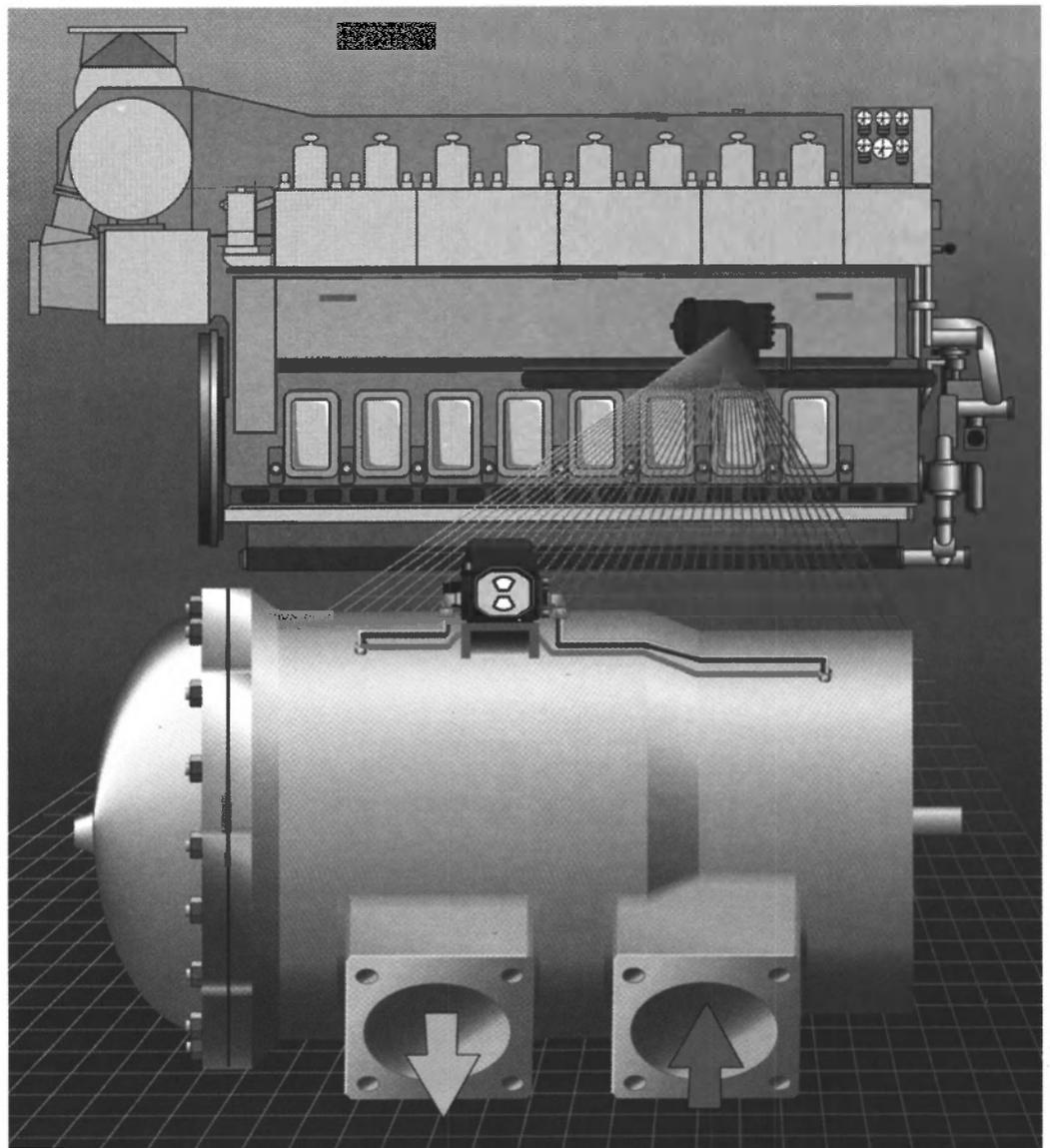
BOLL & KIRCH Filters - Simply the Best

Can you settle for anything less than the world's finest engine protection?

40 years of experience have led to today's BOLL & KIRCH filtration technology providing superior engine protection for ships worldwide.

BOLL & KIRCH Fuel Oil and Lube Oil Filters are low maintenance, highly efficient and cost effective.

Compromising on filtration can increase maintenance costs, and jeopardize scheduling and safety. The only way to ensure superior protection of a ship's vital propulsion equipment is with the best -



BOLL & KIRCH Type 6.46 Lube Oil Filter • No External Power Requirement
Engine Mounted • Space Saving • Fully Automatic • No Elements to Clean

BOLL & KIRCH

Can you afford to settle for less?

BOLL & KIRCH Filters and support are available worldwide for newbuilding and retrofit projects.



BOLL & KIRCH Filterbau GmbH, Germany, Phone 0 2273 562-0, Fax 0 2273 562-223
BOLL FILTER Corp., 15 International Drive, PO Box 515 E. Granby, CT 06026-0515, USA
Phone 1 (800) 910-BOLL ("2655"), Fax 1 (860) 653-3839
e-mail: boll@bollfilter.com

Circle 219 on Reader Service Card

MARINMARITIME
RESEARCH
INSTITUTE
NETHERLANDS

MARIN sets course for the 21st century

As a design and consultancy partner for the maritime industry MARIN carries out research and development for shipbuilders, ship owners and the offshore industry all over the world.

This year marks the 65th anniversary of MARIN's establishment. A celebratory year in which to set a new course for the next millennium. As an industrial service provider and advanced research institute, MARIN is preparing itself to meet the needs of the market in the 21st century.

MARITIME RESEARCH INSTITUTE NETHERLANDS

MARIN can be contacted at:
P.O. Box 28, 6700 AA Wageningen,
the Netherlands

Link between science and industry

Circle 333 on Reader Service Card

EUROPORT '97

8,600-dwt Dutch cutter suction dredger *Cornelia (Boskalis)*. The new dock replaces the 525 x 85 ft. (160 x 26 m) dock, which was sold to Sweden's Gotaverken City-varvet.

The most regular customer at Shipdock Amsterdam is Dutch shipowner Spliethoff Bevrachtingskantoor, which has drydocked some 15 ships so far this year and is planning another five. The 15th (recently in the yard) was the 6,150-dwt Dutch general cargo vessel *Bickersgracht*. Spliethoff operates a fleet of some 58-60 ships, mainly general cargo vessels.

Although Belgium does not have an active shipbuilding industry any more, the country does have a very active ship repair industry, headed by Antwerp Shiprepairers, part of the Kopke Group, which operates a series of graving docks in the Port of Antwerp.

This yard has been particularly active in the market of ships calling in Antwerp.

For the past few years, the yard has been the only ship repairer in northern Europe to win orders from Swiss-based Mediterranean Shipping Co. (MSC), which operates a very large fleet of containerships between Europe/Mediterranean and South Africa.

Centa Offers New Flexible Couplings

At the upcoming Europort, Centa is scheduled to exhibit several new flexible couplings and shafts. Among them are Centax-GFS2, a new version of the Centax-SEC range featuring a

torque range of two to 160 kNm., the Centax-GFS2 and the Centaflex-Series R.

The Series R consists of new torsional couplings based on cylindrical rollers, which are arranged between cams on the driving and driven hub. Centa has also recently entered the market of Carbon Fiber Reinforced Plastic (CFRP) hollow shafts that feature low weight, higher critical speeds or longer spans and are suitable for various ship types. It has a torque range of up to several hundred kNm.

For more information on Centa
Circle 35 on Reader Service Card

Litton To Unveil Integrated Ship Information System

Litton Marine Systems will introduce a new ISIS machinery monitoring, alarm and condition assessment system at the international Europort '97 exposition.

The ISIS 2500 uses the advanced Window NT 32-bit platform to provide a powerful Information Technology (IT) tool for ship-wide alarming and condition assessment for virtually all vessels. The system provides new condition assessment features such as vibration analysis, cylinder firing pressure, event capture, advanced trend analysis and real-time expert analysis.

It utilizes ISIS data acquisition devices, making it compatible with existing ISIS installa-

NEW VESSELS... NEW OPPORTUNITIES

EDISON CHOUEST OFFSHORE

NOW HIRING

**EDISON CHOUEST OFFSHORE, L.L.C.**

Now Accepting Applications For

US COAST GUARD LICENSED PERSONNEL**CALL TOLL FREE: 1-888-JOBS-ECO**

E.O.E M/F/H/V

Circle 238 on Reader Service Card

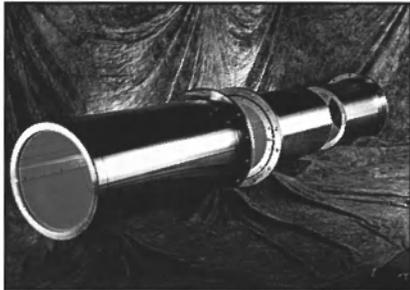
tions. It also has the ability to accept information from a wider range of sources, including portable vibration monitors and data terminals.

The new system integrates vibration and process measurements, builds and monitors performance curves and makes automatic real-time expert condition assessments before issuing corrective action advisories and, when linked to the ship's Computerized Maintenance Management System, can create "point and click" work orders.

The multi-tasking Windows NT workstation permits the operator to view data through intuitive information displays and analysis tools, providing a clear picture of equipment conditions throughout the ship.

For more information on
Litton Marine Systems
Circle 36 on Reader Service Card

Thordon Features Propeller Shafts And Rudder Bearing Systems



Thordon Bearings is planning to feature its three new open water lubricated propeller shaft bearing systems at Europort 97.

The COMPAC propeller shaft bearing system offers low friction and long life in blue water operations.

It can be installed into the same space as a conventional white metal bearing for either a new-build or a conversion project. Thordon composite propeller shaft bearings are designed specifically for abrasive conditions especially for dredges, tugs or tow boats operating in silt laden rivers.

Thordon XL is a general purpose bearing.

Thor-Lube is an environmentally friendly stern tube bearing system which reportedly eliminates pollution concerns relating to stern tube oil. The Thor-Lube sealed system is comparable in design to conventional oil lubricated white metal systems but uses proven, non-

metallic Thordon XL bearings and Thor-Lube, a non-polluting water soluble lubricant.

Backed by a 10 year wear life

guarantee, Thordon SXL Rudder Bearings are designed to offer complete freedom from water pollution concerns for both refits and new

construction.

For more information on
Thordon Bearings Inc.
Circle 37 on Reader Service Card

Proven Performance

With 50 years of innovative seating design and manufacturing experience.



Best Value!

- Five Year Performance Guarantee
- Luxurious Comfort, Superior Design
- Total Adjustability, Multiple Heights
- Compatible Models For All Work Positions
- 2890 Class U.S. Navy Bridge Wing & Barber Chairs

New — Replace Cushion
in 10 Minutes
Without Removing Seat

H.O. Bostrom Co., Inc.
818 Progress Avenue
Waukesha, WI 53186 U.S.A.
(414) 542-0222
Fax (414) 542-3784
1-800-332-5415



Circle 251 on Reader Service Card



Cinet Maritime PC

<http://www.cintrade.com/maritime/>



The Cinet Maritime PC has been approved by:

American Bureau of Shipping * Bureau Veritas * China Classification Society * Det Norske Veritas
Germanischer Lloyds * Korean Register of Shipping * Lloyds Register of Shipping * Russian
Maritime Register of Shipping * Nippon Kaiji Kyokai * Registro Italiano Navale.

Rugged, Secure & Versatile!

Distributor American Eastcoast:
Disctec Inc.

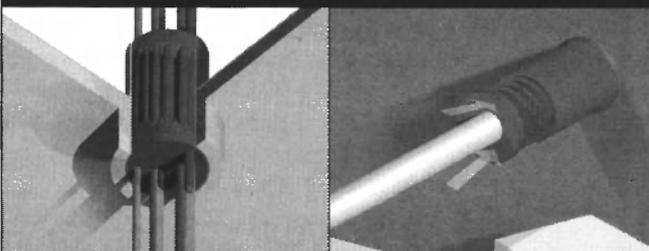
7033 Stapoint Court, Suite F Phone: (1) 407 671 5500
Winter Park, FL 32792 Fax: (1) 407



Circle 236 on Reader Service Card

FIRESAFE SEALING SYSTEMS

For all pipe and cable penetrations



RISE SYSTEM for Cables SEALING PLUGS for Pipes

- ✓ Fire, Water, Gas Tight
- ✓ Classification Society Approved
- ✓ Stamped Application Drawings
- ✓ Easy to Install - No Blocks!

Ask for our shipbuilding products brochure



800-981-4448
603-641-3914

Call the Experts - Industry Leaders for 25 years

Circle 230 on Reader Service Card

Celebrating 25 years in the marine software business!

Comments from customers explain our success...
"I have my own list of favored products and vendors, and you've always been on it - a good product that does its intended job, quick response to questions and problems, and an open mind on improvements. What else could a user want?"
- Dudley Dawson, Greensboro, NC
Dawson Marine Group

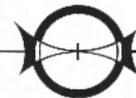


Please stop by our website:
<http://www.ghsport.com>
We have a lot to show you!

General HydroStatics

Stability Software Products

- GHSFull-featured hydrostatics
- BHSMid-range package
- BHS/YACHTYacht designer's package
- GLMShipboard trim and stability
- GHS/SALVAGESalvage oriented package



CREATIVE SYSTEMS INC.
CREATORS OF GHS

P.O. Box 1910 Port Townsend, WA 98368 USA
TEL (360) 385-6212 FAX (360) 385-6213 e-mail: sales@GHSPORT.COM
Developers of advanced hydrostatics software since 1972.

Circle 229 on Reader Service Card

VAF Instruments: Monitoring The Maritime Community

VAF Instruments, manufacturer of measurement and control equipment for the shipping and offshore industries, has recently added to its products line. The new Palco

torque measuring system continuously monitors engine power given to the propeller shaft. Engine power, fuel consumption and ship speed information is fed into a cen-

tral computer, helping the user to optimize fuel consumption.

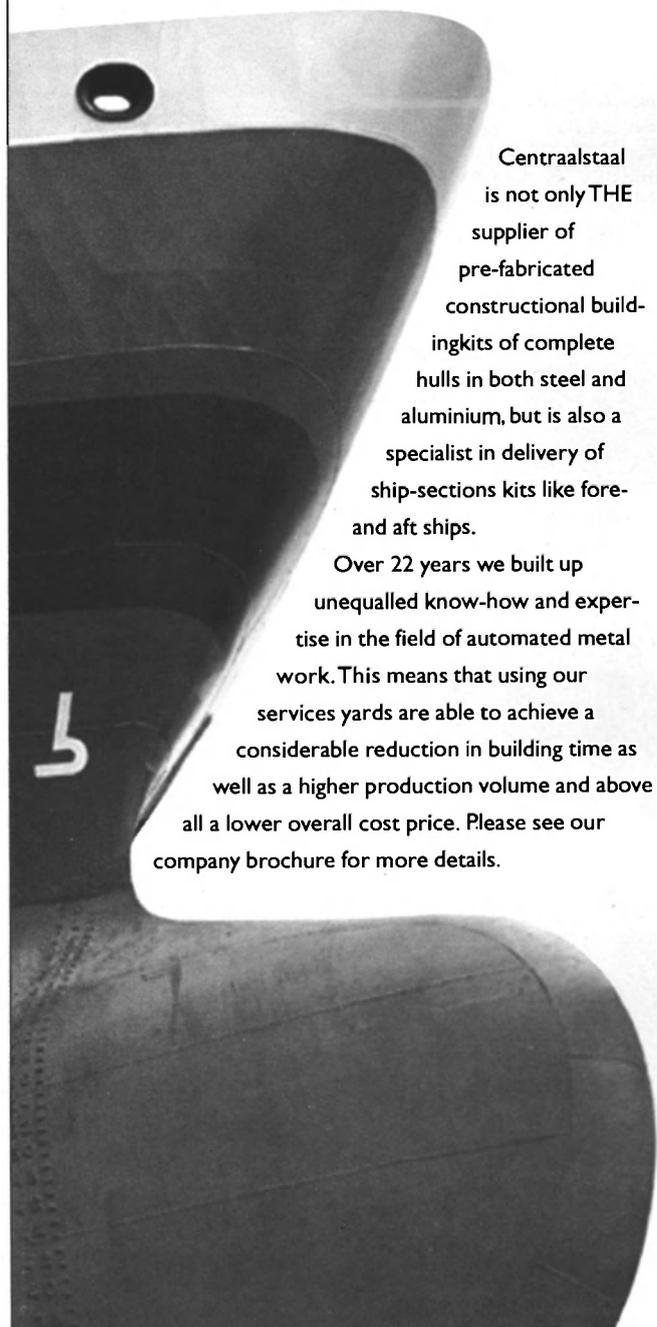
VAF's new oil in water monitoring system, Oilcon, provides continuous on-line monitoring of liq-

uids on the presence of liquids and/or solids in suspension. These systems are approved by the U.S. Coast Guard, and the U.K. DOT, and comply with MARPOL and IMO requirements.

These new products join VAF's line of control systems and flowmeters. The company's Viscotherm viscosity control systems are suited for use with heavy fuel oil on ships' main and auxiliary engines, as well as in oil-fired electric power stations and other heavy fuel consumers. VAF LoFlow, MidFlow and HiFlow flowmeters are suited for use with chemicals, petrochemicals, and internal combustion engines. VAF flowmeters are suitable for continuous metering operations, in-line blending processes, metered deliveries, consumption measurement and batching applications such as filling drums and containers.

For more information on
VAF Instruments
Circle 69 on Reader Service Card

Centraalstaal - prepared for the future



Centraalstaal is not only THE supplier of pre-fabricated constructional buildingkits of complete hulls in both steel and aluminium, but is also a specialist in delivery of ship-sections kits like fore- and aft ships. Over 22 years we built up unequalled know-how and expertise in the field of automated metal work. This means that using our services yards are able to achieve a considerable reduction in building time as well as a higher production volume and above all a lower overall cost price. Please see our company brochure for more details.

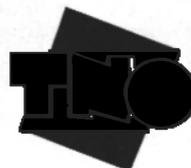
Centraalstaal - The partner for shipyards.

CENTRAALSTAAL

P.O. Box 204, 9700 AE Groningen - The Netherlands
Tel. (+31) (0)50 5 422 122. Fax (+31) (0)50 5 421 426
E-mail: sales@centraalstaal.nl
Visit our webside at: HTTP://www.centraalstaal.nl



MARINE COATING PROBLEMS?



please contact:

TNO INSTITUTE OF INDUSTRIAL TECHNOLOGY

for consultancy and testing of materials and products, ranging e.g. from coatings and metals to plastics and rubber

INDEPENDENT CONSULTANTS

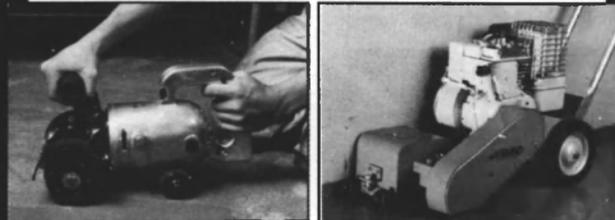
- trouble shooting
- inspections
- advising
- research
- specifications
- testing

FULLY EQUIPPED LABORATORIES

P.O. Box 6031 • 2600 JA DELFT • The Netherlands
Tel. +31 15 2697755 Fax. +31 15 2696280
E-mail: r.vanderkaaden@ind.tno.nl

Circle 331 on Reader Service Card

Bite Through RUST, SCALE & PAINT



There is an AURAND tool that's right for EVERY job!

Aurand's patented cutting teeth bite right through tough accumulations on ANY hard surface. On decks, walls, or ship hulls, in tanks, pipelines or boilers, results like sandblasting are yours. Aurand's unique Centrif-Clean® action quickly peels off build-up. Adjustable depth settings protect the underlying surface and prevent overloading, stalling and excessive cutter wear.

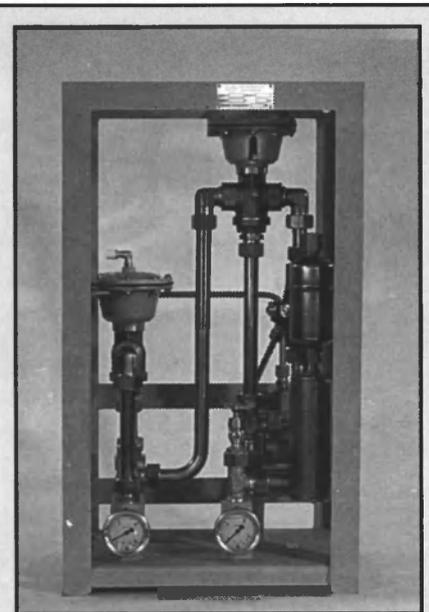
- LIGHTWEIGHT
- ADJUSTABLE DEPTH SETTINGS
- EASY TO USE
- SAVES HOURS OF WORK

AURAND

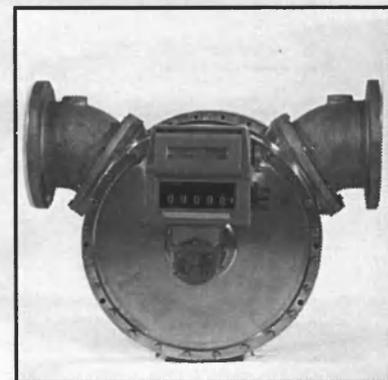
1210 ELLIS STREET • CINCINNATI, OHIO 45223-1843
PHONE: (513) 541-7200
FAX: (513) 541-3065
TOLL FREE: 1-800-860-2872



Circle 341 on Reader Service Card



VAF Oilcon oil discharge monitor.



VAF HiFlow slide valve-type flow meter.

Maritime Reporter/Engineering News

Company Profile:

Maritime Telecommunications Network

Maritime Telecommunications Network (MTN), a total telecommunications provider based in Miami, Fla., is a leading provider of private network C-Band telecommunications to the cruise vessel industry.

As a major player in the highly competitive telecommunications market, MTN has armed itself with a wide array of products and services, allowing it to capture business in cruise and ferry markets worldwide.

At the core of its success, however, is a team of engineers which constantly monitors the ever-changing satellite communications technologies available, so they can help translate technological advances into end-user benefits.

Offering private network, voice, fax and data services, MTN is also geared to provide value added services such as: ATM machines; radio broadcasting; and full motion video broadcasting. MTN recently started offering debit cards and inbound calling services.

The company — a subsidiary of ICG Satellite Services — contends that new technologies will continue to assist the cruise industry in lowering its communication costs, and it also views the data transmission end of the business as increasing substantially.

For more information on MTN
Circle 88 on Reader Service Card

Mobil Debuts New Lubricant

Mobil introduced a non-chlorine, non-zinc marine lubricant for high-output diesel engines. Mobilgard 450 NC has been approved by General Motor's Electro-Motive Division (EMD) and is recommended for diesel engines manufactured by Alco, Detroit Diesel, Fairbanks Morse and General Electric.

For more information
Circle 89 on Reader Service Card

Open For Business

Aker Maritime's takeover of

Finnyards is officially complete, and the new company is called Aker Finnyards Oy.

Aker Maritime currently holds a 60 percent stake in the yard and will acquire the remaining 40 percent over the next three years. Mr. **Kari Airaksinen** is the new managing director.

For more information
Circle 90 on Reader Service Card

Halter Completes Unique Overhaul

Halter Gulf Repair completed a major overhaul for the National Aeronautics and Space Administration (NASA) barge *Poseidon*. The barge received significant amounts of new steel, a complete paint job and several

unique cargo covers. The barge is used to transport the space shuttle's external tanks from its manufacturing point in New Orleans to Kennedy Space Center.

The 52-year-old barge was modified for NASA in the mid-1960s. The upgrades meet ABS standards.

For more information on Halter
Circle 91 on Reader Service Card

L27/38 The new generation grows

The L27/38 has joined the L16/24 as the second engine in MAN B&W Holeby's new generation of auxiliary marine engines. It is based on the same award-winning design concept.



A medium-speed HFO engine in the 1500-2880 kW range, the compact L27/38 has a robust, pipeless and maintenance-friendly design. Its benefits include optimal operational efficiency, minimal daily maintenance and unsurpassed reliability that have won world leadership for MAN B&W Holeby's GenSets. The L27/38 will set the standard for the world fleet's marine engines until well into the 21st century.

HOLEBY
GENERATING SETS
MAN B&W Diesel A/S,
Holeby
Østervej 2, DK-4960 Holeby
Telephone: +45 54 69 31 00

Circle 277 on Reader Service Card

Clinging To Tradition, With A Twist

by David Tinsley, technical editor

TUSCAN determination to maintain Livorno's august shipbuilding tradition has found new expression in the launching of a stainless steel tanker down the ways at Cantiere Navale Fratelli Orlando, the industrial centerpiece of the Ligurian port.

The 9,550-dwt *Giovanni Fagioli* not only represents \$36 million-worth of work for the independent shipyard enterprise born in 1995 out of a Fincantieri entity, but is also a pointer to its early achievements in penetrating a high-grade sector of the market. By the June completion of the 10,000-dwt oil/chemical carrier *Monte Bello*, the first ship laid down after the takeover, the new proprietors had built up the orderbook to a total value of \$413 million, composed entirely of sophisticated tankers.

For a local community steeped in the science and business of constructing and repairing ships — and which had endured a long period of uncertainty before the yard finally

changed hands — the contractual commitments pointed to the continuity of high-value production through 1998 and 1999.

The introduction of *Giovanni Fagioli* to its element in September signified a step-up in the output level at the Livorno yard, with three launchings effected in 1997, compared with the preceding years under the Fincantieri banner.

With the state-owned group's decision to foster a far-reaching reorganization and increasingly more focused approach to the newbuilding market, the Livorno division had been placed on its divestment list relatively early on in the restructuring process. Livorno had nonetheless consistently retained its skills in specialized and often high-technology areas of the shipbuilding business, including gas carriers, chem-tankers, reefer ships and RoRo ves-

(Continued on page 82)



Fratelli Orlando yard

Hornblower To Operate Pequot Fast Ferry



Hornblower Marine Services was scheduled to commence operations this month of what is touted to be the fastest passenger ferry in the U.S. *Sassacus* will make the 103 nautical mile trip from New London, Conn. to New York City in 2.5 hrs., traveling at speeds in excess of 50 mph. Built by Pequot River Shipworks, the new vessel complies with the new IMO High Speed Craft Code, as well as U.S.

Coast Guard and DNV certifications. Technological features of the vessel include ARPA radar and night vision units. *Sassacus* is powered by Twin Solar Taurus Gas Turbines reaching 5,108 hp at 1,300 rpm. A second vessel is currently under construction and is expected to be completed by next summer.

For more information on Hornblower Circle 52 on Reader Service Card

Tugz Continues With Fleet Expansion

Yard Still to be Chosen For Construction of Six More Z-Drive Vessels

Tugz International, an affiliate of the Great Lakes Towing Company Group, will construct a series of six multi-purpose reverse tractor tugs. The order is the second phase of the Group's fleet expansion and upgrade program, which is expected to exceed \$30 million.

The initial phase of the program

involved the construction of two Z-class multi-purpose reverse tractor tugs, built by Halter Marine and delivered in November 1996.

With the commencement of the second phase, Tugz has filed for Title XI ship financing guarantees from MarAd.

The six new tugs will each mea-



Z-One.

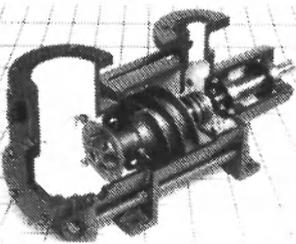
sure 95 x 32 ft. (30 x 10 m) and feature a 4,000 to 5,000 hp and a bollard pull in excess of 110,000 lbs. Each tug will be capable of operating at a design speed of 14 knots.

In addition, Jensen Maritime Consultants, Inc., designer of the Z-class tugs, will design a new 105 x 36-ft. (32 x 11-m) reverse tractor tug of 5,000 to 6,000 hp with a bollard pull of 140,000 lbs. The new, larger multi-purpose tugs will be used in ship assist and escort roles for larger, specialized vessels and ocean towing.

The Z-class tugs are reportedly capable of ship handling duties, salvage, firefighting, oil recovery, ice-breaking, escort and coastal towing of vessels and barges.

Design features have been incorporated to meet U.S. Navy specifications for naval ship and submarine duties.

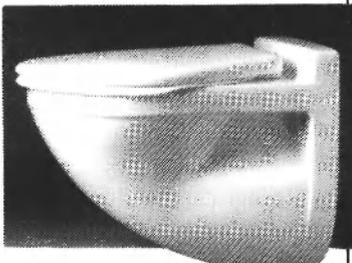
JETS SETTING NEW STANDARDS FOR VACUUM SEWAGE SYSTEMS



JETS VACUUMATOR®

- ★ Pumps fluids and gases
- ★ Produces vacuum
- ★ Macerates sewage

The systems include toilet bowls in contemporary designs that flush with only 1.2 ltr water



Complete systems are designed and delivered by:



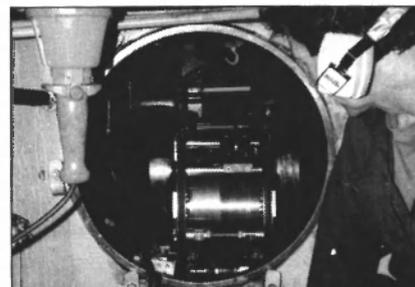
JETS VACUUM AS

N-6060 HAREID - NORWAY
TELEPHONE: +47 70 93 830
TELEFAX: +47 70 93 877

TECHNIEN

Circle 269 on Reader Service Card

CRANKPIN & MAIN JOURNALS GRINDING, MACHINING, POLISHING 'IN-PLACE' IN YOUR ENGINE.



In-Port or
Voyage
Repairs.

Anywhere
in the
World

- ENGINE MAIN BEARING LINE BORING
- OPTICAL MEASUREMENT & ALIGNMENT
- METALSTITCH® REPAIR FOR CAST IRON

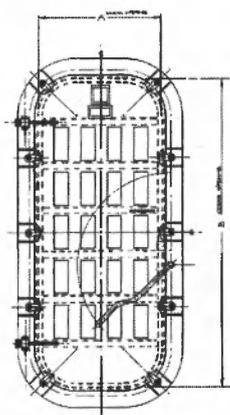


IN-PLACE MACHINING COMPANY

USA International FAX
800-833-3575 414-562-2000 414-265-1000

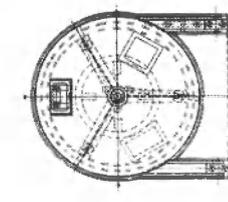
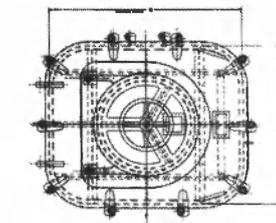
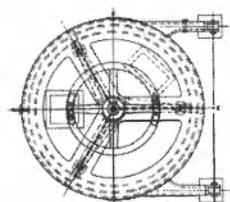
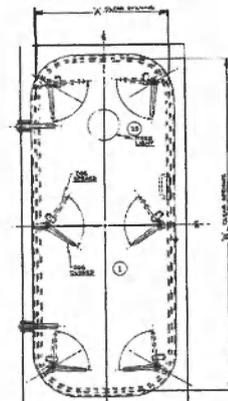
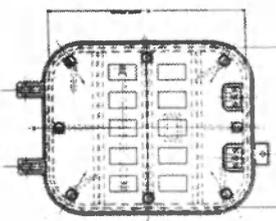
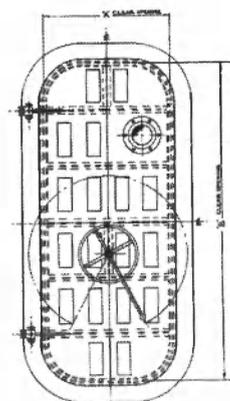
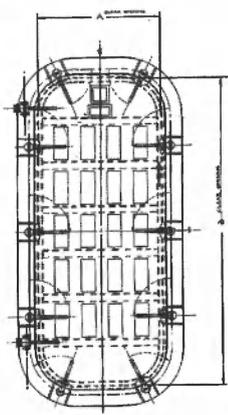
24 HOUR EMERGENCY SERVICE ...day or night, 365 days a year.

Circle 260 on Reader Service Card



RAILWAY SPECIALTIES CORPORATION

Manufacturers of
Watertight:
Doors, Hatches, Scuttles
Parts
&
Components



MAIN OFFICE Bristol, PA (215) 788-9242 FAX (215) 788-9244	SALES OFFICE Chesapeake, VA (804) 686-1370 FAX (804) 686-1376
--	--

Circle 290 on Reader Service Card

It's Smooth Sailing With Intecolor At The Helm.

THE MASTER OF MARINE COMPUTING AND DISPLAY TECHNOLOGIES.

Intecolor designs and manufactures a full line of type approved displays and computers for use in marine applications. Our products are recognized globally by leading Integrators and OEM's of both bridge navigation and ship automation systems. With the added capability to do hazardous area installations, Intecolor is the right choice for your marine application needs.

See Us At Europort '97 - Booth #O 401



Intecolor Corporation 2150 Boggs Road
Duluth, Georgia 30096 • (770) 623-9145 • fax (770) 623-9163
web site: www.intecolor.com

Intecolor Europe Amsterdamseweg 15, 1422 AC Uithoorn
The Netherlands 31 (297) 531-262 • fax 31 (297) 531-424

Circle 323 on Reader Service Card

NEW & NOTABLE

Halter Delivers Towboat To Stewart & Stevenson

Newly-constructed towboat *Captain Bilbo* recently commenced service along the Paraguay, Parana, Uruguay and Alto Paran rivers and waterways. Built by

Halter Marine for Stewart & Stevenson Services, Inc., the 112 x 32 x 10.6-ft. (34.1 x 9.8 x 3.2 m) vessel is powered by two Electro-Motive Division (EMD) GM 8-645 F7B engines, each with 1,700 hp continuous at 900 rpm delivering 3,400 hp.

The new vessel also features

Lufkin RHS2118 reverse/reduction horizontal offset gears, two Detroit Diesel 6-71 75 kW generators for electrical power, two Kahlenberg 88-in. diameter propellers, and two steering and four flank-



Captain Bilbo.

ing rudders. Hydraulic steering was provided by Skipper Hydraulics Inc., and engine cooling was provided by Fernstrum Gridcoolers.

For more information on Halter Marine Circle 50 on Reader Service Card

MES Delivers Bulk Carrier Hoegh Morus



Hoegh Morus.

The 56,700-dwt bulk carrier *Hoegh Morus* was recently completed by the Taman Works of Mitsui Engineering & Shipbuilding Co., Ltd. (MES) and delivered to owner Leigh Hoegh & Co.

The new open hatch, double hull vessel features two sets of MES gantry cranes, as well as a Norwegian Marine Technology Research Institute-supplied Information Technology program.

For more information on MES Circle 51 on Reader Service Card

Hoegh Morus specifications

Length, o.a.	623 ft. (190 m)
Breadth, b.p.	106 ft. (32.2 m)
Depth, molded	64 ft. (19.5 m)
Draft, molded	44.3 ft. (13.5 m)
Gross tonnage	36,463
DWT	56,816 (metric) tons
Cargo capacity	67,354 sq. m.
Main engine	Mitsui-MAN B&W 6S60MC diesel
Service speed	18 knots
Flag	Bahamas

No matter how you look at it, your business is more productive when you can see where it's headed.



It's a dangerous business you're in. You've got crew boats, tugs, supply boats, and tows running day and night. You need to avoid unnecessary risks. Reduce downtime. And keep your operation running smoothly around the clock.

At night, ITT Night Vision can help you recognize hazards like abandoned platforms and flare booms—and avoid them. Our products enable you to see clearly at night, as if the area were illuminated. Whether you're on the lookout for stand-by buoys or floating debris, ITT Night Vision helps your crews work safely throughout the night.

So get headed in the right direction. Call ITT Night Vision at 1-800-448-8678 today for information on a dealer near you.

E-Mail: ittnv@roanoke.infi.net Home Page: <http://www.ittnv.com>

ITT NIGHT VISIONTM
The Difference Between Night And Day.

Teamtec Launches Next-Generation Incinerators

Teamtec AS has introduced PLC controls on its new-generation shipboard incinerators, reportedly allowing for improved performance and fuel economy, as well as lower emissions. Teamtec incinerators are designed for destruction of a variety of shipboard wastes, including sludge oil, plastics and general garbage and trash. The incinerators are type-approved and certified in compliance with IMO MEPC.59 (33), as well as with U.S. Coast Guard requirements and U.S. Federal regulations. Teamtec incinerators are available as containerized or skid-mounted units.

In addition, Teamtec has developed the A-60 sidescuttle in response to the recent amendment to SOLAS Annex 7, deeming mandatory the installation of A-60-certified windows and sidescuttles in the superstructure of all tankers keel-laid after July 1, 1998.

For more information
Circle 55

Entec/Retrofit Introduces Bilge Water System

Entec/Retrofit Systems has unveiled the SLOP-eVAP bilge water elimination/reduction system. The new system is engineered to evaporate the water portion of bilge slop, which is then boiled and turned into harmless vapor before being vented through a blower-assisted stack into the atmosphere.

Underfloor electric heating of the SLOP-eVAP reportedly allows for up to 98 percent reduction in bilge water.

The system is designed to

(Continued on next page)

MSI To Conduct Waterway Improvement Study

River Towboat Simulation Expect To Help Improve Designs And Cut Costs

MarineSafety International (MSI) has been awarded a contract by the U.S. Army Corps of Engineers Galveston, Texas, district to conduct a simulator study of two areas of the Gulf Intracoastal Waterway (GIWW). The purpose of the simulator analysis is to assist the Corps' Waterways Experiment Station (WES) in fine-tuning and evaluating new channel designs which are

intended to alleviate navigational difficulties at Freeport Wiggles, a section of the GIWW, as well as in the High Island Bridge area, also a section of the GIWW.

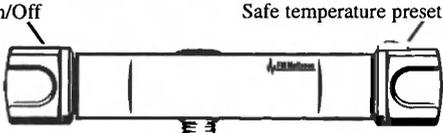
MSI will prepare visual, radar, depth, bank and current computer models of the two areas as they presently exist and as they will be with the new channel designs. Hydrodynamic response models of various configurations of push tows will also be prepared. Simulation tests will be conducted at MSI's Newport, R.I., facility which houses four interactive visual simulators. Two of the simulators are set up as river towboat wheelhouses, each featuring control consoles, two sets of steering and flanking rudder con-

trols, twin throttles, river radars, VHF radios and other instrumentation and gauges found on a river towboat.

These simulators have been refined over the past three years while being used to train SeaRiver Maritime's Gulf and Inland Division, as well as other tug-barge operators.

MSI will work with the WES to verify and, if appropriate, help improve channel designs. Using six experienced river pilots, approximately two weeks of real time simulator runs will be conducted at the Newport facility.

For more information on
MarineSafety International
Circle 48 on Reader Service Card



Anti-scald shower with automatic shutdown

Breakthrough Safe Shower technology

- ◆ Thermostatic & Pressure Balanced
- ◆ Fights danger of Legionella & bacteria without chemicals
- ◆ Water conserving
- ◆ High quality Swedish engineering
- ◆ Externally mounted for easy installation and service

FM Mattsson
Thermostatic Pressure Balanced System
U.S. Patent 5,211,111

Scanmix Corporation
230 Bartlett St. Lewiston, ME 04240
(207) 782-1885 - 207-782-1914 - krejd@somtel.com

Circle 296 on Reader Service Card

Reward

If you have a glare or heat problem in your wheel house, dock area or office, we have something for you (this is not solar film applied to the glass but an adjustable heat and glare protector). Reward yourself by contacting McInnis Industries, 2301 Hwy. 365, Port Arthur, TX, 77640. For brochure and sample, call (409) 727-0044 or fax (409) 729-8811.

Circle 324 on Reader Service Card

MARCO Pollution Control

CELEBRATES 25 YEARS

Serving our customers'
FAST RESPONSE OIL SPILL NEEDS WORLDWIDE!



The Coastal 48 oil recovery vessel, featuring the MARCO Filterbelt, joins the Clean Bay fleet in San Francisco.

MARCO Pollution Control
2300 W. Commodore Way, Seattle, WA 98199 USA
Phone (206) 285-3200 Fax (206) 285-2373
E-Mail: marpo@marcoseattle.com

Circle 278 on Reader Service Card

ANCHORS CHAINS

1/2" up to 4 1/2", U2/U3 from STOCK!

G. J. Wortelboer jr. B.V.
P.O. Box 5003
3008 AA Rotterdam,
Nederland
Tel.: 31 10 4292222
Fax.: 31 10 4296459
Telex: 28393 GJWNL

WORTELBOER

Circle 248 on Reader Service Card

It's A Tug Of War.

Sometimes running a business can feel like a tug of war. Cummins can help. With a powerful lineup of engines from 64 to 2000 horsepower. Engineered for economy, durability and low cost of operation. And backed by an international network of support systems ready to respond to customer needs.

In a tug of war, every advantage helps. Discover what more and more smart operators are discovering. And put the power of Cummins Marine to work for you.

Call Cummins at
1-800-DIESELS (1-800-343-7357)

Fax: 1-800-232-6393
e-mail: powermaster@cummins.com
Internet: <http://www.cummins.com>



POWER TO EARN.

Cummins Marine
Charleston, South Carolina, U.S.A.
Phone: (803) 745-1620
Fax: (803) 745-1549

Cummins Engine Company, Ltd.
Daventry, Northants, England
Phone: 44-1327-886000
Fax: 44-1327-886102

Cummins Diesel Australia
Scoresby, Victoria, Australia
Phone: 61-3-9765-3222
Fax: 61-3-9764-0034

Cummins Americas, Inc.
Miramar, Florida U.S.A.
Phone: (954) 431-5511
Fax: (954) 433-5797

Cummins Diesel Sales Corporation
Singapore
Phone: 65-265-0155
Fax: 65-264-0664

©1997 Cummins Marine, Division of Cummins Engine Company, Inc. 4500 Leeds Avenue — Suite 301, Charleston, South Carolina 29405 U.S.A.

Circle 233 on Reader Service Card

RUBBER FENDERS FOR DOCKS, TUGS & WORKBOATS

Manufactured By

SOVEREIGN RUBBER AMERICA

Hillgate Industrial Estate, Carrington Field Street,
Higher Hillgate, Stockport, Cheshire SK 1 3JW, England

Telephone: 011 44 181 960 4224 Fax: 011 44 181 960 4334
Contact: Alan Scott-Neve

E-mail: sovram@dial.pipex.com



Certificate No. 946/95



Certificate No. 946/95

Circle 303 on Reader Service Card

STRONGER REPAIRS FASTER, EASIER

Unique epoxy resin system bonds to almost anything—produces proven, long lasting repairs with outstanding impact strength, tensile strength, and abrasion resistance

- Repairs everything from pinholes and ruptures to complete breaks in pipes, pumps, ducts, tanks, valves, flanges, joints, and machinery casings, including equipment carrying water, low-pressure steam, gases, gasoline, oil, alcohol, and caustics
- Bonds tenaciously to most surfaces including steel, plastic, fiberglass composites, ceramic, and wood



STANDARD RESIN for small holes/cracks (large holes/cracks with fiberglass reinforcement)

RED PUTTY for medium to large holes, cracks and other defects

STEEL PUTTY for steel-like repairs on metal —can be drilled, tapped, machined

SEALER for small holes and cracks

LEVELING COMPOUND to level corroded surfaces

For detailed literature contact:
Ferro Corporation
Liquid Coatings and Dispersions Division
1301 N. Flora St., Plymouth, IN 46563
Tel: 219-935-5131 • Fax: 219-935-5278



Circle 242 on Reader Service Card

MARINE ENVIRONMENTAL

(Continued from previous page)

fit below deck and run off boat generators to suit onboard bilge water disposal needs.

For more information on Entec/Retrofit Systems
Circle 56 on Reader Service Card

Safe-Tee Offers Hydrocarbon Contaminant Cleanser

Safe-Tee Chemical Products has developed STC Bison, an ultra-concentrated, multipurpose cleanser developed for use in treating hydrocarbon-based contaminants.

The product will reportedly neutralize petroleum-based oil and grease by molecularly converting most toxic, petroleum hydrocarbons into non-toxic, harmless compounds which are safe for disposal.

Distributed by Wegs International, Inc., STC Bison solutions use saponification, which results in a chemical reaction with undesirable hydrocarbons and does not emulsify oil and grease.

The process is achieved by injecting or washing the contaminated water or soil with the appropriate STC Bison solution. The soap by-product of saponification is water soluble, rendering the original petroleum compound water soluble and no longer toxic.

For more information on Safe-Tee Chemical Products
Circle 57 on Reader Service Card

EPA Acts Against Clean Water Violations

The U.S. Environmental Protection Agency (EPA) recently issued Administrative Penalty Orders (APOs) and Administrative Orders to 18 facilities in Dade County for violations of the Clean Water Act (CWA).

Robert F. McGhee, EPA Region 4 Water Division director, said, "Although the storm water requirements are relatively new, EPA must ensure that the streams, rivers and waterways of Florida are protected. As a step in that direction, we have issued the Orders and assessed penalties against facilities which are not complying with the requirements of the CWA."

These enforcement actions were initiated as a result of inspections conducted in conjunction with the Miami River Coordinating Committee and included assistance from the Florida Department of Environmental Protection, Dade Environmental Resources Management, the Florida Marine Patrol and the City of Miami.

Safety Negligence Costs Barge Owner \$8.5 M

The owner of an oil barge was recently fined \$8.5 million, the largest reported environmental fine in New England history, as settlement for criminal charges that the vessel caused an oil spill off Rhode Island.

According to the settlement, New York-based Eklof Marine Corp. admitted negligence in spilling 826,000 gallons of heating oil in January 1996 off

Maritime Reporter/Engineering News



The leader in deck hardware for 60 years

QUALITY DECK HARDWARE

Choose Smith Berger for the highest quality deck hardware for your offshore, towing, oceanographic, dredging, and workboat needs.

- FAIRLEADS • DECK SHEAVES
- CHAIN STOPPERS • FLAG BLOCKS
- TOW PINS • STERN ROLLERS
- ENGINEERING EXPERIENCE FOR CUSTOM DESIGNS.

For information, please contact:

Smith Berger Marine, Inc.

516 S. Chicago St. Seattle, WA 98108 206/764-4650 FAX: 206/764-4653

Circle 302 on Reader Service Card

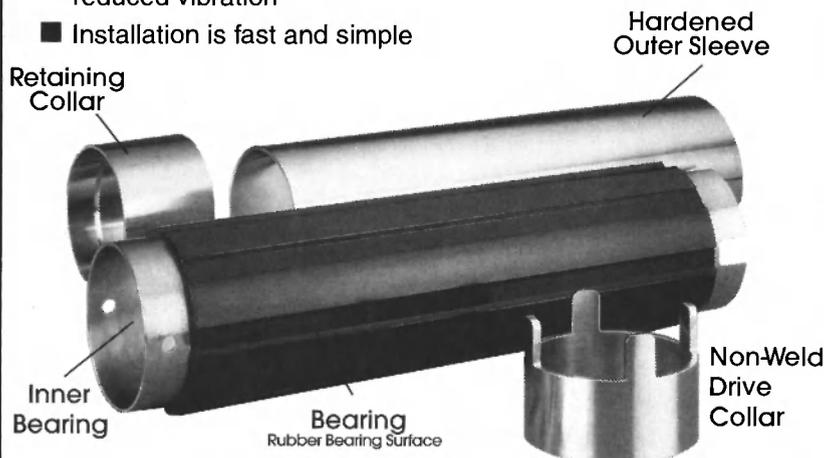


Look No Further!

The best water-lubricated bearing system is here.

The first real innovation in water-lubricated bearings in over 70 years is now available. It will out perform all other bearings. And here is how:

- Patented installation method ensures secure attachment to the prop shaft, preventing spin out
- Eliminates shaft wear, reduced maintenance costs and boat downtime
- Longer bearing life, improved lubrication and reduced vibration
- Installation is fast and simple



Look no further. For more information about the Aeroquip water-lubricated bearing system, contact your local Aeroquip distributor, or call us for a brochure and/or product video.

Telephone: 800.336.4397 FAX: 919.235.3563



Circle 202 on Reader Service Card



Visit us at
Europart '97
Amsterdam!

separated
from
stone

Great Separators

by
Michelangelo

C-Generation

The most ecologically advanced separators in the world.

8,000 - 16,000 hour maintenance intervals.

Dramatically increased flow rates.

Lowest life-cycle and capital costs.



Leading Technologies. Individual Solutions.

Westfalia Separator Mineraloil Systems GmbH
Werner-Habig-Straße 1
D-59302 Oelde, Germany
Tel: +49 25 22 77-0
Fax: +49 25 22 77 23 94
www.westfalia-separator.com

Westfalia Separator, Inc.
100 Fairway Court
Northvale, NJ 07647 USA
Tel: +1 201 767 3900
Fax: +1 201 784 4399



Efficient Desludging System

4000.22

Circle 332 on Reader Service Card

Matunuck, R.I.

The plea agreement was filed at the same time the criminal charges were filed against the oil barge and tugboat owner.

The owners of the North Cape

barge and Scandia tugboat admitted ignoring winter storm warnings the day the barge ran aground. After a fire broke out in the engine room of the tugboat, the crew had to abandon both vessels

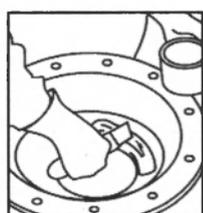
and leave them adrift in the storm. The \$8.5 million settlement includes fines of \$3.5 million to the federal government and \$3.5 million to the Rhode Island state government.

The owners will also pay \$1.5 million to the Nature Conservancy to buy and preserve land in the area around the spill.

The settlement must be approved by state and federal courts, and Eklof will face an additional \$1 million penalty if it fails to upgrade and improve its vessels as the company promised. Owners of the vessels still risk civil lawsuits for the spill.

Rapid Set Super Alloy™ REPAIR PUTTY

- reconditions, restores and protects damaged machinery
- fills cracks, core holes and blow holes in castings and forgings
- joins dissimilar metals, while preventing galvanic corrosion



Components (titanium-filled epoxy and hardener) cure within 30 minutes at 72°F to provide impact- and wear-resistant metal-like material with 15,200 psi compressive strength. Can be drilled, tapped and machined.

ITW Philadelphia Resins

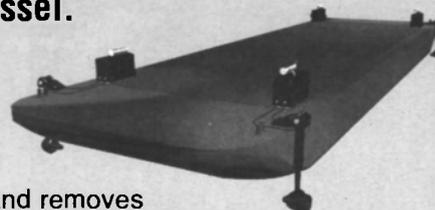
P.O. Box 309, Montgomeryville, PA 18936
215/855-8450
Fax 215/855-4688

complete family of chocking, coating and repair compounds

Circle 265 on Reader Service Card

Portable Dynamic Positioning

Quickly convert any barge, boat or ship into a dynamically positioned work vessel.



- Installs and removes easily with modular deck mounted thrusters and portable DP console
- Smooth operating, fully proportional azimuthing thrust to 1000 HP at each thruster
- Versatile, efficient, extremely reliable thruster design
- Check out the advantages of Thrustmaster's complete range of hydraulic azimuthing, retractable and tunnel thruster technologies



Thrustmaster of Texas, Inc.
P.O. Box 840189
Houston, Texas 77284-0189
Phone: 713-937-6295
FAX: 713-937-7962

Circle 313 on Reader Service Card

Boots & Coots Responds To Gas Blowout

Boots & Coots International Well Control, Inc. recently responded to a natural gas blowout at a site 30 miles south of Alexandria, La.

Four of the company's well control specialists were dispatched to the site of the high-pressure well to assess the damage to blowout prevention equipment that began to leak causing a mixture of natural gas and water to be released from the 17,000 ft. well.

Boots & Coots has developed procedures designed to minimize the risk of fire and explosion. The company's industrial and marine fire-fighting division, in concert with the well control team, delivered to the site supplies of a specially formulated, vapor-suppressing foam designed to mitigate the hazards associated with a potential explosion and resulting fire and eliminate hydrocarbon emissions in an environmentally friendly manner. In addition, the company is working at two other locations providing critical well control management services at a site 120 miles offshore of Cameron, La., and near Punta de Mata in the eastern region of Venezuela.

ECS To Meet Environmental Needs Of Maritime Industry

ECS Claims Administrators, specializing in the management of property, liability and pollution claims, has broadened its focus to managing the financial and technical aspects of environmental incidents to marine facilities and operations, including those regulated by OPA 90. In the event of "blue" or "brown" waters, the firm

HEADHUNTER

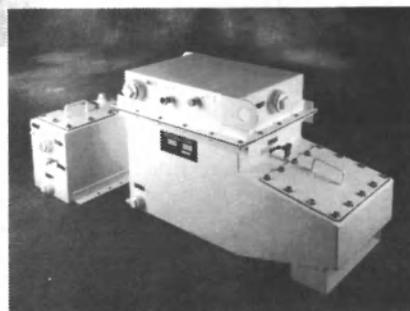
SANITATION SYSTEMS THAT WORK

Royal flush superbowl



- No Moving Parts
- Powerful Jet Macerator
- Takes Rags, Coins, Etc...
- Small Discharge Piping
- 1 Gallon Per Flush
- Alternative Solution To Complex Vacuum Systems
- Touch To Flush
- Commercial Models Available

- USCG Certified Type II MSD
- Simple Effective Treatment With No Moving Parts
- Custom Fabricated For Each Application Permits Unequaled Installation Flexibility
- Aerobic System Assures Effective Odor Control



Royal flush

<http://www.headhunterinc.com>
954•581•6996 800•662•8557 fax 954•587•0403
214 SW 21st Terrace Ft. Lauderdale, FL 33312

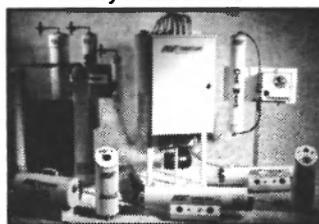
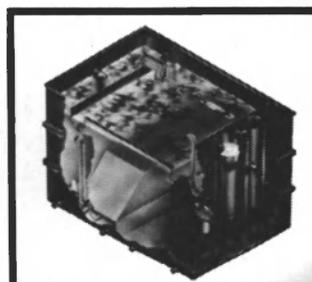
Circle 255 on Reader Service Card

ENVIRONMENTAL PRODUCTS



Oil/Water Separators
Non-ferrous
10 to 50 gpm
Fully Automatic

Bilge Water Systems
Coast Guard / IMO Approved
Lightweight / Non-ferrous
Fully Automatic Low Cost



Ozone Air & Water Systems
Odor Control
Water Purification
Economical / Lightweight



Call For Free Catalog

MARINE ENVIRONMENTAL TECHNOLOGIES INC.

A Member of the RGF Environmental Group

3875 Fiscal Ct., West Palm Beach, FL 33404

In FL 561 848-1826 Outside FL 800 842-7771 fax 561 848-9454

<http://www.rgf.com>

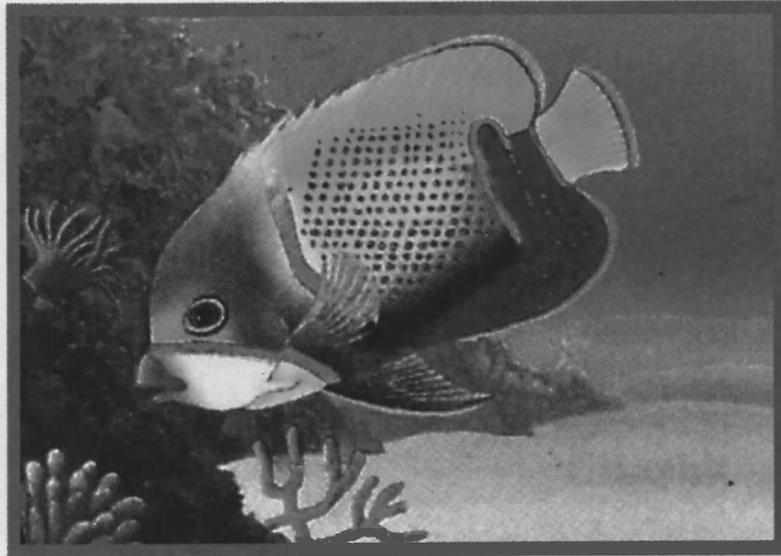
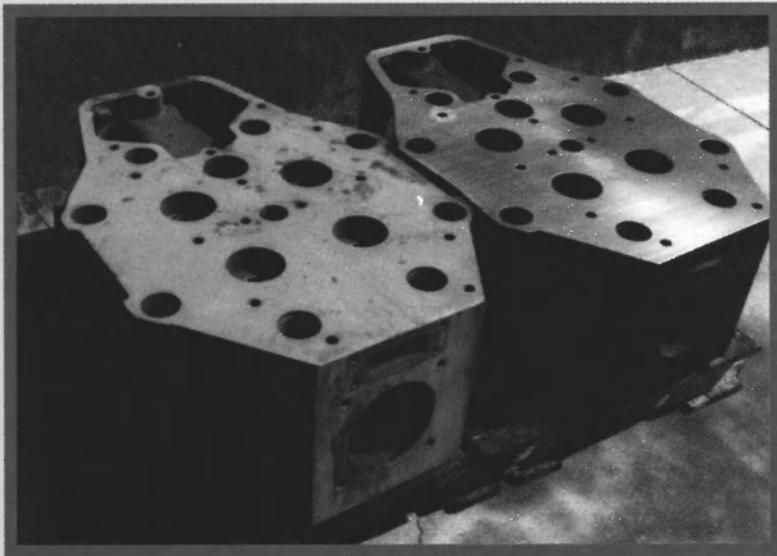
Circle 292 on Reader Service Card

No Acid Dipping

No Hazardous Chemicals

No Sandblasting!

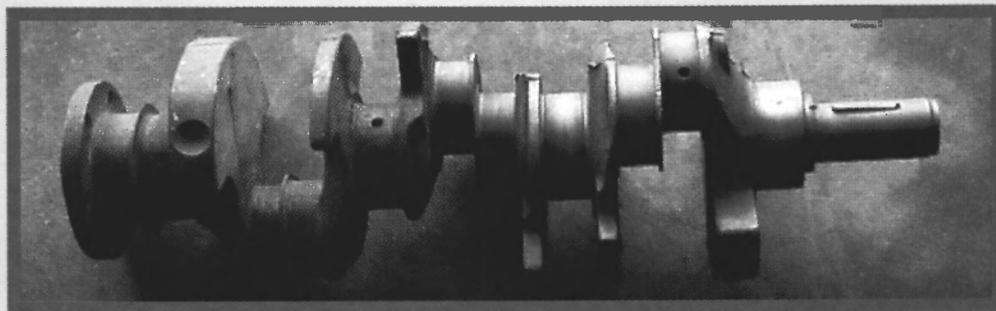
We Only Kill Rust!



0% Mortality under EPA Aquatic Toxicity Test (EPA/600/4-85/013)

RUSTECO® Corrosion Treatment *Safe, Efficient, Easy Rust Removal and Protection*

- Simple to Use: soak in liquid or brush spray
- RUSTECO acts like a primer so you can paint directly over it.
- Will not harm SKIN, existing PAINT, PLASTIC, RUBBER, etc.!!!
- Safe for all metals, including aluminum and chrome
- No shipping, handling, or disposal restrictions
- Tested and Proven in Marine Applications



For Orders and Info Call: 1-800-RUSTECO

RUSTECO Service Center
2019 W. 16th Street, Long Beach, CA 90813
e-mail: rusteco@aol.com <http://www.rusteco.com>
fax: (310) 782-8939

RUSTECO is a Federally registered trademark of TMT Services Corp.

will take on the responsibilities of spill response manager, natural resource consultant, third party administrator and crisis manager.

"One of the biggest costs of an incident is the assessment of the environmental damage or impact on nature. Loss of recreational value, number of birds or animals lost in an incident can be tallied to equal a substantial monetary claim against a firm," said **Karl Russek**, a senior environmental consultant with ECS, adding that the company specializes in working with wildlife biologists and officials to manage a firm's liabilities in this area.

As a third party administrator, ECS works directly with transportation and marine firms, or its hired by their insurers, reinsurance firms or P&I clubs on behalf of their clients.



IMO Tackles Air, Hull Regulations

The following news details recent developments and rulings of the International Maritime Organization (IMO), the United Nations specialized agency responsible for the safety of shipping and the protection of the marine environment.

Air Pollution Measures Adopted

A conference to adopt new measures to cut air pollution from ships was held last month at IMO headquarters.

The new rules, which will include regulations to cut pollution from ship exhaust emissions, will be adopted in the form of a new Annex VI on Air Pollution from Ships to the International

Convention for the Prevention of Pollution from Ships as modified by MARPOL 73/78. MARPOL currently consists of five technical annexes containing measures to prevent pollution by oil, chemicals and other harmful substances, as well as garbage and sewage.

IMO Member States and countries which have ratified the legislation (100 countries represent-

ing 93 percent of the world's shipping tonnage, to date) participated in the conference, adopting new air pollution measures in the form of a Protocol 1997 to the MARPOL Convention, and a new draft Annex VI.

Japan Lobbies For Double Hull Movement

The Japanese government has forwarded a document to the IMO

HYPACK
for WINDOWS

from Coastal Oceanographics, Inc.

The HYPACK series of advanced design programs continues to build on the Coastal Oceanographics reputation for reliability, accuracy, and fast, world wide service.

PERFORMANCE.

HYPACK Hydrographic Software gives you the hydrographic power to lay out survey lines, create plotting sheets, and design cross sectional profiles in a flash. Graphically review your survey data and create new planned lines. Customize your screen sizes. Input up to nine devices, simultaneously. Have single and multibeam data collection capability at your fingertips. Display and edit tracklines, sounding profiles and text data. Apply tide, draft, heave-pitch-roll and sound velocity corrections.

Plus: Full DXF/DGN Support. Plotting, including smooth sheets. The ability to create cross section profiles of multibeam and longitudinal data. And a complete look at your Volumes, including average end area, prismatic, contour and TIN models.

HYPACK's TIN Modeling Program

HYPACK's Survey Program

Portability. Precision.

COASTAL OCEANOGRAPHICS, INC.
11-G Old Indian Trail
Middlefield, CT 06455
Phone: (860) 349-3800
Fax: (860) 349-1982
<http://www.coastalo.com>

Circle 224 on Reader Service Card

SUPERIOR ENERGIES INC.

**MANUFACTURING and CONTRACTING
TEMP-SET®, COVERS**

Removable Reusable Temp-Set Insulation Covers
Manifolds, Turbos, Silencers and complete Exhaust Systems

ACOUSTICAL INSULATION
ASBESTOS ABATEMENT
TURN-KEY JOBS

*Let us take care of all your
insulation and abatement needs.*

WANT SUPERIOR QUALITY
WANT SUPERIOR SERVICE
CALL SUPERIOR ENERGIES INC.

1-800-BUY-SEI-1

P.O. Drawer 386 Groves, TX 77619
Telephone: (409) 962-8549 Fax: (409) 962-4027

Circle 310 on Reader Service Card

MARINE ENVIRONMENTAL

urging other governments "to encourage ship owners to replace existing single hull tankers by tankers of double hull or equivalent constructions earlier than the time scale prescribed in Regulation 13G of Annex I of MARPOL." This request comes as a result of the *Nokhodka* and *Diamond Grace* tanker oil spill accidents and the grounding of *Sea Empress*.

MEPC Approves Ballast Water Safety Regulations

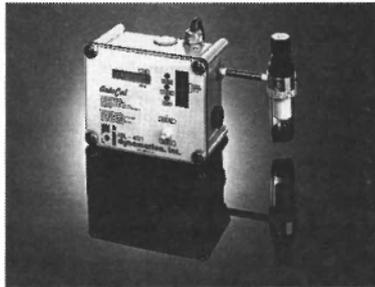
Measures to deal with the problem of harmful aquatic organisms transported in ballast water were recently approved by the IMO's Marine Environment Protection Committee (MEPC) at its 40th session.

The Committee approved a draft Assembly Resolution on Guidelines for the control and Management of Ship's Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens, to be submitted this month to the 20th Assembly for adoption. There has been increased awareness in recent years of the environmental damage caused by the introduction of unwanted aquatic organisms in ballast water used to stabilize vessels at sea. Examples include the introduction of the European zebra mussel in the Great Lakes, resulting in the expenditure of billions of dollars in pollution control measures; and the introduction of the American comb jelly to the Black and Azov Seas, causing the near extinction of the anchovy and sprat schools. Human health has also seen adverse effects, with the transportation of the bacterium *Vibrio cholerae* to Latin American coastal waters, probably through discharges of ballast water from

Asia, and the introduction of South-East Asian dinoflagellates to Australian waters, causing paralytic shellfish poisoning.

The draft guidelines are aimed at minimizing the risks of introducing harmful aquatic organisms and pathogens while maintaining ship safety. The recommendations include informing local agents and/or ships of areas and situations where uptake of ballast water should be minimized. Ships should observe precautionary practices by avoiding loading ballast water in very shallow waters or in areas where propellers may stir up sediment and by avoiding unnecessary discharge of ballast water.

Dynamation Gas Detectors Introduces AutoCal



Dynamation ABL 4021 AutoCal gas detector.

The ABL 4021 AutoCal is Dynamation Gas Detectors' newest respiratory air monitor designed to

monitor for carbon monoxide in compressor supplied breathing air applications.

The new air monitor incorporates a chemical cell sensor, liquid crystal display and a programmable alarm system, which permits the unit to automatically self calibrate when test gas is applied, thus eliminating any adjustment controls.

An optional high pressure regulator is available for cascade systems and SCBA tank filling stations allowing inlet pressures to 5,000 psi. An oxygen cell can also be added if oxygen monitoring is required.

For more information
Circle 9 on Reader Service Card

LifeCalk... the name says it all.

No wonder it's become the industry standard!

There's no longer-lasting deck and hull seam compound than LifeCalk: When the job is done, the job is done.

LifeCalk is a two-part polysulfide that goes on without a prime coat, and cures as quickly as only a two-part product can. Perfect for all bedding and sealing applications, both above and below the water line. It's the ideal sealant for every size boat, from cruise liner to pleasure craft.

Don't settle for less than LifeCalk: It's more than a name... it's a promise.

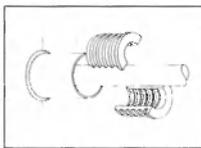
Life Industries Corporation
2081 Bridgeview Dr. • N. Charleston, SC 29405 USA
1-803-566-1225 • Fax: 1-803-566-1275

Circle 335 on Reader Service Card

Firestop Systems For Deck & Bulkhead Penetrations

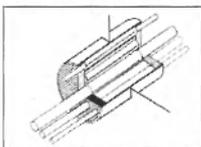
Sealing Plugs

- no metal parts
- fire & water tight
- lightweight
- absorbs all vibration



RISE System

- no special frames
- very flexible
- fire & water tight
- easy installation
- **NO BLOCKS!**



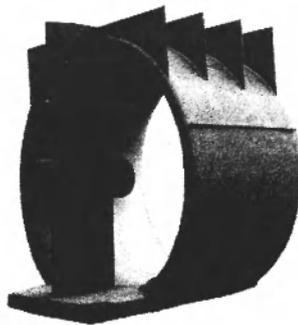
Approved by major classification societies

Call for complete marine products catalog
CSD Sealing Systems - 27 Upham Street
Melrose, MA 02176 (Tel) 1-800-553-8779
(617) 662-0326 (Fax) 617-665-0180

Circle 231 on Reader Service Card



**KORT NOZZLES
IN STANDARD
AND CUSTOM
CONFIGURATIONS**



HARRINGTON MARINE

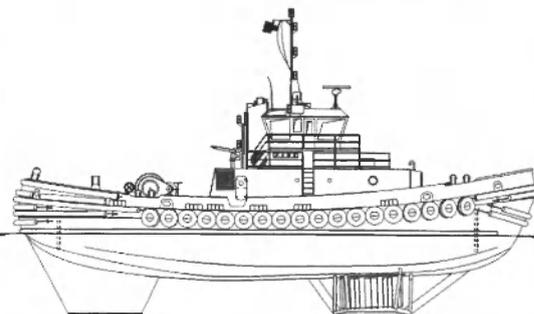
6720 124TH AVE., FENNVILLE MI 49408
PHONE 800-962-5000 FAX 616-543-4251

VISIT OUR WEB SITE AT
<http://accn.org/~hmfm/index.htm>

Circle 254 on Reader Service Card

Houma Fabricators

Shipbuilding - Design - Repair



1100 Oak Street Houma, LA 70363
(504) 879-3346 Fax (504) 876-6343

A Division of LOR, Inc.

Circle 257 on Reader Service Card

\$150-Million Planned For Fleet Revitalization

The purchasers of B&H Maritime Carriers Ltd. reportedly plan to rename the firm Excel Maritime Ltd. and launch share and bond issues to revive operations over the next three to four

months. Excel will seek to raise \$100-150 million to finance acquisition of Aframax tankers, including ordering a new vessel, a spokesman said. Earlier last month, B&H Maritime was acquired by Michalakis Odysseos and Vilpa Investment SA for roughly \$175,000 from B&H Ocean Carriers Ltd.

World's "Most Powerful Diesel" Tested

Wartsila NSD reports that the "world's most powerful diesel engine" successfully completed test-bed trials in Japan last month. The 12-cylinder Sulzer RTA96C two stroke marine unit

has a power output of 89,640 bhp (65,880 kW) and is being built under license by and tested in close collaboration with Diesel United Ltd. of Japan.

For more information on Wärtsilä
Circle 92 on Reader Service Card

PGS, Awilco Become One

Norway's Petroleum Geo-Services (PGS) and offshore supply group Awilco have merged, effectively creating a leading player in marine seismic and floating oil production markets. PGS will acquire Awilco's floating production, storage and offloading (FPSO) business in a stock deal valued at about \$860 million. The transaction includes Awilco's two production vessels *Petrojarl Foinaven* and *Petrojarl I*.

Van Ommere Holding Buys 12 Ships For \$200M

Van Ommere Shipping Holding unit bought the entire fleet of Czech Ocean Shipping for approximately \$200 million. The fleet of Czech Ocean Shipping consists of 12 bulk carriers, of which nine are Handy/Handymax and three are Panamax.

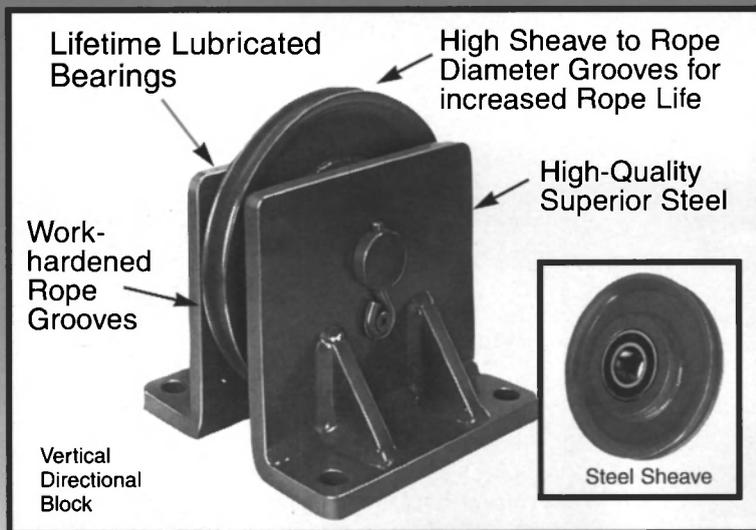
Norwegian Shipbuilding Aid Extended

The EFTA Surveillance Authority (ESA) approved Norwegian plans to extend to the end of December 1997 aid to the country's shipbuilding industry. The plans also extend the deadline for delivery of ships supported under the schemes to three years from when the contracts were signed, rather than the previous December 31, 1998 deadline. The building of ferries can also now be semi-publicly financed.

Festival To Spend \$9 Million On Cruise Ship Upgrade

Festival Cruises will reportedly spend \$9 million to upgrade the *Southern Cross* cruise ship it has just acquired from CTC Cruise Lines. The 17,000-ton ship, to be renamed *Flamenco*, will be refurbished in Greece before sailing to the Caribbean on its inaugural cruise on December 3. After the modernization, the company will have invested \$32 million in the 700-passenger vessel.

The Anatomy of a Tough Block!

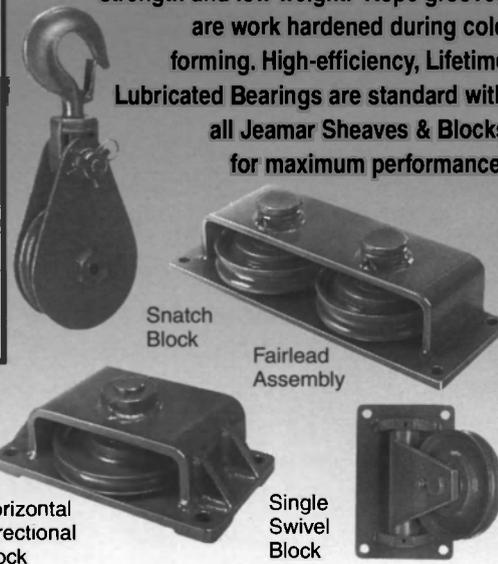


Fast Delivery on over 25 Models!

JeamarWinches

1051 Clinton St. Buffalo, N.Y. 14206
Tel: (716) 854-3211 • Fax: (716) 854-4141

Precision made from superior steel for high strength and low weight. Rope grooves are work hardened during cold forming. High-efficiency, Lifetime Lubricated Bearings are standard with all Jeamar Sheaves & Blocks for maximum performance.



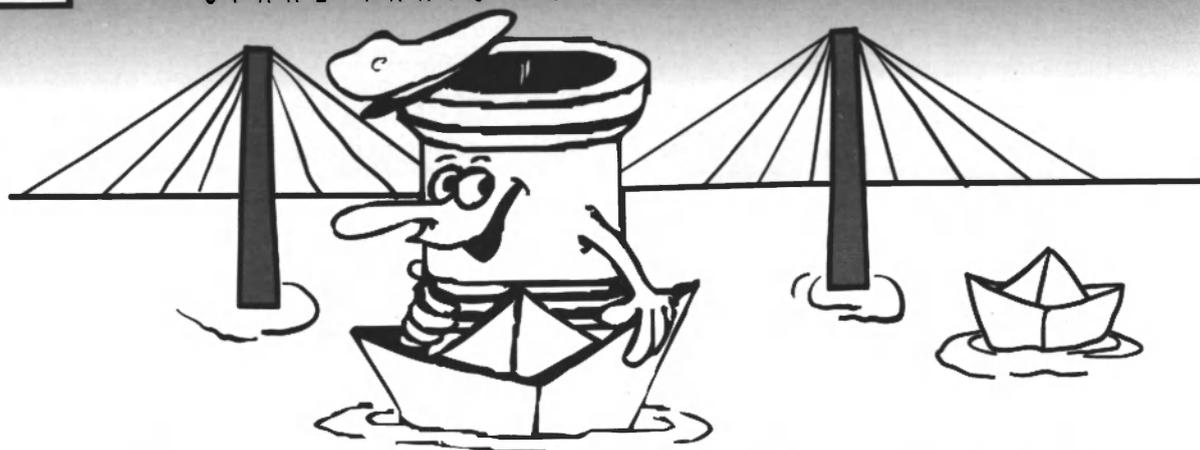
Circle 268 on Reader Service Card



FOUNDRY AND MACHINE SHOPS SINCE 1860

FUNDITESA SANJURJO

SPARE PARTS FOR MARINE DIESEL ENGINES



Cylinder liners, cylinder covers, and other spare parts of the finest quality for diesel engines
THE LATEST TECHNOLOGY BACKED BY THE GUARANTEE OF LONG EXPERIENCE

Postal Address
P.O. Box 64
36280 VIGO SPAIN

Head Office
Romeu, 19 (Corujo)
36330 VIGO SPAIN

Phone
+ 34 - 86 - 20 53 12

Fax
+ 34 - 86 - 20 70 24

Telex
83244 FDTS E

Circle 245 on Reader Service Card

PEOPLE & COMPANY NEWS

Outboard Marine Appoints President And CEO

Outboard Marine Corp. has announced that **David D. Jones, Jr.** has been appointed president and CEO and **Alfred D. Kingsley**, senior managing director of Greenway Partners, was named chairman of the board. These new appointments come on the heels of **Harry W. Bowman's** resignation from these posts.

Mr. **Jones** has worked in the marine engine industry for more than 20 years.

His last position in the maritime industry was as the president of the Mercury Marine Division of the Brunswick Corp. Prior to that, he was employed as vice president and general manager of the Force Outboard Division of the U.S. Marines for four years.

Mr. **Bowman** will serve as a consultant to the company through September 1998.

Aalborg Sunrod Opens NY Office

Aalborg Sunrod has opened a representative office in New York, where **Charles Hoetzl** has joined the company as a sales representative. The aim of the new office is to maintain and develop the market for marine boilers and related equipment for customers based in the U.S. and Canada.

Ulstein Opens New Service Center In Brazil

Ulstein has set up an OSV service center in Brazil named Ulstein South America Ltd. **Vebjorn Antonsen** has been named manager of the new company, which will be located in Rio de Janeiro. Mr. **Antonsen** leaves the Seattle branch of Ulstein USA Inc., where he served as service manager for the last seven years.

SUNY Maritime Honors Father And Son Team

SUNY Maritime College was scheduled to honor **Edward du Moulin** and his son, **Richard**, at the Tenth Annual Admiral's Ball on Nov. 8.

Edward du Moulin was a founding trustee of the Maritime College's Foundation, which supported three America's Cup defense campaigns between 1977 and 1983, with Mr. **du Moulin** as manager.

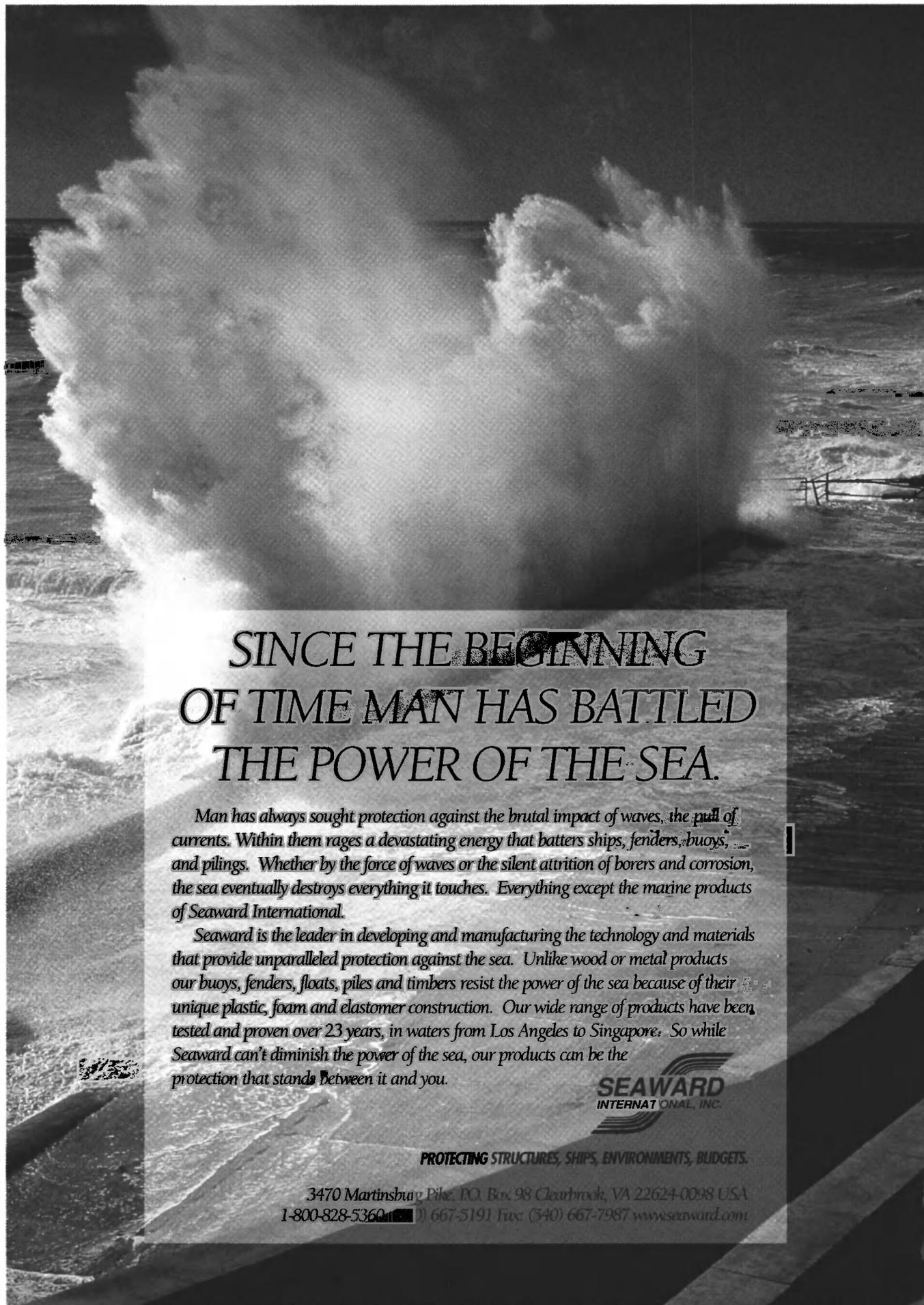
Richard du Moulin is chairman and CEO of Marine Transport

Lines, Inc., one of America's oldest steamship company.

NNS Announces Open Market Share Repurchase Program

Newport News Shipbuilding

(NNS) will fund a portion of its employees compensation plan obligations with up to \$10 million of shares of its common stock, which will be purchased by the company through open market and privately negotiated transactions. In addition, it is expected that purchases of additional shares will be



**SINCE THE BEGINNING
OF TIME MAN HAS BATTLED
THE POWER OF THE SEA.**

Man has always sought protection against the brutal impact of waves, the pull of currents. Within them rages a devastating energy that batters ships, fenders, buoys, and pilings. Whether by the force of waves or the silent attrition of borers and corrosion, the sea eventually destroys everything it touches. Everything except the marine products of Seaward International.

Seaward is the leader in developing and manufacturing the technology and materials that provide unparalleled protection against the sea. Unlike wood or metal products our buoys, fenders, floats, piles and timbers resist the power of the sea because of their unique plastic, foam and elastomer construction. Our wide range of products have been tested and proven over 23 years, in waters from Los Angeles to Singapore. So while Seaward can't diminish the power of the sea, our products can be the protection that stands between it and you.

**SEAWARD
INTERNATIONAL, INC.**

PROTECTING STRUCTURES, SHIPS, ENVIRONMENTS, BUDGETS.

3470 Martinsburg Pike, P.O. Box 98 Clearbrook, VA 22624-0098 USA
1-800-828-5360 (toll free) 667-5191 Fax: (540) 667-7987 www.seaward.com

PEOPLE & COMPANY NEWS

authorized for this purpose.

"This share repurchase program reflects our confidence in the company's future performance," said **Bill Fricks**, chairman and CEO. "Strength in our core Navy business, and the associated favorable trends we are experiencing in cash flow support implementing the

program at this time. We look forward to initiating similar programs as opportunities arise."

Halter Marine Group Declares Stock Split

Halter Marine Group, Inc.

announced a three-for-two common stock split in the form of a stock dividend to stockholders of record as of Oct. 15, 1997. Additional stock certificates are expected to be mailed on Oct. 31, 1997.

Following the stock split, approximately 27,675,000 shares of com-

mon stock will be outstanding. The company will pay cash in lieu of fractional shares based on the last sale price of its common stock on the record date (as adjusted for the stock dividend).

In announcing the dividend, **John Dane III**, Halter's chairman, president and CEO, noted, "Since the company's initial public offering on Sept. 26, 1996, our common stock price has increased over 300 percent from \$11 per share to over \$45 per share as of Sept. 26, 1997." He added, "The board of directors took this action to broaden the company's ownership base and increase the number of shares available for trading."



World Leader in the design and supply of complete liquid mud and cargo handling systems

Special Thanks to Avondale/ Arco for choosing Allweiler Marine as their supplier of Cargo and Engine Room Pumps



ALLWEILER Marine, Inc.
12600 SE 38th Street, Suite 230
Bellevue, WA 98006-5232, USA
Tel.: 425-643-0377
Fax: 425-643-0456
Toll Free: 888-583-8801

3 Multi-purpose Cargo Pump for Brine, Fuel, Drill-water and Oil Recovery

4 Circulation Pump

5 The Agitator

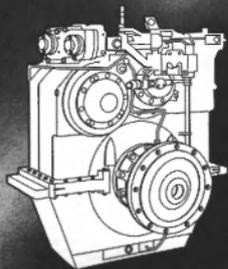
1 Oil Based Liquid Mud Agitation and Circulation Systems.

2 Liquid Mud Pump

PUMP AND PUMPING EXPERTISE SINCE 1860

Circle 328 on Reader Service Card

Transmission muscle.



In heavy weather, fierce wind and fast water, it's good to know you've got ZF behind you, delivering ultimate power and control at all times, in all conditions. Across the seven seas, whatever the workboat, where livelihoods and lives, are on the line, the professional chooses ZF transmissions.

Superior ZF engineering delivers proven reliability, plus low maintenance and long service life. ZF Marine transmissions are backed by worldwide sales and service.

Transmissions you can trust

For further information please contact:
ZF Industries Inc., Marketing Support Dept.,
777 Hickory Hill Drive, Vernon Hills, IL 60061-3182
Tel: 847 634 3500 Fax: 847 634 0736



Circle 322 on Reader Service Card

Outboard Marine Merger Complete

Greenmarine Holdings LLC announced that its wholly-owned subsidiary, Greenmarine Acquisition Corp. has merged with Outboard Marine Corp. (OMC). As the surviving corporation in the merger, it will continue to operate under the same name. The merger was effected in accordance with the "short-form merger" provisions of Section 253 of the General Corp. Law of the State of Delaware. As a result of the merger, Greenmarine Holdings is now the sole stockholder of OMC. In the merger, each outstanding share of common stock of OMC not owned by Greenmarine Acquisition Corp. or former stockholders who intend to exercise dissenter's rights under the General Corp. Law of the State of Delaware, was converted into the right to receive \$18 in cash. A notice of the effectiveness of the merger has been mailed to former stockholders of OMC with instructions to receive cash payment for their shares.

Blue Star Line Moves Melbourne Star

Blue Star Line (BSL) is moving 1,308-TEU *Melbourne Star* to its East and Gulf Coast Container Service in an attempt to improve frequency and transit times between North America, Australia and New Zealand.

BSL ordered the vessel transfer to ensure schedule integrity in the face of delays experienced on the U.S. domestic rail links and through on-going maintenance

PEOPLE & COMPANY NEWS

work on the Panama Canal.

"Customer reliance on our schedule frequency cannot be compromised," said BSL President **Ray Tilley**. "Our quality control standards require that BSL customers meet all delivery dates, which is our top priority."

Melbourne Star, which carries 680 refrigerated containers and has a breakbulk capacity of 168,000 cu. ft., was scheduled to begin service for BSL's East and Gulf Coast operation this month. Currently, the vessel sails for BSL's fixed-day service on the U.S. west coast.

V. Ships Marine Gains SEP And ISO 9002 Certification

V. Ships Marine Ltd. was recently presented with Safety and Environmental Protection (SEP) and ISO 9002 Certification from classification society Det Norske Veritas (DNV), Region East USA, River Edge, N.J. According to V. Ships Marine Vice President of Safety and Quality **David Walton**, the successful completion of shipboard audits for its tankers occurred in late July, prompting DNV to issue the company its SEP.

PolySpec Marine Products Purchases Selby Line

PolySpec Marine Products Corp. recently purchased the Selby line of marine deck covering products from Harris Specialty Chemicals. The PolySpec line of products now includes: deck top fire and thermal insulation; underlayment systems; primers; bonding agents; decorative finishes; waterproof membranes; and non-skid coatings.

Detroit Diesel Ships First Series 2000 Marine Production Engines

Detroit Diesel Corp. (DDC) announced the shipment of the first pair of Series 2000 marine pleasure craft production engines to Burger Yacht.

The new engines, 16V2000s rated at 1,800 hp each, are part of a family of engines which include 6V and 12V configurations. These engines are the result of a joint development program between DDC and Motoren-und Turbinen-

Union Friedrichshafen GmbH (MTU) and are developed from the Mercedes-Benz 500 Series engine platform. **Al Kozel**, Detroit Diesel Corp.'s vice president of Marine Sales said, "We are pleased to present the result of this cooperation to our customers. This new engine family incorporates the vision and

depth of American and German engineering and manufacturing expertise along with extensive feedback from our worldwide customers.

A further benefit is the unparalleled worldwide parts and service network which results from our cooperation with MTU."

Series 2000 engines sold by DDC include the complete Custom Care Maintenance Program at no charge. This program includes all scheduled maintenance for the first two years and covers everything from oil filter changes to analyzing data from the electronic control system.



**WHILE THIS MAY
APPEAR TO BE A
SIDE BY SIDE
COMPARISON,
WE ASSURE YOU
THERE ISN'T ANY.**

To the right of that familiar timber pile is the first genuine innovation in piling construction in decades: the SEAPILE® Composite Marine Piling. Whether it is used for fender piling or light structural piling, SEAPILE provides a durable, environmentally friendly alternative to creosoted or chemically treated timber.

SEAPILE is made from Duralin® plastic, a matrix of 100% recycled resin that bonds with the pile's fiberglass reinforcing elements. Impervious to marine borers, SEAPILE is also resistant to ultraviolet light, chipping and spalling. It is currently available in 10 inch (250 mm), 13 inch (330 mm) and 16 inch (400 mm) diameters, with lengths up to 90 feet (27 m). The SEAPILE drives just like a wood pile with the same machinery.

So make sure your next piling purchase is truly beyond compare. Choose SEAPILE Composite Marine Piling from Seaward International. Structures, ships, environments, budgets. We protect it all.



3470 Martinsburg Pike, P.O. Box 98
Clearbrook, VA 22624-0098 USA
1-800-828-5360 (540) 667-5191
Fax: (540) 667-7987

www.seaward.com

SEAPILE® and Duralin® are registered trademarks of Seaward International, Inc.

Circle 29: on Reader Service Card

PEOPLE & COMPANY NEWS

The four-cycle Series 2000 engines feature electronic unit fuel injection and sequential turbochargers with wastegates.

The result is excellent fuel economy, low emissions, virtually smoke free throttle response and rapid acceleration.

ABS Appoints Manager

ABS has named **Stig Ake Dahl** to the newly-created position of manger, Poland, Czech Republic and Slovakia. As manager of ABS operations in the three-country region, Mr. Dahl will be in charge

of new construction surveys and surveys of existing vessels in Polish shipyards, as well as surveys of ABS-classed vessels calling at Polish ports. He will also oversee the certification of engines and other major components at various manufacturing plants and fabricating shops and supervise the wit-

nessing of material tests at steel plants and filler metal manufacturers. In addition, Mr. Dahl will assume responsibility for further expanding the fast-growing ABS Type Approval program within the region.

Mr. Dahl joined ABS in 1975. He has served as surveyor, senior surveyor and principal surveyor in Poland. Prior to joining ABS, he gained extensive sea experience with Transatlantic and as a chief engineer with Nordstrom & Thulin.

Boatrac's Appoints New President, CEO

Jon Gilbert has been appointed president and CEO of Boatrac's and will also serve on the board of directors, where **Michael Silverman** will remain as chairman. Mr. Gilbert joins the company after 12 years with Maintenance Warehouse/America Corp., where he was most recently CEO.

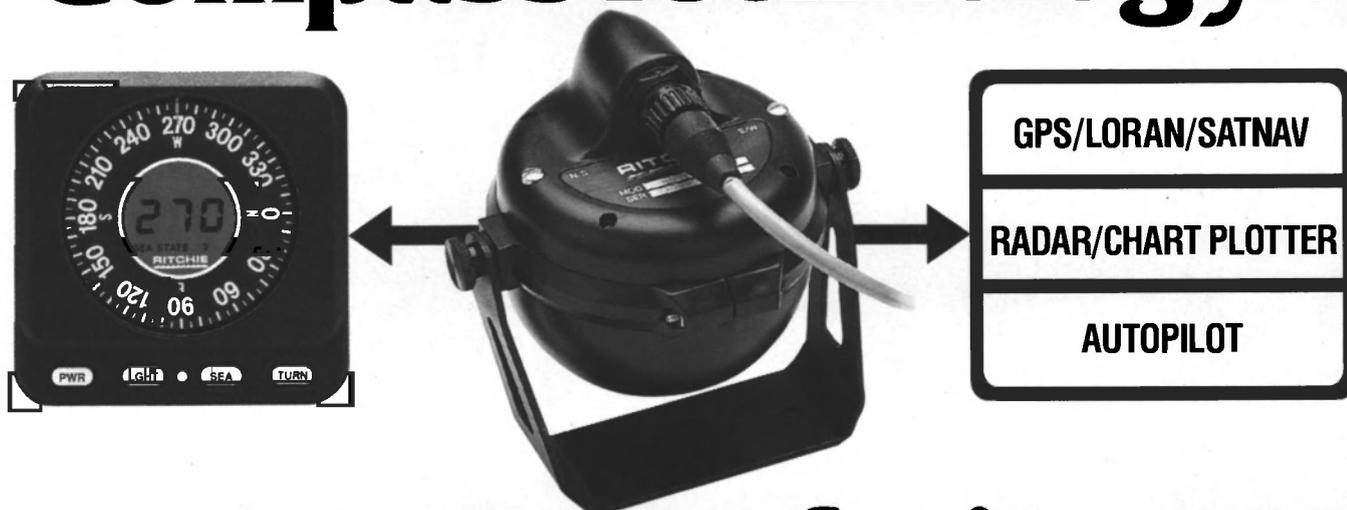
"Jon has a proven history of achievement and business experience that will be invaluable to Boatrac's as we continue to expand domestically and internationally," Mr. Silverman said. "Jon has also demonstrated his confidence in Boatrac's by committing to become a major shareholder in the company."

Sonsub International Names New VP

Sonsub International Inc. has announced the appointment of **Fredric L. Hettinger** to the position of vice president, Engineering. In this position, Mr. Hettinger will be responsible for directing the company's engineering activities throughout the Americas region, as well as developing new business opportunities and interfacing with Sonsub International's offices around the world.

Mr. Hettinger, a registered professional engineer, has extensive subsea intervention engineering and technology experience, and has held senior-level management positions with a number of leading offshore contractors and service companies. From 1989 to 1992, he was president and CEO of Diverless Systems, Inc. (DSI), an engineering affiliate of Sonsub.

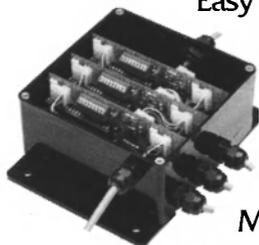
Ritchie sets a new standard in Electronic Compass Technology...



Easy Interfacing.

Ritchie's MagTronic Heading System is setting a new standard for Electronic Compass Technology. That's because the MagTronic Sensor produces a crisp, clean signal that converts directly to digital information with accuracy and repeatability unmatched by other sensors. This sensor can also provide identical heading data for all your on-board navigation instruments. In fact, you can usually connect up to three instruments including your compass display directly to the sensor. That's

Easy Interfacing. If your electronics require several different signals all at one time, That's Easy too. All it takes is a MagTronic Interface Enclosure and simple slip-in MagTronic Interface Modules. Imagine, no more conflicting



heading data. Your LORAN, GPS, SATNAV, CHART/PLOTTER, RADAR and AUTOPILOT will all have the same precise heading data and MagTronic's unmatched 1/2-of-one degree accuracy.

For more information about Ritchie Electronic Compasses, see your favorite Marine or Electronics Dealer or ask for your **FREE** Ritchie Catalog...it has everything you need to know about the new standard in modern Electronic Compass Technology...and Ritchie Magnetic Compasses, too.



Remember, at Ritchie, Technology is never outdated...it's Standard.

RITCHIE

E. S. Ritchie & Sons, Inc.
243 Oak Street, Pembroke, MA 02359
Tel: (617) 826-5131 • Fax: (617) 826-7336

Peder Wennberg Joins NNS



Newport News Shipbuilding has announced the appointment of **Peder K. Wennberg** as manager, Commercial Marketing.

In his new position, Mr. **Wennberg** will be responsible for marketing and sales activities associated with commercial newbuild construction and conversion opportunities.

Mr. **Wennberg** comes to NNS after working in the commercial marine industry for many years. His most recent position was as area sales manager of Ulstein USA, Inc.

RADIO HOLLAND USA, THE NATIONAL OPERATING MARINE ELECTRONICS SALES AND SERVICE ORGANIZATION OF THE SAIT RADIO HOLLAND GLOBAL GROUP OF COMPANIES IS EXPANDING. THE FOLLOWING POSITIONS ARE OPEN:

REGIONAL SENIOR SALES REPRESENTATIVE FOR NORTHEAST USA

THE SUCCESSFUL CANDIDATE WILL BE BASED IN OUR NEW JERSEY OFFICE

- * POSSESS A NAUTICAL AS WELL AS SALES BACKGROUND
- * HAVE A PROVEN TRACK RECORD IN THE MARINE INDUSTRY
- * STRONG SALES SKILLS AND THE ABILITY TO SUPPORT AND LEAD THE CURRENT SALES TEAM
- * EXPERTISE WITH A VARIETY OF COMPUTER PROGRAMS
- * BI LINGUAL SKILLS ADVANTAGEOUS

DYNAMIC MARINE AND OIL OFFSHORE SALES REPRESENTATIVE

THE SUCCESSFUL CANDIDATE WILL BE BASED IN OUR HOUSTON, TEXAS OFFICE

- * ABILITY TO MARKET AND SELL OUR ELECTRONIC PRODUCTS AND TECHNICAL SERVICES TO THE MARINE AND OIL OFFSHORE INDUSTRIES
- * TECHNICAL / ENGINEERING BACKGROUND HIGHLY DESIRABLE
- * SOME PROVEN EXPERIENCE REQUIRED
- * INITIALLY WILL WORK UNDER THE DIRECT SUPERVISION OF THE GULF COAST AREA SALES MANAGER
- * RAPID PROGRESSION EXPECTED TO ENABLE THE CANDIDATE TO WORK WITHOUT DAILY SUPERVISION
- * EXPERTISE WITH A VARIETY OF COMPUTER PROGRAMS
- * BI LINGUAL SKILLS ADVANTAGEOUS

DYNAMIC MARINE AUTOMATION SYSTEMS SALES REPRESENTATIVE

THE SUCCESSFUL CANDIDATE WILL BECOME PART OF THE AUTOMATION SYSTEM TEAM BASED IN OUR HOUSTON, TEXAS OFFICE

- * WILL WORK IN CLOSE CONJUNCTION WITH THE DEPARTMENT MANAGER
- * NAUTICAL BACKGROUND WITH KNOWLEDGE OF AUTOMATED ENGINE ROOMS ESSENTIAL
- * SALES EXPERIENCE DESIRED
- * GOOD VERBAL AND WRITTEN COMMUNICATION SKILLS REQUIRED
- * TEAM PLAYING CAPABILITIES MANDATORY
- * FLEXIBLE WORK ETHIC AND ABILITY TO TRAVEL STRONGLY REQUIRED
- * EXPERTISE WITH A VARIETY OF COMPUTER PROGRAMS
- * BI LINGUAL SKILLS ADVANTAGEOUS

• BOX 1101 • MARITIME REPORTER • 118 E. 25TH STREET • NEW YORK, NY 10010

Circle 288 on Reader Service Card

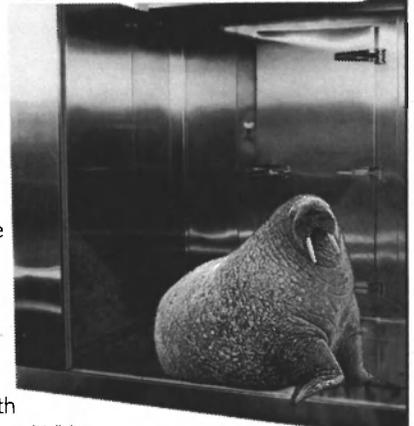
When We Say... "LOAD-BEARING REINFORCED FLOORING..."

We Mean...

ARCTIC SAFE
by COSPOLICH

Up to now, cold storage spaces for marine installations have been manufactured with weak load-bearing characteristics and seams that separate, allowing food waste to accumulate under the floor.

ARCTIC SAFE from Cospolich is the latest innovation in large marine cold spaces, with a .060 stainless steel floor with underlayment, and capable of supporting more than 2,500 lbs. per square foot. **ARCTIC SAFE's** modular design offers you the flexibility to make full use of the space available.



949 Industry Road
Kenner, LA 70062
(800) 423-7761
(504) 469-6555
www.cospolich.com

COSPOLICH
REFRIGERATOR CO.

Circle 228 on Reader Service Card

WINCHES

- Single or Multi-Drum
- Traction • Anchoring
- Mooring • Towing

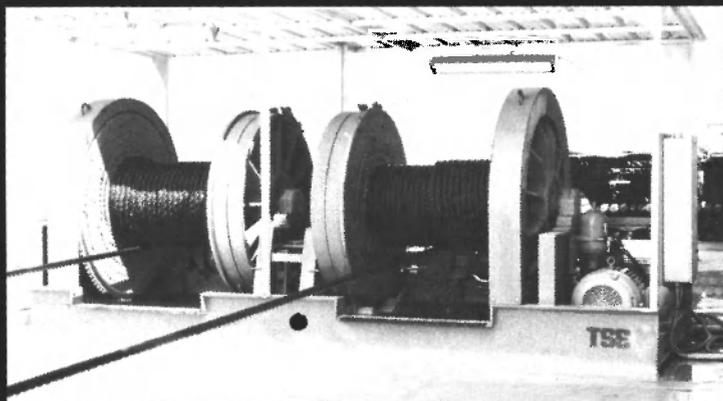
WINDLASSES

CHAIN JACKS

CHAIN STOPPERS

FAIRLEADERS

Custom Designed Products for
Your Specific Needs since 1947.



TE **TIMBERLAND
EQUIPMENT
LIMITED**

TSE
INTERNATIONAL, INC.
TENSION STRINGING
EQUIPMENT

TIMBERLAND EQUIPMENT LIMITED
P.O. Box 490, 459 Industrial Ave.
Woodstock, Ontario, N4S 7Z2 CANADA
Phone: 800-387-1892 Fax: 519-539-5853

TSE INTERNATIONAL, INC.
5301 Shreveport-Blanchard Highway
Shreveport, LA 71107 U.S.A.
Phone: 800-825-2402 Fax: 318-929-4853

Circle 314 on Reader Service Card

We specialize in high-performance ropes

Puget Sound Rope's focus is to specifically design, develop and manufacture ropes for high-performance applications...like yours. Our state of the art facilities manufacture braided ropes with proven success as face wires, towing hawsers and mooring lines.



Our strongest rope, **Plasma™ 12-Strand**, is twice as strong as Kevlar® rope and 50% stronger than conventional Spectra® fiber rope. Our extensive quality assurance/testing program has shown that Plasma ropes retain all of the properties of Spectra, including light weight, toughness, and near-zero stretch – yet are 20% lower in cost. Size-for-size Plasma ropes are also stronger than steel cable, at 1/10th the weight!



When it comes to critical applications, customers around the world depend upon our expertise in rope performance and safety. Contact us today for more information on how we may be of help to you.



PSR
Puget Sound Rope

tel: 360-293-8488 fax: 360-293-8480
email: sales@psrope.com

SPECTRA Performance Materials
SPECTRA FIBER

Spectra® is a registered trademark of AlliedSignal Inc.
Kevlar® is a registered trademark of E.I. DuPont

Visit our web site: www.psrope.com

Circle 287 on Reader Service Card

PEOPLE & COMPANY NEWS

New President/CEO Appointed At Consilium Metritape



The board of directors of Consilium Metritape, Inc., has announced the appointment of **Robert H. Osmer** as president and CEO. Most recently, Mr. Osmer served as president of Devoe Coatings Company, one of the largest international manufacturers of advanced

technology special coatings for the marine and industrial markets.

Prior to Devoe, he served as director of Operations for Sipco Services, vice president of Engineering for Bulkfleet Marine Corp., and in various marine engineering shore based and sea going positions with Exxon Shipping Company and Texaco Marine.

Pugh Joins Seaward

James D. Pugh has been named vice president of Sales for Seaward International Inc. He

will be responsible for managing the worldwide sales organization which markets Seaward's foam-filled marine fenders, buoys and composite marine piling and timber.

Mr. Pugh comes to Seaward from Black & Veatch, an international engineering firm, where he was director of Marketing, Maritime Services.

He has also served as executive director and CEO of the Port of Houston Authority and as executive director of the Indiana Port Commission.

Dataworks Appoints New Sales Director

London-based software specialist Dataworks has appointed **Lloyd Prichard** as Sales director for Dataworks (U.K.) Ltd. Mr. Prichard will direct the selling of shipbroking and communications software and IT solutions to the shipping industry.

Coastal Elects Schmid As VP

The Coastal Corporation has announced that **John C. Schmid** has been elected vice president for International Production of Coastal Oil & Gas Corp., The Coastal Corp.'s exploration and production subsidiary.

Mr. Schmid will be responsible for evaluating, acquiring and optimizing all non-domestic production and operating opportunities for Coastal's exploration and production segment. Before joining Coastal, Mr. Schmid was general manager/president of Maxus Ecuador Inc., a subsidiary of Maxus Energy, where he was responsible for development of producing fields in the Amazon rainforest. He had previously been general manager of Maxus's domestic exploration and production activities.

Menke Promoted

The Oronite Additives Division of Chevron Chemical Company has announced the promotion of **Mark Menke** to Global Business Manager. In his new position, Mr. Menke will develop global product line strategies and coordinate global pricing and technology budgets. He will continue to serve on the Oronite Leadership Team, providing strategic and policy direction for the division, and on the board of Saudi Chevron Petrochemical.

Prior to his promotion, Mr. Menke was manager, International Business Development for Chevron Chemical Company, in which capacity he led the acquisition team responsible for the up-front development of joint venture Saudi Chevron Petrochemical.

He also has experience as manager, Strategic Planning for CCC, and in various positions with Chevron USA Marketing and Chevron USA Manufacturing.



There's Only One Choice in the Northeast



AMERICAN SHIPYARD Corp.

For Ship Design, Construction, Conversion & Repairs

The Equipment & Expertise You Need:

- 2200 Ton Marine Railway
- 2500 Ton Floating Drydock
- 2000 Feet Deepwater Berthing
- On-Site Welding, Carpentry, Electrical, Pipe Fitting & HVAC Shops
- Certified for U.S. Government Contracts

Let Us Bid On Your Next Project

1 Washington Street • Newport, Rhode Island 02840-0943

Tel (401) 846-6000 • Fax (401) 849-7964

Visit Our Web Site: americanshipyard.com

Circle 209 on Reader Service Card

SHIP REPAIR MANAGEMENT

Baltimore Marine Industries, Inc., a major Mid-Atlantic ship repair yard at Sparrows Point, MD, is seeking to bolster its management team with a few dynamic, highly motivated, success-oriented individuals with records of achievement in the following positions:

- **Manager of Machinery Division**
- **Purchasing Manager**
- **Rigging Superintendent**
- **Senior Estimator**
- **Ship Superintendent**
- **Estimator (Machinery)**
- **Electrical Supervisor**
- **Machinery Supervisor**
- **Pipe Supervisor**

Qualified candidates will be rewarded with top salaries and an unsurpassed benefits package which includes a non-contributory retirement plan, premium-free medical, dental, vision, & prescription plans, savings plan w/Company match, medical savings account, premium-free life insurance plus optional additional & dependent coverage, premium-free long term & short term disability coverage, tuition assistance, management incentive plan, 12 holidays per year, & liberal paid vacation.

To arrange an interview in the Norfolk area, please call (410) 388-6131 or send a confidential resume to: Stephen F. Sullivan, Vice President of Human Resources, Baltimore Marine Industries, Inc., 600 Shipyard Road, Baltimore, MD 21219. EOE, M/F.

Baltimore Marine Industries, Inc.

Circle 215 on Reader Service Card

HATCHES



quick-open or bolt down 8" round to 33"x48"

We also specialize in **POT HAULERS**

10" and 12"

Deck Hardware

cleats • blocks • deck irons • rosemounts • hawse rings • etc.

CUSTOM CASTING

brass and aluminum

See us at Fish Expo Booth # 2026

BAYWOOD, INC.

Sedro Woolley, WA 98284

TEL (360) 855-0818

OR 1-800-386-6156

FAX (360) 855-0916

Circle 216 on Reader Service Card

COMPLETE MARINE FENDERING SYSTEMS



A full line of fenders to meet every need -

- Laminated Rubber
- Molded/Extruded
- Viking Softlite® Foam Fenders

For use by tugs, barges, piers, terminals, utility & work boats, submarines and docks.

PROTECTION DESIGNED TO MEET THE DEMANDS OF THE SEA!



CALL TODAY FOR OUR NEW CATALOG!

Viking Fender Company

a division of

Viking Marine Products, Inc.

1160 State Street

Perth Amboy, NJ 08861 USA

PH: (908) 826-4552

FAX: (908) 826-5533



Circle 318 on Reader Service Card



Thank you America!

The propeller No. 20,000
has been delivered,
since April 1924 to September 1997.
To those who made this happen

AMERICAN INTERNATIONAL MARINE ASTILLEROS PARAGUANA ATLANTIC MARINE BENDER SHIPBUILDING

BERNERT BARGES BYRNE, RICE & TURNER BURTON SHIPYARD CAPITAL TOWING CORP.

CHRISTENSEN SHIPYARD DEISER DINALCO DOMINEY MACHINE DULAC SHIPYARD FREEPORT SHIPBUILDING

GARCIA'S GOLDCOAST SEAFOOD HOUSTON PROPELLERS J-BUILT JOHNSON SHIPBUILDING

J & J MARINE, INC. JEMISON CONSTRUCTION KRUGER AND SONS MARINE KEITH MARINE

LITTLE HOQUIAM BOAT LAGOVEN LANCHAS ZULIANAS LIGHTHOUSE MARINE SUPPLY

LOUIS EQUIPMENT LEEVAC SHIPYARDS LaFORCE SHIPYARD

MARINE PROPULSION McALLISTER BROTHERS, INC. MOBIL OIL CORP.

MASTER BOAT BUILDERS MOBRO MARINE

MARCO SHIPYARD NAVIERA INTEGRAL

NAVIERA ARMAMEX OTAM ODISSEY MARINE PEMEX

PESCA AZTECA PRESTOMAR PESCA, S.A. PATTY SHIPYARD

RH ADMINISTRACIONES RUSSELL PORTIER, INC. REEDVILLE PROPELLERS

RODRIGUEZ BOAT BUILDERS SINAM SHIPS MACHINERY INTL. SCHOTTEL OF AMERICA, INC.

SEA GEAR MARINE SECRETARIA DE MARINA SEMCO, INC. SUNSTATE MARINE

SERVICIOS FLIPPER SERVIPOINT STEFAN MAR SCOTTIA TRAWLERS STEINER SHIPYARD SAHLMAN SEAFOOD

TRICO SHRIMP CO. TRICOMAR THRUSTMASTER OF TEXAS, INC. TRANSFLUCOL TRANSEMAR TOCHE SHIPYARD

VANCOUVER SHIPYARD WEST COAST PROPELLER WASHINGTON ISLAND FERRY ZIMCO MARINE

AND SO MANY MORE THAT AREN'T MENTIONED HERE

WE INDEED APPRECIATE YOUR BUSINESS

Av. R os Espinoza 88, Mazatlan, Sin., Mexico 82180 Tel. 011 (526) 983 65 52, 983 29 44, 983 29 66
Fax: 011 (526) 984 25 33 <http://www.ricepropellers.com.mx> ricepropellers@red2000.com.mx

Kvaerner To Take Over Philadelphia Shipyard

Kvaerner — the international engineering and construction group — signed an agreement to develop the former U.S. Navy yard in Philadelphia, Pa., into a state-of-the-art shipbuilding facility.

The agreement is a 99-year deal under which Kvaerner would build container vessels and tanker ships at two dry docks on the Delaware River. The first vessel to be produced by the venture would set sail in 2000. The agreement was signed at Kvaerner's Warnow shipyard near Rostock, Germany, as **Tom Ridge**, Governor of the State of Pennsylvania, and other members of the U.S. delegation were at Kvaerner's German yard recently, to see the facilities developed by the group since its acquisition of the former state-owned shipyard in 1992.

It is proposed that the parties will jointly develop a modern shipyard on part of the former naval facility. Extensive training programs will be implemented for the yard workforce based on Kvaerner's technology and experience.

Under the terms of a draft agreement, the Commonwealth of Pennsylvania, the Philadelphia Industrial Development Corporation, the Delaware River Port Authority and others will contribute a total of more than \$400 million of investment funding in the yard, of which about half will be for training. Extensive skills training and additional on-the-job training will be funded through various U.S. programs.

For its part, Kvaerner will provide capital infrastructure invest-

ment of some \$45 million over a five year period. Approximately \$30 million of this will be provided through a loan from the Pennsylvania parties at preferential rates of interest.

The naval yard, which now

serves as a mothball facility for out-of-service Navy battleships and frigates, closed as a working shipyard in 1995 with the loss of about 7,500 jobs. Kvaerner will also provide ship designs, software applications and access to its

extensive R&D programs. As a measure of its commitment, Kvaerner will purchase, at cost, the first 3 ships to be built at the new facility (totaling some \$80 million). These vessels will be offered for sale to the market.

Westfalia Separator Introduces Advanced Separator Line

Desludging System Utilizes Hydrostop System Design

Last month MR/EN provided news of the introduction of the new Westfalia C-Generation product line. The company recently released additional technical details, presented here.

Westfalia Separator has introduced a new ecologically advanced line of separators. The key characteristic to the advancements made to the C-Generation separators lies within the patented Hydrostop process, which is designed to provide a more precise desludging system. In a typical marine and power application, the Westfalia separator reportedly can reduce sludge up to 50 percent during fuel oil and lube oil purification, and up to 90 percent during sludge treatment.

Hydrostop works in conjunction with redesigned discharge ports in a new bowl architecture for more efficient sludge removal, and the Softstream system, a unique process which allows liquids to enter the bowl in a super calm state. Keeping liquids in this state as they enter the bowl contributes to the increased flow rates of the new separator, as well as overall separating efficiency and reduced component wear. There are four separators in the C-Generation product line: OSC 5, with a capacity of 4,000 l/h; OSC 15, with a capacity of 11,500 l/h; OSC 30, rated at 24,000 l/h; and OSC 50, rated at 43,100 l/h.

Designed For Oily Water Treatment

The Softstream system of the Westfalia separator is particularly important in oily water treatment situations found in tanker slop water, bilge water, drain water, produced water and engineering liquids, according to **Dierk Homborg**, managing director of Westfalia Separator. "Slop water, for example, is collected and taken to port where it is transferred to a specialized treatment plant, or it is dumped at sea in the few areas where this is still a legal activity," Mr. Homborg said. "The new C-Generation separators will allow ships to efficiently treat onboard the slop water as well as other oily water, allowing oil-free water to be returned to the ocean." All four new models of the C-Generation are available in Unitrol design, a proprietary Westfalia Separator development which uses a patented sludge space monitoring system (SMS) and a water content monitoring system (WMS) for optimum separation.

Solids or water that accumulates in the sludge space causes interruptions in the flow of a sensing liquid. These interruptions are detected by the SMS and alert the system. The WMS monitors water content in the bowl, allowing the centrifuge to operate as a purifier and clarifier.

Low-Maintenance

In addition to the higher flow rates — including the OSC 50, a high capacity separator — and ecological benefits, the new C-Generation is being touted for its long maintenance intervals and low maintenance requirements.

Main service intervals are increased to every 8,000 to 16,000 hours — in line with diesel engine overhaul intervals — and bowl cleaning intervals also are extended, due to the Hydrostop system.

Tracking Separators

A new central service center in Hamburg stores data on separator operation which will be used to reference real-world situations onboard ships. In the future, Westfalia Separator centrifuges will be able to communicate directly with the software center. The center can also monitor spare parts consumption and separator water.

For more information
Circle 85 on Reader Service Card



Marine Application

- Used onboard ships for the treatment of fuel oil, lube oil, sludge containing oil and water and bilge water;
- Works with Unitrol, a proprietary Westfalia Separator process that provides a water content monitoring system (WMS) and a sludge space monitoring system (SMS) for optimum separation efficiency;
- Designed for unsupervised operation;
- Conforms to classification regulations and environmental laws.

Offshore Oil Application

- Used to remove oil from produced and drain water;
- Used to remove water from crude oils;
- Purifies and treats fuel oil, lube oil and hydraulic oil;
- User friendly, low weight and smaller size.

Bender To Build Two For GulfMark

GulfMark Offshore has made agreements that will add six vessels to the company's fleet and signed charters for two vessels, including one of the new vessels.

Bender Shipbuilding & Repair Inc. in Mobile, Ala., agreed to build two offshore support vessels at a cost of about \$22 million, for delivery in January and June 1999. GulfMark has an option to build two additional vessels under this contract.

PEOPLE & COMPANY NEWS

Marine Management Systems Selects New VP

Randal E. Holl has joined Marine Management Systems, Inc. (MMS) as vice president, Development. Prior to MMS, he was senior director of System Architecture at Hyperion Software.

He has also held positions in the information technology practice of Ernst & Young, IBM and Syscon Corp., a subsidiary of Harnischfeger Industries, Inc.

Tranter Announces New Executive VP

Marino Pelosi has been promoted to executive vice president of Tranter, Inc.

He has been vice president of Sales and Marketing since 1980 and reportedly was instrumental in the acquisition of HTT/SWEP and ReHeat AB in 1994; he also served as president of SWEP/ReHeat.

Jeffboat Appoints New Sales Engineer

Richard A. Dinsmore, Jr. has been appointed Sales Engineer at Jeffboat, working directly for the Sales and Estimating Department. Mr. **Dinsmore** was previously marine engineer/naval architect at Jeffboat.

ISC Names Two New Executives

International Shipholding Corp. has named two executives to head up the Houston operations of its principal subsidiaries, Waterman Steamship Corp., Forest Lines Inc. and Central Gulf Lines, Inc.

George Nahas, formerly manager of the Oakland office, has been named vice president in charge of the Houston office, and **Reinder Schilsky** will be Houston's regional sales manager.

Mr. **Nahas** began his career with the company in 1977 as sales manager for the Mid-East region and was transferred to New York in 1980, where he served as national sales manager and Mid-East coordinator. In 1983, he was named

manager of the Oakland office with responsibility for sales, marketing, traffic, intermodal operations and documentation for the western U.S. Mr. **Schilsky** joined the company in 1990 and served as sales management executive in the Chicago office prior to being

assigned to Memphis in 1995.

Hamworthy Marine Opens Shanghai Office

Hamworthy Marine has set up

an office in Shanghai. The new venture will address the fast-expanding shipbuilding market in China and is located in one of the country's busiest ports to support the high local concentration of shipbuilding companies. **William Huang**, who joins the company

Some familiar lifesavers...



... HERE'S ONE YOU DEFINITELY NEED NEARBY.

When lives are at stake, the SATFIND-406™ Survival EPIRB may be the greatest lifesaver of all.

- Powerful 406MHz transmitter linked to CC SARTS and GEOSAR satellite networks
- Prompt beacon identification and location
- Rapid dispatch of Search and Rescue teams
- GMDSS, CDN & US Coast Guard approved
- Authorized for use by most countries worldwide

You need the protection of the SATFIND-406™ Survival EPIRB - DEFINITELY!

AI DENMARINE
Division of
Northern Airborne Technology

28 Lord Road Suite #130
Marlborough MA USA 01752
1-800-225-4767

Circle 204 on Reader Service Card

Are You Ready For GMDSS?

ICG can provide an Electronic Radio Operator on your ship for \$250.00 per month

Our Mobile Com System now provides these Radio Operator functions:

- Convenient AUTOMATIC calling with least-cost routing.
- AUTOMATIC call accounting.
- Facilities for AUTOMATIC and controlled unattended crew calling.
- Office-like calling and communication features.
- Multi communication integration that is compatible with existing shipboard equipment.
- Restricts and controls communication access.
- Simple and standardized operation throughout your fleet.
- Unattended communications management and control.

ICG is a world leader in communication automation and integration for Marine, Aeronautical and Remote land operations



International Communications Group, Inc.
813 Diligence Drive, Suite 120
Newport News, VA 23606 USA
(757) 873-7753 (800) 279-1991
fax (757) 873-7760

email: sales@intcomgrp.com

Circle 262 on Reader Service Card

When We Say... "STRUCTURAL INTEGRITY..."

We Mean...

ARCTIC SAFE
by COSPOLICH

Up to now,

cold storage spaces for marine applications have been constructed of thin, 0.019 aluminum or plywood. Not much strength in that.

ARCTIC SAFE from Cospolich boasts a 4" wall thickness of foamed-in-place urethane, surrounded by .035" stainless steel. Incorporated into these walls, and particularly around the door frames, is a reinforced hard-rail system. Stronger? Yes, indeed.

949 Industry Road
Kenner, LA 70062
(800) 423-7761
(504) 469-6555
www.cospolich.com

COSPOLICH
REFRIGERATOR CO.

Circle 228 on Reader Service Card



Pressures to 35,000 psi
Flows to 300 gpm

AQUA-DYNE

INDUSTRY'S MOST POPULAR 35,000 psi WATER ENERGY™ SYSTEM!



GA 200 DT - Skid or Trailer mounted

Removes grease, chemicals, dirt, rust, mill scale, paint, cement, marine growth and other substances from any surface including tanks, masonry, tube bundles, ships, machinery, concrete and others.

Aqua-Dyne's systems provide high pressure cleaning power with rugged equipment engineered to perform far longer than anything else in the field with comparable pressure and flow rates.

AQUA-DYNE, INC. 3620 West 11th St. Houston, TX 77008-6004
713 864-6929 Fax 713 864-0313 800 324-5151
http://www.aqua-dyne.com info@aqua-dyne.com

Circle 210 on Reader Service Card

PEOPLE & COMPANY NEWS



Specializing in state of the art marine controls

Engine room automation - The TMS System 2000
Tank Level Gauging systems - The LevelCom 100
Temperature & Bearing Monitor Panels
Engineers Alarm Panels, Digital Draft Gauges

For information on the TMS System 2000, LevelCom 100
Liquid Level Computer or any of the other fine TMS products
and services please call or write us at:

6040 N Cutter Circle, Suite 302, Portland, OR 97217
Phone: 503-285-8947 Fax: 503-285-1379
Or visit our home page at <http://www.tms-usa.com>

Circle 311 on Reader Service Card

SEMCO MARINE INC.

- Switchboards and Consoles
- Electrical Installation - Worldwide
- 24-hour Service At Sea or In Port
- European Spare Parts and Cable on Stock
- SEMCO Voyage Recorder & Masterclock
- SEMSAFE Watermist Fire Fighting

CONTACT US NEXT TIME YOU HAVE ELECTRICAL
PROBLEMS OR NEED SPARE PARTS!

Phone (954) 792-9666 Fax (954) 321-6517
3721 S.W. 47 Ave. - Ste. 309 • Ft. Lauderdale • FL 33314 - U.S.A.

Circle 299 on Reader Service Card

from Qiuxin Shipyard, will
spearhead Hamworthy
Marine's operations in China.

Bollinger Announces New VP/GM

Gary Newchurch has been

named vice president and gen-
eral manager of Bollinger
Fourchon, one of eight sub-
sidiaries of Bollinger
Shipyards, Inc. Mr.
Newchurch is a 32 year veter-
an of the marine industry. He
managed shipyards for
McDermott Shipyards, Inc.

and served as operations man-
ager at Trinity Marine. Before
joining Bollinger, he ran his
own consulting firm.

Isabella Shipping Resumes Service To Tampa

Isabella Shipping initiated a
bi-weekly shipping service out
of the Port of Tampa in
October.

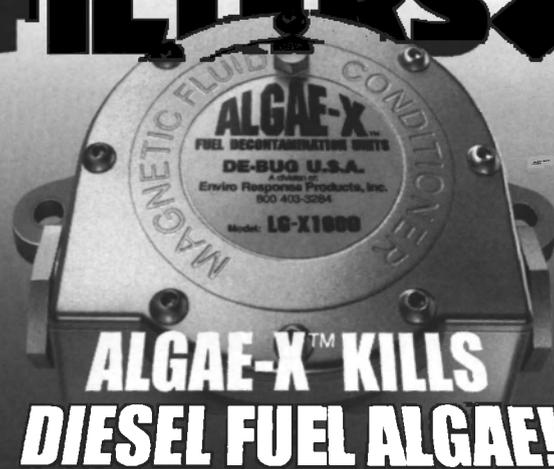
The M/V *Blue Crest* will sail
from Tampa to Puerto Limon,
Costa Rica, and Turbo,
Colombia, continuing on with
Turbana bananas to Gulfport,
Miss.

The ship will load out in
Tampa with a variety of pal-
letized, breakbulk and vehicu-
lar cargoes. The Isabella ser-
vice will operate from Tampa's
new multi-purpose complex at
Berth 208.

Todd Shipyards Appoints CEO

Todd Shipyards Corp.
announced that **Stephen G.
Welch** has been named CEO,
assuming the responsibilities
previously held by **Patrick W.
E. Hodgson**, who remains

DIRTY FILTERS?



ALGAE-X™ cleans your total fuel system. Filters and
tanks stay clean, engines run better, smoke less.
No chemicals. Zero maintenance.

Call 800 403 3284 before
Cleaning Tanks or Discarding Fuel!



EnviroResponse Products, Inc.

Website: <http://www.debugusa.com> • Fax: 941 463 7855
Dealer Inquiries Invited call 888 403 3285

Circle 240 on Reader Service Card

Barnacle Remover



Rapidly remove paint, rust, scale, barnacles, and other hard coatings
from metal, concrete, or wood surfaces without heavy pressure. New
Swirl-Off scarifier attaches to your grinder, sander, drill, or polisher.
Rotary tool scours tough deposits. Using pneumatic tools, it removes
marine growths underwater. Easier, faster, and safer than scraping,
sandblasting, or chemicals. There's nothing else like it! Ask for
Bulletin MAR-1 showing many models and styles.

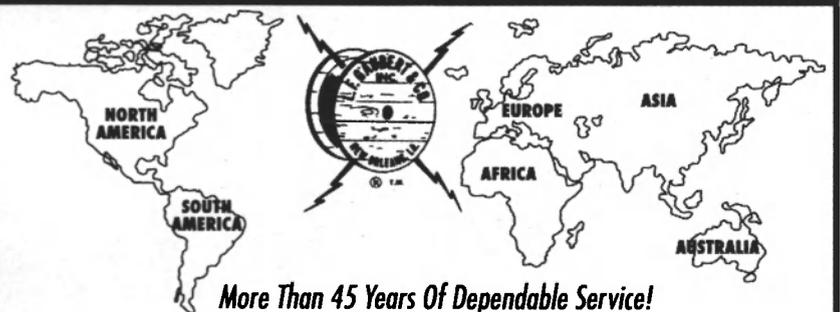
DESMOND

The Desmond-Stephan Mfg. Co., P.O. Box 30, Urbana, Ohio 43078
Phone 937-653-7181, Fax 937-653-5511

*Trademark of The Desmond-Stephan Mfg. Co.

Circle 235 on Reader Service Card

L.F. GAUBERT & CO. INC.



More Than 45 Years Of Dependable Service!

P.O. BOX 50500 • NEW ORLEANS, LA • 70150
Phone: (504)822-7272 Fax: (504)821-9309
1-800-831-7534 Call Us For Your FREE Newsletter

DISTRIBUTE & MANUFACTURE ELECTRICAL SHIPBOARD CABLES

**NAVY-COMMERCIAL-CONTROL
ELECTRONIC-PORTABLE
COMMUNICATION-SIGNAL-MINING
WELDING-COAXIAL & POWER
CABLES-FABRICATE ELECTRICAL CABLES
TO YOUR SPECIFICATIONS**

Quality Is Our MOST Important Feature!

Circle 272 on Reader Service Card

PEOPLE & COMPANY NEWS

chairman of the board. Mr. Welch has also been named chairman of the board of the company's subsidiary, Todd Pacific Shipyards Corp.

Tindall Joins NMEA's Board



Jim Tindall, ICOM America's Marine Division Manager, has been selected for a two-year term as a Manufacturer Director for the National Marine Electronics Association's (NMEA) board of directors.

As a new addition to the NMEA's board, Mr. Tindall plans "to develop an industry standard to ensure that radios made by different manufacturers will communicate with each other digitally as part of a new international distress system."

Mr. Tindall has been in the marine industry for more than 20 years. As ICOM's Marine Division Manager since 1994, he oversees all sales and marketing, develops dealer relationships and supervises regional sales managers. He has also worked as a sales manager for ComMar and as president of Coast Navigation, a marine marketing organization.

Wear Dockyard Selects T.A.S.T. As Agent

T.A.S.T. Corp. has been chosen by Wear Dockyard Group as their exclusive representative for the U.S. and Canada.

The Wear Dockyard Group is comprised of four yards and has a total of six drydocks with a total capacity of up to a maximum of 849.7 ft. (259 m) by 144.4 ft. (44 m). The company employs approximately 800 people and is accredited to ISO 9001.

Halter Marine To Open Shipyard

Halter Marine Group, Inc. will reopen the former Eastern Marine, Inc. shipyard in Allenton, near Panama City, Fla. which was acquired when inactive in 1993. It has been named Halter Marine Panama City.

John Dane III, chairman, president and CEO of Halter said, "It has been our stated intention to open this facility when business and market conditions improved. With the volume of our current business, and the level of inquiries, we are beginning to see delivery dates stretch beyond what our cus-

tomers find acceptable. We will open the shipyard in a phased process beginning immediately. Initial employment will be approximately 100, and it is expected to grow to about 300 within 18 months."

The opening will be phased

because much of the equipment and the physical plant requires replacement and upgrading before full production can begin. The first vessel, which is being built for an undisclosed interest, will be a 205 ft. (62.5 m) supply boat, scheduled for delivery in December 1998.

Harbormaster

Engineers and manufacturers of efficient, reliable marine propulsion products for ships, boats and barges. (Successors to Murray & Tregurtha)

Fast world-wide support!

If you operate a Murray & Tregurtha or Harbormaster product anywhere in the world, we can provide spare parts and on-site field service. Call us first!



Tunnel Thrusters
150 to 3000 HP

Outboard and through-the-hull azimuthing drives
50 to 1000 HP



Harbormaster Marine, Inc.

31777 Industrial Road
Livonia, MI 48150 USA

(313) 425-1080 Fax (313) 425-1850

Website: <http://www.harbormastermarine.com>

Circle 253 on Reader Service Card

When We Say... "MARINE QUALITY DOORS & DOOR HINGES..."



We Mean...

ARCTIC SAFE
by COSPOLICH

Up to now, many marine cold storage spaces offered doors that leaked, and after a short time in the field, broke down — or off.

ARCTIC SAFE from Cospolich uses nothing less than marine quality stainless steel doors and hardware. The perimeter of every modular panel, walls and doors, is hardrail-reinforced. The marine industry demands tough construction. Cospolich meets those demands in the manufacturing of **ARCTIC SAFE**.

949 Industry Road
Kenner, LA 70062
(800) 423-7761
(504) 469-6555
www.cospolich.com

COSPOLICH
REFRIGERATOR CO.

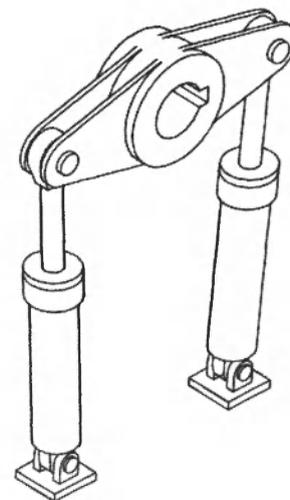
Circle 228 on Reader Service Card

STEERING SYSTEMS AND AUTOPILOTS.
DESIGNS BASED ON 60 YEARS EXPERIENCE RESULT IN PROMPT AND THOROUGH RESPONSE TO YOUR ENQUIRIES.
NEW CONSTRUCTION OR REFIT.

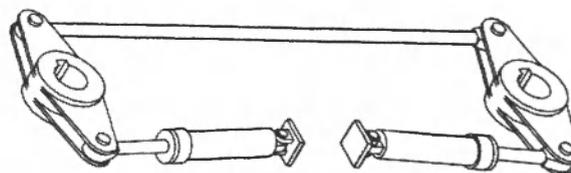
- Manual hydraulic or electrohydraulic
- Wide range of FFU or NFU controls
- Autopilot interfaced to GPS and DPS systems
- Rate controlled and horsepower limited power units for fast, efficient, smooth and accurate rudder positioning.
- Single and 3 face Panorama rudder angle indicators.
- Integrated radial, carrier bearing and packing glands for compact, low maintenance installations
- Approvable to all International Rules e.g. U.S.C.G., A.B.S., Lloyds, DNV etc.



M.V. Queen of Coquitlam, 139 M, 12,600 HP Ferry.
(Photo courtesy of B.C. Ferries Corp.)



Designs by
Paul Wagner



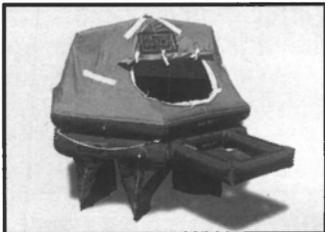
AUTO NAV

55A Clipper Street, Coquitlam,
B.C. V3K 6X2 Canada
Phone (604) 526-0113
Fax (604) 526-0146 Internet:
<http://www.autonav.com>

Circle 214 on Reader Service Card

PRODUCTS SHOWCASE

DBC Launches New Liferaft Series



DBC Marine Safety Systems has launched a new series of liferafts. Available in four, six, and eight person sizes in either a low profile deck mounted fiberglass container or soft valise, the Swiftsure Global is a high performance liferaft made for blue water use. The Swiftsure Global features a rain water collection panel, an observation port, Icelandic ballast pockets, a sea

anchor, a fully enclosed double canopy, double floor, internal and external lighting systems and an inflatable boarding ramp, meant to enhance ease of boarding under duress or in extreme conditions.

For more information on DBC
Circle 5 on Reader Service Card

Victaulic Provides New High-Impact Piping System

Victaulic Company of America now offers a system of high-impact resistant, reusable PVC pipe, fittings and accessories that combine corrosion resistance, strength, flexibility and fast, easy assembly for a wide range of services including construction, irrigation, and mining applications such as water supply discharge, acid wastes, sludge

and slurry lines and temporary water bypass lines.

Available through Aquamine, LLC, which was recently acquired by Victaulic, the system incorporates rubber o-rings for chemical-resistant sealing. Spline assembly provides a self-restraining joint by engaging into grooves in both the coupling and the pipe.

Thickened pipe ends reinforce the joint for greater reliability. SDR-sized pipe in two ft. through 12 ft. (.6 to 3.6 m) sizes provides consistent pressure class and ratings throughout the system. Pressure ratings range from 160 psi to 500 psi depending on size and type of coupling used. Pipe, fittings and specialty items are completely compatible with other piping methods, including threaded, solvent-cement, spline and

Victaulic grooved systems.

For more information on Victaulic
Circle 6 on Reader Service Card

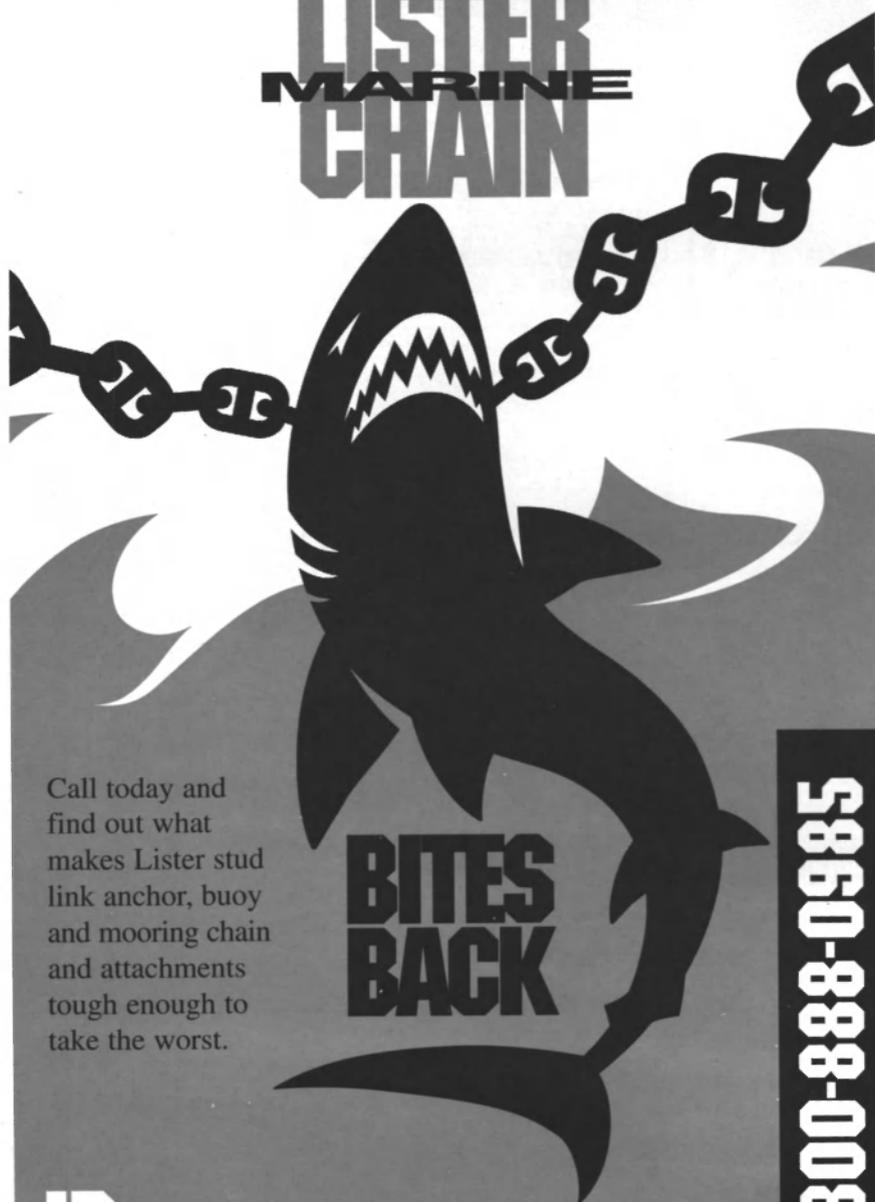
ACR Electronics Promotes Safety With Satellite 406

ACR Electronics Inc. designs and manufactures a line of safety and survival products including the Satellite 406 Emergency Position Indicating Radio Beacon (EPIRB). The Satellite 406 continuously transmits the user's precise location as well as his/her personal identification code to bring help in an emergency. ACR also provides personal utility lights, marker lights, radios, SARTs and safety accessories.

For more information on ACR Electronics
Circle 29 on Reader Service Card

MONSTER TOUGH

LISTER
MARINE
CHAIN



Call today and find out what makes Lister stud link anchor, buoy and mooring chain and attachments tough enough to take the worst.

BITES
BACK

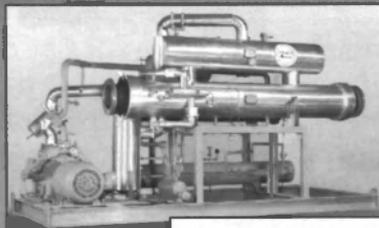
LISTER
SINCE 1911

Specialty bolt & chain products
Richmond, British Columbia, Canada
(604) 273-5411 Fax: (604) 273-5495
Division of Columbus McKinnon Corporation

1-800-888-0985

Marine Refrigeration Equipment

Low Cost...On Time Delivery



Vapor Recovery

Reciprocating chillers with capacities from 1 to 200 tons for marine or industrial applications.

Complete packaged units, pre-wired, pre-piped, pressure tested, run tested, ready to install.

Marine parts department has "in stock" compressors and parts.

Pressure vessels custom designed to and fabricated to ASME Section VIII Div. 1



Model LCH



Model CH

Industrial open drive chillers for process down to -50-F. Cascade systems to -100-F.

Screw compressor models to 800 HP.

Micro-processor or electro-mechanical controls.

Refrigerants-R-22, 134a, 717, 23 and others.

NEMA 12, 4 CLI, Div. I or Div. II

Condensing units and split systems.

For petro-chemical, industrial process, cold storage, ice plants, fish processing, air driers, vapor recovery, and similar applications.

Refrigeration
Resources CO

A DIVISION OF MECHANICAL RESOURCES, INC.

210 West Side Avenue, Jersey City, New Jersey 07305

Telephone 1-800-445-9929



SINCE 1975

FAX 1-201-434-6258

PRODUCTS SHOWCASE

Dreggen Receives Order For Crane

Dreggen Crane has received an order for a gantry traveling deck crane, marking the company's first order from Hyundai Heavy Industries. It has a capacity of 20 tons at 82.02 ft. (25 m) outreach.

The crane features rack and pinion move-

ment; hydraulic lifting cylinders, fitted on each of the four legs for hatch cover handling; low total height of gantry, which reduces deck house height; main supply cable reel outfitted with a motor, gear and slings inside the crane leg; and stainless steel hydraulic cylinders and pipes.

For more information on Dreggen Crane
Circle 7 on Reader Service Card

SSC Releases New Windows Package

Software Systems Consulting (SSC) has announced the release of PC HF Facsimile 8.0 for Windows. The pro-

(Continued on page 80)



We Make It Happen!

NEW CONSTRUCTION	GAMBLING VESSELS
CONVERSIONS	INLAND PUSHBOATS
REPAIRS	SUPPLY BOATS
DRYDOCKING	SEISMIC VESSELS
	BARGES
	SPECIALTY VESSELS

Hwy. 90 East
P.O. Box 1190
Jennings, LA 70546

PH. 318/824-2210
FAX 318/824-2970

Circle 274 on Reader Service Card



SERVICE VALVE & FITTING

a division of V.V.S., Inc.

- Servicing the Gulf Coast for all your piping needs -

Your full service source for all U.S. standard and metric valves, pipe fittings, pipe and tubing.

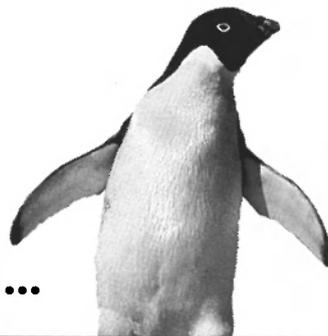
Houston, TX • Phone: (713) 641-6733
Fax: (713) 641-3107
Mobile, AL • Phone: (334) 438-5130
Fax: (334) 438-5140

Circle 340 on Reader Service Card

When We Say...

A COLD SPACE DESIGNED & CONSTRUCTED TO MEET THE DEMANDS OF THE MARINE INDUSTRY...

We Mean...



ARCTIC SAFE

by COSPOLICH

MARINE-QUALITY ENGINEERING and second-to-none construction make **ARCTIC SAFE** the cold space of choice for tough, demanding environments.

Modular construction, strong stainless steel floors and walls, marine quality doors, panels reinforced with interior handrails, gasketed threaded cap screws cover floor camlocks, seams treated with a non-hardening caulking, and waterproofed, non-gasketed sections assure you of the overall quality of this marine cold storage space.

The **ARCTIC SAFE** is a very special product. It's marine-ready from the deck up. We look forward to your inquiry.

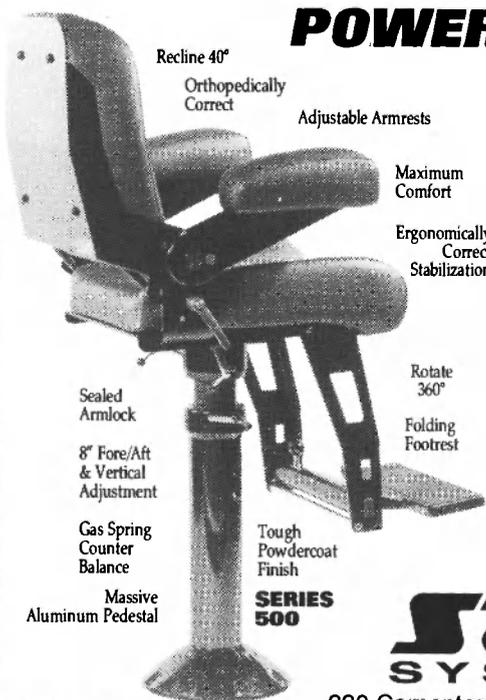
COSPOLICH

REFRIGERATOR CO.

949 Industry Road, Kenner, LA 70062
(800) 423-7761 • (504) 469-6555
www.cospolich.com

Circle 228 on Reader Service Card

POWER SEATING FOR A CHANGING WORLD



Recline 40°

Orthopedically Correct

Adjustable Armrests

Maximum Comfort

Ergonomically Correct Stabilization

Rotate 360°

Folding Footrest

Sealed Armlock

8" Fore/Aft & Vertical Adjustment

Gas Spring Counter Balance

Massive Aluminum Pedestal

Tough Powdercoat Finish
SERIES 500



USCG 47MLB - 13 Stidd Seats aboard.
photo by Don Nerney

combined with dynamic materials and design, have established Stidd seating as the first choice of government, commercial and recreational skippers everywhere. In a changing world, your search for perfect marine seating ends here.

Stidd Systems has changed the world of high-performance marine seating, providing more comfort, strength and ergonomic value than ever before. Lightweight, space-saving, and built to MIL standards, Stidd Seats keep your people in place for smoother missions, greater passenger safety, and improved crew performance. Impressive features and seat options



USDOC MkV SOC - 22 Stidd Seats aboard
photo courtesy Trinity Marine Group

Rapid Conversion from Seated to Standing without leaving seat

High Impact Stabilization

High-Torque Hand Grips

Non-Waterlogging Cushions

Hardcoat Anodized Finish

Corrosion Resistant

Contoured Headrest

4-Point Harness

Recline 30°

8" Fore/Aft Adjustment

17" Vertical Adjustment Range



SERIES 800 v.4

PATENTED

stidd

SYSTEMS, INC.

POWER SEATING FOR A CHANGING WORLD

For further information call:

516.477.2400 x120

220 Carpenter St., P.O. Box 87, Greenport, NY 11944 USA • Fax 516.477.1095 • www.stiddsystems.com

Circle 308 on Reader Service Card

MADE IN U.S.A.

Ferliship's New Contracts

Orders are listed alphabetically, by vessel type. Publisher is not responsible for errors or omissions. For additional information on this, or other ship market information, contact: Ferliship, Paseo De San Francisco De Sales, 8, 28003 Madrid, Spain, tel: +341 441 4138; fax: +341 441 4138.

OWNER OPERATOR	SHIPYARD	TYPE	No.	DWT	DELIV	OWNER OPERATOR	SHIPYARD	TYPE	No.	DWT	DELIV
A. P. MOLLER	SINGMARINE DOCKYARD	AHTS	2	—	99	SLOMAN NEPTUN	MUTZELFELDWERFT	LPG	1	4,000	99
ANGELICOUSSIS	HYUNDAI	BULK CARRIER	1	171,900	99	YUYO KAIUN	MITSUBISHI H.I.	LPG	1	78,000	99
FEDNAV	OSHIMA SHIPBUILDING	BULK CARRIER	4	36,000	99/2000	FORT DE VENEZUELA	BRODOSPLIT	MULTI-PURPOSE	6	—	2000
GOLDEN OCEAN GROUP	HITACHI ZOSEN	BULK CARRIER	2	75,200	99	SYRIAN NAVIGATION	KARACHI	MULTI-PURPOSE	2	—	99
JINHUI SHIPPING AND TRANSPORT	SUMITOMO	BULK CARRIER	2	73,000	2000	DISTRICT OFFSHORE	BRATVAAG SKIPSVERFT	OFFSHORE SUPPLY	1	—	99
JINHUI SHIPPING AND TRANSPORT	OSHIMA SHIPBUILDING	BULK CARRIER	2	73,300	2000	STRINTZIS LINE	BATSERVICE	PASSENGER	1	—	98
MITSUI O.S.K. LINES (MOL)	TSUNEISHI	BULK CARRIER	1	150,000	2000	ALAND LANDSKAPSSTYRELSE	UUDENKAUPUNGEN	PASSENGER / CAR FERRY	1	—	98
MODERN SHIPPING (RESTIS GROUP)	CHINA SHIPB. CORP.	BULK CARRIER	2	73,000	99	TIRRENIA SOC. NAV.	FINCANTIERI	PASSENGER / CAR FERRY	2	—	99
NIPPON YUSEN KAISA (NYK)	ISHIKAWAJIMA HARIMA H.I. (IHI)	BULK CARRIER	2	48,000	99/2000	GOUTOS LINES	FBM MARINE	PASSENGER / FERRY	1	—	98
NIPPON YUSEN KAISA (NYK)	NAMURA ZOSENSHO	BULK CARRIER	1	70,900	1299	MERSEA SHIPS	BOLLINGER	PASSENGER / FERRY	2	4,500	99
NISSHO IWAJ	TSUNEISHI	BULK CARRIER	2	73,440	99	JAN-ERIK DYVI	ULJANIK	PCTC	2	12,500	99
OSAKA SENPAKU	KANASASHI SHIPBUILDING	BULK CARRIER	2	39,000	98/99	LEIF HOEGH & CO. A/S	STOCZNIA	PCTC	1	—	99
SHOWA LINE	HYUNDAI	BULK CARRIER	1	172,000	99	NIPPON YUSEN KAISA (NYK)	TSUNEISHI	PCTC	1	—	99
SUISSE-ATLANTIQUE	CHINA SHIPB. CORP.	BULK CARRIER	2	72,500	98/99	WALLENIUS	DAEWOO	PCTC	2	17,300	99
YUYO STEAMSHIP	HALLA	BULK CARRIER	1	74,000	—	PERTAMINA	JIANGDU SHIPYARD	PRODUCT CARRIER	2	17,500	98
BILLABONG	mitsui	BULK/CONTAINER CARRIER	3	45,000	99/2000	CENTROFIN MANAGEMENT	DAEWOO	PRODUCT TANKER	1	98,000	98
US COAST GUARD	MARINETTE MARINE CORP.	BUOY TENDER	4	—	—	CHANDRIS (HELLAS)	DAEWOO	PRODUCT TANKER	1	105,000	99
PG & M CASTALDI	NUOVI CANTIERI APUANIA	CHEMICAL TANKER	1	10,000	97	GREAT EASTERN SHIPPING	DAEDONG SHIPBUILDING	PRODUCT TANKER	2	45,000	99/2000
STOLT PARCELS TANKER	DANYARD	CHEMICAL TANKER	2	37,000	99	SCORPIO SHIPMANAGEMENT	3 MAJ	PRODUCT TANKER	2	70,700	2000
TOKO KAIUN	SHIN KURUSHIMA	CHEMICAL TANKER	1	23,000	98	YUYO STEAMSHIP	ONOMICHI	PRODUCT TANKER	1	46,000	99
BROERE	BIEBOSCH-DORDRECHT	CHEMICAL TANKER	2	3,500	98	UNKNOWN	IWAGI	REEFER	1	—	98
MARITIMA MARIOLA	UNION NAVAL DE LEVANTE	CHEMICAL TANKER	1	16,000	99	SLOMAN NEPTUN	PENDIK SHIPYARD	RO-RO	1	5,500	99
UNKNOWN	ASAKAWA SHIPBUILDING	CHEMICAL TANKER	3	10,300	98	CENARGO	AESA (SEVILLA)	RO-RO PASSENGER FERRY	2	—	99
AMORETTI ARMATORI GROUP	NUOVI CANTIERI APUANIA	CHEMICAL / PRODUCTS TANKER	1	30,000	99	CGG Marine	CHANTIERS DE L'ATLANTIQUE	SEISMIC	1	6,150	99
LINO KAIUN	IMABARI SHIPBUILDING	COAL CARRIER	1	150,000	2000	GECCO-PRAKLA	MJELLEM & KARL	SEISMIC	1	4,400	—
NIPPON YUSEN KAISA (NYK)	OSHIMA SHIPBUILDING	COAL CARRIER	2	77,000	2000	OCEANEERING INT.	SERVICE MARINE	SURVEY SHIP ROV SUPPORT	1	—	98
ARMAWA SHIPPING & TRADING	TILLE SCHEEPSBOUW	CONTAINER	3	—	99	DAEWOO	ICB SHIPPING	TANKER	1	158,000	99
COSCO	ALABAMA SHIPYARD	CONTAINER	4	—	99	HYUNDAI	HYUNDAI	TANKER	2	300,000	—
GERD RITSCHER	KVAERNER WARNOW WERFT	CONTAINER	1	33,100	99	DAEWOO	DAEWOO	TANKER	1	300,000	99
HANSA MARINE	HYUNDAI	CONTAINER	2	—	—	HYUNDAI	HYUNDAI	TANKER	4	65,000	99
JUNGERHANS, HEINRICH	YICHANG	CONTAINER	2	5,300	—	HYUNDAI	HYUNDAI	TANKER	1	300,000	99
MARTIME	THYSSEN NORDSEEWERKE	CONTAINER	1	—	98	FLOPEC	HYUNDAI	TANKER	1	—	99
NAM SUNG SHIPPING	SHIN-A SHIPBUILDING	CONTAINER	2	8,900	98/99	FREDRIKSEN	HYUNDAI	TANKER	1	—	99
NIPPON YUSEN KAISA (NYK)	MITSUBISHI H.I.	CONTAINER	1	73,000	98	FRONTLINE	HYUNDAI	TANKER	1	—	99
SEA CONTAINERS	FINCANTIERI	CONTAINER	2	—	99	GERMAN INTERESTS	LINDENAU	TANKER	2	13,000	99
SIOWALS	BAL TIC SHIPYARD	CONTAINER	4	4,500	—	KNUTSEN OAS SHIPPING	ASTILLEROS ESPANOLAS (SESTAO)	TANKER	1	126,250	99
UNKNOWN	WATANABE	CONTAINER	1	8,200	98	MIF	IMABARI SHIPBUILDING	TANKER	1	107,000	98
BOUNTY CRUISES	AUSTAL SHIPS	CRUISE	1	—	98	MITSUI O.S.K. LINES (MOL)	NAMURA ZOSENSHO	TANKER	1	105,000	99
READING & BATES	SAMSUNG	DRILLSHIP	1	103,000	99	NATIONAL OIL CO/ICB	DAEWOO	TANKER	1	158,000	99
ARMAMENTS DHELEMES	CHANTIERS PIRIOU	FISHING	1	—	—	NISSHO SHIPPING	HITACHI ZOSEN	TANKER	1	298,000	99
SCHROEVERS	WELGELEGEN	FISHING	1	—	—	SEATANKERS MANAGEMENT	HYUNDAI	TANKER	1	308,700	99
UNKNOWN	ASENAV	FISHING	1	1,500	98	STATOIL	ASTILLEROS ESPANOLAS	TANKER	2	126,650	99
UNKNOWN	ASTILLEROS MURUETA	FISHING	1	2,200	99	TAI CHONG CHEANG	HALLA	TANKER	1	105,000	99
TERRA NOVA ALIANCE	DAEWOO	FPSO	1	150,000	2000	HOWARD SMITH	MCTAY MARINE	TRACTOR TUG	1	—	98
UNKNOWN	HIGAKI ZOSEN	GENERAL CARGO	1	8,500	98	DUBAI PORTS AUTHORITY	DUBAI DRYDOCKS	TUG	1	220	98
UNKNOWN	MIURA	GENERAL CARGO	1	8,400	98	EM Z SVITZER	BATJIA SHIPYARD	TUG	2	—	98
UNKNOWN	J.J. SIETAS	HEAVY-LIFT CARGO	2	9,500	98	E.H. HARMS	DETLEF HEGEMAN	VEHICLE CARRIER	1	3,500	99
SCHIFFAHRTSKONTOR ALTES LAND	J.J. SIETAS	HEAVY-LIFT CARGO	2	9,500	98	KRUPP SEESCHIFFAHRT	ULJANIK	VEHICLE CARRIER	2	13,000	2000

PUT SOME **MOXIE** IN YOUR SAFETY & TRAINING PROGRAMS

New Marine Survival Videos

- Water Entry and Survival Techniques
- Man Overboard
- Liferaft Operation and Survival Practices
- Lifeboat Operation and Survival Practices
- Emergency Platform, Rig, & Vessel Abandonment
- Emergency Helicopter Abandonment



New Inland Waterways Videos

- Slips, Trips and Falls for Vessel Personnel
- Man Overboard for Inland Waterways
- Line Handling Safety
- H₂S Safety and Precautions
- Back Safety for Inland Waterways Personnel
- Deckhand Orientation and Safety
- Intro. to Vessel & Barge Equipment & Terminology



MOXIE MEDIA is a leader in the production and distribution of Industry Specific Video & CD-ROM Training programs. We offer hundreds of titles to provide you the expertise needed to reduce accidents and increase productivity.

For a complete Catalog or to Order
Call. **(800) 346-6943**
Fax **(504) 733-4892**

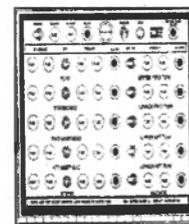
MOXIE
MEDIA INC.
New Orleans, Louisiana

Archway Marine Lighting

ARCHWAY INTRODUCES J-BOX NAVIGATION LIGHT PANELS

Standard Features

- Visual and audible alarm of lamp failure or blown fuse
- Solid state current sensors for total short-circuit protection
- Plug-in printed circuit board any wattage lamp in any circuit
 - Available in flush or surface mount
 - System test button
 - Emergency repair plug standard
 - Lifetime warranty of plug-in PC board
 - Each panel labeled to owner's specs



Typical Towboat Panel

1997 MARINE LIGHTING CATALOGS
ARE AVAILABLE UPON REQUEST

Toll Free 1-800-737-1314
Fax Toll Free 1-800-627-1065
Phone: (314) 535-1314 Fax: (314) 535-5471
New Orleans Contact - Phil Ransdell
Ph & Fax (504) 436-3226

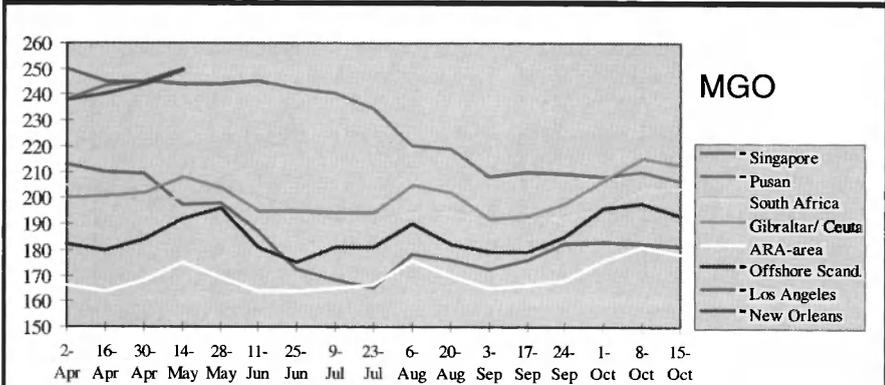
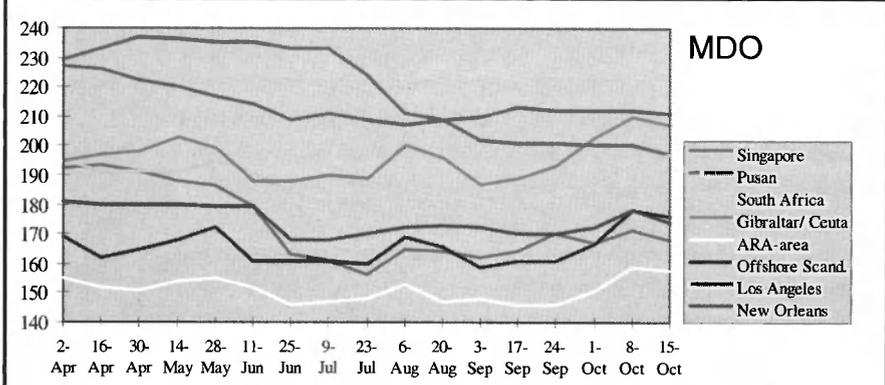
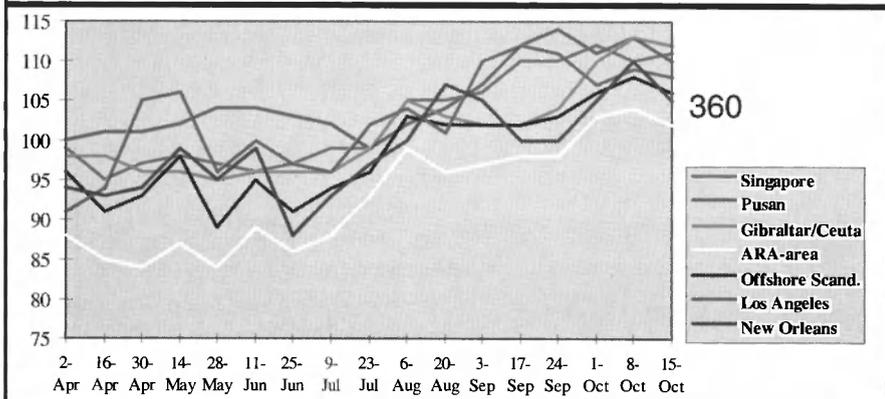
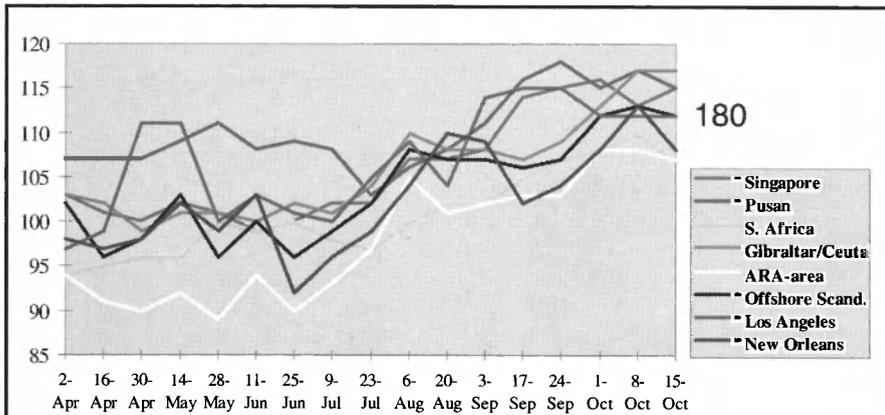
Circle 211 on Reader Service Card

Maritime Reporter/Engineering News

Bunker Fuel Monitor



A/S DAN-BUNKERING Ltd.



* ARA-area = Amsterdam/Rotterdam/Antwerp

All prices are delivered FOB (Free On Board) in U.S.\$

MGO = Marine Gas Oil - MDO = Marine Diesel Oil

Above prices are indications only. For firm offer, please call Carsten Ladekjaer at: +45 64 41 54 01; or e-mail: middelfart@dan-bunkering.dk.

A/S DAN-BUNKERING Ltd. is one of the leading bunker traders. From their offices in Middelfart and Copenhagen they arrange bunkers at competitive prices all over the world.

MIDDELFART Tel +45 64 41 54 01 Fax +45 64 41 53 01 Tlx 58253 (BUNKER DK) E-mail middelfart@dan-bunkering.dk	COPENHAGEN Tel +45 33 93 54 01 Fax +45 33 93 54 11 Tlx (DABUNK DK) E-mail copenhagen@dan-bunkering.dk
---	---

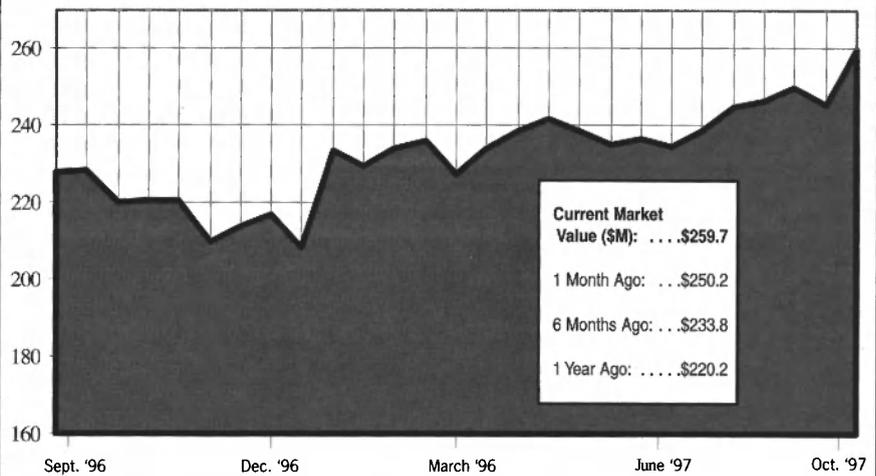
<http://www.dan-bunkering.dk>

Recent Ship Sales

This report, compiled by Shipping Intelligence, Inc., a New York maritime consulting firm, tracks sale prices of secondhand bulk carriers and tankers. For more information, call tel: (212) 997-0966.

Date Reported	Vessel Name	Vessel Type	DWT	Year Built	Sale Price (M)
9/26/97	Qing Yun Ling	Bulker	20,429	90	\$7.1
9/19/97	Ken Sun	Bulker	22,245	80	\$3.2
9/26/97	Halla Pioner	Bulker	22,457	83	\$6.9
9/12/97	Caribbean Bulker	Bulker	26,300	89	\$12.5
9/26/97	Marin Trader I	Bulker	26,679	86	\$9.9
9/26/97	Anna	Bulker	26,702	76	\$2
9/26/97	Leopard I	Bulker	34,584	72	\$1.7
9/26/97	Ialcas Legend	Bulker	35,295	80	\$5
9/19/97	Western Express	Bulker	38,888	86	\$11.5
9/12/97	Fellow	Bulker	41,824	83	\$8.3
9/5/97	Asian Fortune	Bulker	42,964	83	\$9.8
9/19/97	Soarer Adonis	Bulker	43,590	84	\$12.1
9/19/97	Li Xin	Bulker	54,540	80	\$3.3
9/12/97	Li Yaun	Bulker	54,540	79	\$3.3
9/19/97	California	Bulker	60,158	82	\$9.9
9/12/97	Tai Zhou Hai	Bulker	64,170	82	\$10.8
9/26/97	Wen Zhou Hai	Bulker	64,170	82	\$10.8
9/5/97	Madonna Lily	Bulker	64,747	82	\$10.6
9/12/97	Crystal Grace	Bulker	64,975	86	\$15.7
9/5/97	Thalia	Bulker	65,164	82	\$12.2
9/5/97	Gina Juliana	Bulker	67,395	87	\$16.8
9/5/97	World Spear	Bulker	69,001	83	\$11.6
9/26/97	Halla Endeavour	Bulker	69,585	86	\$15.8
9/19/97	Cereza	Bulker	69,808	89	\$18.4
9/5/97	Nephele	Bulker	71,927	83	\$10
9/5/97	Navalis	Bulker	133,365	81	\$11.2
9/26/97	Jugurtha	Tanker	12,094	80	\$4
9/19/97	Trader	Tanker	22,305	81	\$7.8
9/5/97	Thorsfredy	Tanker	29,521	80	\$8.2
9/26/97	Canopus	Tanker	31,309	81	\$8.3
9/26/97	Lady Elisabeth	Tanker	33,950	74	\$5.9
9/12/97	Tasman Spirit	Tanker	87,584	79	\$9.8
9/12/97	Pacific Jupiter	Tanker	94,995	89	\$30.5
9/19/97	New Tatjana	Tanker	96,550	76	\$6
9/12/97	Svenner	Tanker	107,000	97	\$44.5
9/19/97	New Lousjana	Tanker	115,831	75	\$7
9/26/97	Amyndas	Tanker	123,597	77	\$7.5
9/19/97	Sarita	Tanker	124,472	86	\$30.8
9/12/97	New Nevis	Tanker	138,884	75	\$7.2
9/19/97	Friendship	Tanker	267,589	76	\$15.5
9/26/97	Fellowship	Tanker	268,225	74	\$15
9/5/97	Erica	Tanker	298,896	95	\$82.5
9/26/97	C Bright	Tanker	308,500	97	\$97

Index Fleet Valuation



The Index Fleet Valuation is representative of the resale market for Bulk Carriers and Tankers as a whole. The Index Fleet consists of 15 vessels, nine Bulk Carriers and six Tankers, of various sizes and ages. Fluctuations in the value of the world fleet are mirrored in the Index Fleet. This report, compiled by Shipping Intelligence, Inc., a New York maritime consulting firm, tracks sale prices of secondhand bulk carriers and tankers. For more information, call tel: (212) 997-0966.

PRODUCTS SHOWCASE

(Continued from page 77)

gram allows users of Windows PCS to receive charts, weather satellite photographs, radio teletype, NAV-TEX, FEC, SITOR, ASCII and Morse code digital news and weather broadcasts.

By connecting the package's

demodulator between the computer's serial port and a single side band shortwave communications receiver, digital radio transmissions can be received, displayed, printed or recorded on disk.

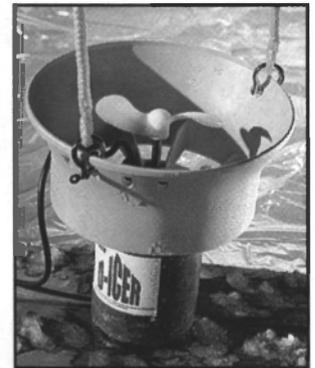
SSC's new Windows FSK demodulator allows the program to operate in the background while the

operator is performing other tasks under Windows. The package includes image and text decoding software, a miniature demodulator, tutorial audio cassette, comprehensive manual, worldwide frequency list and broadcast schedules. The system requires Windows 3.1x, Windows 95 or

Windows NT, 8MB Ram Memory (4 MB under Windows 3.1x) and 6 MB hard disk space.

For more information on SSC
Circle 30 on Reader Service Card

Guest De-Icer Uses Verton Structural Composites



LNP Engineering Plastics offers the Guest D-Icer, a submersible, motor-driven water circulation unit which prevents the formation of ice around a boat or dock and features a one-piece plastic shroud made with Verton MFX, a long glass fiber reinforced polypropylene. The D-Icer works by continuously propelling warmer subsurface water up to the surface. The unit is suspended by two lines over the side of the boat and lays under the water. The Verton composites provide the D-icer with strength, stiffness, impact resistance and bright colors for easy visibility.

For more information on LNP
Circle 4 on Reader Service Card

NO DRAIN, NO PAIN.

4,000 hours between oil changes!



Now it's easy with the new CENTINEL™ Advanced Engine Oil Management System, an innovation that can save you a lot of time and money, hour after hour.

How CENTINEL Works:

CENTINEL is an onboard continuous replacement system that operates according to the engine's actual duty cycle. Using proprietary electronic controls, the CENTINEL system monitors

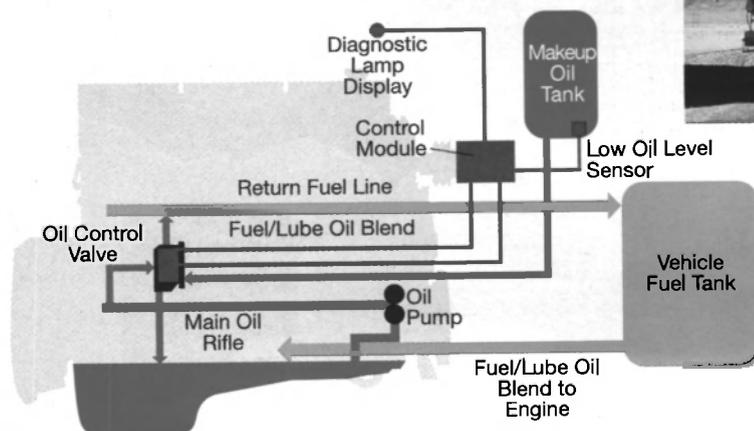
fuel rate and replaces oil at rates engineered for continued reliability and durability of the engine.

CENTINEL's continuous oil replacement process stabilizes engine oil quality and allows oil and filter change intervals to be extended to unprecedented levels. With CENTINEL, you can:

- Extend oil change intervals to 4,000 hours
- Extend oil filter change intervals to 1,000 hours
- Reduce oil and oil filter disposal costs
- Reduce downtime
- Increase productivity and profitability



CENTINEL is available exclusively through Cummins distributors and dealers. For details, contact your nearest Cummins location or phone 1-800-DIESELS (1-800-343-7357).



CENTINEL™

©1997 Cummins Engine Company, Inc., Box 3005, Columbus, IN 47202-3005, U.S.A.

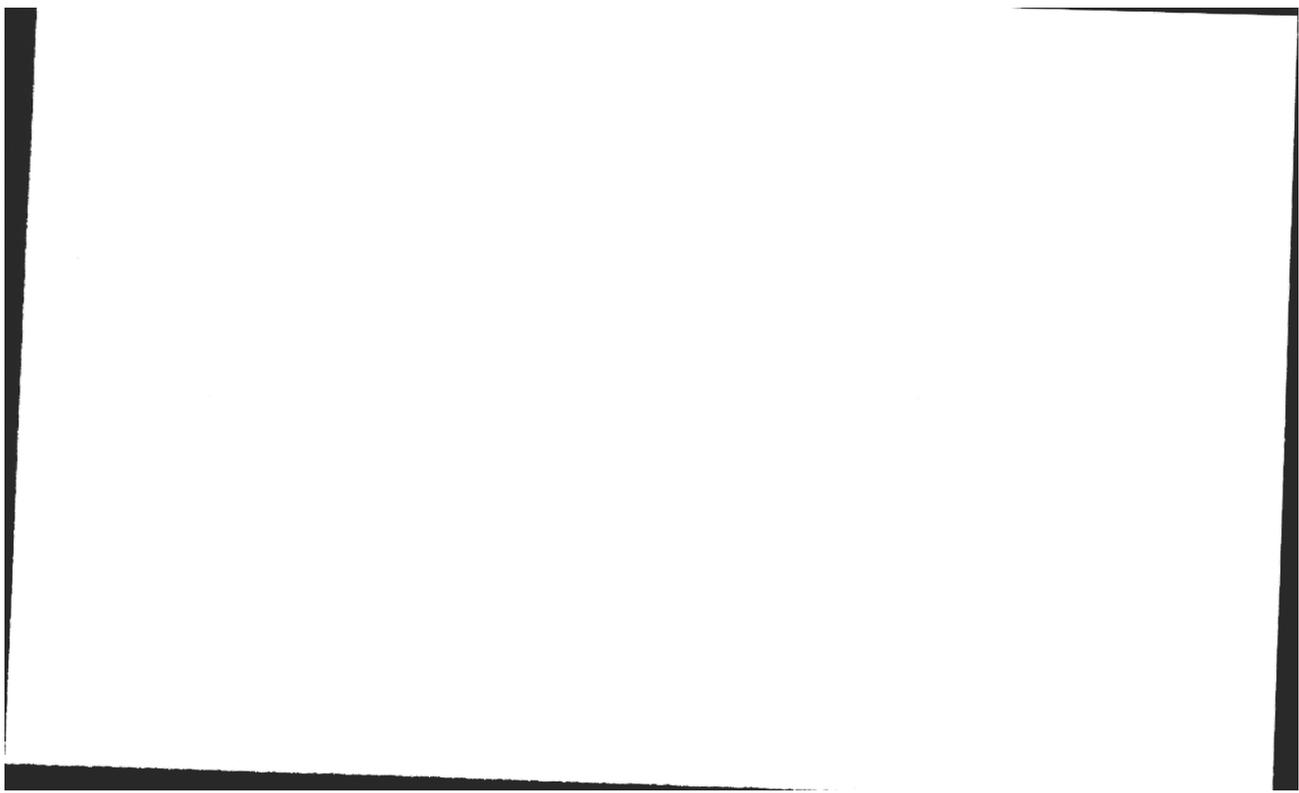
Circle 232 on Reader Service Card

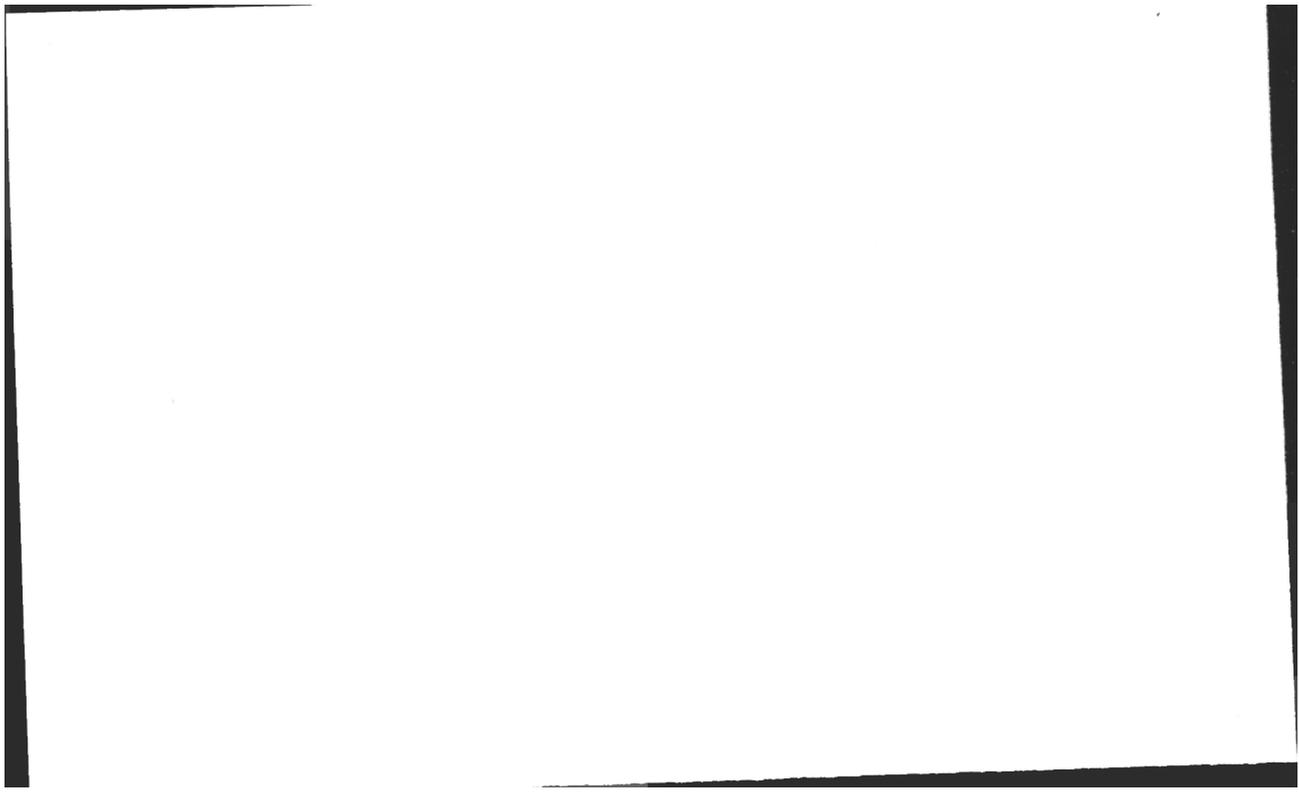
Cinet Introduces Maritime PC

Cinet has produced a new desktop computer modified to withstand the environmental conditions found onboard ships and offshore installations. The Cinet Maritime PC is assembled from components with regard to temperature, humidity, vibration and shock. The computer is mounted on a specially-designed damping board, capable of reducing shocks and vibration to a minimum.

To ensure continuous operation, the Cinet Maritime PC may be fitted with ECC memory, which features a built-in error correction function detecting up to two bits of data and correcting one bit. The computer is equipped with a 2.5 ft. 1080 MB hard drive designed for use in harsh and notebook envi-

(Continued on page 84)







YOUR SOURCE FOR
INDUSTRIAL AND MARINE PERSONNEL.

**Temporary or Long Term
Extensive Experience in the Marine Industry
is a Must for our Employees**

Some of the types of personnel we have
available are:

- Welders
- Pipe Fitters
- Shipfitters
- Electricians
- Pipe Welders
- Machinist (Conv. & CNC)

(800)748-1395

Phone: (601)762-3418 • Fax: (601)762-3428
P.O. Box 2067 • Pascagoula, MS 39569

**Leading The Way In Personnel Service
Since 1963**

Circle 321 on Reader Service Card

**ARE YOU STILL GETTING
TURNED ON WITHOUT PROTECTION?!**

**Predict motor failure
weeks in advance!
Improve productivity
and your bottom line!**



Insulation deterioration is inevitable, but motor failure doesn't have to be. MSE MotoSafe and FailSafe systems continuously monitor insulation for impending failure while the motor is idle.

These field-proven devices will pay for themselves by improving your operating efficiency. In most cases, savings from the first alarm alone will offset the entire cost of the system.

- ◆ Lower maintenance costs ◆ Improve efficiency
- ◆ Reduce the expense of stocking spare motors
- ◆ Reduce expensive downtime ◆ Extend motor life

GET PROTECTION BEFORE YOU GET TURNED ON! To place an order or for more information, contact your nearest MSE distributor. For distributor locations, call MSE Products today at:



Toll Free: 1-888-275-3085 • Fax: (905) 738-5732
E-Mail: conas08@aol.com

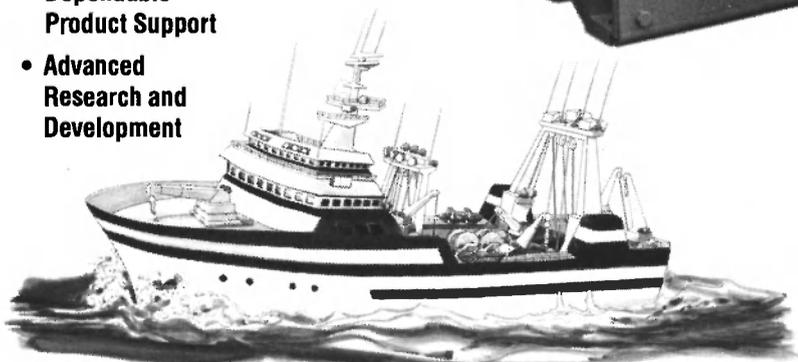
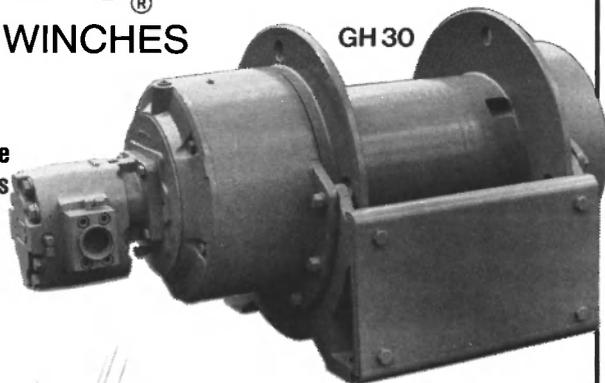
Circle 325 on Reader Service Card

Gearmatic®

PLANETARY WINCHES

A REPUTATION
BUILT ON:

- Versatility and Range of Models, Line Pulls up to 50,000 lbs.
- Proven Quality and Reliability
- Dependable Product Support
- Advanced Research and Development



- EQUAL SPEED OR OPTIONAL HIGH SPEED REVERSE
- BASED ON THE PROVEN GEARMATIC 30 SERIES WINCH DESIGN
- COMPACT DESIGN WITH OPTIONAL MOTORS AND GEAR RATIOS
- HIGH EFFICIENCY PLANETARY GEARING WITH ALL COMPONENTS RUNNING IN OIL
- OPTIONAL DRUM SIZES
- OPTIONAL FREE FALL AVAILABLE ON EQUAL SPEED MODELS

High efficiency external hydraulic motors, computer aided designed planetary gears and more than 11 drum options combine to make the most efficient use of available power. Gearmatic's high speed reverse allows the operator to pay out cable 5.3 times faster than the haul in speed.

PACCAR WINCH DIVISIONS

P.O. BOX 547 • BROKEN ARROW, OK 74013
PHONE: (918) 251-8511 • FAX: (918) 258-4822



Circle 285 on Reader Service Card

G.M.D. SHIPYARD

Easy Access To Quality Marine Fabrication
and Repair Services... Delivered On Time...
On Budget...Every Time.

- Largest DryDocks in New York
- (2) 1000' Graving Docks
- (1) 750' Wet Berth
- (3) 75-Ton Cranes
- (1) 200 - Ton Crane
- Fully Equipped Valve and Machine Shops
Manned By Highly Skilled and Certified
Tradesmen

These advantages allow us to provide the same quality service, whether the job is large or small, routine or specialized on government vessels or commercial ones. Our 24 hour operational capabilities ensure fast turn around - particularly in an emergency.

24 HOURS A DAY **718-260-9200** 7 DAYS A WEEK
FAX REQUESTS 718-260-9284

Located in the Brooklyn Navy Yard
Flushing Ave. & Cumberland Street, BLDG. #595
Brooklyn, NY 11205

Circle 329 on Reader Service Card

PRODUCTS SHOWCASE

(Continued from page 80)

ronments.

The hard drive withstands vibration, temperature variation and shock of up to 100Gs operating, 500Gs non-operating.

For more information on Cinet
Circle 3 on Reader Service Card

Prüftechnik Launches New Monitoring System

Vibrex, the new continuous monitoring system manufactured by Prüftechnik, features a dual function standard sensor which measures both machine vibration (ISO)

and shock pulse signals (dB) of anti-friction bearings. Separately-adjustable warning and alarm limits allow separate actions — such as warning signals followed by automatic machine shutoff — with separate onboard LED indicators and an adjustable delay to prevent false alarms. Evaluation modules

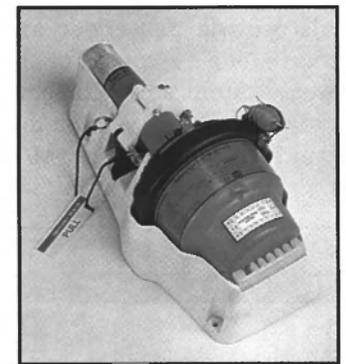


are contained in an IP65 industrial housing; specialized modules are also available expressly for gear vibration and low-speed machines. Self-diagnostic routines show short circuits, broken connections and power status with LEDs.

The AC/DC-powered system includes sensors, cable, mounting accessories and instructions for quick installation — ideal for original equipment delivery or for after-fitting at the production site.

For more information on Prüftechnik
Circle 8 on Reader Service Card

Jotron Increases Range Of EPIRBs



Jotron Electronics has increased its range of 406 Mhz EPIRBs to include Tron-40S, Tron-45S, Tron-AIR and Tron-SOUND. Two of the EPIRBs have recently been approved by Norwegian Maritime Directorate (NMD) and Maritime Safety Agency, U.K. (MSA), and the newest design, Tron-AIR, has just been launched. Tron-40S is a GMDSS float-free satellite emergency beacon. It operates on 406 Mhz (for SARTSAT COSPAS) and 121.5 Mhz (for homing). Its technical features include a built-in, full function test, integrated antenna and xenon gas strobe light. Decoding and coding of a vessel's identity are wireless. Tron-45S is Jotron's new manual emergency beacon based on Tron-1K. It is equipped with xenon strobe light and a complete full-function test. When the emergency beacon is stored in its bulkhead container, the battery will disconnect automatically. Tron-45S is ideal for smaller vessels, pleasure boats and fishing vessels.

(Continued on page 96)

SOUNDCOAT®

NOISE & VIBRATION CONTROL PRODUCTS
FOR THE MARINE INDUSTRY

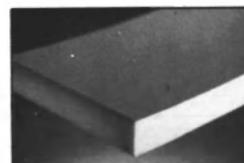
- Broad Acoustical Product Line
- High Performance and Lightweight Engineered Products to quiet multiple noise sources and airborne/structure-borne noise paths in vessels
- Typical Applications: engine rooms, crew quarters, shell & deck plates, reduction gear noise, propulsion and auxiliary engines, metal structures
- Design Support Available: 35 years experience in OEM noise: "land, air & sea"
- A Noise Control Materials Manufacturer: "not just an insulation supplier"
- East and West Coast Factories



Extensional/Epoxy-Based Damping Compounds



Vibration Dampers



Fire Resistant, Lightweight Composites

For Design Support:
Call SOUNDCOAT
516-242-2200 Ext. 153

SOUNDCOAT
One Burt Drive, Deer Park, NY 11729
16901 Armstrong Ave., Irvine, CA 92606
www.soundcoat.com

Circle 336 on Reader Service Card

Keep In Touch Even on the High Seas

With the Maritime Mini-M SatPhone



- Worlds Smallest Stabilized Maritime Antenna
- Remoteable Handset
- Worldwide Voice, Fax, Data/Internet
- Low Cost/Reliable Communications

LandSea Systems, Inc.
Satellite Communications

TEL: 757.468.0448 FAX: 757.468.0625 EMAIL: users@series2000.com

COMMUNICATE WITH US

Circle 337 on Reader Service Card

Don't leave port without one

Aggreko's NEW Worldwide Shipping Directory

The world's first global reference for emergency rental power

- Worldwide port contacts
- 75 global depot numbers
- Equipment specifications
- 24-hour rental & technical assistance contacts

Call today for your free copy!
1-800-443-2447

aggreko
North America's Rental Specialist

www.aggreko.com

Circle 338 on Reader Service Card

SET YOUR COURSE TO THE FUTURE WITH SAILSAFE ECDIS-LIKE OCEANEX DID



Operating on a Windows™ PC platform, **Sailsafe** is at the leading edge of electronic navigation, and meets IMO/IHO's standards for Electronic Chart Display and Information System.

Sailsafe gives you, the mariner, what you need. It helps save time and money, and maximizes operation's profitability by ensuring precise vessel monitoring and helping avoid costly delays.

Sailsafe is available in ship-based, portable, and software-only versions.



Q-MAR inc.
1801 McGill College, Suite 1000
Montral (Quebec) H3A 2N4 CANADA

Tel: +1 514 844 7572 Fax: +1 514 844 0080

Circle 334 on Reader Service Card

If you're not getting the maritime industry's best weekly newspaper, you may be the last to know!

Maritime Week is the source for marine business and financial news and analysis!

Each week our readers get the whole story - first: contract awards, mergers and acquisitions (friendly and not-so-friendly); which stock is headed for a nosedive; takeover rumors ... We'll even tell which of your competitors just appointed two new directors and why the old ones are out! From business confidence to bankruptcies, it's all there. **Each week. Every week.**

- The Strategy:** Late-breaking first-hand reporting from our global network of the world's best maritime journalists, combined with our seasoned editorial team and the opinion and analysis of industry experts.
- The Players:** Your company, your customers and your competitors in the world-wide marine marketplace.
- The Opportunity:** What's it worth to you to know what's happening in your industry?

You owe it to yourself to try Maritime Week, not just because it's essential reading for every marine professional... but because you can't afford to be the last to know!



Maritime Week is the maritime professional's weekly survival guide.



FREE with your paid subscription

Special Subscription Offer

As a new subscriber to **Maritime Week**, you'll be a **cut above** your competitors. And with this special offer, you won't have to **cut into** your budget! Subscribe today and we'll give you a full year of **Maritime Week** -- 52 news-packed issues -- for only **\$199.00**. That's **33% off** the normal subscription price!

There's more... as a new subscriber you'll receive absolutely **FREE** a deluxe Victorinox™ Swiss Army knife!

THIS OFFER EXPIRES DECEMBER 22, 1997

It's Only News If You Know It First.

Yes! Please mail me 52 issues of Maritime week for \$199.00 and my FREE Swiss Army knife!

Name _____ Title _____
 Company _____ Nature of Business _____
 Address _____ City _____ St _____ ZIP _____
 Phone (____) _____ Fax _____ E-Mail _____
 Check Enclosed or Please Bill My: Company VISA MasterCard American Express Exp. Date: ____/____/____
 Acct. #: _____ Signature _____

Please mail check & coupon to: **Maritime Week Subscriptions, 118 East 25th Street, New York, NY 10010**
 or fax to: (212) 254-6271

BUYERS DIRECTORY

This directory section is an editorial feature published in every issue for the convenience of the readers of MARITIME REPORTER/Engineering News. 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/EN assumes no responsibility for errors. If you are interested in having your company listed in this Buyers Directory Section, contact John C. O'Malley at (212) 477-6700.

ABRASIVES

GMA Gamet, 6124 114th Ave NE, Kirkland WA 98033

AIR CONDITIONING AND REFRIGERATION -

Repair & Installation
Stork Canada, 47 boul. Marie Victorin, Candiac, Quebec, Canada, J5R 1B6
ABB Flakt Marine, Box 1043, S-436 21 ASKIM SWEDEN
Adrick Marine, Adrick Marine, 81 Mahan St., West Babylon, N.Y. 11704
Carrier Transicold, P.O. B. 4805, Syracuse, NY 13221
Refrigeration Resources, 210 West Side Ave., Jersey City, NJ, 07035

ALARMS, FACTORY MUTUAL-APPROVED

SELCO 353 A Asbury Commons Dr., Atlanta, GA 30338

ALUMINUM BOATS

American Eagle Mfg., 780 Pearle Jensen Way, La Conner WA 98257
Munson Mfg., 780 Pearle Jensen Way, La Conner WA 98257
Workskiff, Inc., 10824 Bothell Hwy S.E., Bothell, WA 98012-6869

ANCHORS AND CHAINS

All Alpha Int'l, Inc., P.O. Box 498985, Cincinnati, OH 45249
Crandall Dry Dock Engineers Inc., P.O. B. 505804, MA 02150
G.J. Wortelboer Jr. BV, P.O.B. 5003, 3008 AA Rotterdam, Netherlands
Marit Chain, 230 Avenue Desandrouins, 59300 Valenciennes FRANCE
Washington Chain & Supply Inc., Box 3645, Seattle, WA 98124
Waterman Supply Co., P.O. Box 596, Wilmington, CA 90748
Willem Pot, P.O.B. 29102, 3001 GC Rotterdam

AUCTIONEERS

MACI Auctioneers, 2334 Willis Rd., Richmond, VA 23230

AUTOPILOT SYSTEMS

ComNav Marine, 1915 Stainsbury Ave., Vancouver, B.C. CANADA

BALLAST

Universal Minerals, Mineral Research & Recovery Inc., 4620 S. Coach Dr., 85714 Tucson, AZ
Redland Genstar Inc., Executive Plaza IV, Hunt Valley, MD 1091 21031
Universal Minerals, P.O.B. 986, Tucson, AR 85714

BASKET STRAINERS

Beard Industries Inc, 601 Benton Kelly Street, Shreveport, LA 71106-7198

BEARING—Rubber, Metallic, Non-Metallic

Blohm & Voss Industrie GmbH, P.O. B. 100720, D-2000 Hamburg 1, GERMANY;
Simplex-Turmar Inc., P.O. B. 168, Little Neck, NY 11363-0168 U.S.A. Repts:
Railko Ltd., Loudwater, High Wycombe, Bucks
Hampshire ENGLAND HP109DV
Kahlenberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241
Orion Corp., 1111 Cedar Creek Rd., Grafton, WI 53024
Thorndon Bearings Inc., 3225 Mainway, Burlington, Ont., CANADA L7M 1A6
Vesco Plastics, P.O. B. 40647, Cleveland 202 SOUTH AFRICA

BILGE SYSTEMS

RGF Marine, 3875 Fiscal Ct., West Palm Beach Florida 33404
Nelson Div., Exhaust & Filtration Sys., Hwy. 51 West, P.O. Box 428, Stoughton, WI 53589

BLOCKS & RIGGING

Skookum, P.O. Box 280, Hubbard, OR 97032

BOAT RENTAL

Edison Chaisat, P.O. Box 309, Galliland, LA 70354

BOAT SHAFTING

Western Branch Metals, Inc., 2401 Wesley St., Portsmouth, VA 23707

BOILERS

Clarke Chapman Canada, 1075 North Service Rd. West, Oakville, Ontario CANADA

BRIDGE WIPERS

In-Mar Systems, Yellowstone Street, Kenner, LA 70064

BROKERS

151 Maritime Services, 34062 El Encanto/B, Dana Pt. CA 92629
Captain Aslad Company, Inc., P.O. Box 350486, Ft. Lauderdale, FL 33335
Jack Faulkner, 2419 Caddy Lane, P.O. Box 371, Flossmoor IL 60422
Mowbray's Tug & Barge Sales Corp., 35 De Hart St., Morristown NJ 07960

BULKHEAD SEALS/PANELS

Blohm & Voss Industrie GmbH, P.O. B. 100720, D-2000 Hamburg 1, GERMANY
Panel Specialists, Inc./Thermax, 3115 Range Rd., Temple, TX 76501
Railko Ltd., U.S.A. Repts: Simplex-Turmar Inc., P.O.B. 675, Tonawanda, NY 14151-0675
Rox Corp., 12402 E. 60th St., Tulsa, OK 74146-6922
Todco, P.O.B. 1087, Marion, OH 43302

CABLE TRANSIT SYSTEMS

O-Z Gedney • Nelson Firestop, P.O. B. 726, Tulsa, OK 74101-0726
Rox Corp., 12402 E. 60th St., Tulsa, OK 74146-6922

CAD/CAM SYSTEMS

Albacore Research, 3080 Uplands Rd., Victoria, B.C. CANADA V8R 6B4
All Alpha Int'l, Inc., P.O. B. 498985, Cincinnati, OH 45249
Autoship Systems Corp., #403, 611 Alexander St., Vancouver, BC, Canada V6A1E
Creative Systems, Inc., P.O. B. 1910, Port Townsend, WA 98368
Kookum Computer Systems AB, PO Box 50555, S-202 15 Malmo SWEDEN
Scientific Marine Services, Inc., 101 State Pl., Suite F, Escondido, CA 92029
TIMSCO, P.O. B. 91360, Mobile, AL 36691

CARGO MONITORING & CONTROL SYSTEM

Ian-Conrad Bergan, Inc., 3409 Gulf Breeze Parkway, Golf Breeze, FL 32561
Radio-Holland USA, 8943 Gulf Freeway, Houston, TX 77017

CEILING

Todco, P.O.B. 1087, Marion, OH 43302

CHARGE AIR COOLERS

Crane Heatex, 17 Grandview Ave., W. Orange, NJ 07052

CHEMICALS

Ashland Chemical/Drew Ameroid Marine, One Drew Plaza, Boonton, NJ 07005
Uniservice Americas, 57174 Hardin Rd., Sidel, LA 70461
Unitor Ship Service Inc., 2375 W. Esther St., Long Beach, CA 90813

CLAMPING—Pipe, Tubes, Hose

ZSI, 39074 Webb Ct., Westland, MI 48185

CLASSIFICATION SOCIETY

American Bureau of Shipping, 2 World Trade Center, 106th Fl. New York, NY 10048

Det Norske Veritas, 70 Grand Ave., Riveredge, N.J. 07661

CLUTCHES

Centra Corp., 8185 Cass Ave., Darien, IL 60561
Haley Clutch and Coupling Corp., 1820 Hwy. 1 North, Greenville, MS 38702

COATINGS / COATINGS PROTECTION

Corrodeal Inc., 1045 12th Ave. NW F5A, Issaquah, WA 98027
Hempel, 6901 Cavallade St., Houston, TX 77028
Royal Chemical Corp., 2705 Concord Rd., Belle Chasse, LA 70037
TMT Services Corp./RUSTECO, P.O.B. 11398, Torrence, CA 90510-1398

COMMUNICATIONS SERVICE

ICG Satellite Services, 8400 NW 52nd St., Suite 110, Miami, FL 33166
Maritime Telecommunications Networks, Inc., 8400 NW 52nd St., Suite 110, Miami, FL 33166
Ascorm Talcote AB, Eppendorfer Weg 234, D-20251 Hamburg, GERMANY
AT & T Maritime Services, 412 Mt. Kemble Ave 5170, Morristown, NJ 07960

COMPOUNDS

ITW Philadelphia Resins, 130 Commerce Dr., Montgomeryville, PA 18936

COMPUTER LOFTING

Barataria Lofting Co., Inc., 1616 Barataria Blvd., Ste. 4, Marrero, LA 70072

COMPUTER / COMPUTER SOFTWARE

Autoship Systems Corp., #403, 611 Alexander St., Vancouver, BC, CANADA V6A1E
Chand Corporation, 157 Hwy 654, Mathews, LA 70375
Coastal Oceanographics, Inc., 11-G Old Indian Trail, Middlefield, CT 06455
Creative Systems, Inc., .O. Box 1910, Port Townsend, WA 98368
Marine Management System, 470 West Ave., Stamford, CT. 06902
Sener, C/Severo Ochoa, 4 Parque Tecnologico de Madrid. 28760 Tres Cantos - Madrid SPAIN
Intercolor Corp., 2150 Boggs Rd., Deluth GA 30096

CONDENSERS/SEPARATORS

Beard Industries Inc., P.O. Box 31115, Shreveport LA 71130

CONSOLE-GMDSS

Furuno USA, Inc., 271 Harbor Way, S. San Francisco, CA 94080
Radio-Holland USA, 8943 Gulf Freeway, Houston, TX 77017

CONSULTANT

Boland Industrial & Consulting Services, P.O.B. 91360, Mobile, AL 36691

CONTROL SYSTEM—Monitoring

Engine Monitor, Inc., 179 Hickory Ave. Harahan, LA 70123
GEC ALSTHOM Diesels Inc., 10801 Kempwood Drive, Suite 1, Houston, TX 77043-1412
Ian-Conrad Bergan, 3409 Gulf Breeze Pkwy, Gulf Breeze, FL 32561

Gems Sensors Division, One Cowles Rd., Plainville CT 06062

MMC International, 60 Inip Dr, Inwood NY 11096

Prime Mover Controls, 3600 Gilmore Way, Burnaby V5G 4R8 CANADA

Robertson Marine Systems, 3000 Kingman St., Suite 207, Metairie, LA 70006

Scientific Marine Services, Inc., 101 State Pl., Suite F, Escondido, CA 92029

Stork-Kwant BV, P.O.B. 23, 8600 AA Sneek, Netherlands

CONTROL SYSTEM—Steering

AutoNav Marine Systems Inc., 55A Clipper St., Coquitlam, B.C., Canada V3K 6X2

Engine Monitor, Inc., 179 Hickory Avenue Harahan, LA 70123

Kockum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068

Stork-Kwant BV, P.O.B. 23, 8600 AA Sneek, Netherlands

CONTROL VALVES

Leslie Controls, 12501 Telecom Dr., Tampa, FL 33637

CONVERSIONS & REPAIRS

Vancouver Shipyards, 50 Pemberton Ave., N. Vancouver, B.C. CANADA V7P 2R2

CORROSION CONTROL

Corrodeal Inc., 1045 12th Ave. NW #F5A, Issaquah, WA 98027

Nace Int'l, 1440 South Creek Dr., Houston, TX 77084

TMT Services Corp./RUSTECO, P.O.B. 11398, Torrence, CA 90510-1398

COUPLINGS

Apollo International, 78 Degraw St., Brooklyn, NY 11231

Aquadrive System, 17 Ave. D, Atlantic Highlands, N.J. 07716

Centra Corp., 8185 Cass Ave., Darien, IL 60561

Haley Clutch and Coupling Corp., 1820 Hwy. 1 North, Greenville, MS 38702

Lo-Rez Vibration Control, Ltd., 186 West 8th Ave., Vancouver,

B.C. V5Y 1N2

Mapeco Products, 90 Forest Avenue, P.O. Box 382, Locust Valley, NY 11560

Walz & Krenzer, 90 Forest Ave., Locust Valley, NY

CRANE—HOIST-DERRICK—WHIRLEYS

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

Marine Travelift, Inc., 49 E. Yew St., Sturgeon Bay, WI 54235

McElroy Machine & Mfg Co., Inc., P.O. Box 4454, Biloxi MS 39535-4454

New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150

CRANES

Clarke Chapman Canada, 1075 North Service Rd. West, Oakville, Ontario CANADA

Lakeshore, Inc., P.O. Box 809, Iron Mountain, MI 49801

CRANKSHAFT DEFLECTION ANALYZER

FCS, Inc., 22 Main St., Centerbrook, CT 06409

CRANKSHAFT REPAIR

Gottens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231

In-Place Machining Co., Inc. 1929 North Buffum Street, Milwaukee, WI 53212-3793

DECK MACHINERY — Cargo Handling Equipment

Lakeshore, Inc., P.O. Box 809, Iron Mountain, MI 49801

Markey Machinery Co., Inc., P.O. Box 24788, Seattle, WA 98124-0788

McElroy Machine & Mfg. Co., Inc., P.O. Box 4454, Biloxi, MS 39535-4454

New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150

Skookum, Inc., P.O. Box 280, Hubbard, OR 97032

Smith Berger Marine Inc., 516 South Chicago Street, Seattle, WA 98108

DECK MACHINERY

Skookum, P.O. Box 280, Hubbard, OR 97032

Clarke Chapman Canada, 1075 North Service Rd. West, Oakville, ONTARIO CANADA

Intercontinental Engineering, P.O. Box 9055, Kansas City, MO 64168

McElroy Machine & Mfg Co., Inc., P.O. Box 4454, Biloxi, MS 39535-4454

New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150

Pusnes, PO Box 102, N-4818, Faerвик, NORWAY

Skookum, P.O. Box 280, Hubbard, OR 97032

Smith Berger Marine Inc., 516 South Chicago St., Seattle, WA 98108

Timberland Equipment, P.O. Box 490, Woodstock, Ontario N4S 7Z2 CANADA

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

DEHUMIDIFIERS

Dry Air Technologies, 313 N. Oak St., Burlington, WA 98233

DESALINATION - REVERSE OSMOSIS

Offshore Marine Laboratories, 22994 El Toro Rd., Lake Forest, CA 92630

Lifestream Watersystems, Inc., P.O. Box 634, Huntington Beach, CA 92647

Matrix Desalination, 3295 S.W. 11th Ave., Fort Lauderdale, FL 33315

Reverso Osmosis of South Florida, 12301 SW. 133 Court, Miami, FL, 33186

DIESEL ACCESSORIES

Hermont Marine, Inc., 3528 Griffith, St.-Laurent, QUEBEC CANADA H4T 1A7

Kiene Diesel Accessories, 325 S. Fairbanks St., P.O. Box 386, Addison, IL 60101

Liberty Technologies, 555 North Lane, Conshohocken, PA 19428

DIESEL ENGINE ANALYZER

FCS, Inc., 22 Main Street, Centerbrook, CT 06409

Hermont Marine, Inc., 3528 Griffith, St.-Laurent, QUEBEC CANADA H4T 1A7

DIESEL ENGINE — Spare Parts & Repair

Alaska Diesel, 4420 14th Ave. NW, Seattle, WA 98107

Brigantine Services Ltd, 48 Wang Lok St., Yuen Long Industrial Estate, New Territories, HONG KONG

Caterpillar, Inc., Engine Div., P.O. Box 610, Mossville, IL 61552-0610

Castoldi S.p.A., Viale Mazzini, 161, 20081, Abbiategrasso, ITALY

Cummins Engine Co., 4500 Leeds Ave., Ste. 301, Charleston, SC 29405-8521

Cummins Mid-South, Inc., 110 E. Airline Highway, Kenner, LA 70062

John Deere, John Deere Rd., Moline, IL 61265

DMI Norshippo Co., P.O. Box 2100, Norfolk, VA 23501-2100

GEC ALSTHOM Diesels Inc., 10801 Kempwood Drive, Suite 1, Houston, TX 77043-1412

Gottens Worldwide, 160 Van Brunt St., Brooklyn, NY 11231

In-Place Machining Co. Inc. 1929 North Buffum Street, Milwaukee, WI 53212-3793

Kiene Diesel, 325 S. Fairbanks, Addison, IL 60101

Klattenberg Marine, 17 Grandview Ave., W. Orange, NJ 07052

Liberty Technologies, 555 North Lane, Conshohocken, PA 19428

MAN B&W Diesel AG, Stadtbachstrasse 1, D-86153 Augsburg 1, GERMANY

MAN B&W Diesel A/S, Tegholmsgade 41, DK-2450 Copenhagen SV, DENMARK

MAN B&W Diesel, 17 State St., New York, NY 10004

Motor-Service AB, Box 2115, S-144 04 Ronninge, SWEDEN

Motor Service-Hugo Stamp, 3190 S.W. 4th Ave., Ft. Lauderdale, FL 33315

Paxman Diesels, P.O. Box 8, Paxman Works, Colchester, Essex, CO1 2HW, ENGLAND

Ustein Bergen AS, PO Box 924, N5002 Bergen, NORWAY

Wartsila Diesel, 201 Defense Highway, Annapolis, MD 21401

Gottens, 160 Van Brunt St., Brooklyn, NY 11231

DIVING & SALVAGE

Coast Marine Services, 793 B Mira Flores, San Pedro CA 90733

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

H.J. Merrihue, P.O. Box 23123, New Orleans LA 70183

JW Fishers, 65 Anthony St., Berkley, MA 02779

Muldoon Marine Services, Inc., P.O. Box 3221, Terminal Island, CA 90731

DOCK FENDERING SYSTEMS

Poly Hi Solidur, 2710 American Way, Fort Wayne IN, 46899

DOORS - MARINE & INDUSTRIAL

Branton Ind., 1101 Edwards Ave., Jefferson, LA 70181

Commercial Products, 3924 Forest Drive, Ste. 11, Columbia, SC 29204-4148

Insulations, Inc., 1101 Edwards Ave. Harahan, LA 70123

Panel Specialists, Inc./Thermax, 3115 Range Rd., Temple, TX 76501

FUEL CONSERVATION
Instruments Computer & Controls, Inc., 70 South Bow Rd., Hookset, NH 03106

FUEL DECONTAMINATION
Enviro Response Prod., P.O. Box 4011, Ft. Meyers, FL 33932
Environmental Solutions Int'l, 11002 Raccoon Ridge, Reston, VA 20191-4911

GALLEY EQUIPMENT
Commercial Products, 3924 Forest Drive, Ste. 11, Columbia, SC 29204-4148
Cospolch Refrigerator Co., 949 Industry Rd., Kenner LA 70062
Jamesdown Metal Marine Sales, Inc., 4710 Northwest Second Ave, Boca Raton, FL 33431
Lang Manufacturing, P.O. B. 905, Redmond, WA 98073
Marine Accomodations, 3830 Williamsburg Rd., Jacksonville, FL 32256

GANGWAYS, LADDERS
ACL Industries, 177 Gay St., Manchester, N.H. 03103
SlipNot Safety Flooring, 2545 Beaufait St., Detroit, MI 48207
Wooster Products Inc., 1000 Spruce St., P.O. Box 896, Wooster, OH 44691

GEAR REPAIR
Haley Marine Gears International, Inc., 2600 N. Concord Belle Chasse, LA 70037

GENERATOR
Alaska Diesel, 4420 14th Ave., NW, Seattle, WA 98107
Baylor Co., 500 Industrial Blvd., Sugarland, TX 77478

GLARE PROTECTOR
McInnis Industries
2301 Hwy 365
Port Authur, TX 77640

HATCH COVER SEAL RENOVATION
Baywood Inc., 3841 Soundway, Bellingham, WA 982263

HEAT EXCHANGERS
Alfa-Laval Separation Inc., 955 Mearns Rd., Warminster, PA 18974
Beaird Industries Inc., P.O. Box 31115, Shreveport, LA 71130
Crane Heatex, 17 Grandview Ave., West Orange, NJ 07052

HIGH PRESSURE WATER JETTING
Aqua-Dyne, Inc., 3620 W. 11th Street, Houston, TX 77008-6004

HOISTS
JD Neuhaus Corp., 2603 Rolling Rd., Gwynn Oak, MD 21207

HORNS/WHISTLES
Kahlenberg Bros Co., P.O. Box 358, Two Rivers, WI 54241
Kockum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068

HOSES
Apollo International, 78 Degraw St., Brooklyn, NY 11231

HYDRAULICS
Cunningham Marine Hydraulics Co., 201 Harrison St., Hoboken, NJ 07030
Engine Monitor, Inc., 179 Hickory Ave. Harahan, LA 70123
Hamilton Jet, P.O. Box 709, Christchurch, NEW ZEALAND
Ultra Hydraulics Limited, Cheltenham Road East, Gloucester, GL2 9QN, ENGLAND

INFORMATION TECHNOLOGIES
Marine Management Systems, 470 West Ave., Stamford, CT 06902

INSTRUMENTATION
Instruments East, Inc., 1037 West 45th St., Norfolk, VA 23508
Gems Sensors, Inc., 1 Cowels Rd., Plainville, CT, 06062

INSULATION
Blohm & Voss Light Insulation, Bartels & Laders GmbH, Nordereibstrasse 1S, 20457 Hamburg GERMANY
Panel Specialists, Inc./Thermax, 3115 Range Rd., Temple, TX 76501
Insulations, Inc., 1101 Edwards Ave., Harahan, LA 70123
Superior Energies Inc., P.O. Drawer 386, Grovas, TX 77619

INTERIORS
Custom Ship Interiors, Inc., P.O. Box 237, Lusby, MD 20657
Hopeman Brothers, P.O. Box 820, 435 Essex Ave., Waynesboro, VA 22980
Insulations, Inc., Rt. 5, 12360 Leisure Rd, Baton Rouge, LA 70807
Jamesdown Metal Marine Sales, Inc., 4710 NW Second Ave, Boca Raton, FL 33431
Marine Accomodations, 3830 Williamsburg Rd., Jacksonville, FL 32256
TODCO, Inc., P.O. Box 1087, Marion, OH 43302

JOINER—Watertight Door—Paneling—Ceiling System—Decking
All Alpha Int'l, Inc. P.O. Box 498985, Cincinnati, OH 45249
Branton Ind., 1101 Edwards Ave., Jefferson, LA 70181
Commercial Products, 3924 Forest Drive, Ste. 11, Columbia, SC 29204-4148
CustomShip Interiors, Inc. P.O. Box 237, Lusby, MD 20657
Hopeman Brothers, Inc., P.O. Box 820, Waynesboro, VA 22980
Insulations, Inc., 1101 Edwards Ave., Harahan, LA 70123
Marine Accomodations, 3830 Williamsburg Park, Suite7 Jacksonville, FL 32257
Panel Specialists, Inc./Thermax, 3115 Range Rd., Temple, TX 76501
Walz & Krenzer, Inc., 90 Forest Ave. Locust Valley N.Y. 11560

KEEL COOLERS
R.W. Femstrum & Co., 1716 Eleventh Ave., Menominee, MI 49858
Kahlenberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241
The Walter Machine Co., Inc., 84-98 Cambridge Avenue, Jersey City, NJ 07307

LASER ALIGNMENT
Boland Industrial & Consulting Services, P.O.B. 91360, Mobile, AL 36691

LIFEBOATS/RAFTS
American Eagle Mfg., Inc., 780 Pearle Jensen Way, LaConner, WA 98257
DBC Marine Safety Systems, 12351 Bridgeport Rd., Richmond, B.C. CANADA V6V1J4
Norsale AS, P.O. Box 115, N-4818 Faervik, Norway
Viking Life Saving Equipment, 1625 N. Miami Ave., Miami, FL 33136
Willard Marine Co., Inc., 1250 N. Grove St., Anaheim, CA 92806
Zodiac of North America, P.O. Box 400, Stevensville, MD 21666

LIFESAVING EQUIPMENT
MGI International, 119-225 West 1st St., North Vancouver, B.C. CANADA

Stearns Manufacturing, P.O. Box 1498, St. Cloud, MN 56302

LIGHTING SYSTEMS / EQUIPMENT—Lamps,Fixtures, Searchlights
ACR Electronics, Inc., 5757 Ravenswood Rd., Ft. Lauderdale, FL 33310-5247
Archway Marine, 4501 Swan Ave., St. Louis, MO 63110
Gollen Marine, 160 Van Brunt St., Brooklyn, NY 11231
Kockum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068
Pauluhn Electric Mfg. Co., Inc. 1616 N. Main, P.O. Box 53, Pearland, TX 77581
Francis Searchlights/Stam Supply Co., 4415 6th N.W., Seattle, WA 98107

LINE HANDLING VIDEO
Moxie Media, Inc., 5734 Jefferson Hwy., Harahan, LA 70123

LIQUID LEVEL GAUGES
King Engineering Corp., P.O. Box 1228, Ann Arbor, MI 48106

LIQUID OVERFILL PROTECTION SYSTEMS
E.R.L. Marine Products, P.O.Box 1026, New Albany, IN 47151-1026
Metritape, Inc., 59 Porter Rd., Littleton, MA 01460
Gems Sensors, Inc., 1 Cowels Rd., Plainville, CT, 06062

LOGISTICS
VL Logistics Consultants, Inc., 3420 Bienville Blvd., Ocean Springs, MS 39564

MACHINERY MAINTENANCE, REPAIR, OVERHAUL, AND TESTING
Gollen Marine Company Inc., 160 Van Brunt Street, Brooklyn, NY 11231
New England Trawler Equipment Co., 291 Eastern Avenue, Chelsea, MA 02150
Wallace Coast Machining, 1920 Waukegan Rd., Glenview, IL 60025

MARINE CALIBRATION DEVICES
Hermont Marine, Inc., 3528 Griffith, St.-Laurent, QUEBEC CANADA H4T 1A7

MARINE CEILING
Hydro-Aluminium, Vik Verk, N-5880 VIK I SOGN, Norway
Insulations, Inc., Rt. 5, 12360 Leisure Road, Baton Rouge, LA 70807
Panel Specialists, Inc., 3115 Range Rd., Temple, TX 76501

MARINE DECKING
E.H. O'Neill Co., 1405 Chippendale Rd., Lutherville, MD 21093
Hopeman Brothers, Inc., P.O. Box 820, Waynesboro, VA 22980
Insulations, Inc., Rt. 5, 12360 Leisure Road, Baton Rouge, LA 70807
Selby, P.O.Box 1600, Sapulpa, OK 74067

MARINE DRILLING & BLASTING
Marine Drilling & Blasting, Inc., P.O. Box 18098, Beverly Hills, CA 90209-4098

MARINE ELECTRONICS
Frank L. Beier Radio, 2001 Ridgeway Drive, Metairie, LA 70001
Kockum Sonics, Inc., 819 Veterans Blvd., Suite 201, Kenner, LA 70068
Saab Marine Electronics AB, Box 13045, 402 51 Goleborg, SWEDEN
Scientific Marine Services, Inc., 101 State Pl., Suite F, Escondido, CA 92029

MARINE ELEVATORS
McElroy Machine, 1101 Lorraine Rd., Biloxi, MI 39535-4454

MARINE EQUIPMENT
Bohnet & Associates, 1150 Rule Rochelle, Sidell, VA 70458
McElroy Machine, P.O. Box 4454, Biloxi, MS 39535-4454

MARINE FINANCING
Safe Credit Co. Inc. 4909 156th Ave. NE, Redmond, WA 98052

MARINE FIRE PROTECTION
Insulations, Inc., Rt. 5, 12360 Leisure Road, Baton Rouge, LA 70807
Unitor Ship Service inc., 2375 West Esther Street, Long Beach, CA 90813

MARINE GEARS
The Falk Corp., PO Box 492, Milwaukee, WI 53201-0492
Haley Marine Gears, Inc. P.O. Box 689, Greenville, MS 38702
Marine Gears, P.O. Box 689, Greenville, MI 38701

MARINE INSURANCE
John G. Alden, 1300 SE 17th St., Fort Lauderdale, FL 33316

MARINE PUMPS
Gilkes Inc., P.O. Box 628, Seabrook, TX 77586

MARINE SAFE VIDEO
Moxie Media, Inc., 5734 Jefferson Hwy., Harahan, LA 70123

MARINE SURPLUS SALES
Defense Reutilization & Marketing Service, 2163 Airways Blvd., Memphis, TN 38114

MARINE SYSTEMS SIMULATION
Applied High Technology, 4 Place Dee Commerce
Brossard, Suite 201 Quebec Canada J4W-3B3

MARITIME ARTWORK
Sarba Art Studio, 6 Ridge Drive, Old Saybrook, CT 06475

MECHANICAL PUMP SEALS
John Crane Marine, USA, 1536 Barclay Blvd, Buffalo Grove, IL 60089

METERS
Selco USA, 2508 Lakebrook Ct., Atlanta, GA 30360

MONITORS
Intercolor Corp., 2150 Boggs Rd., Deluth GA 30096

MOORING LINES
Phillystran, Inc., 151 Commerce Drive, Montgomeryville, PA 18936-9628

MOTOR PROTECTION EQUIPMENT
Marine Safe Electronics, 37 Staffern Dr., Concord, Ontario L4K CANADA

NAVAL ARCHITECTS, MARINE ENGINEERS, SURVEYORS
Advanced Marine Enterprises, Inc., 1725 Jefferson Davis Hwy., Arlington, VA 22202
Bay Engineering, 253 N. First Ave., Sturgeon Bay, WI 54235
Donald L. Blount, 2550 Ellsmere Ave., Ste. K, Norfolk, VA 23513
C. Baxter & Associates, P.O. Box 9006, Mobile, AL 36609
CDI Marine Co., 4040 Woodcock Dr., Suite 200, Jacksonville, FL 32207
Childs Engineering Corp., Box 333, Medfield, MA 02052
Crandall Dry Dock Engrs., Inc., P.O. Box 505804, Chelsea, MA 02150
Crane Consultants, 15301 First Ave S., Seattle WA 98148
C.R. Cushing, 18 Vesey St., New York, NY 10007
CT Marine, 56 Crooked Trail, Rowayton, CT 06853

Cunningham & Walker, 1762 Providence Hollow Lane, Jacksonville, FL 32223
Arthur D. Darden, 3200 Ridgeway Dr., Suite 403, Metairie LA 70002
DeJong & Lebet, Inc., 1734 Emerson Street, Jacksonville, FL 32207
Design Associates Inc., 14360 Chef Menteur Highway, New Orleans, LA 70129
Designers & Planners, 2120 Washington Blvd. Ste.200, Arlington, VA 22204
Elliot Bay Design Group 5301 Shilshole Ave. N.W. Ste. 200, Seattle, WA 98107
Encon Mgmt & Engineering Consultant Services, P.O. Box 7760, Beaumont, TX 77706
GHM Inc. (Ind. Measurement Consultants), P.O. Box 1836, Newport News, VA 23601
Gibbs & Cox, Inc., 50 West 23rd St., New York, NY 10010
Heger Dry Dock Engineers, Inc., P.O.B. 6605, Holliston, MA 01746
J.J. McMullen, 2341 Jefferson Davis Hwy, Arlington, VA 22202
John W. Gilbert & Assoc., Inc., 199 State St., Boston, MA 02109
The Glosten Assoc. Inc., 600 Mutual Life Bldg., 605 First Ave., Seattle, WA 98104
Guido Perla & Assoc., 720 3rd Ave., Ste. 1200, Seattle, WA 98104
Morris Guralnick Associates, Inc., 130 Sutter St., Ste. 400, San Francisco, CA 94104
C. Raymond Hunt Associates, 69 Long Wharf, Boston MA 02110
JJH Inc., 3412 Progress Dr., Bensalem, PA 19020
R.D. Jacobs & Associates, 11405 Main St., Roscoe, IL 61073
Kvaerner Masa Marine Inc., 201 Defense Highway, Suite 202, Annapolis, MD 21401
James S. Krogen, 799 Brickelli Plaza Ste. 701, Miami, FL 33131
Rodney E. Lay & Associates, 13891 Atlantic Blvd., Jacksonville, FL 32225
MCA Engineers, Inc., 2960 Airway Ave., #A-103, Costa Mesa, CA 92626
Alan C. McClure Associates, Inc., 2600 South Gessner, Houston, TX 77063
McElroy Machine & Mfg Co., Inc., P.O. Box 4454, Biloxi, MS 39535-4454
John J. McMullen Associates, Inc., 1 World Trade Cir, Ste 3000, NY, NY 10048
Fendall Marbury, P.O. Box 2321, Annapolis, MD 21401
Marine Design & Operations, Inc., 225 E. 1st Ave., Roselle, NJ 07203
Marine Management Systems Inc., 470 West Ave., Stamford, CT 06902
Marine Power Associates, 1010 Turquoise St., Ste 217, San Diego, CA 92109
Maritech, Seaciff, Bay Road, Newmarket, NH 03857
Maritime Design, Inc., 3020 Hartley Rd., Jacksonville, FL 32257
R.J. Mellusi & Co., 71 Hudson St, New York, NY 10013
Nautical Designs, Inc. 2101 S. Andrews Ave, Suite 202, Ft Lauderdale FL 33316
Ocean Motions Co., P.O. Box 130, 49 Shore Drive, Barrington, RI 02806-0130
Olsen Marine Surveyors Co., P.O. Box 283, Port Jefferson, NY 11777
M. Rosenblatt & Son, Inc., 350 Broadway, New York, NY 10013 and 620 Fulson St., Ste. 301, San Francisco, CA 94107
Sargent & Herkes, 225 Baronne St., Suite 1405, New Orleans LA 70112
Scientific Marine Services, Inc., 101 State Pl., Suite F, Escondido, CA 92029
Sea School, 10812 Gandy Boulevard, St. Petersburg, FL 33702
Seaworthy Systems Inc., P.O. Box 965, Essex, CT 06426; 17 Battery Pl., New York, NY 10004; P.O. Box 975, Barnegat Light, NJ 08006; 2001 N. Beaugregard Street, Alexandria, VA 22311; 50 Washell Way, Orinda, CA 94563
George G. Sharp, Inc., 100 Church St., New York, NY 10007
R.A. Stearn, Inc., 253 N. 1st Ave., Sturgeon Bay, WI 54235
A.K. Suda & Ass., 3004 19th St., Metairie, LA 70002-4989
TIMSCO, P. O. Box 91360, Mobile AL 36691

NAVIGATION & COMMUNICATIONS EQUIPMENT
Furuno U.S.A., 271 Harbor Way, S. San Francisco, CA 94080
ICS Electronics Ltd., Unit V, Rudford Industrial Estate, Ford, Arundel, West Sussex, UK
KVH Industries, Inc., 110 Enterprise Center, Middletown, RI 02842-5268
Mackay Communications, 2721 Discovery Dr., Raleigh, N.C. 27604-1851
Negron Marine Consultants, 840 Bond Street, Elizabeth, NJ 07201
Offshore Systems, 930 West 1st Street, North Vancouver BRITISH COLUMBIA
Radio-Holland USA, 8943 Gulf Freeway, Houston, TX 77017
Scandinavian Micro Systems P.O. Box 155, N-1411, Kolbotn, NORWAY
Sea, Inc., 7030 220th S.W., Mountlake Terrace, WA 98043
Simrad, 19210 33rd Avenue West, Lynwood, WA 98036
Simrad Robertson, 10801 Hammerly, Suite 100, Houston, TX 77043-1923
Standard Communications, P.O. Box 92151, Los Angeles, CA 90009
Transas Marine, 19105 36th Ave. West, Bldg.#2, Suite 101, Lynwood, WA 98036
Trimble Navigation, 585 North Mary Avenue, P.O. Box 3642, Sunnyvale, CA 94086
Waterway Communications System, Inc. 453 E. Park Pl., Jeffersonville, IN 47130
Offshore Systems International, 5013 Pacific Hwy East, Fife, WA 98424
Q-Mar Inc., 1801 McGill College, Montreal, Quebec H3A2N4
Land Sea Systems, 849 Seahawk Circle, Suite 103, Virginia Beach, VA 23452

NOZZLE SYSTEM
Custom Nozzle Fabrication, P.O. Box 547, Pascagoula, MS 39568
Rice Propellers, Av Rios Espinoza #88, Mazatlan, MEXICO 82180

OIL—Marine—Additives—TESTING
Mobil Oil Corporation, 3225 Gallows Road, Fairfax, VA 22037-0001

OIL CONTENT METERS/CALIBRATION

Hermont Marine, Inc., 3528 Griffith, St.-Laurent, QUEBEC CANADA H4T 1A7

OIL - LESS FRYER
Ro-Fry, 1400 Toastmaster Dr., Elgin, IL 60120

OIL MIST DETECTORS
Autronica Marine, 234 Industrial Pkwy, Northvale, N.J. 07647
Hermont Marine, Inc., 3528 Griffith, St.-Laurent, QUEBEC CANADA H4T 1A7

OIL TANK CLEANING
Brain Industries Australia, Pty. Ltd., 21 Bearing Rd., Seven Hills, NSW 2147 AUSTRALIA

OIL/WATER SEPARATORS
Alfa-Laval Separation, Inc., 955 Mearns Rd., Warminster, PA 18974-0556
Blohm & Voss U.S.A. Reps:Simplex-Turmar Inc., P.O. Box 168, Little Neck, NY 11363-0168
Fast Systems, 3240 North Broadway, St. Louis, MO 63147
MMC International, 60 Inip Dr, Inwood NY 11096
Westalia Separators, 100 Fairway Ct., Northvale N.J. 07647
Nelson Industries, Highway 51 West, Stoughton, WI 53589
RGF Marine, 3875 Fiscal Ct, W. Palm Beach, FL 33404

PAINT—COATING—CORROSION CONTROL
Ashland Chemical Co., Drew Marine Co., One Drew Plaza, Boonton, NJ 07005
Coroseal, Inc., 1045 12th Ave. NW-F5A, Issaquah, WA 98027
Esgard, Inc., P.O. Drawer 2698, Lafayette, LA 70502
Ferro Corp., 1301 North Flora St., Plymouth, IN 46563
Jamestown Distrib., 28 Narragansett Ave., P.O. Box 348, Jamestown, RI 02835
Hempel Coatings, 6901 Cavalcade St., Houston, TX 77028
Microphor, Inc., Marine Div., 452 E. Hill Rd., P.O. Box 1460, Willits, CA 95490
Royal Chemical, 2705 Concord Road, Belle Chasse, LA 70037
Sigma Coatings, 8979 Market St., Houston, TX 77029, 330 Rover Rd., Harvey, LA 70059,
1100 Adams St., Hoboken, NJ 07030
TNO Institute of Industrial Technology, P.O.B. 3, 2600 AA Delft, Netherlands
Unitor Ship Services Inc., 2375 West Esther Street, Long Beach, CA 90813

PIPE FITTINGS/CUTTINGS/CONNECTING SYSTEMS
Georg Fischer DISA Pipe Tools Division, 407 Hadley St., Holly, MI 48442
Lokring Corp., 396 Hatch Drive, Foster City, CA 94404
Victaulic Co, 4901 Kesslersville Rd., Easton, PA 18042

PNEUMATIC HOISTS
J.D. Neuhaus, 9 Loveton Circle, Sparks, MD 21152

POLLUTION CONTROL/ PRODUCTS/MARINE SERVICES
Oil Mop, Inc., 221 Rue De Jean, Lafayette, LA 70508

Ports
Port of Olympia, 915 Washington NE, Olymia WA 98501

POWER GENERATORS
Aggreko, Inc., 4607 W. Admiral Doyle Dr., New Iberia, LA, 70560
FCS, Inc., 22 Main St., Centerbrook, CT 06409

PROPELLERS
Associated Marine Technologies, 4016 Seaboard St., Portsmouth, VA 23701
Holland Roer Propellers, 2273 Batataria Blvd, New Orleans LA, 70072
Rice Propellers, Av. Rios Espinoza #88, Mazatlan, MEXICO 82180
Rolla SP Propellers SA, P.O. Box 251, Via Silva 5, 6828 Balerna, SWITZERLAND
S&S Propellers, 26-15 123rd St., Flushing, N.Y. 11354
Sound Propeller, 1608 Fairview Avenue E., Seattle, WA 98102
General Thermodynamics, 210 South Meadow Rd., Plymouth, MA 02360

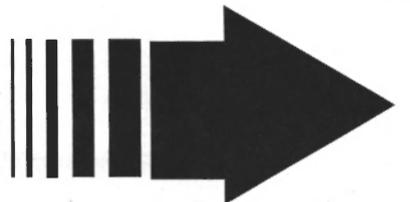
PROPULSION EQUIPMENT
—Bowthrusters, Diesel Engines, Gears, Propellers, Shafts, Turbines
Avondale Industries, Harvey Quick Repair, P.O. Box 116, Harvey, LA 70058
American Air Filter, P.O. Box 35690, Louisville, KY 40432
ABB Drives Inc., P.O. Box 372, Milwaukee, WI 53201-0372, USA
ABB Industry Oy, P.O. Box 185, 00381 Helsinki, FINLAND
ABB TURBOCHARGER, INC., 1460 Livingston Avenue, N. Brunswick, NJ 08902
Aquamaster-Rauma Ltd., Box 220, SF-26101, Rauma, FINLAND
Aquamaster-Rauma Inc., 2315 North Woodlawn Ave., Ste. 103, Metarie, LA 70001
Brunvoll A/S, P.O. Box 370, N-6401, Molde, Norway
Caterpillar, 100 NE Adams Street, Peoria, IL 61629-2320
Centa Corp., 8185 Cass Ave., Darien, IL 60561
Cincinnati Gear Co., 5657 Wooster Pike, Cincinnati, OH 45227
deWijns Marine International B.V., Postbus 320, 1969 NJ

Heemskerk, Nederland
The Falk Corp., PO Box 492, Milwaukee, WI 53201-0492
Fincantieri, Diesel Engines Div—GMT, Bagnoli della Rosandra 334, Trieste, ITALY
GE Naval & Drive Turbine Systems, 166 Boulder Dr., Fitchburg MA 01420
GEC ALSTHOM Diesels Inc., 10801 Kempwood Dr. Ste 1, Houston, TX 77043-1412
Goltens Worldwide, 160 VanBrunt St., Brooklyn, NY 11231
Harbormaster Marine Inc., 31777 Industrial Rd., Livonia, MI 48150
Harrington Metal, 6720 124th Ave. Lennville, MI 49408
Holset Engineering, Inc., 1320 Kemper Meadow, Ste. 500, Cincinnati, OH 45240
In-Place Machining Co., Inc. 1929 North Buffum Street, Milwaukee, WI 53212-3793
Kahlenberg Bros. Co., P.O. Box 358, Two Rivers, WI 54241
Krupp Mak, 7555 Danbro Crescent, Mississauga, Ontario, CANADA L5N 6P9
LIPS B.V., P.O. Box 6, 5150 BB Drunen, The Netherlands
Lohmann & Stollerfoht, P.O. Box 1860, D-58408 Witten, Germany
Lo-Rez Vibration Control, 186 West 8th Ave., Vancouver, BC CANADA, V5Y 1N2
Mapeco Products Inc., 90 Forest Ave., Locust Valley, N.Y. 11560
Markisches Werk, P.O. Box 1442, D-5884 Halver GERMANY

INFORMATION SHOWCASE

Get Free Information Fast !!!!

Circle the appropriate Reader Service
Number on the opposite page.



PAGE #	R/S #	ADVERTISER	EQUIPMENT/SERVICE	PAGE #	R/S #	ADVERTISER	EQUIPMENT/SERVICE
9	200	ABB Turbochargers	Turbochargers	73	262	Int'l Communications Group	Communications
7	201	Advanced Marine Tech	Electronic Charting Display	57	323	Intergroup Corp.	Monitors & Computers
81	202	Aeroquip Corp.	Bearing System	28	263	Intergraph	Computer Equipment
34	338	Aggreko, Inc.	Temporary Power Station	28	259	International Maritime Assoc.	IMA Study
21	203	Alaska Diesel	Generator Sets	68	264	ITT Nightvision	Marine Equipment
73	204	Alden Marine	Safety & Electronics	82	265	ITW Philadelphia Resins	Repair Putty
2	205	Alfa Laval	Marine Equipment	28	266	J.W. Fishers	Underwater Metal Detector
42	206	Allied Signal Industries/Wallington	Ropes & Fibers	38	267	Japan Radio Co., Inc.	Communications
68	326	Alweiler Marine	Marine Pumps	65	268	James Winches	Winches
39	207	American Bureau of Shipping	Classification Society	57	269	Jets Vacuum AS	Sanitation Systems
17	208	American 1 Mobile Satellite	Satellite Comm.	04	270	Karl Senner Inc.	Propulsion Equipment
72	209	American Shipyard Corp.	Shipyard	82	271	KVH Industries, Inc.	Electronic & Navigational Equipment
73	210	Aqua-Dyne Inc.	Water Jetting	83	271	KVH Industries, Inc.	Electronic & Navigational Equipment
78	211	Archway Lighting	Marine Lighting	74	272	L.F. Gaubert & Co.	Electric Cable
41	212	Astilleros Espanoles	Shipbuilding	84	337	Leasac Sea Systems	Satellite Comm.
1	213	AT&T Mobile Satellite Comm.	Communications	12	273	Lang Manufacturing	Marine Equipment
54	341	Aurand Mfg.	Surface Prep Tools	77	274	Leasac Shipyards	Shipyard
75	214	Autonav Marine Systems	Steering Systems/Autopilots	65	335	Life Industries	Sealants
72	215	Baltimore Marine Industries	Ship Repair Management	78	225	Lister Chain (Columbus McKinnon)	Anchor/Chains
72	216	Baywood Inc.	Hatch Covers	1	275	LokRing	Pipe Joining System
43	217	Blohm & Voos	Seals	31	276	Mackay	Satellite Comm.
22	218	Boatrac Inc.	Satellite Comm.	55	277	Ma B&W Holey	Diesel Engines
51	219	Boil Filter	Filters	69	278	Marco Pollution Control	Shipbuilding
32	220	Bollinger	Shipyards	52	333	Marin, Maritime Research Institute	Research
28	339	Brookdale Int'l Systems	Emergency Smoke Hood	82	279	Maritime Education Sweden AB	Training & Education
34	223	C-Map USA	Navigation Equipment	59	324	McInnis Industries	Marine Equipment
4	223	Carhartt, Inc.	Marine Safety Gear	25	280	Metanuco SRL	Shipbuilding
34	343	Central Steel	Marine Equipment	35	281	Microphor	Sanitation Devices
34	224	Coastal Oceanographics	Marine Electronics	11	304	Mobile Marine Sales & Services	Synthetic Lubricants
13	226	Comstat Mobile Comm.	Satellite Comm.	78	342	Moxie Media, Inc.	Line Handling Video
36	227	Coroseal, Inc.	Marine Industrial Coatings	81	325	MSE of Canada	Marine Equipment
77	228	Cospolich Refrigeration	Refrigeration	14	283	Norwegian Maritime Equipment	Marine Equipment
71	228	Cospolich Refrigeration	Refrigeration	85	284	Offshore Systems Int'l	Navigation
73	228	Cospolich Refrigeration	Refrigeration	81	285	Paccar	Winches
75	228	Cospolich Refrigeration	Refrigeration	46	286	Pickupcat AS	Self Contained Catamaran
53	229	Creative Systems Inc.	Hydrostatic Software	71	287	Pugel Sound Rope	Ropes
53	230	CSD North America	Sealing System	84	334	Q-Mar, Inc.	Navigation
65	231	CSD Sealing Systems	Sealing System	71	288	Radio Holland USA	Electronics
80	232	Cummins Engine Co.	Marine Equipment	47	289	Radio Holland USA	Electronics
60	233	Cummins Marine	Marine Equipment	57	290	Railway Specialties Corp.	Doors/Hatches
36	234	DBC Marine Safety Systems	Evacuation Systems	76	291	Refrigeration Resources	Refrigeration
74	235	Desmond-Stephan Mfg.	Swirl-Off Scantifiers	62	292	RGF Marine	Oil Water Separators
53	236	Distec Cinet	Maritime PC's	72	293	Rice Propeller	Propellers
78	237	E.S. Ritchie & Sons	Electronic Compass	88	294	RW Fernstrum	Cooling System
52	238	Edison Chouest Offshore	Offshore Supplies	46	295	Scandinavian Micro Systems	Marine Equipment
10	239	Electronic Marine Systems	Navigation	59	296	Scanmix	Showers & Faucets
12	344	Electronic Marine Systems	Navigation	67	297	Seaward International	Fenders
14	345	Electronic Marine Systems	Navigation	68	298	Seaward International	Fenders
18	346	Electronic Marine Systems	Navigation	74	299	Semco Marine Inc.	Electrical Equipment
74	240	Envirovacc	Fuel Decontamination	63	300	Service Marine	Shipbuilders
37	241	Envirovac	Sanitation Devices	77	340	Service Valve & Fitting	Valves & Fittings
89	242	Ferro Corp.	Epoxy Repair Systems	80	301	Singapore Telecom	Telecommunications
37	243	Fetterolf Corp.	Valves	61	302	Smith-Berger Marine	Deck Hardware
24b	327	Flow International	Coatings Removal	64	336	Soundcoat	Noise Control Products
38	326	Foster Refrigeration	Refrigeration	68	303	Sovereign Rubber America	Marine Equipment
5	244	Friede Goldman Int'l	Shipbuilder	28	305	Station 12	Telecommunications
66	245	Funditesa Sanjurjo	Marine Diesel Spare Parts	22	306	Sterling Equipment	Marine Equipment
24b	246	Furuno Electric Co.	Marine Equipment	48	307	Stewart Stevenson	Diesel Engines
18	247	Furuno USA, Inc.	Marine Equipment	48	307	Stewart Stevenson	Diesel Engines
58	248	G.J. Wortelboer Jr. B.V.	Anchor, Chains	77	308	Slid Systems	Marine Seating
19	249	Gems Sensors	Fluid Sensors	20	309	Stork-Kwant	Universal Telegraphs
81	329	GMD Shipyard	Shipyard	64	310	Superior Energies Inc.	Manufacturing & Contracting
20	250	GVA Consultants AB	Dock Designs	74	311	Swedish Marine Services	Tank Liquid Level Gauges
53	251	H.O. Bostrom Co.	Sealing	15	312	Thrane & Thrane A/S	Marine Equipment
45	252	Halter Marine Group	Shipbuilding	62	313	Thrustmaster of Texas	Jet Bowthrusters
75	253	Harbormaster	Propulsion Equipment	71	314	Timberland Equipment Ltd.	Deck Machinery
65	254	Harrington Metal	Nozzle Systems	63	315	TMT Services	Rust Corrosion Control
82	255	Headhunter Inc.	Toilets	54	331	TNO Institute of Industrial Tech.	Education
27	256	Hose McCann	Communications	50	317	UK Hydrographic Office	Marine Equipment
65	257	Houma Fabricators	Shipyard	72	318	Viking Fender	Fendering
16	330	ICG Satellite Services	Satellite Comm.	35	319	Waterman Supply	Marine Equipment
12	258	Icon Research	Diesel Performance Analyzer	38	320	Western Machine Works	Shipbuilders
57	260	In-Place Machinery	Crankshaft Repair	81	332	Westfalia Separators	Oil Water Separators
35	261	Insulations, Inc.	Insulation	81	321	Worldwide Labor Support	Shipyard Personnel
				68	322	ZF Friedrichshafen AG	Transmissions

The listings above are an editorial service provided for the convenience of our readers.

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

(Required by 39 U.S.C. 3685)

- TITLE OF PUBLICATION
Maritime Reporter & Engineering News
A. PUBLICATION NO. 00253448
- DATE OF FILING: September 30, 1997
- FREQUENCY OF ISSUE: Monthly
A. NO. OF ISSUES PUBLISHED ANNUALLY: 12
B. ANNUAL SUBSCRIPTION PRICE: None
- LOCATION OF KNOWN OFFICE OF PUBLICATION:
118 East 25th Street, New York, New York 10010
- LOCATION OF THE HEADQUARTERS OR GENERAL BUSINESS OFFICES OF THE PUBLISHERS:
118 East 25th Street, New York, New York 10010
- NAMES AND ADDRESSES OF PUBLISHERS AND EDITORS:
PUBLISHER: John E. O'Malley, Charles P. O'Malley, John C. O'Malley,
Maritime Reporter/Engineering News, 118 East 25th Street, New York, New York 10010
EDITOR: Charles P. O'Malley, Maritime Reporter/Engineering News 118 East 25th Street, New York, New York, 10010.
MANAGING EDITOR: Nina Miller, Maritime Reporter/Engineering News, 118 East 25th Street, New York, New York 10010.
- OWNER (If owned by a corporation, its name and address must be stated and also immediately thereafter the names and addresses of stockholders owning or holding 1 percent or more of total stock amount. If not owned by a corporation, the names and address of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given.) Charles P. O'Malley, Maritime Activity Reports, 118 East 25th Street, New York, New York 10010, John C. O'Malley, Maritime Activity Reports, 118 East 25th Street, New York, New York 10010, John E. O'Malley, 118 East 25th Street, New York, New York 10010.
- KNOWN BONDHOLDER, MORTGAGES, AND OTHER SECURITY HOLDERS OWNING OR HOLDING 1 PERCENT OR MORE OF TOTAL AMOUNT OF BONDS, MORTGAGES, OR OTHER SECURITIES (If there are none, so state): None

Average No. Copies Each Issue During Preceding 12 Months

Single Issue Nearest To Filing Date

A. Total no. copies printed (Net press run)	34,879	35,519
B. Paid Circulation		
1. Sales through dealers and carriers, street vendors, counter sale	30,850	31,551
2. Mail Subscriptions	0	0
C. Total paid and/or Requested Circulation	30,850	31,551
D. Free Distribution (including samples) by mail carrier or other means	2,507	2,668
E. Free Distribution Outside the mail (samples, complimentary and others free)	1,138	1000
F. Total Free Distribution (sum of D & E)	3,645	3,668
G. Total Distribution (sum of C & D)	34,495	35,219
H. Copies not distributed		
1. Office use, left-over unaccounted, spoiled after printing	384	300
2. Returns from new agents	0	0
I. Total (sum of E & F - should equal net press run shown in A)	34,879	35,519
J. Percent paid and/or requested circulation	88.4%	88.8%

10. I certify that the statements made by me above are correct and complete.
(Signed) Dale L. Barnett,
Circulation Manager



Atlantia Corporation is an offshore designer and constructor specializing in innovative shallow and deep water oil and gas production systems. Our SeaStar® Tension Leg Platform has opened new opportunities in deep water. The first SeaStar® is under construction and additional SeaStars are under contract to build. Atlantia has assembled a small, but high caliber staff of experienced naval architects and engineers to develop the SeaStar®. We are now seeking talented, imaginative and energetic people to expand this staff for additional SeaStar® designs.

The positions listed below specifically apply to the SeaStar® hull design. The overall responsibilities of the hull design team encompass the development of the preliminary and final designs, determination of scantlings and welding requirements, global and local structural analysis, development of contract plans and specifications, and preparation of design reports. PC competency essential. Qualified individuals should submit resume with salary requirements to: TLP Engineering Manager, Atlantia Corporation, 1177 West Loop South, Suite 1200, Houston, Texas 77027, or fax (713) 850-1178 or email to: TLP@atlantia.com

SENIOR NAVAL ARCHITECT/STRUCTURAL ENGINEER - MS degree required with 10+ years experience, primarily in hull structure design. Demonstrated experience with design and construction of stiffened plate and shell construction and familiarity with ABS/DnV code is a must. Shipyard experience is desirable and written and verbal communication skills are a plus. You will become a key member of the hull design team with potential for advancement as hull design team leader.

NAVAL ARCHITECT/STRUCTURAL ENGINEER - MS degree required with 2-5 years experience; graduate work must be in structures. Desired experience includes: hull scantling design, floating offshore structures, structural analysis, and stability analysis. Familiarity with ABS/DnV codes, STRUCAD/SACS/ANSYS, welding, and shipyard practice are a plus.

SENIOR OCEAN ENGINEER/STRUCTURAL ANALYST - MS degree required with emphasis on structural mechanics, with 10+ years experience in structural analysis and design, including hull-type offshore structures. Must be proficient at finite element analysis and familiar with ABS/DnV structural code. Ability with FORTRAN programming and UNIX operating systems is expected. Familiarity with hull structures, hydrodynamic loading, fatigue, marine dynamics, stochastic analysis is highly desirable. This is a lead position working with several analysts and engineers as part of a total structural design team.

DESIGNER/DRAFTSMAN - Several positions open encompassing Hull Structure and Marine Systems. Familiarity with hull design/construction and AUTOCAD13 necessary. Marine system designers should be familiar with ABS/USCG codes. Shipyard and offshore industry experience and 3D AUTOCAD modeling are a plus. You will primarily be working as part of the dedicated deep water team working with naval architects and marine engineers in the development of preliminary and contract plans for the SeaStar® hull structure or marine systems. Other tasks may include 3D modeling, checking of builder shop drawings, and weight take-off.



ATLANTIA

UNIVERSE TANKSHIPS

MANAGER SAFETY AND QUALITY

Universe Tankships (Delaware) LLC, a New York based subsidiary of Concordia Maritime AB, a ship owning Company within the Stena Sphere, is currently seeking a Safety and Quality Manager. The Company is dedicated to a unique safety and quality culture, along with continuous onboard maintenance, in the operation of their vessels worldwide.

This is an unusually fine opportunity for an individual with a minimum of 10 years experience within the shipping industry, who is seeking a challenge where professional capability and substantial efforts yield career dividends.

Reporting directly to the Executive Vice President, the Manager will be primarily responsible for the implementation of all safety and quality programs pertaining to ship operations, with a focus on ensuring that the Company's policies are upheld and understood by all employees in a multi-cultural environment.

To qualify, knowledge of safety and quality requirements are essential. One must be an excellent communicator with good organizational and problem-solving skills. A background of dealing with regulatory agencies as well as hands-on vessel experience is necessary. A Maritime degree is preferred and sea-going tanker experience as an Engineering or Deck officer would be a plus.

Our generous compensation package is in keeping with the responsibilities and contributions you will be expected to make. For prompt consideration in strictest confidence, please fax resume to

Tim Christy
Toll Free Fax: 1-888-535-5537

MARINE TOWING COMPANY N.Y. AREA HAS OPENING FOR ASSISTANT PORT ENGINEER. APPLICANT MUST BE ABLE TO SUPERVISE AND ASSIST SHIPYARD PERSONNEL, EFFECT MECHANICAL AND ELECTRICAL REPAIRS, HANDLE STOREKEEPER DUTIES, DIESEL MECHANIC AND WELDING SKILLS AND EXPERIENCE WITH DETROITS AND CATERPILLAR DIESEL ENGINES AND GENERATOR SETS NECESSARY. GOOD COMMUNICATION AND ORGANIZATIONAL SKILLS MANDATORY.

EXCELLENT BENEFITS AND SALARY. SEND RESUME TO

SEA WOLF MARINE, INC.
6 WATSON COURT EAST
EDISON, NJ 08820-2307
ATTN: PETE F.

BUSINESS OPPORTUNITIES

Marine Transportation and Warehousing

PSFL, Inc. the parent of a group of transportation and warehousing companies, is seeking to sell its marine transportation and warehousing subsidiaries in order to better focus on its motor carrier operations.

The subsidiaries' assets include a fleet of three tugs and seven barges and a warehousing operation with a 330,000 sq. ft. facility located on an excellent site in the Seattle port area. The companies are experts in handling pulp, paper and forest products along the West Coasts of the U.S. and Canada.

Qualified parties with an interest in acquiring Puget Sound Freight Lines and Puget Sound Terminals should contact Tom Lovejoy or Gerry Barney at (206) 623-1600 in Seattle, Washington.

IDEAS HAVE NO

boundaries. Creating solutions that transcend borders and continents. Experts in the application of ideas. We are the only company in the world that works in the power of ideas across all boundaries.

BOUNDARIES.

Manager, Marine Engineering Services

Project Manager, Marine Technical Services

Sea-Land Service, Inc. has opportunities for professionals at its Charlotte headquarters location to manage, implement, and coordinate conversions and modifications of marine assets. Will also coordinate marine technical services to business and operating units for owned, joint venture and charter tonnage, while insuring cost effective and reliable utilization. Qualified candidates will have a degree in Naval Architecture and/or Marine Engineering; a minimum of 5 years of related experience (project manager position) or 10 years of related experience (manager, marine technical services position) in one or more of the following areas: hull structures, coatings, slow speed diesel, and steam power plants. Must have experience in marine capital project management; a full understanding of vessel engineering/operations; and the ability to adapt to new working environments, worldwide cultures and customers, new situations, and rapid changes.

We offer a solid compensation and benefits program. For prompt confidential consideration, please forward your resume including salary requirements to: Sea-Land Service, Inc., Human Resources, ATTN: OTS, 6000 Carnegie Blvd., Charlotte, NC 28209; FAX (704) 571-4942. We are an Equal Opportunity Employer M/F/D/V and a Drug-Free Workplace.

SeaLand

Ideas That Move The World.

Maine Maritime Academy (MMA) is a 700 student public, fully accredited four-year college located in the small coastal village of Castine, Maine. The college is one of six state supported Maritime Colleges in the United States. MMA is a college of engineering, transportation, management, and ocean sciences. MMA currently seeks to fill the following position:

Assistant Professor of Nautical Science

Full-time beginning January, 1998. The successful candidate will possess experience and knowledge in the workboat industry and will be expected to hold at least a 500T Master's license, have had small workboat command experience, and the communications skills and other personal characteristics needed to teach. An advanced degree and previous training experience is desired. The position entails teaching a variety of courses in both the lecture and laboratory format, including small vessel operations, navigation and piloting.

Interested persons should send a letter of application and resume to:

Director of Human Resources
Box C - 3
Castine, ME 04420

Letters of application, resumes or any other relevant material not addressed or delivered to the Maine Maritime Academy Human Resource Office will not be considered.

MMA is an EOE

Women and Minorities are particularly encouraged to apply.

**MAINE
MARITIME
ACADEMY**

**AREA MANAGER
U.S. GULF COAST**

AMERI-FORCE, INC. a leading provider of skilled craftsmen in the marine and industrial fields. Is now accepting applications for Area Manager of our Gulf Coast operation.

The successful candidate should have as a minimum:

- AA Degree
- Computer Skills to include Windows 95.
- Excellent communication skills both orally and in writing.
- Working knowledge of marine and industrial skilled trades.
- Management experience including dealing with payrolls.

Interested applicants should send resume to:

AMERI-FORCE, INC.
3226 Talleyrand Avenue
Jacksonville, Florida 32206
Attention: Human Resource Manager

VP Sales and Marketing

Leading manufacturer of rope and cordage products seeks industry expert who can plan and direct sales and marketing functions of company. The right candidate must be a recognized leader in developing and implementing successful, strategic marketing and sales programs resulting in consistent and profitable revenue growth. This person must have track record showing ability to coordinate with manufacturing, distribution, sales and finance executives to produce programs that meet short and long-term growth objectives. Demonstrated leadership, communication and functional skills required, as is degree in marketing or related business area; MBA preferred.

Competitive comp. benefits and incentive plan offered. Qualified candidates should send resume and salary requirements in confidence, to:

P.O. Box 102
Maritime Reporter
118 E. 25th Street
New York, NY 10010
M/F/D/V

BOAT JOBS

BENDER MARINE, INC.

*The leader in Maritime employment
now hiring !!*

- Captain • Mates • Pilots • Engineers
- Tankerman • AB's, OS's and QMED's

START WORK IMMEDIATELY !!

- OCEAN TUGS • CREW BOATS • UTILITY BOATS •
- INLAND BOATS • CARGO BOATS • CASINO BOATS

* CALL TOLL FREE 1-888-824-1626 *

www.bendermarine.com

**STATE OF THE ART MARINE & INDUSTRIAL PAINT/
REMEDICATION PRODUCTS**

Qualified Dealers wanted, Generous financial incentives, State of Texas territory, please send statement of interest or resume to 5639 Doliver, Houston, TX 77056, or e-mail to KevinS56@aol.com.



Administration - Construction
Crewing - Engineering
Finance - M & R
Operations - Sales

(Established 1969) P O Box 260 • Mercer Island, WA 98040 • 206-232-6041

PRODUCTS SHOWCASE

(Continued from page 84)

Tron-AIR, a hand-portable VHF (AM) for the air band frequencies, is designed to meet mandatory regulation for RoRo passenger vessels in international voyage.

Tron-SOUND is a newly-developed sound reception system according to the DNV rules for ships, Par 6 (Nautical Safety for use on a one-man operated bridge to receive sound signals from outside the wheel-house).

For more information on Jotron
Circle 1 on Reader Service Card

**FlowData Unveils Fuelcom
Net Fuel Monitoring System**



The Flowdata FuelCom Net Fuel Monitoring System is designed to provide temperature-compensated fuel monitoring for diesel engines used in marine propulsion and onboard power generation.

For recirculating fuel systems, FuelCom uses fail-safe positive displacement flowmeters to prevent engine fuel-oil starvation and non-intrusive sensors to monitor the flow rate of both the supply and return sides, with the temperature-compensated difference providing a net burn measurement. For non-recirculating systems, a positive displacement flowmeter and sensor monitors the supply side only.

For more information on FlowData
Circle 2 on Reader Service Card

**SEA Offers Digital Single
Sideband Radiotelephone**



SEA has introduced the new SEA 2365 single sideband radiotelephone.

The 150-watt unit has all the standard single sideband and telex frequencies pre-programmed.

Non-volatile memory is provided for up to 200 user programmable channels, 160 of which are pre-programmed and accessible via their alpha-numeric names.

For more information on SEA
Circle 34 on Reader Service Card

BT Introduces Mobiq Marine



British Telecommunications plc (BT) and its Norwegian partner Telenor have introduced their Mobiq Marine voice, fax and data communications system. Already available for land use, maritime users will now benefit from Marine Mobiq's worldwide communications abilities. The maritime version of BT's satellite phone, which is as small as a notebook PC, includes a small remote-mounted stabilized antenna, housed under a miniature dome. Mobiq uses the Inmarsat-3 satellite network which employs spot-beam technology for enhanced performance.

"This product is an extension of our highly successful Mobiq terrestrial product which has been the top-selling mobile satellite phone since its introduction in January 1997," said Pat Ryan, BT North America's regional Sales manager. "Communication from open bodies of water has generally required large equipment to obtain a clear signal from the Inmarsat satellite system. Our new Mobiq Marine phone allows customers to use cost effective satellite communications from the smallest system available."

For more information on BT
Circle 87 on Reader Service Card

O'Gara Launches Boatfone

The new O'Gara Boatfone is a fixed maritime satellite telephone which lets the user make calls from anywhere in the world.

O'Gara's newest addition to the maritime communications market uses the latest Inmarsat mini-M spot beam technology.

A separate handset and cradle can be positioned anywhere on the boat. It also features a voice mailbox facility so callers can leave a message when the unit is switched off or on.

For more information on O'Gara
Circle 32 on Reader Service Card

Experience runs deep at SMI...

Experience runs deep at Service Marine Industries—from a talented engineering team, to a seasoned management group, to some of the hardest working master craftsmen on the planet.

While others may be in over their heads trying to keep up with the current boom in new construction and repair, experienced shipbuilding professionals ensure that SMI consistently meets its commitments—on time and on budget.

So put the experience of Service Marine Industries to work for you—in repair, in new construction, in conversions.

We're dead solid serious about service.



Service Marine Industries

6887 Highway 90 • Gibson, Louisiana 70356 • Post Office Box 3606 • Morgan City, Louisiana 70381 • Telephone: (504) 631-0511 • Fax: (504) 631-0036

KARL SENNER, INC. ... WHEN ONLY THE BEST WILL DO



M/V SPIRIT OF ENDEAVOUR

KARL SENNER, INC. supplied two Reintjes
WAF 741 - 3.039;1
vertical offset, reverse reduction marine gears
for the repower of the M/V Spirit of Endeavour

Owner: Alaska Sightseeing Tours

REINTJES
MARINE GEARBOXES

REXROTH
MARINE CONTROLS

BERG PROPULSION
CONTROLLABLE PITCH PROPELLERS AND BOWTHRUSTERS

ABB
ASEA BROWN BOVERI
TURBOCHARGER SERVICE

WESTFALIA
SEPARATOR

CENTRICO

SALES, PARTS, SERVICE • 500 H.P. TO 20,000 H.P.

Karl Senner, Inc.



WEST COAST
Karl Senner, Inc.
12302 42nd Drive S.E.
Everett, WA 98208
Mr. Whitney Ducker
(206) 338-3344

NEW ORLEANS
Karl Senner, Inc.
25 W. Third St.
Kenner, LA 70062
(504) 469-4000
Telefax: (504) 464-7528

EAST COAST
Olof Wadehn Enterprises
30 Sheppard Lane
Huntington, Long Island
New York 11743
Mr. Olof Wadehn
(516) 692-4548